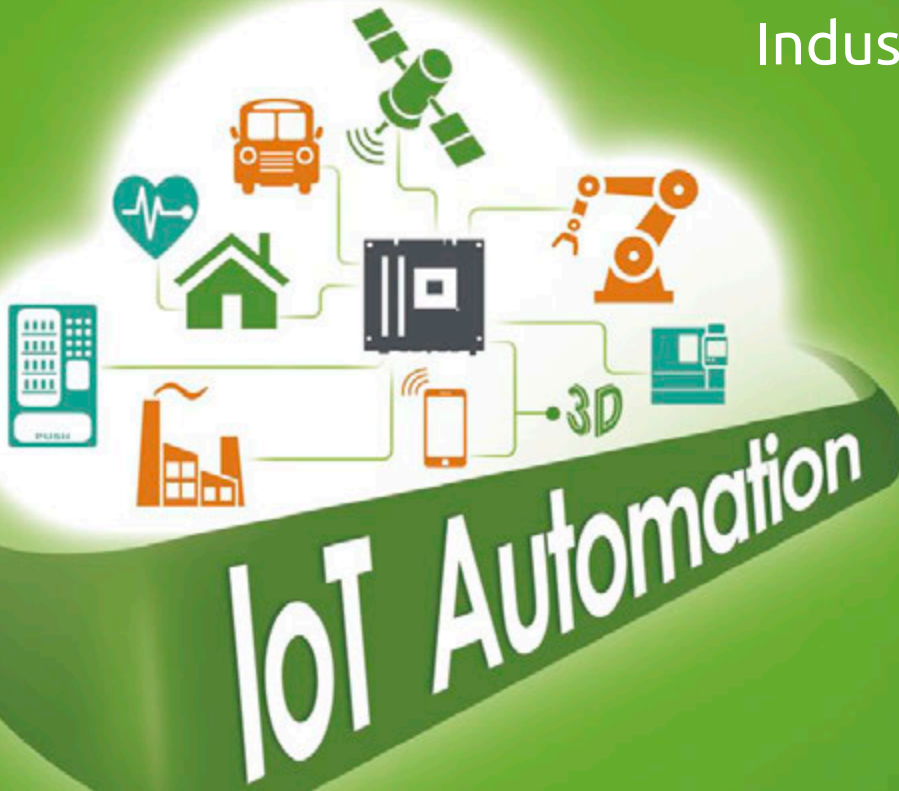# NEXCOM

The Intelligent Systems

Industrial IoT Forerunner

IoT Automation

2016
IoT Automation Solutions

- Industrial Fanless Computer
- Machine & Factory Automation
- Industrial Wireless
- Applied Panel PC
- Embedded Computing & Customization Services

IAS

IoT Automation Solutions

Marine Computer
Fanless Computer
Factory Automation
Machine Automation
Industrial Wireless Solution
HMI
Applied Panel PC & Monitor
Industrial Panel PC & Monitor

Kiosk/Multimedia Panel PC
Open Frame Panel PC
NexPOS
Computer-On-Modules
Embedded Computing
PICMG Single Board Computer
Henge™ Industry Solution

About NEXCOM

Reliable Partner for the Intelligent Solutions

Founded in 1992 and headquartered in Taipei, Taiwan, NEXCOM is committed to being your trustworthy partner in building the intelligent solutions. To surpass customers' expectations, NEXCOM makes the difference by utilizing its decades of industrial computing experience, a highly talented R&D team, and by providing exceptional levels of customer service. With these core strengths, NEXCOM has enabled its customers to win key projects in a diverse range of industries.

With its focus on delivering these core values to better serve customers, NEXCOM integrates its capabilities and operates six global businesses, which are IoT Automation Solutions (IAS), Intelligent Digital Security (IDS), Internet of Things (IoT), Interactive Signage Platform (ISP), Mobile Computing Solutions (MCS), and Network and Communication Solutions (NCS). This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and service without compromising cost.

In addition, the service-to-market business model gives NEXCOM core competence to build a strong world-class service network by providing customized service, global logistics, local access, and real-time support. Operating six subsidiaries, from China, Italy, Japan, Taiwan, the United States, to the United Kingdom, NEXCOM is able to better facilitate customers' requirements as well as closely work with global partners in different regions.

Partners should also be assured that NEXCOM's Taiwan based Headquarters and subsidiary offices in China, UK and USA have obtained ISO 9001:2008 Certification.

IAS	iAutomation: factory automation (FA), robotics, industrial PC & PPC, IoT gateway Industrial Wireless & Firewall Solutions Intelligent System Services: embedded computing and customization services
IDS	Intelligent Digital Security: IP Cam, NVR, mobile server platform
IoT	Internet of Things: total solutions for vertical IoT applications Healthcare and Medical Informatics: total solutions with a variety of medical IT systems
ISP	Interactive Signage Platform: digital signage, interactive kiosk
MCS	Mobile Computing Solutions: rugged computer devices, rugged mobile computer Vehicle Telematics Computer: Car PC, heavy duty vehicle, train PC
NCS	Network and Communication Solutions : network security, HPC, telecommunication, storage, SDN/NFV, industrial security

Corporate Vision

To become the industrial leader in providing intelligent solutions, NEXCOM utilizes its industry leading technology, localized customer support and worldwide logistics services. This will be achieved by:
- Great team work
- Cooperation with trusted partners
- Growth through innovation

Corporate Mission
- An innovative supplier in vertical application markets
- A quality partner in engineering, manufacturing and services

Business Strategy

Aim to better support the activities of all its partners, NEXCOM divides its sales force into six dedicated business units to target rapidly expanding vertical markets. This enhances each business unit concentrating on strategic channel accounts and on repeat order business. Moreover, NEXCOM's business units have been set up to serve the requirements of key project accounts, where product ODM and project support are frequently required.

NEXCOM is working with embedded computing solution providers to envision new opportunities for growth. We'll help you deliver reliable vertical solutions, optimized for the next wave of IoT and Industry 4.0 solutions.

Research and Development

Innovation, Quality, Speed and One-stop Service

Over a decade ago, NEXCOM successfully launched the PEAK series of Single Board Computers onto the IPC market, and in doing so, gained a solid reputation for product quality and innovation. In subsequent years, NEXCOM has enhanced its reputation for R&D excellence with a multitude of high-end technology products, which has cemented NEXCOM as one of the industry leaders for R&D and innovation.

The mission of NEXCOM R&D team is to design exceptional products that meet the stringent requirements of today's global markets. In order to achieve this goal, we have recruited hundreds of talented engineers who have the knowledge and expertise to make NEXCOM's products stand out in this highly competitive market.

NEXCOM offers solutions for IoT gateway, robot controller, connected cars, Industry 4.0, and industrial security applications. The team is encouraged to "Think with New Ideas" and "Know how to make it and do it right first time". In addition, NEXCOM 's R&D team has been expanded to over 300 engineers with the ration of software engineers to hardware engineers coming to about 1:1, and remains as one of core competences of the company.

Versatile Design Capabilities

- Fanless technology for industrial computer
- High availability network security platform, blade, and cPCI
- Rugged tablet computer and car PC

- Ultra small footprint computer-on-module
- High speed networking
- Isolated and non-isolated power system
- Isolated and non-isolated industrial I/O
- Wide range of operating temperature

24/7 Production Line

Optimal Manufacturing Efficiency

The manufacturing of delicate products requires a high-level technology, craftsmanship, standards and time-to-market efficiency. Over years continual investment in advanced manufacturing equipment and systemic training programs has enabled NEXCOM to obtain optimal manufacturing efficiency.

To fulfill the increasing market demand for NEXCOM's products, the company has opened a 24/7 production line. This investment not only furthers the quality of products, but also reduces production lead-time for all global customers.

Quality Assurance

Under a strict Quality Assurance System, product design and reliability are controlled to support all critical solutions, and ensure Total Quality Assurance (TQA) implementation for all NEXCOM products and service. Furthermore, NEXCOM technical support team aims to provide feedback within 24 hours to ensure technical issues are resolved in the shortest possible time.

IPQC Auditing (105E)

SMT Process → AOI Checking → DIP Process → Touch Up & Power-On Test

IPQC Auditing

20% Dynamic Burn-In
100% Function Test

FQC Test & Inspection

OQC Inspection

Inventory/ Shipping ← Test & Inspect 105E II AQL 0.65% ← Packing/ Assembly
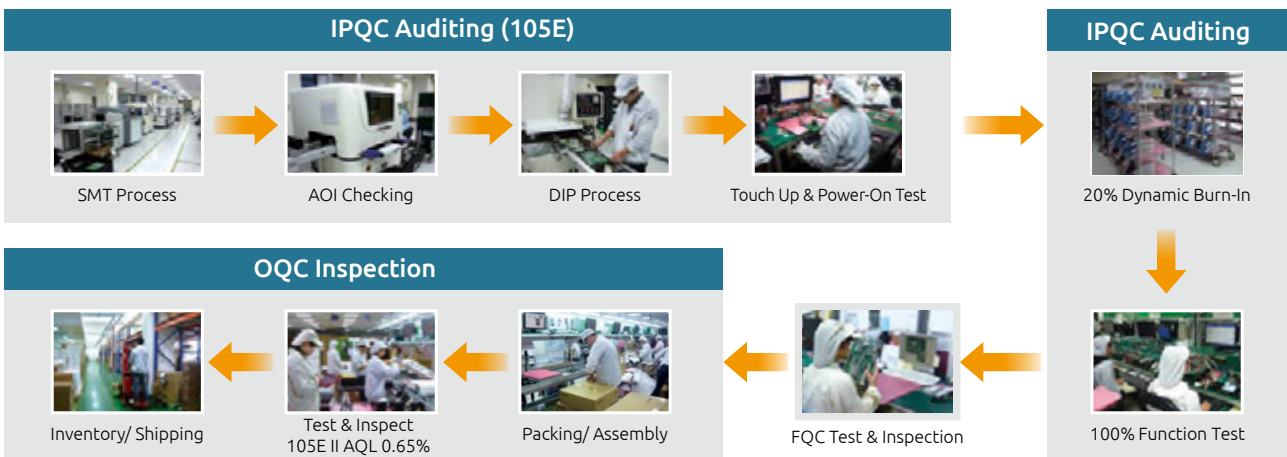
Closed-Loop Quality Assurance System

Green Policy

As a global citizen, NEXCOM is committed to providing green products and services, which are compliant with WEEE and RoHS legislation. NEXCOM continues to proactively work with industry peers and suppliers, to clarify standards, and identify compatible technologies and practices that help reduce hazardous substances from our products and manufacturing processes.

Global Fulfillment Service

Product delivery and customer support are always more effective when delivered locally. NEXCOM localizes support and provides a global customer service network to handle all aspects of global business, from presales, order taking, and system assembly to logistics. For expeditious product delivery, NEXCOM has established four regional service centers: Taiwan (for Asia), USA (for North America and South America), the United Kingdom (for Europe) and China. Therefore, NEXCOM customers benefit from quality assured product assembly and four service centers.

NEXCOM has invested heavily to establish operational infrastructures, including advanced equipment and facilities, not only at its global headquarters but also at subsidiary offices. Today, each of our service centers, with ISO 9001:2008 certification, has a purpose built assembly line, RMA/ DOA center and warehouse storage capability.

UK

ISO 9001
Assembly Line
RMA/DOA
Logistic

China

ISO 9001
UL Certified
Assembly Line
RMA/DOA
Logistic

USA

ISO 9001
Assembly Line
RMA/DOA
Logistic

Europe

China

Japan

Taiwan

N. America

Taiwan

ISO 9001/ISO 14000
UL Certified
Assembly Line
RMA/DOA
Logistic

① NEXCOM H.Q.
Taipei, Taiwan

② NEXCOM
Central Taiwan Office
Taichung

③ NEXCOM UK
Milton Keynes

④ NEXCOM Italy
Milan

⑤ NEXCOM USA
Fremont, CA

⑥ NEXCOM China
Shanghai

⑦ NEXCOM China
Beijing

⑧ NEXCOM Surveillance
Technology Shenzhen

⑨ NEXCOM Japan
Tokyo

NEXCOM Global Service Network

Assembly Line Operation

NEXCOM offers custom-built products based on customers' specific requirements through the build-to-order services. A dedicated 24/7 assembly line and Quality Assurance System are installed in the services center to ensure exceptional production efficiency and superb product performance and reliability.

Service Pledge and Connection

As a reliable intelligent systems provider for vertical markets, NEXCOM provides the very best products and the most expeditious service to help customers build the digital infrastructure. Comprehensive types of service are provided to promptly satisfy varying requirements. In addition to the headquarters in Taiwan, seven subsidiaries and distributors in strategic worldwide locations are at your service.

Service Types

| Quotation | Project Consultant | Technical Support | Solution Alliance | RMA/DOA | Assembly/ Test | Global Logistics | Customization | ODM Original Design Manufacturing |

Your Truly Global Information Resource

www.nexcom.com

www.nexcom.com is your one-stop platform for the latest information on all NEXCOM products and services. The rejuvenated website not only contains product relevant information and data, solutions/ products demo, up-to-date news, but incorporates online downloads, publications, and technical service supports, such as RMA/ DOA centre. Furthermore to localize service and support, seven NEXCOM sister websites remain to serve visitors in diverse geographical regions.

Get the Latest Updates Anytime, Anywhere

m.nexcom.com

At the end of the year 2011, NEXCOM launches its mobile site, m.nexcom.com. The site aims to cross time and space boundaries by allowing users to access the latest innovation and information of NEXCOM via smartphones. On this website, users will easily find our latest products, news, application stories, white papers, and videos. The mobile site now supports iOS and Android system. Please visit us at m.nexcom.com.

Design and Manufacturing Services (DMS)

Customized Service for Tailor-Made Solutions

NEXCOM provides cost-effective and time-to-market Design and Manufacturing Services (DMS). The DMS offers product customization from core modular designs to finished products based on customers' specifications in all kinds of industrial field. The levels of the service include manufacturing new CPU boards and system based products to fulfill customers' unique applications.

Unique DMS Features

With vast experience, the know-how, leading technology and innovative design capabilities, NEXCOM DMS incorporates the following features:

Prompt Time-to-Market

NEXCOM possesses a dedicated project management team to monitor and ensure each DMS project is delivered on schedule. Thus, a quick time-to-market solution can be offered with time-scales varying from one-three months for the design phase, with an average six month period from design to market.

Flexible Design and Manufacturing

NEXCOM possesses a complete R&D team to design and engineer the latest industrial grade products. As R&D engineers grouped into small cross-functional teams, they can develop more reliable products with flexible designs and quicker response to customers' requirements. In addition to our R&D capabilities, the state of art manufacturing facility and production lines enables NEXCOM to offer a flexible manufacturing with highly skilled factory staff.

Rigid Quality Control

NEXCOM is pledged to deliver high quality products, from design to manufacture, and safeguard against defective products by implementing a rigid Quality Assurance System. In this system, at the end of each process, NEXCOM performs various tests to ensure that the product passes the industrial standard before it enters into next stage. Finally, additional tests are performed to ensure all board and system level products function correctly. Tests include "Failure Mode and Effects Analysis", "Vibration Test", "Burn-in Chambers", "Drop Test", and "AC Power Source Test".

Extensive DMS Experience

We set higher standards! NEXCOM surpasses your tailor-made product requirements with extensive DMS experiences. We are specialized in X86 architecture and have accumulated invaluable experience and know-how in real working environments. Moreover, with a superb reputation, NEXCOM has under its belt many ODM projects in diverse fields, such as gaming, medical, POS, network security, transportation, marine, blade servers, and Linux BIOS etc.

Scope of DMS Work

■ Original Design Manufacturing Service (ODMS)

NEXCOM offers a complete ODM Service starting from the brand new product design right through to the finished product. We can design products based on the customer's unique specifications and application requirements.

■ Customization to Order Service (CTOS)

NEXCOM also provides CTOS, which is a quick-to-market solution by modifying the existing products to fit your business requirements, such as BIOS setting, component change by using current PCM layout, chassis color change, and packing accessories etc.

New System Design

MIL Standard Conformal Coating Services

DMS
Design and Manufacturing Services

Customization Service (ME, BIOS, Package, Configuration)

Application Software Development

Mechanical & Thermal Design

x86 & ARM RTOS, BSP, eAPI Support
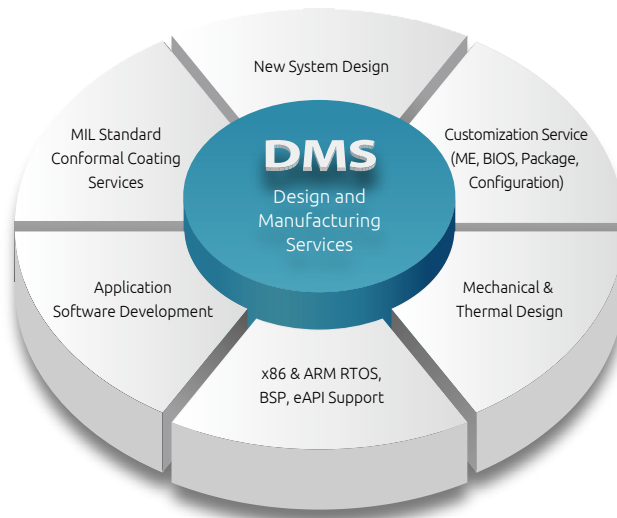
Service of DMS

With decades of industrial computing experience, NEXCOM has the capability to provide different levels of customized service to manufacture innovative products with exceptional high quality. We can assist you to differentiate from competitors, and save significant time and efforts.

Level 1	Logo Re-brand	We provide the service to change the membrane to re-brand the company logo on the front panel. Customers need to provide Membrane drawing with all color pantone number. There is a service charge involved.
Level 2	Customerized Build	Customers can change the membrane and chassis color to re-brand the packing. NEXCOM can offer dedicated part numbers and BOM. MOQ and service charge are required.
Level 3	Manufacturing Service	Contract manufacturing. The service scope includes system assembly & burn-in, software loading & testing. MOQ and manufacturing service charge are required.
Level 4	New Project	The design of new board & system is available. NRE and quantity commitment are required.

Professional Conformal Coating Solution

Get Ruggedized with NEXCOM Cost-Effective Conformal Coating Service for Hash Environment Protection

Prompt Time-to-Market

NEXCOM recognizes the harsh reality that many embedded systems find themselves operating in unusual hostile environments. When conformal coating is required to protect your application against substantial humidity, dust, chemicals or temperature extremes, we can help!

Cost Effective Service to Apply Coating Solution in Vertical Market Segments

In addition to the usual military and harsh industrial environments that demand conformal coating, NEXCOM expand our conformal coating to Vehicle Telematics Computing, outdoor traffic control/surveillance, and off-shore Marine applications. These applications demand embedded computing performance with increased reliability through conformal coating process.

To support a wide range of applications in vertical markets, NEXCOM has engineered a diverse range of platforms, which incorporate the latest.

"State of the Art" Conformal Coating Line

NEXCOM uses automated Conformal Coater equipment for applications that require a high level of accuracy and repeatability in moderate to high volume manufacturing environments. "State of the Art" coating line is a closed-loop robotic platform featuring optical encoder feedback on all axes.

Smart Masking Technology

Our smart masking technology can pin point specific area on the PCBA for coating. The green, programmable conformal coater equipment allow user to only coat the area selected, which save labor/ material costs.

De-Flux Cleaning

To prepare a PCB for conformal coating, the circuits need to be cleaned. NEXCOM uses automatic defluxing and cleanliness testing systems. The deflux system is equipped with an automatic chemical management system that automatically doses and mixes defluxing chemicals at the turn of a keyed switch.
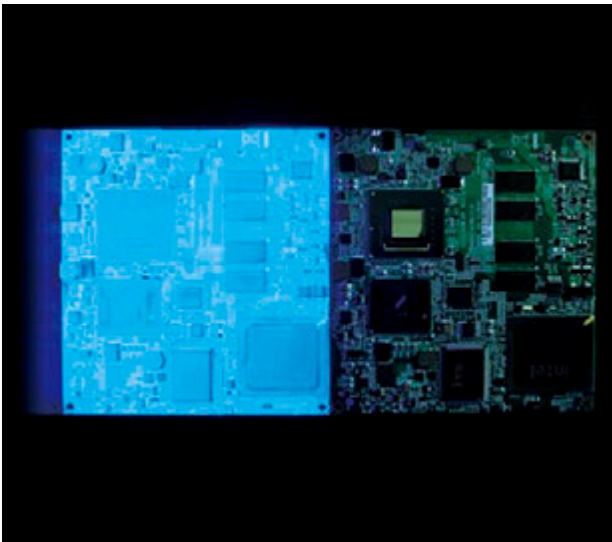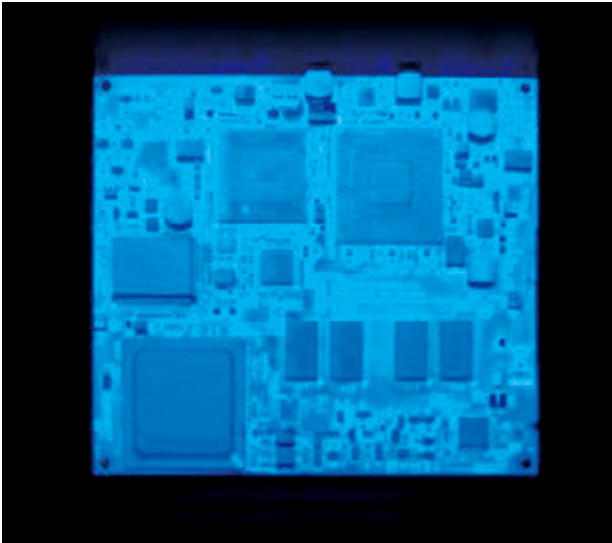
Real Time Cleanliness Testing

NEXCOM's deflux cleaning system is also equipped with an onboard cleanliness testing system which allows a user to program a desired cleanliness level. This assures that cleanliness levels will be consistent batch after batch.

De-Coating RMA Service

NEXCOM offer De-Coating RMA service upon request. This new service allows you to further cost down and generate higher ROI.

Quality Assurance Policy and Consistency Guarantee

Conformal coating inspection is a critical factor in determining successful coating application and long term reliability of PCBs. Using the IPC standards allows the coating operator to monitor the coating application performance. NEXCOM offers 100% manual screening by examining the PCB under white and UVA light and Thickness Gauge.
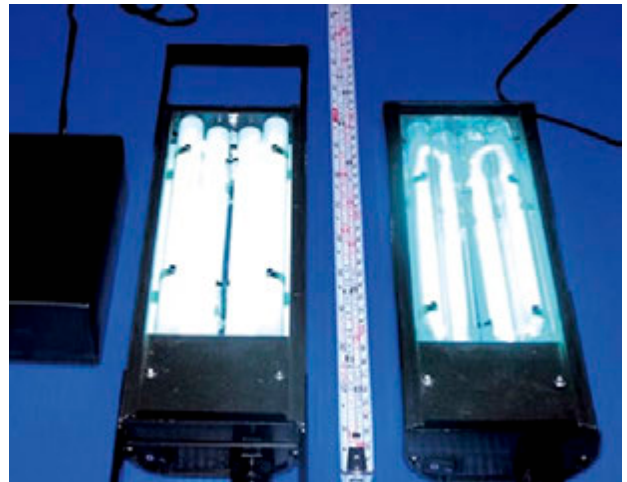
NEXCOM follows IPC-A 610, IPC-CC-830, IPC J-STD-001E regulations to generate consistent, adjustable coating thickness and cleanliness.

IoT Automation Solution

A connected manufacturing operation with integrated data could arguably be the scenario every plant should strive for in a world with ubiquitous digital technology. There are no shortage of examples of innovative companies that adopts IoT to increase asset utilization, improve energy management, achieve predictive maintenance, track inventory, minimize downtime, and integrate remote operation. IIoT also unveils a dawning new era of automaton, and M2M spawns a new generation of manufacturing. With one of the traditional factors blighting the effectiveness of automatic control being the unknown of the internal gears' operational efficiency of the headless equipment; though not necessarily a silver bullet, IoT gateways can extract those unknowns to cloud servers for further diagnosis so preemptive fault-prevention actions can be taken. The potential benefit of renovating manufacturing with the combination of IoT and automation is huge.

NEXCOM has developed the IoT gateway solution to build seamless end-to end connection for Industry 4.0 (see figure 1). Aimed to address the last mile challenge in the IIoT, NEXCOM IoT gateway solution supports five communication standards including Modbus® TCP/IP and Modbus® RTU, PROFINET®, PROFIBUS®, EtherNet/IP™, and OPC UA, and is pre-installed with NEXCOM IoT Studio software for simplified network configuration. By connecting PLC control systems to cloud platforms, NEXCOM IoT gateway solution epitomizes an interoperable network architecture for transferring operational field data to the cloud to deliver the benefits of big data analysis and remote management.

On a field level, a system is made up of NEXCOM's fanless platforms based on low-power consumption, high-performance Intel® processors with multi-core and Hyper-Threading (HT) technologies. The controller NIFE 100 is powered by onboard dual-core Intel® Atom™ processor E3826, clocking at 1.46GHz and with 1M cache, and suitable to operate at a temperature of up to 70 degree Celsius; the panel PC (IPPC) based on dual-core Intel® Atom™ processor D2550, clocking at 1.86GHz and with 1M cache, can survive at up to 60 degree Celsius; the IoT gateways Intel® Atom™-based NIFE 101 and NISE 50 are capable of multi-protocol conversion to extract internal parameters from plant equipment and can wirelessly transmit them to cloud servers through IWF6330M, a Wi-Fi mesh access point (AP). Both IoT gateways integrate Intel-certified Moon Island 3.0 BSP.

Figure 1. NEXCOM IAS solutions toward industry 4.0

IoT Automation System

NEXCOM provides tailor-made solutions with its PC-based total plant automation control systems. By embracing automation technology (AT) and information technology (IT), NEXOM solutions are poised for Industry 4.0, which is built on the foundation of the convergence of physical things and the cyber world, and the Internet of Things (IoT). NEXCOM solutions are capable of performing both continuous and discrete control utilizing CODESYS Control and SoftMotion based on the IEC61131-3 programming standard and networking technologies including EtherCAT, fieldbus, and industrial internet. By utilizing information technology, a Wi-Fi mesh AP can construct a seamless wireless network over which IoT gateways can transmit machine-generated parameters in a plant to cloud servers; with the deployment of industrial firewalls, like NEXCON IFA 3610, the protection against unauthorized intruders is secured. By analyzing the collected raw data, data scientists can probe equipment efficiency and identify meaningful patterns to predict maintenance requirements. A scenario is presented in this article.

A third-party PLC can be interfaced with the data concentrator NISE 300, which is based on dual-core 4th generation Intel® Core™ i5-4402E processor clocking at 1.6GHz and with 3M cache, and uses Modbus and fieldbus protocols.

To eliminate network security concerns on the field level, unsolicited intruders could be warded off by the broadband-capable firewall IFA 3610. It provides multi-port router with VPN function, stateful packet inspection, denial-of-service (DoS)/distributed denial-of-service (DDoS) protection, intrusion prevention, port scan detection, and real-time alerts.

In a situation when both auto and semi-auto control configuration are needed, eSMART series provides high quality graphic display, and its companion client-server-based software JMobile increases the mobility in a factory.

On the level of operation, monitoring, and MES/ERP, customers who prefer quietness can choose fanless computer NISE 3700 using quad-core Inte® Core™ i7 processor. Others can choose the 4U rack-mount PBOX 520A based on Intel® Core™ i7/ i5/i3, and Celeron®processors. Both NISE 3700 and PBOX 520A are suitable for SCADA, MES, and ERP applications. The required Supervisory Control and Data Acquisition (SCADA) software features differ based on user's preference; one example herein is CitectSCADA.

Intelligent Future under Digital Infrastructure

Dedicated to an intelligent future, NEXCOM offers a full range of products to help lay the groundwork for a digital infrastructure. Within this infrastructure, real-time raw data generated on a field site will flow to a backend system where it can to be monitored and translated into valuable information, allowing executives to make insightful decisions and therefore to increase competitiveness in industry.

As technology advances, product innovation and asset and operation optimization are the leading forces behind Big Data and analytics initiatives. NEXCOM's IoT Automation System is able to feed cloud servers with plant operational data, such as clickstreams to monitor operators' activities; alarm text messages to alert abnormal conditions; sensor data from field sites to analyze and predict equipment maintenance; and GPS geolocation data to swiftly locate equipment in question. A variety of users can benefit from this system: manufacturers who need to expand their existing system with an incremental approach; system integrators who need the flexibility to construct a bespoke system; and marque vendors who need to supplement their rigid product portfolio to meet bid specifications.

NISE 3700 IPPD 2100P PBOX 520A IPPD 1800P Cloud Server

Ethernet

IPPD 1600P IPPD 1640P IWF 2220 JMobile

NISE 3600 NIFE 100 IPPC 2160P IFA 3610 NISE 300 Fieldbus Concentrator

CODESYS Codesys SoftMotion Fieldbus CODESYS Codesys Control 3rd Party PLC

Remote I/O Remote I/O PLC IWF 6330M

Robotic Control Water Treatment Pump Station Control Plant Equipment Status

NIFE 101 NISE 50

NISE / NIFE Controller for DCS

NEXCOM PC-based DCS deployed across control environments by world-class petrochemical manufacturer.

More Intelligent, More Efficient

Manufacturers face evermore competitive pressures and threats. Every penny of extra cost must be cut and every ounce of efficiency must be extracted from a plant in order to remain competitive.

To that end, one of NEXCOM's customers examined its smartly tuned network of 300+ factories and plants and asked the question: Where can we save? Their answer surprised everyone: a distributed control system (DCS) with Intel Inside®. The DCS is widely used around the world for process automation applications. However, for smooth operations, long-term maintenance, and minimum disruptions of obsolescence, an Intel processor-based DCS solution was selected with the aim of cutting total cost of ownership (TCO) and boosting operational efficiency.

The customer discerned the inefficiencies in its proprietary DCS system, and addressed its uncertain product cycle and high-inventory risks. The customer began an overhaul of its DCS strategy, which involved development of a custom solution built on non-custom Intel processor-based parts. The customer expects to realize substantial TCO reductions as a result, along with a significant boost to both operational and maintenance efficiency when all new systems are fully deployed.

Open Architecture, Less Maintenance Cost

This project involves a large, world-class petrochemical manufacturer with more than 300 plants dispersed around the globe. To ensure smooth operation of large-scale facilities including oil refineries, steel mills, petrochemical factories, and power plants, the company used as many as 26 different brands of DCS systems to address the varying requirements of different control environments.

While this approach provided the needed versatility for its many different plant types, it was highly inefficient from a maintenance and operational standpoint and also carried a high TCO. An extensive inventory of spare parts and a wide-scale investment in knowing how to maintain these systems only added to operational cost and complexity. Company leaders surmised that a standardized solution, such as an Intel® architecture-based system, could eliminate much of this overhead and boost overall competitiveness by leveraging its in-house customization capability.

NISE in DCS Solution

The standardized DCS solution under discussion is composed of several subsystems. Each is made up of multiple units, and all can use the unified hardware platform that was developed in collaboration with NEXCOM. The unified hardware platform itself comprises multiple Intel® processor-based components, including an industrial PC and NEXCOM's NISE 3660, which plays two roles simultaneously: redundancy controller and man-machine interface (MMI). This DCS solution works across multiple control processes, including power generation, cogeneration processes, and midstream and downstream processes (see figure 1).

Best Choice from NISE/NIFE Controller

NEXCOM is chosen for multiple reasons, including previous favorable experiences with an earlier generation

Figure 1. NEXCOM NISE 3660 is installed in the cabinet as a DCS controller.

NEXCOM MMI system. Plus, NEXCOM is one of the only industrial PC companies with DCS expertise, including domain knowledge in DCS architecture hardware design. This expertise, coupled with a long track record of developing fanless PC-based controllers and panel computers for automation environments around the globe, gave NEXCOM the winning edge for this project.

NEXCOM's NISE 3660 is equipped with all the functional interfaces required by both redundancy controller and MMI applications and can be used as one or the other depending on the need. Also, the controller-specific interfaces and MMI-specific interfaces are on two different sides of the NISE 3660. This differs from most currently available, single-purpose controllers or MMI products that require companies to maintain inventories of both items.

For use as a redundancy controller, the NISE 3660 runs a real-time operating system to perform reliable control schemes and Microsoft Windows® for use as an MMI that delivers high-resolution graphics.

The DCS controller provides controller redundancy and I/O redundancy as illustrated below. Every active controller is connected to a backup controller with two LANs. The DCS controller also supports fieldbus technology to connect to PLCs and remote I/Os. For instance, PROFIBUS compatibility has been tested and certified by the customer (see figure 2).
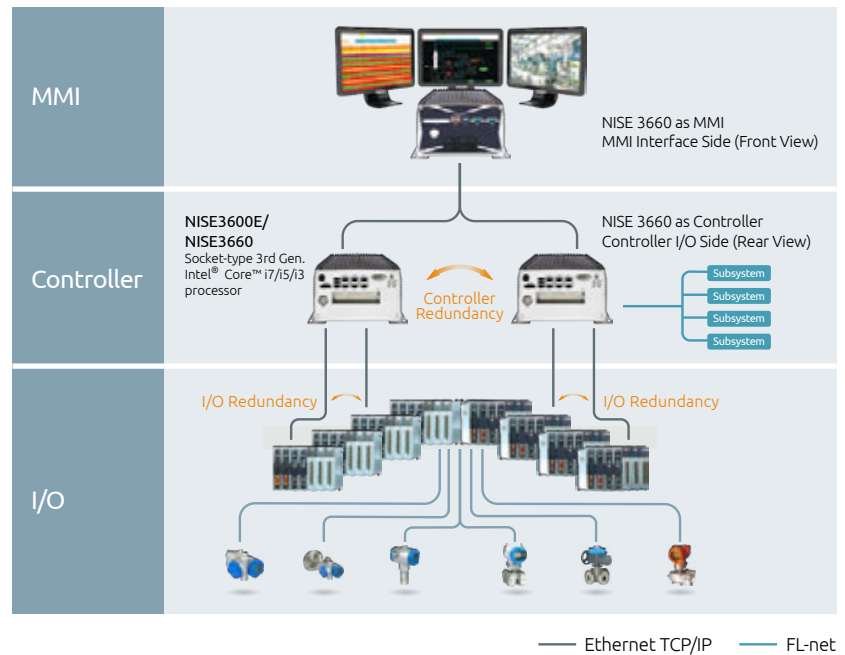
Figure 2. NEXCOM NISE 3660 as deployed in the customer's DCS

Multi-Core Computing and Scalable Processor from Intel

Intel processor-based components are favored in their new DCS design because they deliver performance, long-life support, generational compatibility, and scalability. For example, multicore Intel® processors can perform multiple jobs simultaneously, replacing several legacy processors and improving the overall cost/performance (C/P) value of the solution.

Value-added Service from NEXCOM

The completed project is expected to yield significant gains in factory and plant efficiency, while dramatically cutting TCO through the adoption of a new Intel® architecture-based DCS system.

According to the DCS solution project manager, replacing legacy application-specific integrated circuits (ASIC) with x86 architecture allows the company to deliver products just in time and to cut inventory overhead costs by about 20 percent. Moreover, it reduces the effort of lifetime cycle maintenance and mitigates the risk of obsolete hardware components by about 15 percent to 30 percent. Also, the fanless NISE 3660 consumes little power and helps reduce energy by 40 percent compared to the legacy MMI.

DCS Solution Seleciton

Function	MMI			Controller		Gateway	
Model Name	NIFE 300	NISE 3700E	NISE 3600	NISE 3660	NIFE 200	NIFE 101	NISE 105
Support Processor	6th Gen. Intel® Core™ i7/i5/i3 LGA1151 socket type processors	4th Gen. Intel® Core™ i7/i5/i3 LGA socket type processor	Onboard 3rd Gen. Intel® Core™ i7-3517UE processor 1.7GHz with 6x LANs	Onboard 3rd Gen. Intel® Core™ i7-3517UE processor 1.7GHz with 6x LANs	Onboard quad-core Intel® Celeron® processor J1900, 2.0GHz	Onboard dual-core Intel® Atom™ processor E3826, 1.46GHz	Onboard dual-core Intel® Atom™ processor E3826, 1.46GHz

Robot Control Solution for Smart Manufacturing

Smart Manufacturing

Robotics is a perfect example of the move to computerize industrial manufacturing and the smart factory vision put forward by Industry 4.0 and the Internet of Things (IoT). Almost all aspects are digitized, spanning machine control, monitoring, management, and data reporting and analysis. Even operators interact with machines digitally using a human machine interface (HMI). The smart factory provides many benefits, including a reduction in operator hours and opportunities to increase throughput, boost yields, improve efficiency, and reduce downtime through insights gained from advanced data analytics.

Simplifying the Design of Robotic Systems

Robotics are playing a major role in making manufacturing processes more productive and less labor intensive, which is especially important in China, where there is a labor shortage in some regions. But impeding many manufacturers is the complexity of robotic system design, which is made more difficult by the need to identify and integrate subsystems from multiple vendors.

Greatly simplifying the robotic design process, NEXCOM, working closely with various solution providers, developed open modular solutions for a range of robotics applications. With pre-integrated and pre-validated robotic control modules, NEXCOM robot

solution NexROBO performs precise robotics control and runs essential industrial application software.

Although industrial robotics systems come in all shapes and sizes, they will typically include the types of subsystems shown in Figure 1 and described in the following:
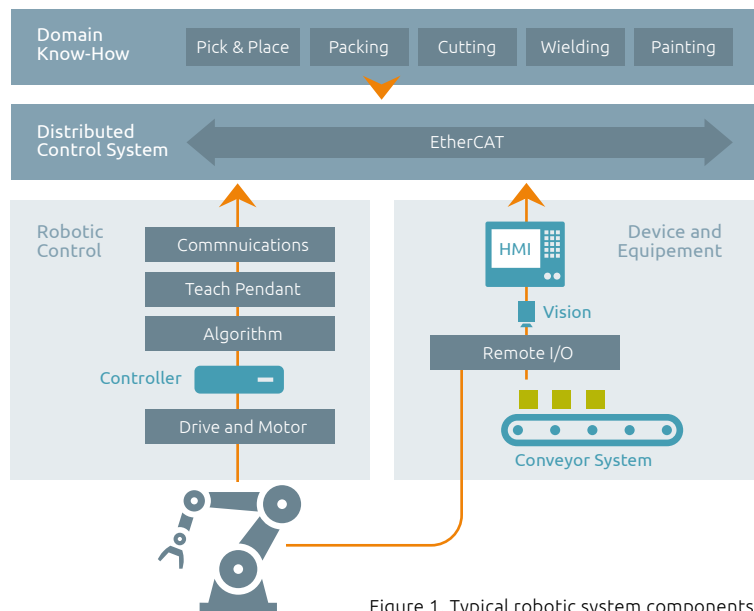
Figure 1. Typical robotic system components

Robot Body

Made of high-strength materials and designed for harsh environments, the robot body plays a "hands on" role in the manufacturing of goods by performing tasks, such as welding, painting, packaging, inspecting, etc.

Robotic Control

Robot control systems are typically responsible for sensing, motor driving, and movement functions that require sophisticated algorithms. The design of these rather complicated systems also requires vast experience in remote teaching, application know-how, and networking technology suited to industrial environments (e.g., EtherCAT). Control system components may include:

- Controller: PC-based system controlling the robot body.
- Algorithms: Application software running on the controller.
- Teach Pendant: Input device (HMI) enabling process control customization.
- Communications: Devices supporting advanced communications capabilities (e.g., EtherCAT).

Devices and Equipment

In addition to the robotics, other systems are needed to complete the production line, and some examples are:

- Remote I/O: Peripheral devices communicating with sensors, actuators, networks, etc.
- Vision Inspection: Cameras capturing images for pattern checking, barcode scanning, defect inspection, measurement, etc.
- HMI: Panel PCs enabling operators to interact with the production equipment.
- Conveying System: A variety of equipment for moving goods along the production line.

Distributed Control System

This architecture is used to flexibly connect distributed I/Os, sensors, and drives so developers can implement robot design without concern for signal wiring length limitations.

Domain Know-How

In addition to robotics, production lines may require special functions that require particular expertise.

Modular and Open Robot Solution

A robotic production line involves many aspects beyond the robots, some of which can be challenging. There are actuation controls, sensing, data processing, and operational intelligence that may present issues around system integration, machine-to-machine communication, and information integration. Taken a step further, smart manufacturing based on IoT, smart robots, cyber-physical systems, and big data technologies introduce additional layers of complexity. The complexity can be greatly reduced by the modular design of industrial robots, which fits different application requirements. The below reference table illustrates key components of pre-integrated and pre-validated robotic NexROBO solutions carried by NEXCOM. Each application requires different levels of customization to fulfill application goals.

Robot Application

Subsystem	Component	Auto Pasting Machine	Assembly Line	Industrial Robot Building	Academy Robot Development Platform
Domain Know-How		Auto Giving and Paste on-the-fly	Pick and Place	Robotic	
Robot Body		Hiwin RD403	HIWIN RA605	3rd-party	HIWIN RA605
Robotic Control	Controller	NEXCOM NET101	NEXCOM NET3600E	NEXCOM NISE 104/105	NEXCOM NET3600E
	Algorithm	NEXCOM	NEXCOM	Customer's	NEXCOM
	Communications	EtherCAT	EtherCAT	Third-party	EtherCAT
Device and Equipment	Application Specific	Conveying System and ME Partner	Conveying System and Air Compressor	N/A	N/A
	HMI	NEXCOM IPPC 1632P	NEXCOM	Teach Pendant	Customer's
	Remote I/O	NEXCOM AXE-9200	VIPA SLIO	N/A	NEXCOM AXE-9200

NexROBO Solution Selection

NexROBO Edu	NET Series	NexROBO Software	NexPad	3rd-party Robot	ROKA Series
Academy Robot Package	Robot Controller	Robotic Control	Teach Pendant	Robot Body	Machine Vision

Smart Machinery for Industry 4.0
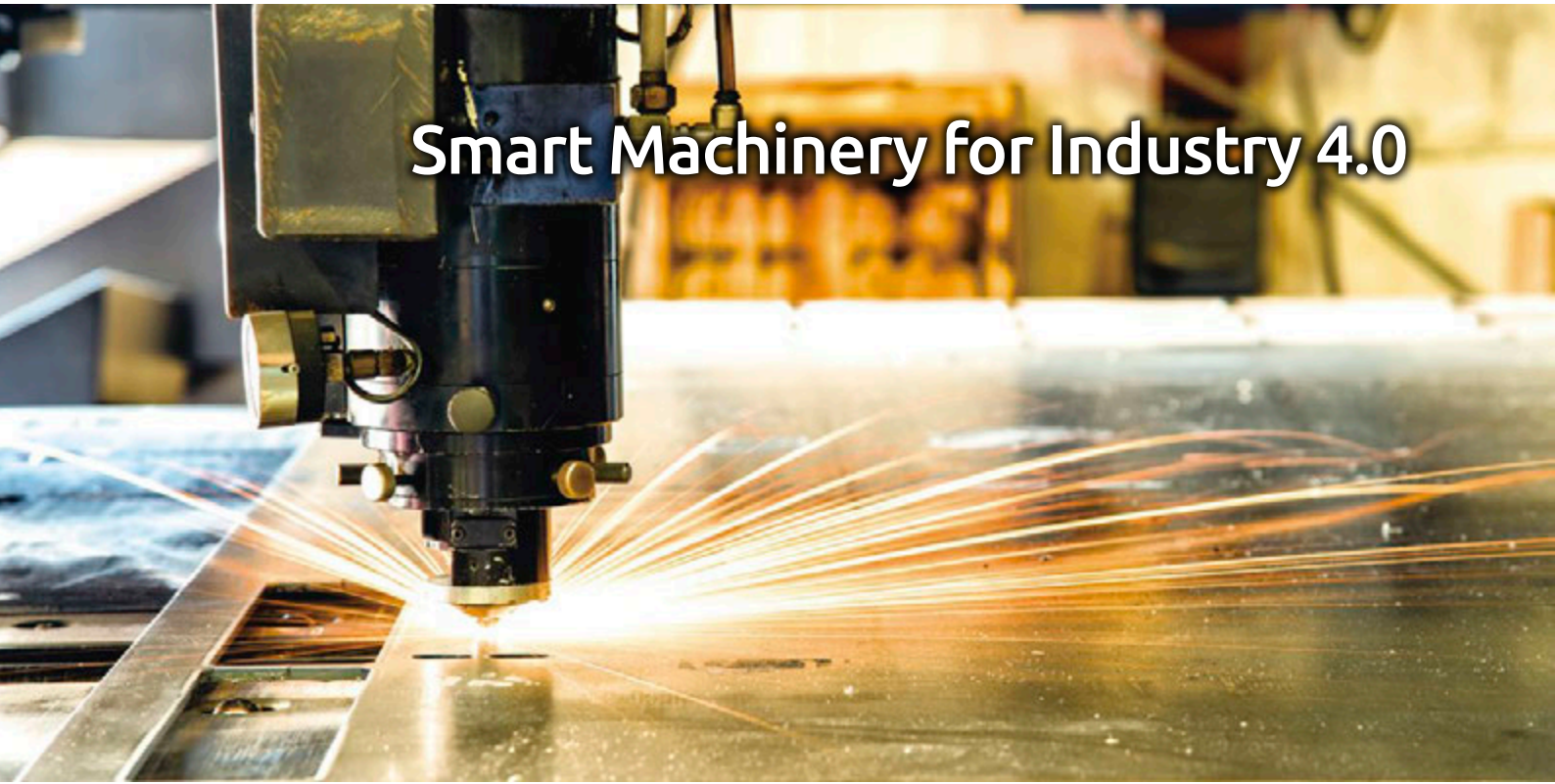
Vision-equipped IoT Controller Makes Industrial Machinery Agile and Efficient

The convergence of physical and digital worlds is giving rise to the Smart Factory and a new generation of industrial machinery. This new era, known as Industry 4.0., focuses on using the Internet of Things (IoT) and cyber-physical systems to streamline manufacturing and business processes, improve versatility and precision, and boost quality and capacity.

However, the challenges in turning a factory into a Smart Factory to achieve these advantages and increase overall competiveness are steep. Challenges include:

- The sheer variety and size of the machinery involved
- The complexity of distributed control systems that can include hundreds of control nodes
- The multitude of sensors and other legacy devices in isolated networks never designed for Internet connection

NEXCOM PC-based IoT controller capable of integrating machine vision is coming online—literally. Designed to run on-machine vision solutions while connecting physical manufacturing systems to factory and enterprise networks, NIFE 300, offers IoT connectivity, massive increases in compute and image processing performance, more data storage, and connection to Big Data solutions. Its on-machine vision enables greater precision and coordination in quality inspection, complex machining, analysis of complex processes, and supply chain coordination. All functions run on one unified platform.

Recipe for Precision

The capabilities required for NIFE 300 IoT controller providing on-machine vision can be divided into three functions: machine vision, control and monitoring, and IoT gateway (see figure 1).

To accelerate the roll out of Industry 4.0, NEXCOM offers an on-machine vision IoT controller solution that bolts onto industrial machinery to convert them into cyber-physical systems. Based on 6th generation Intel® Core™ processors, the NIFE 300's open architecture delivers high interoperability to provide a unified infrastructure for the consolidated functionality required of Industry 4.0 systems.

Intended for large-size machinery and distributed control systems with hundreds of control nodes, the NIFE 300 simplifies integration and node expansion. Its PC-based open architecture and EtherCAT I/O enables the NIFE 300 to avoid the limited expandability and poor flexibility that is characteristic of PLCs.

Providing real-time industrial Ethernet, EtherCAT makes an ideal fieldbus for several key reasons:
- It delivers high-speed transmission and high synchronization through a distributed clock approach for control nodes (subsystem devices).
- It can control synchronization latency to within a tenth of millisecond.
- It simplifies the addition of extra function and control nodes, enabling capability expansion at a lower cost.

To address high-mix, low-volume production needs, the NIFE 300 meets PLCopen specifications. For industrial machine manufacturers

High Speed Analysis	Human Machine Interface	Internet Connectivity of GbE, 4G, Wi-Fi
	Axis and Node Expansion	
High Speed Imaging: GigE Vision, USB3 Vision	• SoftPLC • SoftMotion • SoftCNC	Fieldbus Communication
	EtherCAT	
Machine Vision	Control & Monitoring	IoT Gateway
6th Generation Intel® Core™ Processors		

NIFE Series
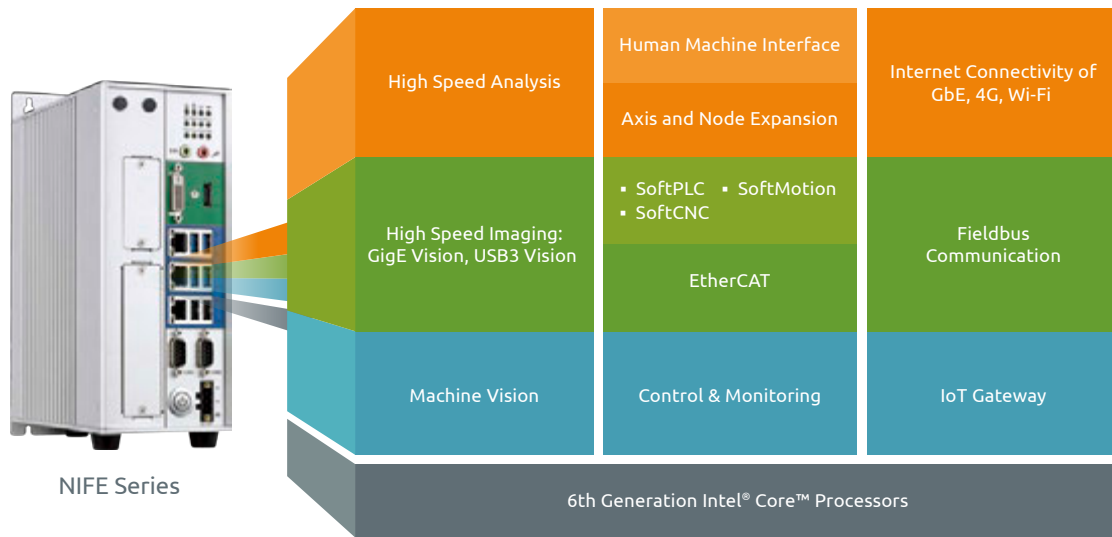
Figure 1. An integrated IoT controller and on-machine vision system must provide high-speed imaging and analysis, highly synchronized control and monitoring, and IoT gateway functionality.

who are accustomed to IEC 61131-3 standards, it facilitates control programming via CODESYS SoftMotion CNC and NEXCOM NexECM software. Using libraries of reusable logic and motion functionality, control schemes can be developed with less programming effort for fast design of SoftPLC, SoftMotion, and SoftCNC functions.

To facilitate manufacturing management, the NIFE 300's HMI software, JMobile Suite, provides an overview of machining processes and system status. Factory operators can access this view through a local HMI station or remotely through mobile devices and a web-based HMI. They can check settings, operations, and progress nearly anywhere at any time.

An Industrial-Strength Processor Family

The NIFE 300 IoT controller offers a choice of the Intel® Core™ i7-6700TE, i5-6500TE, and i3-6100TE processors, all of which use the Intel® Q170 Chipset. The processors offer the multi-core architecture required to consolidate systems and deliver real-time, deterministic performance. They enable the NIFE 300 to handle complex integration logic, motion, and kinetics control tasks in parallel, commanding hundreds of axes or processing hundreds of thousands of I/O tag data.

The combination of EtherCAT technology and the ability of multi-core Intel® processors to support higher channel density and greater multitasking,

enables significant reductions in the number of controllers needed on the factory floor. M 16GB achine manufacturers can order the controller with up to DDR4 2133 RAM. PCIe 3.0, USB 3.0, and SATA 3.0 ensure smooth performance of complex control schemes and image acquisition.

The processors' high-powered graphics engine brings dynamic real-time 3D simulation of machining paths as well as Ultra HD 4k graphical display of all sorts of machining information to HMI applications. The built-in Intel® HD Graphics 530 supports the latest graphics APIs, including Direct X 12 and Open GL 4.5, for energy-efficient rendering of 2D and 3D vector graphics. It also provides hardware-accelerated video codecs for fast transcoding.

In the Industry 4.0 era, the industrial machinery must be more intelligent, more agile, and more flexible. The NEXCOM NIFE 300 as a combined IoT controller and machine vision system provides a true Industry 4.0 solution. Tapping the performance of the latest Intel® Core™ processors, the NIFE 300 can help increase manufacturing quality and capacity, accommodate mass customization, and catalyze the fusion of physical factories and business systems for greater insight and process optimization.

NEXCOM Industrial Embedded Fieldbus Controller Selection (NIFE)

SoftPLC Controller	SoftMotion Controller	SoftMotion CNC Controller
NIFE 100 Series	NIFE 200 Series	NIFE 300 Series

CPS Gateway Solution
Drives a Data Revolution in Manufacturing

Many manufacturers are eager to tap the power of big data in order to increase competitiveness, improve the bottom line, and anticipate trends. They are exploring the Internet of Things (IoT), which facilitates communications between all types of field devices and enables manufacturers to act upon decisions derived from data analytics. However, a major challenge is gaining access to field data, made more difficult by field devices that use different fieldbus protocols, run independently, or lack connectivity.

Helping to overcome communication barriers amongst various field devices, including machinery, robots, PLCs, and sensors, NEXCOM CPS Gateway NISE/NIFE series, as shown in figure 1 provide cross-protocol communication capabilities, among many others, help manufacturers increase operations efficiency, reduce maintenance costs, and improve the bottom line and competitiveness.

Solution Overview

NEXCOM NISE/NIFE series communicate downstream to manufacturing modules over various fieldbus protocols and upstream to an on-premise SCADA system or to the cloud (or data center) via LAN, Wi-Fi, or 3G/4G networks. At the same time, it supports serial communication and fieldbus protocols to devices, allowing it to aggregate all types of downstream data. Given the fact that different communication protocols

are used from factory to factory, the NISE/NIFE series can interface to different types of fieldbus modules and support many fieldbus protocols, including PROFINET, PROFIBUS, EtherNet/IP, DeviceNet, EtherCAT, CANopen, and Modbus. This capability

Physical World	Cyber-Physical	Cyber World
Manufacturing ▪ SoftLogic Runtime ▪ VC++ Programming	Intel® Atom™ Processors	Internet
Fieldbus Networking	IoT Controller/Gateway	Wireless Wi-Fi/3G/LTE/BT
Embedded RTOS	Intel® IoT Gateway Software Stack	Big Data Concentrator
Control I/O Module		Mobile HMI

CPS →   NIFE 200   ← IoT

Closed System   Open System

Figure 1. NEXCOM PC-based factory automation building blocks

enables the NISE/NIFE series to act as a fieldbus data concentrator and provide the last-mile connection for field automation devices. As a result, manufacturers can build a Factory-of-Things that integrates PLCs, remote I/Os, and legacy field devices across different control subsystems, and sends field data to the cloud for big data analytics and remote monitoring of factory operations.

Addressing the computation, communication, and control requirements in manufacturing, these embedded computing platforms integrate the power-efficient Intel® Atom™/Core™ processors. The multi-core architecture of Intel® Atom™ and Core™ processors equips the NISE/NIFE series with ample computing performance to collect and process input data and command field devices to take appropriate actions. The NISE/NIFE series are available with up to quad-core computing power to accelerate response time, control a large volume of field devices, and perform more complicated control schemes.

The NISE/NIFE series may run the Intel software stack, developed in collaboration with McAfee and Wind River. These series can connect to legacy and new industrial devices, thereby enabling seamless and secure data flow between field devices and the cloud. The Intel software stack integrates technologies and protocols for networking, embedded control, enterprise-grade security, and manageability on which application-specific software can run.

Solution Benefits

Open standard infrastructure and IoT technologies from NEXCOM can help manufacturers achieve their major objectives:

- **Improve Operations** Factory staff can easily keep an eye on field devices when SMS alerts are sent to their smartphones by a local or remote management service, and field devices can also be monitored, configured, and serviced remotely. These features enable the staff to address device issues more quickly and save time.
- **Strengthen Security Barriers** Data at rest or in transit is protected by a combination of data encryption, application whitelisting, secure sockets layer (SSL) certificates, and secure boot of devices. From field device to cloud, software- and hardware-based security mechanisms provide multiple safeguards to better protect manufacturing data and intellectual property (IP).

Technology

Connectivity

NEXCOM NISE/NIFE series are designed to be the conduit between the physical world and the cyber world. The physical world consists of cyber-physical systems (CPS), which refers to a new generation of systems with integrated computational and physical capabilities that can interact with human processes in new ways (e.g., augmented reality, wearable devices). The NISE/NIFE series provide the interoperability necessary for CPS and set up a solid foundation for Factory-of-Things operations, transforming a factory to a Smart Factory without a costly overhaul. CPS systems are typically closed, but through the use of IoT technologies that provide a cyber-physical bridge, these systems can connect to the cyber world. The ability to interact with and expand the capabilities of the physical world through computation, communication, and control is a key enabler for future technology development.
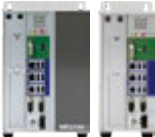
Control and Analytic Workloads

In addition to providing connectivity, the NISE/NIFE series have sufficient computational power to run control and analytic workloads, reducing the amount of data that needs to be sent to the cloud for processing. When employed in pharmaceutical manufacturing, for example, the NISE/NIFE series can monitor the pressure level of a reactor when binding agents are added to deliver a drug in pill or tablet form. As soon as the pressure reaches a certain level, the NISE/NIFE series can close inlet valves and activate a motor to spin an impeller to start the blending process. All is done automatically without manual effort.

Manageability

Factory staff is typically on the go, which means they can be more productive if they can manage factory devices from a smartphone or other mobile device. With this in mind, the NISE/NIFE series are available with a mobile HMI App JMobile, which provides remote access to real-time monitoring and control of factory operation. Starting a new manufacturing process only takes a few taps on a mobile device. Instead of being confined to desks in a factory control room, staff members can check a field device connected to the NISE/NIFE series – anytime, anywhere.

NISE/NIFE Series Selection

Industrial Fanless Computer				Industrial Fieldbus Controller		
NISE 50 Series	**NISE 100 Series**	**NISE 2000 Series**	**NISE 3000 Series**	**NIFE 100 Series**	**NIFE 200 Series**	**NIFE 300 Series**
Atom™ Slim	Atom™ Compact	Atom™ Expansion PCI/PCIe Optimized	Core®-i High Performance	DIN Rail	Optimized	High Performance

IoT Gateway Solution Secures Productivity with Predictive Maintenance

Predictive maintenance allows manufacturers to address failure risks lying in plants in early phases. But making accurate predictions takes experts with domain knowhow and cannot be afforded by most manufacturers. Cloud analysis tools incorporating mathematical models created based on historical data and patterns of reference cases emerge as a practical alternative to manufacturers. For analysis to be run manufacturers can simply collect and send data and information generated on the field to the cloud.

To meet the needs of data acquisition and communication, NEXCOM cloud-ready IoT solution integrates critical hardware and software components. Based on Intel processors, NEXCOM IoT Gateway offers a universal hardware platform to bridge the last mile gap between the edge and the cloud while NEXCOM IoT Studio software simplifies the implementation of data handling policies, third-party cloud service integration, and gateway management in edge servers. Also, Wind River® Intelligent Device Platform and McAfee® Embedded Control can be pre-integrated to protect IoT gateways from security threats.

Build End-to-end Connectivity

Manufacturers require IoT gateways to provide end-to-end connectivity for monitoring and maintaining manufacturing assets. To be useful, IoT gateways must be able to extract information from field data and transfer information to the cloud for analytical, archival, or other purposes. NEXCOM IoT Gateways provides strong support for multiple industrial communication protocols and flexible configuration, enabling manufacturers to set up wired and wireless heterogeneous networks comprised of field devices, enterprise intranet, and the internet.

Bring Intelligence to The Edge

With data channels opened, the volume of machine- and sensor-generated data gushing into IoT gateways can be overwhelming and stress network resources at peak hours of data transfer. To simplify the implementation of data handling policies, NEXCOM edge server installed with the programming tool NEXCOM IoT Studio offers a web-based graphics user interface (GUI) for network provisioning. Providing a click-to-connect command and pre-integrated third party application programming interfaces (API), this solution allows manufacturers to create granular policies, defining physical connection interfaces, data collection intervals, network protocols, data parsing rules, and data receiving ends for every device connected to NEXCOM edge servers like NIFE 200. For manufacturers with special protocol needs, NEXCOM IoT Studio includes add-on support for proprietary protocol expansion.

NEXCOM edge server will parse the incoming data into small pieces, extract the pieces that matter to manufacturers, convert the pieces into pre-defined formats so that they can be recognized by receiving ends, and then send the pieces to private enterprise clouds, IBM Bluemix, or Axeda Machine Cloud Service.

In addition, NEXCOM edge server can perform preliminary data analysis on the edge, as well as event management. Since NEXCOM edge server can make sense of sensor readings — for instance a pH value — it can decide whether a response is required and incorporate cloud application services to take actions like issuing alert messages via short message services (SMS) or emails. NEXCOM edge server can also help distribute over-the-air update packages if IoT gateways need updating.

Private Cloud		Open Cloud	

Connectivity

3G/LTE	
Wi-Fi	
LAN	
MQTT	Bluetooth
Z-Wave	ZigBee
LoRa	Ethernet
Modbus	PROFINET
PROFIBUS	DeviceNet
EtherNet/IP	EtherCAT
Serial	DIO

Manageability

- OTA & Local Update
- SW Defined Data Path
- Event Management
- Edge Data Analysis
- Data Monitor
- Gateway Configuration & Health Monitoring
- Edge Device Node Configuration & Health Monitoring

Security

- McAfee Embedded Control
- OpenSSL Engine
- Encrypted Storage
- Grsecurity
- Application Monitor
- SELinux
- Secure Boot

Cloud API

NEXCOM IoT Studio

Gateway	Edge Server	Cloud Server

OS	Java Framework	Wind River Linux 5.0.1	Yocto Linux-based Embedded System

NEXCOM IoT Gateway Solution based on Intel® based IoT Gateway Platform

Figure 1. NEXCOM IoT Gateway integrates critical hardware and software components to meet the challenges of deploying IoT gateways.

Secure Data from The Bottom up

With productivity at stake, it is important to keep IoT gateways up and running as well as protected from unauthorized access. With pre-integrated Wind River Intelligent Device Platform XT and McAfee® Embedded Control, the security protection is enforced from system boot to operations and allows only trusted software to run while stopping applications that have been tampered with. Also, the built-in OpenSSL engine can encrypt and decrypt data to avoid in-transit data manipulation. NEXCOM IoT Gateway lifts barriers to data communication, seamlessly and securely integrating industrial networks with business intranet and the cloud (see figure 1).

Predictive Maintenance Solution

In the practice of predictive maintenance machine vibration is detected by sensors and processed by the Fast Fourier Transform Time-Frequency Conversion. The processed data, formatted into spectrum, waterfall, orbit, and overall wave forms, is then collected by NEXCOM IoT Gateway NIFE 200 and sent to the predictive maintenance SCADA

NEXCOM NISE 3600E. With the seamless integration to cloud services where mathematical modules are applied, health status of industrial machinery including power generators, chillers, pumps and others can be closely monitored and analyzed to reduce unexpected downtime (see figure 2).
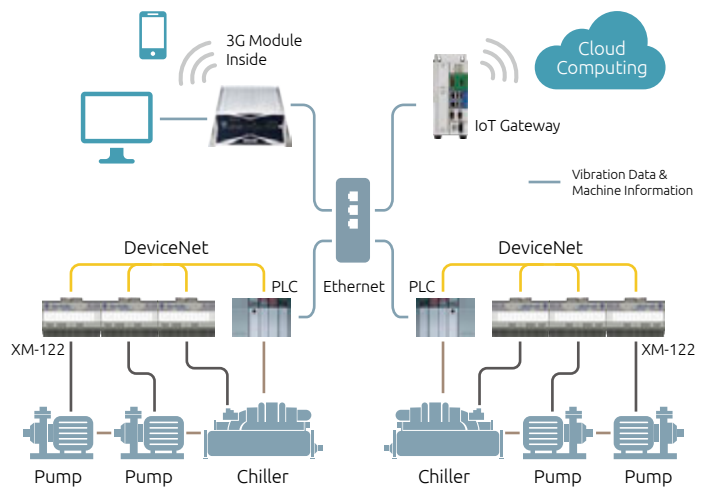
Figure 2. IoT gateway application

Predictive Maintenance Solution Pack

Click-to-Cloud Apps	IoT Gateway		Edge Server	Big Data Server		
Configuration Tool	Intel® Atom™		Intel® Celeron®	Intel® Core™		
	NISE 50	NIFE 105	NIFE 200	NISE 300	NIFE 300	NISE 3600
NEXCOM IoT Studio						

Wireless Solution Connects to Industry 4.0 Era

Wireless Solution Connects to Industry 4.0 Era

Network connection plays an essential role in the convergence of the cyber and physical worlds that Industry 4.0 and industrial internet of things (IIoT) advocate. As the question of "go wired or wireless" bothers users, wireless connection is preferred over wired LAN because it delivers the benefits of low cost and ease of deployment. Thus, NEXCOM identifies three elements to set up a trustworthy wireless network.

- Management system
- Industrial Wi-Fi solution
- Industrial wireless sensor network gateway solution

Management System

Manageability is the key to build a robust reliable wireless network. In the network all connected Wi-Fi devices and wireless sensors must be able to be managed and controlled by a management system. Such management system can automatically detect Wi-Fi access points (APs) and customer premises equipment (CPE), and enable remote setup and configuration of APs and CPEs. Also, the management system can monitor devices status, watch for alarming events, and bring the manager's attention to a developing situation.

Industrial Wi-Fi Mesh Solution

Harsh environments and reliable data transmission are two major factors to be considered when building wireless networks in industrial settings. It is imperative for industrial Wi-Fi solutions to deliver industrial grade reliability and optimize routes for sending data. Leveraging the Mesh technology, NEXCOM Industrial Wi-Fi Mesh IWF series features self-forming and self-healing capabilities to provide a secure backbone network for flexible wireless network deployment and reliable data transmission. NEXCOM Industrial Wi-Fi Mesh IWF series is made up of EZ Mesh APs and Mobile Mesh APs.

EZ Mesh AP

The EZ Mesh APs supporting 4 hops provide a backbone network for trusted secure Wi-Fi connection. The EZ Mesh APs achieve a high data rate with the adoption of IEEE 802.11an MIMO technology. The EZ Mesh APs are an ideal fit for bandwidth-consuming data transmission applications in factories, large-scale treatment plants, and utility facilities.

Mobile Mesh AP

Mobile Mesh APs feature short handover switch time which is an important consideration to allow for seamless Wi-Fi roaming on moving vehicles, including public transportation systems, automated guided vehicles (AGV), and mining trucks.

Cost Effective IWF Family

Cost-effective IWF 500 family offers a wide support of Wi-Fi standards including 2x2 MIMO 11n and 3x3 MIMO 11ac. Featuring industrial design, the IWF 500 series provides high reliability and high data rate, offering the best cost-performance options for cable replacement solutions required of the last-mile, point-to-point (PtP) and point-to-multipoint (PtMP) applications.

Industrial Wireless Sensor Network Gateway Solution

ISA100.11a and WirelessHART are receiving growing popularity,

selected for industrial wireless sensor network protocols in factories, especially those involving automated process control. The ISA 100a and WirelessHART standards offer the benefit of cable replacement, and are ideal choices for wireless data communication applications. IWSN gateway solution includes:

- ISA100.11a/WirelessHART backbone router and gateway
- Wireless serial/Ethernet gateway.

ISA100.11a/WirelessHART Backbone Router and Gateway (NIO 200)

Combining 802.11an Mesh and ISA100.11a/WirelessHART technologies, NIO 200 can construct a standalone/distributed ISA100.11a/WirelessHART network based on full Mesh topology. By interlacing bypass links, NIO 200 secures robust and reliable

communication channels among field devices and backbone network for mission-critical industrial wireless applications. Moreover, NIO 200 is designed by CID2 and ATEX requirements to be used to at hazardous locations, helping such as oil and gas facilities and chemical plants collect data that is critical to safe plant operations.

Wireless Serial/Ethernet Gateway (NIO 50)

NIO 50 is an industrial wireless serial/Ethernet gateway which can connect PLCs, meters, sensors, and other serial devices to a wireless LAN network. NIO 50 can perfectly interoperate with NEXCOM EZ Mesh APs, sharing Mesh links with each other. NIO 50 provides wireless connection for accessing serial devices, eliminating the hassle of cabling or wiring for the wide rollout of Industry 4.0 applications (see figure 1).
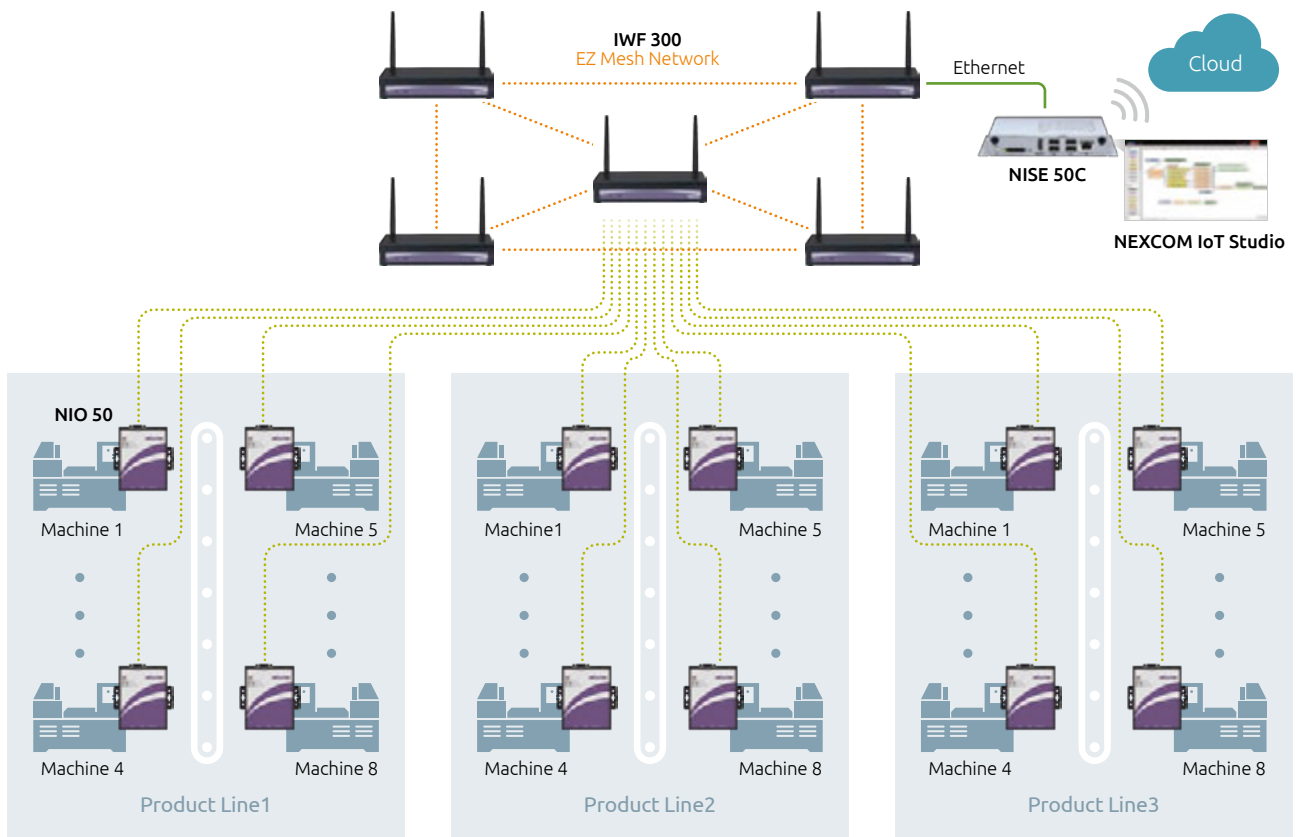
Figure 1. Industrial wireless network diagram

Industrial Wireless Network Selection

EZ Mesh Family		Mobile Mesh Family		IWF Cost Effective Family		Industrial Wireless Sensor Network		
IWF 300	IWF 310	IWF 6320M IWF 6330M	IWF 3310XM	IWF 501 IWF 502	IWF 503 IWF 504	NIO 210IDG NIO 210HDG	NIO 210IAG NIO 210HAG NIO 200IWR NIO 200HWR NIO 200IER NIO 200HER	NIO 50

Marine Computer

Model	nTUF 600	nTUF 610
CPU	Intel® Atom™ D525 1.8 GHz	2nd Gen. Intel® Core™ i7-2610UE 1.5 GHz
Chipset	Intel® ICH8M	Intel® QM67
Max. Memory	2GB DDR2 (Pre-install)	2GB DDR3 (Pre-install)
HDD Space	2 x 2.5" SATA HDD bay	2 x 2.5" SATA HDD bay
CFast Socket	1 (External, CFast)	1 (External, CFast)
SD Card	-	-
eMMC	-	-
CD-ROM/DVD-ROM	-	-
VGA	1	1
LVDS	-	-
DVI	N/A (Active by MXM)	1 (DVI-D)
TV-out	-	-
HDMI	N/A (Active by MXM)	N/A (Active by MXM)
Display Port	-	-
eSATA	-	-
IEEE1394	-	-
USB	4	4
PS/2	2	2
Parallel Port	-	-
Serial Port	6	6
RS422/485	4 (NMEA)	4 (NMEA)
RS422/485 Isolation	2KV Isolation	2KV Isolation
CANbus	-	-
mini-PCIe	1	1
SIM Card Holder	1	1
GPIO	4-in/4-out (internal)	4-in/4-out (internal)
LAN Ports	2 x GbE (M12)	2 x GbE (M12)
Audio	Mic-in & Line-out	Mic-in & Line-out
Power Input Range	ATX, DC 24V (1.5KV Isolation)	ATX, DC 24V (1.5KV Isolation)
Power Supply Adapter	-	-
Expansion	-	-
Win7 32bit	V	V
Win7 64bit	V	V
WES2009 32bit	V	V
Win8 32bit	-	-
Win8 64bit	-	-
WinCE/WEC	WinCE 6.0	WinCE 6.0
Win10 32bit	-	-
Win10 64bit	-	-
System Dimension (WxDxH) (mm)	294 x 200 x 100	294 x 200 x 100
Carton Dimension (WxDxH) (mm)	399 x 303 x 194	399 x 303 x 194
Net weight (kg)	5.4	5.5
Gross weight (kg)	7.4	7.4

Fanless Computer

Model	NISE 50	NISE 50C
CPU	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz
Chipset	Intel® Bay Trail-I	Intel® Bay Trail-I
Max. Memory	2G DDR3L On board (support 4G memory max)	2G DDR3L On board (support 2G memory max)
HDD Space	-	-
CFast Socket	-	-
SD Card	-	-
eMMC	16GB	16GB
CD-ROM/DVD-ROM	-	-
VGA	-	-
LVDS	-	-
DVI	-	-
TV-out	-	-
HDMI	1	1
Display Port	-	-
eSATA	-	-
IEEE1394	-	-
USB	4	4 x USB2.0
PS/2	-	-
Parallel Port	-	-
Serial Port	3	3
RS422/485	1	1
RS422/485 Isolation	-	-
CANbus	-	-
mini-PCIe	3	3
SIM Card Holder	1	1
GPIO	4-in/4-out (internal)	4-in/4-out (internal)
LAN Ports	2 x GbE	1 x GbE
Audio	Mic-in & Line-out	Mic-in & Line-out
Power Input Range	ATX, DC +24V	ATX, DC 12V
Power Supply Adapter	Optional	Optional
Expansion	-	-
Win7 32bit	-	V
Win7 64bit	-	V
WES2009 32bit	-	-
Win8 32bit	V	V
Win8 64bit	V	V
WinCE/WEC	-	-
Win10 32bit	V	V
Win10 64bit	V	V
System Dimension (WxDxH)(mm)	162 x 26 x 150	146 x 26 x 150
Carton Dimension (WxDxH)(mm)	233 x 227 x 169	233 x 227 x 169
Net Weight (kg)	0.87	0.84
Gross Weight (kg)	1.5	1.5

	NISE 50C-H	NISE 103	NISE 104	NISE 105	NISE 105A
	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ D425 1.8GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz
	Intel® Bay Trail-I	Intel® ICH8M	Intel® NM10	Intel® Bay Trail-I	Intel® Bay Trail-I
	2G DDR3L On board (support 2G memory max)	2GB DDR3	4G DDR3	4GB DDR3L	4GB DDR3L
	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA 2.0 HDD bay	1 x 2.5" SATA 2.0 HDD bay
	-	1 (External, CF)	1 (External, CFast)	1 (External, SATA 2.0 CFast)	1 (External, SATA 2.0 CFast)
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	1	-	-	-
	-	Single, 18bit (Internal)	-	-	-
	-	-	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
	-	-	-	-	-
	1	-	1	1	1
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	4 x USB2.0	4	6	2 x USB2.0 1 x USB3.0	2 x USB2.0 1 x USB3.0
	-	-	-		
	-	-	-	-	-
	3	4	4	4	4
	-	1	2	2	4
	-	-	-	-	-
	-	-	-	-	-
	3	1	1	1	1
	1	1 (internal)	1 (internal)	1	1
	4-in/4-out (internal)	-	-	4-in/4-out (Internal)	4-in/4-out (Internal)
	1 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
	ATX, DC 12V	ATX, DC 12V	ATX, DC +10 ~ 28V	ATX, DC + 9V ~ 30VDC	ATX, DC + 9V ~ 30VDC
	Optional	Optional	Optional	Optional	Optional
	-	-	-	-	-
	V	V	V	V	V
	V	-	-	V	V
	-	V	V	-	-
	V	-	-	V	V
	V	-	-	V	V
	-	WinCE6.0	WinCE7.0	WinCE7.0	WinCE7.0
	V	-	-	V	V
	V	-	-	V	V
	146 x 42 x 150	185 x 131 x 54	185 x 131 x 54	185 x 131 x 54	185 x 131 x 54
	233 x 227 x 169	259 x 233 x 129	259 x 233 x 129	259 x 233 x 129	259 x 233 x 129
	0.95	1.2	1.2	1.3	1.3
	1.6	2	2	2	2

Fanless Computer

Model	NISE 105-E3845	NISE 106-N3700	NISE 106-N3150	NISE 2200	NISE 2210
CPU	Intel® Atom™ E3845 1.91GHz	Intel® Pentium® N3700 1.6GHz	Intel® Celeron® N3150 1.6GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz
Chipset	Intel® Bay Trail-I	Intel® Braswell	Intel® Braswell	Intel® ICH10 RAID	Intel® ICH10 RAID
Max. Memory	4GB DDR3L	4GB DDR3L	4GB DDR3L	4G DDR3	4G DDR3
HDD Space	1 x 2.5" SATA 2.0 HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
CFast Socket	1 (External, SATA 2.0 CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
SD Card	-	-	-	-	-
eMMC	-	-	-	-	-
CD-ROM/DVD-ROM	-	-	-	-	-
VGA	-	-	-	-	-
LVDS	-	-	-	Single, 24bit (Internal)	Single, 24bit (Internal)
DVI	1 (DVI-I)	1 (DVI-D)	1 (DVI-D)	1 (DVI-I)	1 (DVI-I)
TV-out	-	-	-	-	-
HDMI	1	1	1	1	1
Display Port	-	1	1	-	-
eSATA	-	-	-	-	-
IEEE1394	-	-	-	-	-
USB	2 x USB2.0 1 x USB3.0	4 x USB3.0	4 x USB3.0	6	6
PS/2		-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	4	4	4	6	6
RS422/485	2	2	2	4	4
RS422/485 Isolation	-	-	-	2 (2.5KV Isolation)	2 (2.5KV Isolation)
CANbus	-	-	-	-	-
mini-PCIe	1	1	1	1	1
SIM Card Holder	1	1	1	1	1
GPIO	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (External)	4-in/4-out (External)
LAN Ports	2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
Audio	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
Power Input Range	ATX, DC + 9V ~ 30VDC	ATX, DC + 9V ~ 30VDC	ATX, DC + 9V ~ 30VDC	ATX, DC + 9V ~ 36VDC	ATX, DC + 9V ~ 36VDC
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	-	-	-	-	1 x PCI
Win7 32bit	V	V	V	V	V
Win7 64bit	V	V	V	-	-
WES2009 32bit	-	-	-	V	V
Win8 32bit	V	V	V	-	-
Win8 64bit	V	V	V	-	-
WinCE/WEC	WinCE7.0	-	-	WinCE 7.0	WinCE 7.0
Win10 32bit	V	V	V	-	-
Win10 64bit	V	V	V	-	-
System Dimension (WxDxH)(mm)	185 x 131 x 54	185 x 131 x 54	185 x 131 x 54	195 x 200 x 65	195 x 200 x 90
Carton Dimension (WxDxH)(mm)	259 x 233 x 129	245 x 318 x 152	245 x 318 x 152	335 x 294 x 193	335 x 294 x 193
Net Weight (kg)	1.3	1.3	1.3	2.6	3
Gross Weight (kg)	2	2	2	4	4.4

NISE 2210E	NISE 2300	NISE 2310	NISE 2310E	NISE 2400
Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ E3827 1.75GHz
Intel® ICH10 RAID	Intel® ICH10 RAID	Intel® ICH10 RAID	Intel® ICH10 RAID	Intel® Bay Trail-I
4G DDR3	4G DDR3	4G DDR3	4G DDR3	8GB DDR3L
1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA II HDD bay
1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Single, 24bit (Internal)	-	-	-	-
1 (DVI-I)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)
-	-	-	-	-
1	-	-	-	1
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
6	6	6	6	4 x USB2.0 1 x USB3.0
-	-	-	-	-
-	-	-	-	-
6	4	4	4	4
4	4	4	4	2
2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	-
-	-	-	-	-
1	1	1	1	2
1	1	1	1	1
4-in/4-out (External)	4-in/4-out (External)	4-in/4-out (External)	4-in/4-out (External)	4-in/4-out (Internal)
2 x GbE	4 x GbE	4 x GbE	4 x GbE	2 x GbE
Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
ATX, DC + 9V ~ 36VDC	ATX, DC + 9V ~ 36VDC	ATX, DC + 9V ~ 36VDC	ATX, DC + 9V ~ 36VDC	ATX, DC +9 ~ 30V
Optional	Optional	Optional	Optional	Optional
1 x PCIex4 or 1 x PCIex1 (if mini-PCIe module is installed)	-	1 x PCI	1 x PCIex1	-
V	V	V	V	V
-	-	-	-	V
V	V	V	V	-
-	-	-	-	V
-	-	-	-	V
WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0
-	-	-	-	V
-	-	-	-	V
195 x 200 x 90	195 x 200 x 65	195 x 200 x 90	195 x 200 x 90	195 x 200 x 65
335 x 294 x 193	335 x 294 x 193	335 x 294 x 193	335 x 294 x 193	335 x 294 x 193
3	2.6	3	3	2.7
4.4	4	4.4	4.4	4

Fanless Computer

Model	NISE 2400-J1900	NISE 2410	NISE 2410-J1900	NISE 2410E	NISE 2420
CPU	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ E3827 1.75GHz	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ E3845 1.91GHz	Intel® Atom™ E3845 1.91GHz
Chipset	Intel® Bay Trail-D	Intel® Bay Trail-I	Intel® Bay Trail-D	Intel® Bay Trail-I	Intel® Bay Trail-I
Max. Memory	8GB DDR3L	8GB DDR3	8GB DDR3L	8GB DDR3	8GB DDR3
HDD Space	1 x 2.5" SATA II HDD bay	1 x 2.5" SATA II HDD bay	1 x 2.5" SATA II HDD bay	1 x 2.5" SATA II HDD bay	1 x 2.5" SATA II HDD bay
CFast Socket	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
SD Card	-	-	-	-	-
eMMC	-	-	-	-	-
CD-ROM/DVD-ROM	-	-	-	-	-
VGA	-	-	-	-	-
LVDS	-	-	-	-	-
DVI	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
TV-out	-	-	-	-	-
HDMI	1	1	1	1	1
Display Port	-	-	-	-	-
eSATA	-	-	-	-	-
IEEE1394	-	-	-	-	-
USB	4 x USB2.0 1 x USB3.0	4 x USB2.0 1 x USB3.0	4 x USB2.0 1 x USB3.0	4 x USB2.0 1 x USB3.0	4 x USB2.0 1 x USB3.0
PS/2	-	-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	4	4	4	4	4
RS422/485	2	2	2	2	2
RS422/485 Isolation	-	-	-	-	-
CANbus	-	-	-	-	-
mini-PCIe	2	2	2	2	2
SIM Card Holder	1	1	1	1	1
GPIO	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
LAN Ports	2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
Audio	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
Power Input Range	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	-	1 x PCI	1 x PCI	1 x PCIe	2 x PCI
Win7 32bit	V	V	V	V	V
Win7 64bit	V	V	V	V	V
WES2009 32bit	-	-	-	-	-
Win8 32bit	V	V	V	V	V
Win8 64bit	V	V	V	V	V
WinCE/WEC	WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0
Win10 32bit	V	V	V	V	V
Win10 64bit	V	V	V	V	V
System Dimension (WxDxH)(mm)	195 x 200 x 65	195 x 200 x 65	195 x 200 x 65	195 x 200 x 65	195 x 200 x 111
Carton Dimension (WxDxH)(mm)	335 x 294 x 193	335 x 294 x 193	335 x 294 x 193	335 x 294 x 193	337 x 296 x 227
Net Weight (kg)	2.7	3	3	3	3.2
Gross Weight (kg)	4	4.4	4.4	4.4	4.6

	NISE 300	NISE 301	NISE 3500	NISE 3500P2	NISE 3500M
	4th Gen. Haswell Intel® i5-4402E BGA	Intel® Atom™ E3845 1.91GHz	Intel® Core™ i7/i5 socket	Intel® Core™ i7/i5 socket	Intel® Core™ i7/i5 socket
	Intel® QM87	Intel® Bay Trail-I	Intel® QM57	Intel® QM57	Intel® QM57
	8GB DDR3/DDR3L	4GB DDR3L	4GB DDR3	4GB DDR3	4GB DDR3
	2 x 2.5" SATA3.0 HDD bay	1 x 2.5" SATA II HDD bay	1 x 2.5" HDD driver bay	1 x 2.5" HDD driver bay	1 x 2.5" HDD driver bay
	1 (External, SATA 3.0 CFast)	1 (External, SATA 2.0 CFast)	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	1	1	1	1
	-	-	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)
	1 (DVI-I)	1 (DVI-D)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
	-	-	-	-	-
	1	-	-	-	1
	-	-	-	-	-
	-	-	2	2	2
	-	-	-	-	3 (IEEE1394b)
	2 x USB2.0 2 x USB3.0	2 x USB2.0	6	6	6
	-	-	1	1	1
	-	-	1 (Internal)	1 (Internal)	1 (Internal)
	2	2	4	4	4
	2 (RS232/422/485)	2 (RS232/422/485)	1	1	1
	-	-	-	-	-
	-	-	-	-	-
	6	2	-	-	-
	1	1	-	-	-
	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
	2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
	ATX, DC +9 ~ 30V	ATX,DC +24V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V
	Optional	Optional	Optinal	Optinal	Optinal
	-	-	1 x PCI	2 x PCI	1 x PCI
	V	V	V	V	V
	V	V	V	V	V
	-	-	V	V	V
	V	V	-	-	-
	V	V	-	-	-
	-	WEC7	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	310 x 212 x 80	205 x 160 x 80	195 x 268 x 80	195 x 268 x 101	195 x 268 x 80
	440 x 340 x 224	324 x 303 x 193	367 x 309 x 234	367 x 309 x 234	367 x 309 x 234
	4.3	2.4	4.5	4.8	4.5
	5.7	3.6	6.2	6.5	6.2

Fanless Computer

Model	NISE 3500M2E	NISE 3520	NISE 3520P2	NISE 3520P2E	NISE 3600E
CPU	Intel® Core™ i7/i5 socket	Intel® Core™ i7/i5 socket	Intel® Core™ i7/i5 socket	Intel® Core™ i7/i5 socket	3rd Gen. Intel® Core™ i5/i3 socket (2nd Gen. Intel® Core™ i5/i3 socket)
Chipset	Intel® QM57	Intel® QM57	Intel® QM57	Intel® QM57	Intel® QM77
Max. Memory	4GB DDR3	4GB DDR3	4GB DDR3	4GB DDR3	8GB DDR3
HDD Space	2 x 2.5" HDD driver bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
CFast Socket	-	-	-	-	1 (External, CFast)
SD Card	-	-	-	-	-
eMMC	-	-	-	-	-
CD-ROM/DVD-ROM	-	-	-	-	-
VGA	1	1	1	1	1
LVDS	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)
DVI	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-D)
TV-out	-	-	-	-	-
HDMI	1	1	1	1	-
Display Port	-	-	-	-	2
eSATA	2	-	-	-	-
IEEE1394	3 (IEEE1394b)	-	-	-	-
USB	6	6	6	6	2 x USB2.0 4 x USB3.0
PS/2	1	1	1	1	-
Parallel Port	1 (Internal)	-	-	-	-
Serial Port	4	4	4	4	6
RS422/485	1	1	1	1	1
RS422/485 Isolation	-	-	-	-	-
CANbus	-	-	-	-	-
mini-PCIe	-	1	1	1	1
SIM Card Holder	-	1	1	1	1
GPIO	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
LAN Ports	2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
Audio	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
Power Input Range	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V
Power Supply Adapter	Optinal	Optional	Optional	Optional	Optional
Expansion	1 x PCI or 1 x PCIex1	1 x PCI	2 x PCI	1 x PCI or 1 x PCIex1	1 x PCIex4
Win7 32bit	V	V	V	V	V
Win7 64bit	V	V	V	V	V
WES2009 32bit	V	V	V	V	V
Win8 32bit	-	-	-	-	V
Win8 64bit	-	-	-	-	V
WinCE/WEC	-	-	-	-	-
Win10 32bit	-	-	-	-	V
Win10 64bit	-	-	-	-	V
System Dimension (WxDxH)(mm)	195 x 268 x 101	195 x 268 x 80	195 x 268 x 101	195 x 268 x 101	215 x 272 x 93
Carton Dimension (WxDxH)(mm)	367 x 309 x 234	367 x 309 x 234	367 x 309 x 234	367 x 309 x 234	378 x 342 x 269
Net Weight (kg)	4.8	4.5	4.8	4.8	5
Gross Weight (kg)	6.5	6.2	6.5	6.5	7
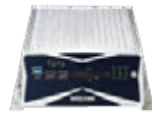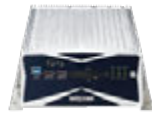
NISE 3600E2	NISE 3600P2	NISE 3600P2E	NISE 3640E	NISE 3640E2
3rd Gen. Intel® Core™ i5/i3 socket (2nd Gen. Intel® Core™ i5/i3 socket)	3rd Gen. Intel® Core™ i5/i3 socket (2nd Gen. Intel® Core™ i5/i3 socket)	3rd Gen. Intel® Core™ i5/i3 socket (2nd Gen. Intel® Core™ i5/i3 socket)	3rd Gen. Intel® Core™ i7 BGA	3rd Gen. Intel® Core™ i7 BGA
Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
8GB DDR3	8GB DDR3	8GB DDR3	8GB DDR3	8GB DDR3
1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1	1	1	1	1
Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)
1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)
-	-	-	-	-
-	-	-	-	-
2	2	2	2	2
-	-	-	-	-
-	-	-	-	-
2 x USB2.0 4 x USB3.0	2 x USB2.0 4 x USB3.0	2 x USB2.0 4 x USB3.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0
-	-	-	-	-
-	-	-	-	-
6	6	6	6	6
1	1	1	2	2
-	-	-	-	-
-	-	-	-	-
1	1	1	2	2
1	1	1	1	1
4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
2 x GbE	2 x GbE	2 x GbE	4 x GbE	4 x GbE
Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +24V	ATX, DC +24V
Optional	Optional	Optional	Optional	Optional
2 x PCIex4	2 x PCI	1 x PCI and 1 x PCIex4	1 x PCIex4	2 x PCIex4
V	V	V	V	V
V	V	V	V	V
V	V	V	V	V
V	V	V	V	V
V	V	V	V	V
-	-	-	-	-
V	V	V	-	-
V	V	V	-	-
215 x 272 x 114	215 x 272 x 114	215 x 272 x 114	215 x 272 x 93	215 x 272 x 114
378 x 342 x 269	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269
5.4	5.4	5.4	5.2	5.4
7.4	7.4	7.4	7	7.2

Fanless Computer

Model	NISE 3640P2	NISE 3640P2E	NISE 3640M	NISE 3640M2	NISE 3640ME2
CPU	3rd Gen. Intel® Core™ i7 BGA	3rd Gen. Intel® Core™ i7 BGA	3rd Gen. Intel® Core™ i7 BGA	3rd Gen. Intel® Core™ i7 BGA	3rd Gen. Intel® Core™ i7 BGA
Chipset	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
Max. Memory	8GB DDR3	8GB DDR3	8GB DDR3/DDR3L	8GB DDR3/DDR3L	8GB DDR3/DDR3L
HDD Space	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
CFast Socket	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
SD Card	-	-	-	-	-
eMMC	-	-	-	-	-
CD-ROM/DVD-ROM	-	-	-	-	-
VGA	1	1	1	1	1
LVDS	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)
DVI	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)
TV-out	-	-	-	-	-
HDMI	-	-	-	-	-
Display Port	2	2	2	2	2
eSATA	-	-	-	-	-
IEEE1394	-	-	-	-	-
USB	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0
PS/2	-	-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	6	6	6	6	6
RS422/485	2	2	2	2	2
RS422/485 Isolation	-	-	-	-	-
CANbus	-	-	-	-	-
mini-PCIe	2	2	2	2	2
SIM Card Holder	1	1	1	1	1
GPIO	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
LAN Ports	4 x GbE	4 x GbE	4 x GbE	4 x GbE	4 x GbE
Audio	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
Power Input Range	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	2 x PCI	1 x PCI and 1 x PCIex4	1 x PCIex4	2 x PCI	2 x PCIex4
Win7 32bit	V	V	V	V	V
Win7 64bit	V	V	V	V	V
WES2009 32bit	V	V	V	V	V
Win8 32bit	V	V	V	V	V
Win8 64bit	V	V	V	V	V
WinCE/WEC	-	-	-	-	-
Win10 32bit	-	-	-	-	-
Win10 64bit	-	-	-	-	-
System Dimension (WxDxH)	215 x 272 x 114	215 x 272 x 114	215 x 272 x 93	215 x 272 x 114	215 x 272 x 114
Carton Dimension (WxDxH)	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269
Net Weight (kg)	5.4	5.4	5.2	5.4	5.4
Gross Weight (kg)	7.2	7.2	7	7.2	7.2

NISE 3640M2E	NISE 3640VR	NISE 3700E	NISE 3700E2	NISE 3700P2
3rd Gen. Intel® Core™ i7 BGA	3rd Gen. Intel® Core™ i7 BGA	4th Gen. Intel® Core™ i7/i5/i3 LGA socket	4th Gen. Intel® Core™ i7/i5/i3 LGA socket	4th Gen. Intel® Core™ i7/i5/i3 LGA socket
Intel® QM77	Intel® QM77	Intel® Q87 PCH	Intel® Q87 PCH	Intel® Q87 PCH
8GB DDR3/DDR3L	8GB DDR3	8GB DDR3/DDR3L	8GB DDR3/DDR3L	8GB DDR3/DDR3L
1 x 2.5" SATA HDD bay	2 x 3.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1	1	-	-	-
Dual, 24bit (Internal)	Dual, 24bit (Internal)	-	-	-
1 (DVI-D)	1 (DVI-D)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)
-	-	-	-	-
-	-	1	1	1
2	2	-	-	-
-	-	-	-	-
-	-	-	-	-
2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	4 x USB2.0 4 x USB3.0	4 x USB2.0 4 x USB3.0	4 x USB2.0 4 x USB3.0
-	-	-	-	-
-	-	-	-	-
6	6	3	3	3
2	2	2	2	2
-	-	-	-	-
-	-	-	-	-
2	2	2	2	2
1	1	1	1	1
4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
4 x GbE	4 x GbE	3 x GbE	3 x GbE	3 x GbE
Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
ATX, DC +24V	ATX, DC +24V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V	ATX, DC +9 ~ 30V
Optional	Optional	Optional	Optional	Optional
1 x PCI and 1 x PCIex4	-	1 x PCIex4	2 x PCIex4	2 x PCI
V	V	V	V	V
V	V	V	V	V
V	V	-	-	-
V	V	V	V	V
V	V	V	V	V
-	-	V	V	V
-	-	V	V	V
-	-	V	V	V
215 x 272 x 114	215 x 272 x 114	215 x 272 x 93	215 x 272 x 114	215 x 272 x 114
378 x 342 x 269	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269
5.4	5.2	4.5	5	5
7.2	7	5.9	6.4	6.4

Fanless Computer

Model	NISE 3700P2E	NISE 3720E	NISE 3720E2	NISE 3720P2	NISE 3720P2E
CPU	4th Gen. Intel® Core™ i7/i5/i3 LGA socket	Onboard Intel® Core™ i7 Processor (i7-5650U)	Onboard Intel® Core™ i7 Processor (i7-5650U)	Onboard Intel® Core™ i7 Processor (i7-5650U)	Onboard Intel® Core™ i7 Processor (i7-5650U)
Chipset	Intel® Q87 PCH	Broadwell MCP	Broadwell MCP	Broadwell MCP	Broadwell MCP
Max. Memory	8GB DDR3/DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L
HDD Space	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
CFast Socket	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
SD Card	-	-	-	-	-
eMMC	-	-	-	-	-
CD-ROM/DVD-ROM	-	-	-	-	-
VGA	-	1	1	1	1
LVDS	-	-	-	-	-
DVI	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)
TV-out	-	-	-	-	-
HDMI	1	-	-	-	-
Display Port	-	2	2	2	2
eSATA	-	-	-	-	-
IEEE1394	-	-	-	-	-
USB	4 x USB2.0 4 x USB3.0	2 x USB2.0 2 x USB3.0 2 x Internal USB2.0	2 x USB2.0 2 x USB3.0 2 x Internal USB2.0	2 x USB2.0 2 x USB3.0 2 x Internal USB2.0	2 x USB2.0 2 x USB3.0 2 x Internal USB2.0
PS/2	-	-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	3	6	6	6	6
RS422/485	2	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)
RS422/485 Isolation	-	-	-	-	-
CANbus	-	-	-	-	-
mini-PCIe	2	2 (mSATA/PCIe option)	2 (mSATA/PCIe option)	2 (mSATA/PCIe option)	2 (mSATA/PCIe option)
SIM Card Holder	1	1	1	1	1
GPIO	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
LAN Ports	3 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
Audio	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
Power Input Range	ATX, DC +9 ~ 30V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	1 x PCI and 1 x PCIex4	1 x PCIex4	2 x PCIex4	2 x PCI	1 x PCI and 1 x PCIex4
Win7 32bit	V	V	V	V	V
Win7 64bit	V	V	V	V	V
WES2009 32bit	-	-	-	-	-
Win8 32bit	V	V	V	V	V
Win8 64bit	V	V	V	V	V
WinCE/WEC	V	-	-	-	-
Win10 32bit	V	-	-	-	-
Win10 64bit	V	-	-	-	-
System Dimension (WxDxH)(mm)	215 x 272 x 114	215 x 272 x 93	215 x 272 x 114	215 x 272 x 114	215 x 272 x 114
Carton Dimension (WxDxH)(mm)	378 x 342 x 269	378 x 342 x 269	378 x 342 x 269	378 x 342 x 26	378 x 342 x 269
Net Weight (kg)	5	4.5	5	5	5
Gross Weight (kg)	6.4	5.9	6.4	6.4	6.4

NISE 4000	NISE 4000P2E	NISE 4000P4E	NISE 4010P2	NISE 4010P4E
3rd Gen. Intel® Core™ i5/i3 rPGA socket	3rd Gen. Intel® Core™ i5/i3 rPGA socket	3rd Gen. Intel® Core™ i5/i3 rPGA socket	3rd Gen. Intel® Core™ i3/i5 rPGA socket	3rd Gen. Intel® Core™ i3/i5 rPGA socket
Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77	Intel® QM77
8GB DDR3/DDR3L	8GB DDR3/DDR3L	8GB DDR3/DDR3L	8GB DDR3/DDR3L	8GB DDR3/DDR3L
2 x 2.5" HDD bay (External)	2 x 2.5" HDD bay (External)	2 x 2.5" HDD bay (External)	2 x 2.5" HDD bay (External)	2 x 2.5" HDD bay (External)
1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1	1	1	1	1
-	-	-	-	-
1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0
1	1	1	1	1
-	-	-	-	-
2	2	2	2	2
2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)
2 (2KV Isolation)	2 (2KV Isolation)	2 (2KV Isolation)	2 (2KV Isolation)	2 (2KV Isolation)
-	-	-	-	-
2	2	2	2	2
1	1	1	1	1
16-in/16-out	16-in/16-out	16-in/16-out	-	-
4 x GbE	4 x GbE	4 x GbE	2 x GbE	2 x GbE
Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	-	-
ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V
Optional	Optional	Optional	Optional	Optional
-	1 x PCI and 1 x PCIex4	3 x PCI and 1 x PCIex4	2 x PCI	3 x PCI and 1 x PCIex4
V	V	V	V	V
V	V	V	V	V
V	V	V	V	V
V	V	V	V	V
V	V	V	V	V
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
178 x 250 x 255	216 x 250 x 255	258 x 250 x 255	216 x 250 x 255	258 x 250 x 255
406 x 318 x 403	406 x 363 x403	409 x 403 x 406	406 x 363 x403	409 x 403 x 406
5.3	5.5	5.8	5.5	5.8
7.8	8.4	8.7	8.4	8.7

Factory Automation

Model	NIFE 100	NIFE 100S	NIFE 101	NIFE 200	NIFE 200P2
CPU	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ J1900 2.0GHz
Chipset	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Bay Trail-D	Intel® Bay Trail-D
Max. Memory	4GB DDR3L	4GB DDR3L	4GB DDR3L	8GB DDR3L	8GB DDR3L
NVRAM	1Mb	1Mb	1Mb	-	-
HDD Space	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
CFast Socket	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	-	-
SD Card	-	-	-	1	1
VGA	-	-	-	-	-
DVI	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
HDMI	-	-	-	-	-
Display Port	-	-	-	1	1
USB	1 x USB2.0 1 x USB3.0	1 x USB2.0 1 x USB3.0	1 x USB2.0 1 x USB3.0	3 x USB2.0 1 x USB3.0	3 x USB2.0 1 x USB3.0
PS/2	-	-	-	1 (Internal)	1 (Internal)
Parallel Port	-	-	-	-	-
Serial Port	2	2	2	2	2
RS422/485	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)
RS422/485 Isolation	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)
CANbus	-	-	-	-	-
mini-PCIe	1	1	1	2	2
SIM Card Holder	1	1	1	1	1
GPIO	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
LAN Ports	2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
Audio	Line-out	Line-out	Line-out	Line-out	Line-out
Fieldbus I/O Support	1	1	-	1 (Optional)	1 (Optional)
Power Input Range	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V
Win7 32bit	V	V	V	V	V
Win7 64bit	V	V	V	V	V
WES2009 32bit	-	-	-	-	-
Win8 32bit	V	V	V	V	V
Win8 64bit	V	V	V	V	V
WinCE/WEC	WinCE7.0	WinCE7.0	WinCE7.0	WinCE7.0	WinCE7.0
Win10 32bit	-	-	-	V	V
Win10 64bit	-	-	-	V	V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	-	-	-	-	2 x PCI
Operating Temp. (w/HDD) Based on IEC 60068 STD	-20˚C to 70˚C	-20˚C to 70˚C	-20˚C to 70˚C	-5˚C to 55˚C	-5˚C to 55˚C
System Dimension (WxDxH)(mm)	92 x 135.5 x 192.5	92 x 135.5 x 192.5	58 x 135.5 x 192.5	85 x 157 x 214	151 x 157 x 230
Carton Dimension (WxDxH)(mm)	298 x 262 x 196	298 x 262 x 196	298 x 262 x 196	346 x 265 x 200	355 x 259 x 321
Net Weight (kg)	1.9	1.8	1.7	2.3	3.3
Gross Weight (kg)	3	2.9	2.8	3.3	4.3

	NIFE 200P2E	NIFE 300	NIFE 300P2	NIFE 300P2E	NIFE 300E16	NIFE 300P3
	Intel® Atom™ J1900 2.0GHz	6th Gen. Intel® Core™ i7/i5/i3 LGA socket (Skylake-S)	6th Gen. Intel® Core™ i7/i5/i3 LGA socket (Skylake-S)	6th Gen. Intel® Core™ i7/i5/i3 LGA socket (Skylake-S)	6th Gen. Intel® Core™ i7/i5/i3 LGA socket (Skylake-S)	6th Gen. Intel® Core™ i7/i5/i3 LGA socket (Skylake-S)
	Intel® Bay Trail-D	Intel® Q170	Intel® Q170	Intel® Q170	Intel® Q170	Intel® Q170
	8GB DDR3L	8GB DDR4 2133MHz	8GB DDR4 2133MHz	8GB DDR4 2133MHz	8GB DDR4 2133MHz	8GB DDR4 2133MHz
	-	-	-	-	-	-
	1 x 2.5" SATA HDD bay	2 x 2.5" SATA HDD bay	2 x 2.5" SATA HDD bay	2 x 2.5" SATA HDD bay	2 x 2.5" SATA HDD bay	2 x 2.5" SATA HDD bay
	-	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
	1	-	-	-	-	-
	-	-	-	-	-	-
	1 (DVI-I)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)
	-	1	1	1	1	1
	1	-	-	-	-	-
	3 x USB2.0 1 x USB3.0	2 x USB2.0 4 x USB3.0	2 x USB2.0 4 x USB3.0	2 x USB2.0 4 x USB3.0	2 x USB2.0 4 x USB3.0	2 x USB2.0 4 x USB3.0
	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	-	-	-	-	-	-
	2	2	2	2	2	2
	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)
	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)
	-	-	-	-	-	-
	2	2	2	2	2	2
	1	1	1	1	1	1
	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)	4-in/4-out (Internal)
	2 x GbE	3 x GbE	3 x GbE	3 x GbE	3 x GbE	3 x GbE
	Line-out	Mic-in & Line-out (Internal)	Mic-in & Line-out (Internal)	Mic-in & Line-out (Internal)	Mic-in & Line-out (Internal)	Mic-in & Line-out (Internal)
	1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)
	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V
	V	V	V	V	V	V
	V	V	V	V	V	V
	-	-	-	-	-	-
	V	V	V	V	V	V
	V	V	V	V	V	V
	WinCE7.0	-	-	-	-	-
	V	V	V	V	V	V
	V	V	V	V	V	V
	Optional	Optional	Optional	Optional	Optional	Optional
	1 x PCI and 1 x PCIex4	-	2 x PCI	1 x PCI and 1 x PCIex8	1 x PCIex16	2 x PCI and 1 x PCIex8
	-5˚C to 55˚C	-5˚C to 55˚C	-5˚C to 55˚C	-5˚C to 55˚C	-5˚C to 55˚C	-5˚C to 55˚C
	151 x 157 x 230	90 x 185 x 251	155 x 185 x 251	155 x 185 x 251	155 x 185 x 251	175 x 185 x 251
	355 x 259 x 321	389 x 329 x 251	389 x 329 x 336	389 x 329 x 336	389 x 329 x 336	389 x 329 x 336
	3.3	3.5	4.4	4.4	4.4	4.7
	4.3	4.9	6.1	6.1	6.1	6.4

HMI

Model			
	eTOP504	**eSMART04N**	**eTOP507**
LCD Size	4.3" 16:9	4.3" 16:9	7" 16:9
Max. Resolution	WQVGA, 480 x 272	WQVGA, 480 x 272	WVGA, 800 x 480
Luminance(cd/m2)	150	200	300
Backlight	LED	LED	LED
LCD Color	64K	64K	64K
Touch Screen	Resistive	Resistive	Resistive
OS	Microsoft Windows CE 6.0	Linux 3.12	Microsoft Windows CE 6.0
Memory	256MB DDR RAM installed	256MB DDR RAM installed	256MB DDR RAM installed
User Memory	128MB flash	2G eMMC	128MB flash
Ethernet (10/100)	2	1	2
USB2.0	2	1	2
COM port	1 x RS232, 422, 485	1 x RS232, 422, 485	1 x RS232, 422, 485
Power Jack	3-pin terminal block	3-pin terminal block	3-pin terminal block
SD Socket	Yes	-	Yes
Expansion	2 Optional plug-in	-	2 Optional plug-in
Construction	Aluminum	Plastic	Aluminum
Mounting	Panel Mounting	Panel Mounting	Panel Mounting
Power Input	+10 ~ 32VDC	24VDC (18 ~ 32 VDC)	+10 ~ 32VDC
Power Supply Adapter	Optional	Optional	Optional
Operating Temp.	0℃ to 50℃	0℃ to 50℃	0℃ to 50℃
Storage Temp.	-20˚C to 70˚C	-20˚C to 70˚C	-20˚C to 70˚C
Operating Humidity	5% ~ 85%, Non-condensing	5% ~ 85%, Non-condensing	5% ~ 85%, Non-condensing
IP Level	IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)
Cut Out Size (WxH)(mm)	136 x 96	136 x 96	176 x 136
Dimension (WxHxD)(mm)	147 x 107 x 60	147 x 107 x 34	187 x 147 x 51
Weight (kg)	Approx. 1	0.4	Approx. 1

eTOP507N	eSMART07N	eTOP510	eSMART10N
7" 16:9	7" 16:9	10.4" 4:3	10.1" 16:9
WVGA, 800 x 480	WVGA, 800 x 480	SVGA, 800 x 600	WSVGA, 1024 x 600
300	200	300	200
LED	LED	LED	LED
64K	64K	64K	64K
Resistive	Resistive	Resistive	Resistive
Microsoft Windows CE 6.0	Linux 3.12	Microsoft Windows CE 6.0	Linux 3.12
256MB DDR RAM installed	256MB DDR RAM installed	256MB DDR RAM installed	512MB DDR RAM installed
128MB flash	2G eMMC	128MB flash	4G eMMC
2	1	2	1
2	1	2	1
1 x RS232, 422, 485	1 x RS232, 422, 485	1 x RS232, 422, 485	1 x RS232, 422, 485
3-pin terminal block	3-pin terminal block	3-pin terminal block	3-pin terminal block
Yes	-	Yes	-
2 Optional plug-in	-	2 Optional plug-in	-
Aluminum	Plastic	Aluminum	Plastic
Panel Mounting	Panel Mounting	Panel Mounting	Panel Mounting
+10 ~ 32VDC	24VDC (18 ~ 32VDC)	+10 ~ 32VDC	24VDC (18 ~ 32VDC)
Optional	Optional	Optional	Optional
0℃ to 50℃	0℃ to 50℃	0℃ to 50℃	0℃ to 50℃
-20˚C to 70˚C	-20˚C to 70˚C	-20˚C to 70˚C	-20˚C to 70˚C
5% ~ 85%, Non-condensing	5% ~ 85%, Non-condensing	5% ~ 85%, Non-condensing	5% ~ 85%, Non-condensing
IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)
176 x 136	176 x 136	276 x 221	271 x 186
187 x 147 x 51	187 x 147 x 34	287 x 232 x 60	282 x 197 x 35
Approx. 1	0.6	Approx. 2.1	Approx. 1

Machine Automation

Model	NET101-ECM	NET104-ECM	NET200-ECM	NET3140P2E-ECM	NET3500-ECM
CPU	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 1.86GHz	Intel® Celeron® J1900 Quad Cord 2.0GHz	Intel® Core™ 2 Duo P8400	Intel® Core™ i5-520M
Chipset	Intel® Bay Trail-I	Intel® QM77	Intel® Bay Trail-D	Intel® GM45/ICH9M	Intel® QM57
OS	WES 7	WES7	WES 7	WES 7	WES 7
Memory	4GB DDR3	2GB DDR3	2 x 2GB DDR3L	2 x 2GB DDR3	2 x 2GB DDR3
NVRAM	1Mb	-	-	-	-
HDD	128GB SSD	500GB HHD	500GB HHD	2.5" SATA 500GB	2.5" SATA 500GB
CF/CFast	1 (External)	1 (External, CFast)	-	1 (External)	-
VGA	1	-	-	1	1
LVDS	-	-	-	Dual, 24bit (Internal)	Dual, 24bit (Internal)
DVI	1 (DVI-I)	1 (DVI-D)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
USB	1 x USB2.0 1 x USB3.0	6 x USB2.0	3 x USB2.0 1 x USB3.0	6 x USB2.0	6
PS/2	-	-	-	1	1
Audio	Line-out	Mic-in & Line-out	-	Mic-in & Line-out	Mic-in & Line-out
Serial Port	2	4	2	4	4
mini-PCIe	1	1	2	-	-
LAN Ports	1 x GbE	2 x GbE	2 x GbE	1 x GbE	1 x GbE
SIM Card Holder	1	1	1	-	-
Expansion	mini-PCIe	-	2 x mini-PCIe	1 x PCI or 1 x PCIex1	1 x PCI
GPIO	-	-	-	4-in/4-out (Internal)	4-in/4-out (Internal)
Digital I/O	-	-	-	-	-
Application	Distributed Motion Control	Distributed Motion Control	Distributed Motion Control	Distributed Motion Control	Distributed Motion Control
Motion Type	EtherCAT	EtherCAT	EtherCAT	EtherCAT	EtherCAT
Control Axis No.	up to 64	up to 64	up to 64	up to 64	up to 64
Programming Language	VC/C++	VC/C++	VC/C++	VC/C++	VC/C++
Power Input	24V DC +/-20%	ATX, DC +10 ~ 28V	24V DC +/-20%	ATX, DC +16 ~ 30V	ATX, DC +9 ~ 30V
Operation Temperature	-20°C to 70°C	-5°C to 55°C	-5°C to 55°C	-5°C to 55°C	-5°C to 55°C
Dimensions (WxDxH)(mm)	58 x 135.5 x 192.5	185 x 131 x 54	85 x 157 x 214	195 x 268 x 101	195 x 268 x 80

	NET3600E-ECM	MAC3500P-GTS	MAC3500P-GTP	MAC4000P4E-GTS	MAC4000P4E-GTP	NControl 20/20D	NControl 30/30D
	Intel® Core™ i5-3610ME	Intel® Core™ i5-520M	Intel® Core™ i5-520M	3rd Gen. Intel® Core™ i5/i3 socket	3rd Gen. Intel® Core™ i5/i3 socket	Intel® Core™ 2 Duo P8400	Intel® Core™ 2 Duo P8400
	Intel® QM77	Intel® QM57	Intel® QM57	Intel® QM77	Intel® QM77	Intel® GM45/ICH9M	Intel® GM45/ICH9M
	WES7	Selectable	Selectable	Selectable	Selectable	WinCE 6.0 + WES2009 (20D)	WinCE 6.0 + WES2009 (30D)
	2 x 2GB DDR3L	up to 4GB DDR3	up to 4GB DDR3	up to 8GB DDR3	up to 8GB DDR3	2GB DDR3	2GB DDR3
	-	-	-	1Mb	1Mb	-	-
	500GB HHD	1 x 2.5" HDD bay	1 x 2.5" HDD bay	2 x 2.5" SATA HDD bay	2 x 2.5" SATA HDD bay	32GB SSD	32GB SSD
	1 (External)	-	-	1 (External, CF)	1 (External, CF)	1 (External, CF)	1 (External, CF)
	1	1	1	1	1	1	1
	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)	Dual, 24bit (Internal)
	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)
	2 x USB2.0 4 x USB3.0	6 x USB2.0	6 x USB2.0	2 x USB2.0 2 x USB3.0	2 x USB2.0 2 x USB3.0	6 x USB2.0	6 x USB2.0
	-	1	1	1	1	1	1
	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
	6	4	4	2	2	4	4
	1	-	-	2	2	-	-
	2 x GbE	2 x GbE	2 x GbE	4 x GbE	4 x GbE	2 x GbE	2 x GbE
	1	-	-	1	1	-	-
	1 x PCIex4	1 x PCI	1 x PCI	2 x PCI 1 x PCIex4	2 x PCI 1 x PCIex4	-	-
	-	4-in/4-out (Internal)	4-in/4-out (Internal)	-	-	4-in/4-out (Internal)	4-in/4-out (Internal)
	-	16-in/16-out on terminal board	16-in/16-out on terminal board	16-in/16-out on terminal board	16-in/16-out on terminal board	4-in/4-out	4-in/4-out
	Distributed Motion Control	General Motion Control	General Motion Control	Centralized Motion Control	Centralized Motion Control	CNC	CNC
	EtherCAT	Pulse/Analog	Pulse	Pulse/Analog	Pulse	EtherCAT	EtherCAT, MECHATROLINK III
	up to 64	4	4	4	4	up to 10	up to 14
	VC/C++	VC/C++	VC/C++	VC/C++	VC/C++	IEC-61131-3	IEC-61131-3
	ATX, +9 to 30VDC	ATX, +9 to 30VDC	ATX, +9 to 30VDC	ATX, 24VDC	ATX, 24VDC	ATX, +16 to 30VDC	ATX, +16 to 30VDC
	-5˚C to 55˚C	0˚C to 55˚C	0˚C to 55˚C	0˚C to 55˚C	0˚C to 55˚C	-5˚C to 55˚C	-5˚C to 55˚C
	215 x 272 x 93	195 x 268 x 101	195 x 268 x 101	258 x 250 x 255	258 x 250 x 255	195 x 268 x 101	195 x 268 x 101

Industrial Panel PC

Model	IPPC 1632P	IPPC 1640P	IPPC 1840P	IPPC 2132P	IPPC 2140P
LCD Size	15.6" 16:9	15.6" 16:9	18.5" 16:9	21.5" 16:9	21.5" 16:9
Max. Resolution	WXGA, 1366 x 768	WXGA, 1366 x 768	WXGA, 1366 x 768	Full HD, 1920 x 1080	Full HD, 1920 x 1080
Luminance (cd/m^2)	300	300	300	300	300
Contrast Ratio	500	500	1000	5000	5000
LCD Color	16.7M	16.7M	16.7M	16.7M	16.7M
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	89(U), 89(D), 89(L), 89(R)	89(U), 89(D), 89(L), 89(R)
Backlight	LED	LED	LED	LED	LED
Touch Screen	Ten Point P-Cap	Ten Point P-Cap	Ten Point P-Cap	Ten Point P-Cap	Ten Point P-Cap
Touch Light Transmission	87%	87%	87%	87%	87%
CPU	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Celeron® J1900 Quad Core 2.0 GHz	Intel® Celeron® J1900 Quad Core 2.0 GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Celeron® J1900 Quad Core 2.0 GHz
Chipset	Intel® NM10 Express	-	-	Intel® NM10 Express	-
Memory	4GB DDR3 SO-DIMM module	4GB DDR3L SO-DIMM module	4GB DDR3L SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3L SO-DIMM module
CFast Socket	1	1	1	1	1
2nd Display Output	VGA	VGA	VGA	VGA	VGA
PS2 KB/MS	-	1	1	-	1
Ethernet (10/100/1000)	2	2	2	2	2
Line-out	Line-out	Line-out	Line-out	Line-out	Line-out
Line-in	Line-in	-	-	Line-in	-
Mic-in	Mic-in	-	-	Mic-in	-
USB2.0/3.0	4/-	2/1	2/1	4/-	2/1
COM port	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485
Parallel Port	-	-	-	-	-
Power Switch	1	1	1	1	1
Reset Button	1	1	1	1	1
Power Jack	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector
GPIO	-	-	-	-	-
Digital I/O	4-in/4-out	-	-	4-in/4-out	-
Expansion	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe
Construction Front Panel	Aluminum Front Zero Bezel	Aluminum Front Zero Bezel	Aluminum Front Zero Bezel	Aluminum Front Zero Bezel	Aluminum Front Zero Bezel
Mounting	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm
Power Input	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Operating Temp.	-10℃ to 60℃	-10℃ to 60℃	-10℃ to 60℃	-10℃ to 60℃	-10℃ to 60℃
Storage Temp.	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C
Operating Humidity	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing
IP Level	Front Frame IP66	Front Frame IP66	Front Frame IP66	Front Frame IP66	Front Frame IP66
Cut Out Size (WxH)(mm)	401 x 296	401 x 296	475.4 x 305.2	547 x 367	547 x 367
Dimension (WxHxD)(mm)	417.4 x 312.4 x 63.75	417.4 x 312.4 x 63.75	490.8 x 320.6 x 62.65	562.4 x 382.4 x 62.85	562.4 x 382.4 x 62.85
Weight (kg)	6.4	6.4	8.2	9.26	9.26

	IPPC 1560TE	IPPC 1560T-DC	IPPC 1560T-AC	IPPC 1770T-DC (Coming Soon)	IPPC 1770P-DC (Coming Soon)	IPPC 1770T-AC (Coming Soon)
	15" 4:3	15" 4:3	15" 4:3	17" 4:3	17" 4:3	17" 4:3
	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024
	400	400	400	350	350	350
	700	700	700	1000	1000	1000
	16.2M	16.2M	16.2M	16.6M	16.6M	16.6M
	60(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
	LED	LED	LED	LED	LED	LED
	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire	Ten Point P-Cap	Resistive 5-wire
	80%	80%	80%	80%	87%	80%
	3rd Gen. Intel® Core™ i5 (i5-3610ME) 2 x 2.7GHz	3rd Gen. Intel® Core™ i5 (i5-3610ME) 2 x 2.7GHz	3rd Gen. Intel® Core™ i5 (i5-3610ME) 2 x 2.7GHz	4th Gen. Intel® Core™ i processor	4th Gen. Intel® Core™ i processor	4th Gen. Intel® Core™ i processor
	Intel® HM76	Intel® HM76	Intel® HM76	Intel® QM87	Intel® QM87	Intel® QM87
	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module
	1	1	1	1	1	1
	VGA	VGA	VGA	DVI + DP	DVI + DP	DVI + DP
	2	2	2	1	1	1
	2	2	2	2	2	2
	-	Line-out	Line-out	Line-out	Line-out	Line-out
	-	Line-in	Line-in	Line-in	Line-in	Line-in
	-	Mic-in	Mic-in	Mic-in	Mic-in	Mic-in
	4 (Hidden)	5 (1 in front)	5 (1 in front)	5 (1 in front)	5 (1 in front)	5 (1 in front)
	Isolation 2 x RS232/422/485, 1 x RS232	2 x RS232/422/485, 1 x RS232	Isolation 2 x RS232/422/485, 4 x RS232	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485
	-	-	1	-	-	-
	1	1	1	1	1	1
	1	1	1	1	1	1
	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	AC Inlet (IEC60320 C14)	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	AC Inlet (IEC60320 C14)
	-	-	4-in/4-out	4-in/4-out	4-in/4-out	4-in/4-out
	-	-	4-in/2-out	4-in/2-out	4-in/2-out	4-in/2-out
	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots
	Aluminum Front Bezel	Aluminum Front Bezel	Aluminum Front Bezel	Aluminum Front Bezel	Aluminum Front Bezel	Aluminum Front Bezel
	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/VESA 100 x 100mm	Panel/Wall/Stand/VESA 100 x 100mm	Panel/Wall/Stand/VESA 100 x 100mm
	+24VDC ±20%; Fuse: 250V/10A	+12 ~ 30VDC	100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC
	Optional	Optional	Internal	Optional	Optional	Optional
	-10°C to 50°C	-10°C to 50°C	-10°C to 50°C	-20°C to 50°C	-20°C to 50°C	-20°C to 50°C
	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C
	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing
	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP66	Front Frame IP66	Front Frame IP66
	455 x 295	455 x 295	455 x 295	436 x 360.5	436 x 360.5	436 x 360.5
	477.64 x 310 x 95.72	477.64 x 310 x 95.72	477.64 x 310 x 95.72	4. 451 x 375.5 x 104.9	4. 451 x 375.5 x 104.9	451 x 375.5 x 92.9
	9.51	9.34	9.75	10.2	10.2	10.5

Industrial Panel PC

Model	Coming Soon			
	IPPC 1770P-AC	IPPC 1960T-DC	IPPC 1960T-AC	IPPC 2160P-AC
LCD Size	17" 4:3	19" 4:3	19" 4:3	21.5" 16:9
Max. Resolution	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024	Full HD, 1920 x 1080
Luminance (cd/m²)	350	350	350	300
Contrast Ratio	1000	1000	1000	5000
LCD Color	16.6M	16.7M	16.7M	16.7M
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	89(U), 89(D), 89(L), 89(R)
Backlight	LED	LED	LED	LED
Touch Screen	Ten Point P-Cap	Resistive 5-wire	Resistive 5-wire	Ten Point P-Cap
Touch Light Transmission	87%	80%	80%	87%
CPU	4th Gen. Intel® Core™ i processor	3rd Gen. Intel® Core™ i5 (i5-3610ME) 2 x 2.7GHz	3rd Gen. Intel® Core™ i5 (i5-3610ME) 2 x 2.7GHz	3rd Gen. Intel® Core™ i5 (i5-3610ME) 2 x 2.7GHz
Chipset	Intel® QM87	Intel® HM76	Intel® HM76	Intel® HM76
Memory	4GB DDR3L SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module
CFast Socket	1	1	1	1
2nd Display Output	DVI + DP	VGA	VGA	VGA
PS2 KB/MS	1	2	2	2
Ethernet (10/100/1000)	2	2	2	2
Line-out	Line-out	Line-out	Line-out	Line-out
Line-in	Line-in	Line-in	Line-in	Line-in
Mic-in	Mic-in	Mic-in	Mic-in	Mic-in
USB2.0/3.0	5 (1 in front)	5 (1 in front)	5 (1 in front)	4
COM port	Isolation 2 x RS232/422/485	2 x RS232/422/485, 1 x RS232	Isolation 2 x RS232/422/485, 4 x RS232	Isolation 2 x RS232/422/485, 4 x RS232
Parallel Port	-	-	1	1
Power Switch	1	1	1	1
Reset Button	1	1	1	1
Power Jack	AC Inlet (IEC60320 C14)	Terminal Blocks 3-Pin Phoenix Connector	AC Inlet (IEC60320 C14)	AC Inlet (IEC60320 C14)
GPIO	4-in/4-out	-	4-in/4-out	4-in/4-out
Digital I/O	4-in/2-out	-	4-in/4-out	4-in/4-out
Expansion	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots	2 x mini-PCIe/ 2 x PCI or PCIe Slots
Construction Front Panel	Aluminum Front Bezel	Aluminum Front Bezel	Aluminum Front Bezel	Aluminum Front Zero Bezel
Mounting	Panel/Wall/Stand/VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm
Power Input	+12 ~ 30VDC	+12 ~ 30VDC	100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A	100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
Power Supply Adapter	Optional	Optional	Internal	Internal
Operating Temp.	-20℃ to 50℃	-10℃ to 50℃	-10℃ to 50℃	-10℃ to 50℃
Storage Temp.	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C
Operating Humidity	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing
IP Level	Front Frame IP66	Front Frame IP66	Front Frame IP66	Front Frame IP66
Cut Out Size (WxH)(mm)	436 x 360.5	455 x 385	455 x 385 mm	547 x 367
Dimension (WxHxD)(mm)	451 x 375.5 x 92.9	477.64 x 399.24 x 99.38	477.64 x 399.24 x 99.38	562.4 x 382.4 x 92.27
Weight (kg)	10.5	10.6	11.2	12.51

Industrial Touch Monitor

Model	IPPD 1600P	IPPD 1800P	IPPD 2100P
LCD Size	15.6" 16:9	18.5" 16:9	21.5" 16:9
Max. Resolution	WXGA, 1366 x 768	WXGA, 1366 x 768	Full HD, 1920 x 1080
Luminance (cd/m^2)	300	300	300
Contrast Ratio	500	1000	5000
LCD Color	16.7M	16.7M	16.7M
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	89(U), 89(D), 89(L), 89(R)
Backlight	LED	LED	LED
Touch Screen	Ten Point P-Cap	Ten Point P-Cap	Ten Point P-Cap
Touch Light Transmission	87%	87%	87%
Touch Screen I/F	USB	USB	USB
OSD Function	OSD Keypad	OSD Keypad	OSD Keypad
Video Input	VGA; DVI-D; DP	VGA; DVI-D; DP	VGA; DVI-D; DP
Construction Front Panel	Aluminum Front Zero Bezel	Aluminum Front Zero Bezel	Aluminum Front Zero Bezel
Mounting	Panel/Wall/Stand/VESA 100x100mm	Panel/Wall/Stand/VESA 100x100mm	Panel/Wall/Stand/VESA 100x100mm
Power Input	+12 ~ 24VDC	+12 ~ 24VDC	+12 ~ 24VDC
Power Supply Adapter	Optional	Optional	Optional
Operating Temp.	-10°C to 60°C	-10°C to 60°C	-10°C to 60°C
Storage Temp.	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C
Operating Humidity	10%~90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing
IP Level	Front Frame IP66	Front Frame IP66	Front Frame IP66
Certifications	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Cut Out Size (WxH) (mm)	401 x 296	475.4 x 305.2	547 x 367
Dimension (WxHxD) (mm)	417.4 x 312.4 x 51.75	490.8 x 320.6 x 50.65	562.4 x 382.4 x 50.85
Weight (kg)	5.1	6.9	7.96
Power Jack	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector

Applied Panel PC

Model	APPC 0840T	APPC 1230T/1231T	APPC 1232T	APPC 1235T	APPC 1237T
LCD Size	8.0" 4:3	12.1" 4:3	12.1" 4:3	12.1" 4:3	12.1" 4:3
Max. Resolution	SVGA, 800 x 600	SVGA, 800 x 600	SVGA, 800 x 600	XGA, 1024 x 768	XGA, 1024 x 768
Luminance (cd/m^2)	400	450	450	500	500
Contrast Ratio	500	700	700	700	700
Viewing Angle (H-V)	50(U), 70(D), 70(L), 70(R)	65(U), 75(D), 80(L), 80(R)	65(U), 75(D), 80(L), 80(R)	80(U), 80(D), 80(L), 80(R)	80(U), 80(D), 80(L), 80(R)
Backlight	LED	LED	LED	LED	LED
LCD Color	262K	16.2M	16.2M	16.2M	16.2M
Touch Screen	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)
Touch Light Transmission	82%	80%	80%	80%	80%
CPU	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz
Chipset	-	Intel® NM10 Express	Intel® NM10 Express	Intel® NM10 Express	Intel® NM10 Express
Memory	2GB DDR3L SO-DIMM module	2GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module
CF Socket	1	1	1	1	1
2nd Display Output	VGA	VGA	VGA	VGA	VGA
PS2 KB/MS	-	1	1	1	1
Ethernet (10/100/1000)	2	2	2	2	2
Line-out	Line-out	Line-out	Line-out	Line-out	Line-out
Line-in	-	Line-in	Line-in	Line-in	Line-in
Mic-in	-	Mic-in	Mic-in	Mic-in	Mic-in
USB2.0	2	4	4	4	4
USB3.0	1	-	-	-	-
COM Port	2 x RS232/422/485	2 x RS232/422/485/ Isolation 2 x RS232/422/485, 2 x RS232	Isolation 2 x RS232/422/485	2 x RS232/422/485	Isolation 2 x RS232/422/485
Power Switch	1	1	1	1	1
Remote Power Switch	1	-	-	-	-
Reset Button	1	1	1	1	1
Power Jack	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°
GPIO	-	-/2-in/2-out	-	-	-
Digital I/O	-	-/4-in/4-out	4-in/4-out	-	4-in/4-out
Expansion	1 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe (1 for Fieldbus Installed)	2 x mini-PCIe	2 x mini-PCIe (1 for Fieldbus Installed)
Construction Front Panel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel
Mounting	Panel/Wall/Stand/VESA 100x100mm	Panel/Wall/Stand/VESA 100x100mm	Panel/Wall/Stand/VESA 100x100mm	Panel/Wall/Stand/VESA 100x100mm	Panel/Wall/Stand/VESA 100x100mm
Power Input	+12 ~ 24VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Operating Temp.	-5°C to 50°C	-5°C to 60°C	-5°C to 60°C	-5°C to 60°C	-5°C to 60°C
Storage Temp.	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C
Operating Humidity	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing
IP Level	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65
Cut Out Size (WxH)(mm)	209.6 x 167.1	304.5 x 230	304.5 x 230	304.5 x 230	304.5 x 230
Dimension (WxHxD)(mm)	217.4 x 176.4 x 68.9	317 x 243 x 65.89	317 x 243 x 88.2	317 x 243 x 65.89	317 x 243 x 88.2
Weight (kg)	2.3	3.9	4	3.9	4

APPC 1240T	APPC 1245T	APPC 1530T/1531T	APPC 1532T	APPC 1540T	APPC 1560T	APPC 1560T-ET
12.1" 4:3	12.1" 4:3	15" 4:3	15" 4:3	15" 4:3	15" 4:3	15" 4:3
SVGA, 800 x 600	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768
450	500	400	400	400	400	400
700	700	700	700	700	700	700
65(U), 75(D), 80(L), 80(R)	80(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)
LED	LED	LED	LED	LED	LED	LED
16.2M	16.2M	16.2M	16.2M	16.2M	16.2M	16.2M
Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)
80%	80%	80%	80%	80%	80%	80%
Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ E3826 Dual Core 1.46GHz	3rd Gen. Intel® Celeron® B810 1.6GHz	2nd/3rd Gen. Intel® Core™ processor family, rPGA 988 (Default is Celeron® B810)
-	-	Intel® NM10 Express	Intel® NM10 Express	-	Intel® HM76	HM76
2GB DDR3L SO-DIMM module	2GB DDR3L SO-DIMM module	2GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	2GB DDR3L SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3L SO-DIMM module
1	1	1	1	1	1	1
VGA	VGA	VGA	VGA	VGA	VGA	VGA
1	1	1	1	1	2	2
2	2	2	2	2	2	2
Line-out	Line-out	Line-out	Line-out	Line-out	Line-out	Line-out
-	-	Line-in	Line-in	-	Line-in	Line-in
-	-	Mic-in	Mic-in	-	Mic-in	Mic-in
2	2	4	4	2	4	4
1	1	-	-	1	-	-
Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485	2 xRS232/422/485/ Isolation 2 x RS232/422/485, 2 x RS232	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485	1 x RS232/ Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485/ RS232
1	1	1	1	1	1	1
1	1	-	-	1	-	-
1	1	1	1	1	1	1
3 pin phoneix connector	3 pin phoneix connector	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	3 pin phoneix connector	AC Inlet (IEC60320 C14)	AC Inlet (IEC60320 C14)
-	-	-/2-in/2-out	-	-	-	-
4-in/4-out(Optional)	4-in/4-out(Optional)	-/4-in/4-out	4-in/4-out	4-in/4-out(Optional)	-	-
2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe (1 for Fieldbus Installed)	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe
ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel
Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm
+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	100-240VAC, 1.5A, 50-60Hz	+12 ~ 30VDC
Optional	Optional	Optional	Optional	Optional	-	Optional
-5℃ to 60℃	-5℃ to 60℃	-5℃ to 60℃	-5℃ to 60℃	-5℃ to 60℃	-10℃ to 50℃	-5℃ to 60℃
-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C
10%~90%, Non-condensing	10%~90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing
Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65
304.5 x 230	304.5 x 23	371 x 297	371 x 297	371 x 297	371 x 297	371 x 297
317 x 243 x 65.89	317 x 243 x 65.89	384.37 x 309.95 x 63.2	384.37 x 309.95 x 85.41	384.37 x 309.95 x 63.2	384.37 x 309.95 x 92.62	384.37 x 309.95 x 63.2
4	4	5	5.1	5.1	7.1	5.1

Applied Panel PC

Model	APPC 1730T/1731T	APPC 1732T	APPC 1740T	APPC 1930T/1931T	APPC 1932T	APPC 1940T
LCD Size	17" 4:3	17" 4:3	17" 4:3	19" 4:3	19" 4:3	19" 4:3
Max. Resolution	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024
Luminance (cd/m^2)	350	350	350	350	350	350
Contrast Ratio	1000	1000	1000	1000	1000	1000
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
Backlight	LED	LED	LED	LED	LED	LED
LCD Color	16.7M	16.7M	16.7M	16.7M	16.7M	16.7M
Touch Screen	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)
Touch Light Transmission	81%	81%	81%	81%	81%	81%
CPU	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ E3826 Dual Core 1.46GHz
Chipset	Intel® NM10 Express	Intel® NM10 Express	-	Intel® NM10 Express	Intel® NM10 Express	-
Memory	2GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	2GB DDR3L SO-DIMM module	2GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	2GB DDR3L SO-DIMM module
CF Socket	1	1	1	1	1	1
2nd Display Output	VGA	VGA	VGA	VGA	VGA	VGA
PS2 KB/MS	1	1	1	1	1	1
Ethernet (10/100/1000)	2	2	2	2	2	2
Line-out	Line-out	Line-out	Line-out	Line-out	Line-out	Line-out
Line-in	Line-in	Line-in	-	Line-in	Line-in	-
Mic-in	Mic-in	Mic-in	-	Mic-in	Mic-in	-
USB2.0	4	4	2	4	4	2
USB3.0	-	-	1	-	-	1
COM Port	2 x RS232/422/485/ Isolation 2 x RS232/422/485, 2 x RS232	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485	2 x RS232/422/485/ Isolation 2 x RS232/422/485, 2 x RS232	Isolation 2 x RS232/422/485	Isolation 2 x RS232/422/485
Power Switch	1	1	1	1	1	1
Remote Power Switch	-	-	1	-	-	1
Reset Button	1	1	1	1	1	1
Power Jack	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	3 pin phoneix connector	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	3 pin phoneix connector
GPIO	-/2-in/2-out	-	-	-/2-in/2-out	-	-
Digital I/O	-/4-in/4-out	4-in/4-out	4-in/4-out (Optional)	-/4-in/4-out	4-in/4-out	4-in/4-out (Optional)
Expansion	2 x mini-PCIe	2 x mini-PCIe (1 for Fieldbus Installed)	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe (1 for Fieldbus Installed)	2 x mini-PCIe
Construction Front Panel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel
Mounting	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm	Panel/Wall/Stand/ VESA 100x100mm
Power Input	+12 ~ 30VDC	+12 to 30V DC	+12 to 30V DC	+12 to 30V DC	+12 to 30V DC	+12 to 30V DC
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional	Optional
Operating Temp.	-5°C to 60°C	-5°C to 60°C	-5°C to 60°C	-5°C to 50°C	-5°C to 50°C	-5°C to 50°C
Storage Temp.	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C	-20°C to 75°C
Operating Humidity	10%~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing
IP Level	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65
Cut Out Size (WxH)(mm)	399 x 329	399 x 329	399 x 329	436 x 366	436 x 366	436 x 366
Dimension (WxHxD)(mm)	410.4 x 340.4 x 65.9	410.4 x 340.4 x 88.21	410.4 x 340.4 x 65.9	457.64 x 379.24 x 61.25	457.64 x 379.24 x 83.5	457.64 x 379.24 x 61.25
Weight (kg)	6.6	6.7	6.7	6.5	6.7	6.7

Applied Touch Monitor

Model	APPD 1000T-CD	APPD 1200T	APPD 1205T	APPD 1500T	APPD 1700T	APPD 1900T
LCD Size	10.1" 16:10	12.1" 4:3	12.1" 4:3	15" 4:3	17" 4:3	19" 4:3
Max. Resolution	WXGA, 1280 x 800	SVGA, 800 x 600	XGA, 1024 x 768	XGA, 1024 x 768	SXGA, 1280 x 1024	SXGA, 1280 x 1024
Luminance (cd/m^2)	350	450	500	400	350	350
Contrast Ratio	800	700	700	700	1000	1000
LCD Color	262K	16.2M	16.2M	16.2M	16.7M	16.7M
Viewing Angle (H-V)	85(U), 85(D), 85(L), 85(R)	65(U), 75(D), 80(L), 80(R)	80(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
Backlight	LED	LED	LED	LED	LED	LED
Touch Screen	Resistive 4-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)
Touch Light Transmission	80%	80%	80%	80%	81%	81%
Touch Screen I/F	USB	RS232, USB	RS232, USB	RS232, USB	RS232, USB	RS232, USB
OSD Function	OSD Keypad	OSD Keypad	OSD Keypad	OSD Keypad	OSD Keypad	OSD Keypad
Video Input	VGA	VGA, DVI-D	VGA, DVI-D	VGA, DVI-D	VGA, DVI-D	VGA, DVI-D
Construction Front Panel	SECC front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel
Mounting	Stand/ VESA 75 x 75mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm	Panel/Wall/Stand/ VESA 100 x 100mm
Power Input	+12 ~ 24VDC	+12 ~ 24VDC	+12 ~ 24VDC	+12 ~ 24VDC	+12 ~ 24VDC	+12 ~ 24VDC
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional	Optional
Operating Temp.	0°C to 50°C	-5°C to 60°C	-5°C to 60°C	-5°C to 60°C	-5°C to 60°C	-5°C to 50°C
Storage Temp.	-20˚C to 60˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C
Operating Humidity	10%~90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing
IP Level	-	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65	Front Frame IP65
Certifications	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Cut Out Size (WxH)(mm)	-	304.5 x 230	304.5 x 230	371 x 297	399 x 329	436 x 366m
Dimension (WxHxD)(mm)	248.2 x 166.8 x 36.3	317 x 243 x 53.5	317 x 243 x 53.5	384.37 x 309.95 x 51.2	410.4 x 340.4 x 43.7	457.64 x 379.24 x 49.25
Weight (kg)	1.4	2.9	2.9	3.98	5.3	5.4

Open Frame Panel PC

Model	OPPC 1230T	OPPC 1530T	OPPC 1540T	OPPC 1730T	OPPC 1930T	OPPC 1940T
LCD Size	12.1" 4:3	15" 4:3	15" 4:3	17" 4:3	19" 4:3	19" 4:3
Max. Resolution	SVGA, 800 x 600	XGA, 1024 x 768	XGA, 1024 x 768	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024
Luminance (cd/m²)	450	400	400	350	350	400
Contrast Ratio	700	700	700	1000	1000	700
Viewing Angle (H-V)	65(U), 75(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	60(U), 80(D), 80(L), 80(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	60(U), 80(D), 80(L), 80(R)
Backlight	LED	LED	LED	LED	LED	LED
LCD Color	16.2M	16.2M	16.2M	16.7M	16.7M	262K
Touch Screen	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire
Touch Light Transmission	80%	81%	80%	80%	80%	81%
CPU	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D525 Dual Core 1.8GHz
Chipset	Intel® NM10 Express	Intel® NM10 Express	-	Intel® NM10 Express	Intel® NM10 Express	-
Memory	2GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module
CF or CFast Socket	1 CFast	1 CFast	1 CFast	1 CFast	1 CFast	1 CFast
2nd Display Output	VGA, HDMI	VGA, HDMI	VGA	VGA; HDMI	VGA, HDMI	VGA
PS2 KB/MS	-	-	1	-	-	-
Ethernet (10/100/1000)	2	2	2	2	2	2
Line-out	Line-out	Line-out	Line-out	Line-out	Line-out	Line-out
Line-in	Line-in	Line-in	-	Line-in	Line-in	-
Mic-in	Mic-in	Mic-in	-	Mic-in	Mic-in	-
USB2.0	4	4	4	4	4	4
COM port	2 x RS232/422/485	2 x RS232/422/485	2 x RS232/422/485	2 x RS232/422/485	2 x RS232/422/485	2 x RS232/422/485
Power Switch	1	1	1	1	1	1
Reset Button	1	1	1	1	1	1
Power Jack	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	3 Pin Phoneix Connector	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°	3 Pin Phoneix Connector
2.5" Hard Driver Bay	Yes	Yes	Yes	Yes	Yes	Yes
Expansion	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe
Mounting	Panel/Wall/Stand/ VESA 75x75, 100x100mm	Panel/Wall/Stand/ VESA 75x75, 100x100mm	Panel/Wall/Stand/ VESA 75x75, 100x100mm	Panel/Wall/Stand/ VESA 75x75, 100x100mm	Panel/Wall/Stand/ VESA 75x75, 100x100mm	Panel/Wall/Stand/ VESA 75x75, 100x100mm
Power Input	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC	+12 ~ 30VDC
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional	Optional
Operating Temp.	-5℃ to 50℃	-5℃ to 50℃	-5℃ to 50℃	-5℃ to 50℃	-5℃ to 50℃	-5℃ to 50℃
Storage Temp.	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C	-20˚C to 75˚C
Operating Humidity	20% ~ 80%, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	10% ~ 90%, Non-condensing
Dimension (WxHxD)(mm)	307 x 240 x 61.8	329 x 280 x 69.3	329 x 280 x 69.3	387 x 323.2 x 73.6	422.6 x 350.6 x 75.8	457.64 x 379.24 x 61.25
Weight (kg)	3.8	4	4	5.6	6.15	6.7

Open Frame Touch Monitor

Model		
	OPPD 1900T-GO	**OPPD 1900T-IP**
LCD Size	19" 16:10	19" 5:4
Max. Resolution	WXGA+, 1440(RGB) x 900	SXGA, 1280 x 1024
Luminance (cd/m^2)	1000	250
Contrast Ratio	1000	1000
LCD Color	16.7M	16.7M
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
Backlight	LED	LED
Touch Screen	Resistive 5-wire (Flush panel type)	Resistive 5-wire (Flush panel type)
Touch Light Transmission	81%	81%
Touch Screen I/F	USB	RS232, USB
OSD Function	OSD Keypad	OSD Keypad
Video Input	VGA, DVI-D	VGA, DVI-D
Construction Front Panel	SGCC front bezel	SECC front bezel
Mounting	Open frame mounting	Wall/Stand/VESA 100 x 100mm
Power Input	+12 ~ 24VDC	+12 ~ 24VDC
Power Supply Adapter	Optional	Optional
Operating Temp.	0°C to 50°C	0°C to 50°C
Storage Temp.	-20˚C to 60˚C	-20˚C to 60˚C
Operating Humidity	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing
Certifications	CE, FCC Class A	CE, FCC Class B
Cut Out Size (WxH)(mm)	-	-
Dimension (WxHxD)(mm)	430.4 x 280.4 x 40	569 x 495 x 152
Weight (kg)	3.96	6.8

Multi-Media Panel PC

Model		
	MPPC 2130T	**MPPC 2130P**
LCD Size	21.5" 16:9	21.5" 16:9
Max. Resolution	Full HD, 1920 x 1080	Full HD, 1920 x 1080
Luminance (cd/m^2)	400	400
Contrast Ratio	3000	3000
Viewing Angle (H-V)	89(U), 89(D), 89(L), 89(R)	89(U), 89(D), 89(L), 89(R)
Backlight	LED	LED
LCD Color	16.7M	16.7M
Touch Screen	Resistive 5-wire	Two Point P-Cap
Touch Light Transmission	80%	85%
CPU	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz
Chipset	Intel® NM10 Express	Intel® NM10 Express
Memory	2GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module
CF or CFast Socket	1 CFast	1 CFast
2nd Display Output	VGA, HDMI	VGA, HDMI
PS2 KB/MS	0	0
Ethernet (10/100/1000)	2	2
Line-out	Line-out	Line-out
Line-in	Line-in	Line-in
Mic-in	Mic-in	Mic-in
USB2.0	4	4
COM Port	2 x RS232/422/485	2 x RS232/422/485
Power Switch	1	1
Reset Button	1	1
Power Jack	DC 4 pin DIN Power Jack with shield, 90°	DC 4 pin DIN Power Jack with shield, 90°
2.5" Hard Driver Bay	Yes	Yes
Expansion	2 x mini-PCIe	2 x mini-PCIe
Audio Speaker	AMP 2W+2W	AMP 2W+2W
Construction Front Panel	Metal	Aluminum Front Zero Bezel
Mounting	Panel/Wall/Stand/VESA 75 x 75/100 x 100mm	Panel/Wall/Stand/VESA 75 x 75/100 x 100mm
Power Input	+12 ~ 30VDC	+12 ~ 30VDC
Power Supply Adapter	Yes	Yes
Operating Temp.	0°C to 45°C	0°C to 45°C
Storage Temp.	-20˚C to 75˚C	-20˚C to 75˚C
Operating Humidity	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing
Dimension (WxHxD)(mm)	506.4 x 302.4 x 63.3	529.7 x 321.2 x 63.3
Weight (kg)	6.5	6.85

Kiosk Panel PC

Model	KPPC 1552	KPPC 1611	KPPC 1612	KPPC 1811	KPPC 1812	KPPC 5852
LCD Size	15" 4:3	15.6" 16:9	15.6" 16:9	18.5" 16:9	18.5" 16:9	15" 4:3
Max. Resolution	XGA, 1024 x 768	WXGA, 1366 x 768	WXGA, 1366 x 768	WXGA, 1366 x 768	WXGA, 1366 x 768	XGA, 1024 x 768
Luminance (cd/m²)	250	200	200	250	250	250
Contrast Ratio	700	600	600	1,000	1,000	700
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	20(U), 45(D), 45(L), 45(R)	20(U), 45(D), 45(L), 45(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
Backlight	CCFL/LED	LED	LED	LED	LED	CCFL/LED
LCD Color	16.2M	262,144	262,144	16.7M	16.7M	16.2M
Touch Screen	15" Zero Bezel Projected Capacitive Touch Panel	15.6" 5-wire Resistive Zero Bezel Touch Panel	15.6" Zero Bezel Projected Capacitive Touch Panel	18.5" 5-wire Resistive Zero Bezel Touch Panel	18.5" Zero Bezel Projected Capacitive Touch Panel	15" Zero Bezel Projected Capacitive Touch Panel
CPU	Intel® Atom™ D525 Dual Core Processor, 1.8GHz 1M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz, 2M L2 Cache	2nd Gen. Intel® Core™ Processor, FCBGA 989
Chipset	Intel® ICH8M, NH82801HBM I/O Control Hub	N/A	N/A	N/A	N/A	Intel® BD82HM65 Platform Controller Hub, BD82HM65
Memory	2GB DDR3 SO-DIMM Module	4GB DDR3L SO-DIMM Module	4GB DDR3L SO-DIMM Module	4GB DDR3L SO-DIMM Module	4GB DDR3L SO-DIMM Module	2GB DDR3 SO-DIMM Module
Storage Device	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD
2nd Display Output	VGA	VGA	VGA	VGA	VGA	VGA
Ethernet (10/100/1000)	1	1	1	1	1	1
Line-out/Mic	Line-out	Line-out/Mic	Line-out/Mic	Line-out/Mic	Line-out/Mic	Line-out
USB2.0/USB3.0	4/0	2/2	2/2	2/2	2/2	4/0
Cash Drawer Port	1	1	1	1	1	1
Parallel Port	1	1	1	1	1	1
COM Port	4 x DB-9 Powered RS232	4 x RJ-45 Powered RS232	4 x RJ-45 Powered RS232	4 x RJ-45 Powered RS232	4 x RJ-45 Powered RS232	4 x DB-9 Powered RS232
+12VDC-OUT Jack	1	1	1	1	1	1
DC-IN Jack	DC-12V IN	DC-24V IN	DC-24V IN	DC-24V IN	DC-24V IN	DC-19V IN
Power Switch	1	1	1	1	1	1
Internal Speaker	1	N/A	N/A	L/R	L/R	1
Expansion	1 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	1 x mini-PCIe
Power Supply Adapter	External AC DC 12V/8.33A 100W Power Brick	External AC DC 24V/5.0A 120W Power Brick	External AC DC 24V/5.0A 120W Power Brick	External AC DC 24V/5.0A 120W Power Brick	External AC DC 24V/5.0A 120W Power Brick	External AC DC 19V/6.31A 120W Power Brick
Operating Temp.	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C
Storage Temp.	-20°C to 60°C	-20°C to 60°C	-20°C to 60°C	-20°C to 60°C	-20°C to 60°C	-20°C to 60°C
Operating Humidity	20%~80%, Non-condensing	20%~80%, Non-condensing	20%~80%, Non-condensing	20%~80%, Non-condensing	20%~80%, Non-condensing	20%~80%, Non-condensing
IP Level	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65
Dimension (WxHxD)(mm)	366 x 280 x 64.5	394.6 x 262.7 x 49	394.6 x 262.7 x 49	456 x 281 x 55	456 x 281 x 55	366 x 280 x 64.5
Weight (kg)	5.0 (11.0lbs)	4.0 (8.8lbs)	4.0 (8.8lbs)	5.5 (12.2lbs)	5.5 (12.2lbs)	5.0 (11.0lbs)

NexPOS

Model	
	NPB 3550
CPU	Intel® Atom™ D2550 Dual Core 1.86GHz
Chipset	Intel® NM10 Express
Memory	2GB DDR3 SO-DIMM Module
Storage Device	1 x 2.5" SATA HDD, optionall: 1 x 2.5" STAT HDD
PS2 KB/MS	1
Ethernet (10/100/1000)	2
Headset Jack (Speaker-out & Mic)	1
VGA	1 (Default)/2 (Option)
DVI-D	1
USB2.0	6
COM Port	4 x DB-9 Powered RS232
Powered USB Port	1 x +12VDC Powered USB2.0 (USB5)
Parallel Port	1
Cash Drawer Port	1
Power Switch	1
Power Jack	DC 4 pin DIN Power Jack with shield
Expansion	2 x mini-PCIe, 1 x SIM Card Socket
Power Supply Adapter	External AC DC 12V/ 8.33A 100W Power Brick
Operating Temp.	0℃ to 40℃
Storage Temp.	-20˚C to 60˚C
Operating Humidity	20% ~ 80%, Non-condensing
Dimension (WxHxD)(mm)	296 x 210 x 46
Weight (kg)	2.6 (5.3lbs)

Model			
	NPD 1050	**NPD 1051**	**NPD 1052**
LCD Size	15" 4:3	15" 4:3	15" 4:3
Max. Resolution	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768
Luminance (cd/m^2)	250	250	250
Contrast Ratio	700	700	700
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
Backlight	CCFL/LED	CCFL/LED	CCFL/LED
LCD Color	16.2M	16.2M	16.2M
Touch Screen	15" 5-wire Resistive Touch Panel	15" 5-wire Resistive Zero Bezel Touch Panel	15" Zero Bezel Projected Capacitive Touch Panel
VGA	1	1	1
DVI-D	1	1	1
Display Port	1	1	1
OSD Function	1 x AUTO button for Auto Adjust	1 x AUTO button for Auto Adjust	1 x AUTO button for Auto Adjust
Touch Screen I/F	USB/RS232	USB/RS232	USB/RS232
Construction	ABS + PC Plastic	ABS + PC Plastic	ABS + PC Plastic
Front Panel	Front Bezel	Front Bezel	Front Bezel
Mounting	Panel/Wall/Stand/ VESA 100 x 100 mm	Panel/Wall/Stand/ VESA 100 x 100 mm	Panel/Wall/Stand/ VESA 100 x 100 mm
Power Supply	External AC DC 12V/ 5.0A 60W Power Brick	External AC DC 12V/ 5.0A 60W Power Brick	External AC DC 12V/ 5.0A 60W Power Brick
Operating Temp.	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃
Storage Temp.	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C
Operating Humidity	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing
IP Level	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65
Dimension (WxHxD)(mm)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)
Weight (kg)	7.0 (15.43lbs)	7.0 (15.43lbs)	7.0 (15.43lbs)

NexPOS

Model	NPT 1550	NPT 1551	NPT 1552	NPT 1560	NPT 1561
LCD Size	15" 4:3	15" 4:3	15" 4:3	15" 4:3	15" 4:3
Max. Resolution	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768
Luminance (cd/m^2)	250	250	250	250	250
Contrast Ratio	700	700	700	700	700
Viewing Angle (H-V)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
Backlight	CCFL/LED	CCFL/LED	CCFL/LED	LED	LED
LCD Color	16.2M	16.2M	16.2M	262,144	262,144
Touch Screen	15" 5-wire Resistive Touch Panel	15" 5-wire Resistive Zero Bezel Touch Panel	15" Zero Bezel Projected Capacitive Touch Panel	15" 5-wire Resistive Touch Panel	15" Zero Bezel Projected Capacitive Touch Panel
CPU	Intel® Atom™ D525 Dual Core Processor, 1.8GHz 1M L2 Cache	Intel® Atom™ D525 Dual Core Processor, 1.8GHz 1M L2 Cache	Intel® Atom™D525 Dual Core Processor, 1.8GHz 1M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache
Chipset	Intel® ICH8M, NH82801HBM I/O Control Hub	Intel® ICH8M, NH82801HBM I/O Control Hub	Intel® ICH8M, NH82801HBM I/O Control Hub	N/A	N/A
Memory	2GB DDR3 SO-DIMM Module	2GB DDR3 SO-DIMM Module	2GB DDR3 SO-DIMM Module	4GB DDR3L SO-DIMM Module	4GB DDR3L SO-DIMM Module
Storage Device	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD
2nd Display Output	VGA	VGA	VGA	VGA	VGA
Ethernet (10/100/1000)	1	1	1	1	1
Line-out/Mic	Line-out	Line-out	Line-out	Line-out/Mic	Line-out/Mic
USB2.0/USB3.0	4/0	4/0	4/0	2/2	2/2
Cash Drawer Port	1	1	1	1	1
Parallel Port	1	1	1	(1)	(1)
COM Port	4 x DB-9 Powered RS232	4 x DB-9 Powered RS232	4 x DB-9 Powered RS232	4 x RJ-45 Powered RS232	4 x RJ-45 Powered RS232
+12VDC-OUT Jack	1	1	1	1	1
DC-IN Jack	DC-12V IN	DC-12V IN	DC-12V IN	DC-24V IN	DC-24V IN
Power Switch	1	1	1	1	1
Internal Speaker	1	1	1	N/A	N/A
Expansion	1 x mini-PCIe	1 x mini-PCIe	1 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe
Power Supply Adapter	External AC DC 12V/8.33A 100W Power Brick	External AC DC 12V/8.33A 100W Power Brick	External AC DC 12V/8.33A 100W Power Brick	External AC DC 24V/5.0A 120W Power Brick	External AC DC 24V/5.0A 120W Power Brick
Operating Temp.	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃
Storage Temp.	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C
Operating Humidity	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing
IP Level	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65
Dimension (WxHxD)(mm)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)
Weight (kg)	8.0 (17.6lbs)	8.0 (17.6lbs)	8.0 (17.6lbs)	8.0 (17.6lbs)	8.0 (17.6lbs)

	NPT 1562	NPT 2560	NPT 2561	NPT 2562	NPT 5850	NPT 5851	NPT 5852
	15" 4:3	15.6" 16:9	15.6" 16:9	15.6" 16:9	15" 4:3	15" 4:3	15" 4:3
	XGA, 1024 x 768	WXGA, 1366 x 768	WXGA, 1366 x 768	WXGA, 1366 x 768	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768
	250	200	200	200	250	250	250
	700	600	600	600	700	700	700
	80(U), 80(D), 85(L), 85(R)	20(U), 45(D), 45(L), 45(R)	20(U), 45(D), 45(L), 45(R)	20(U), 45(D), 45(L), 45(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)	80(U), 80(D), 85(L), 85(R)
	LED	LED	LED	LED	CCFL/LED	CCFL/LED	CCFL/LED
	262,144	262,144	262,144	262,144	16.2M	16.2M	16.2M
	15" Zero Bezel Projected Capacitive Touch Panel	15.6" 5-wire Resistive Touch Panel	15.6" 5-wire Resistive Zero Bezel Touch Panel	15.6" Zero Bezel Projected Capacitive Touch Panel	15" 5-wire Resistive Touch Panel"	15" 5-wire Resistive Zero Bezel Touch Panel	15" Zero Bezel Projected Capacitive Touch Panel
	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	Intel® Atom™ J1900 Quad Core Processor, 2.0GHz 2M L2 Cache	2nd Gen. Intel® Core™ Processor, FCBGA 989	2nd Gen. Intel® Core™ Processor, FCBGA 989	2nd Gen. Intel® Core™ Processor, FCBGA 989
	N/A	N/A	N/A	N/A	Intel® BD82HM65 Platform Controller Hub, BD82HM65	Intel® BD82HM65 Platform Controller Hub, BD82HM65	Intel® BD82HM65 Platform Controller Hub, BD82HM65
	4GB DDR3L SO-DIMM Module	4GB DDR3L SO-DIMM Module	4GB DDR3L SO-DIMM Module	2GB DDR3 SO-DIMM Module	2GB DDR3 SO-DIMM Module	2GB DDR3 SO-DIMM Module	2GB DDR3 SO-DIMM Module
	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD	1 x 2.5" SATA HDD
	VGA	VGA	VGA	VGA	VGA	VGA	VGA
	1	1	1	1	1	1	1
	Line-out/Mic	Line-out/Mic	Line-out/Mic	Line-out	Line-out	Line-out	Line-out
	2/2	2/2	2/2	4/0	4/0	4/0	4/0
	1	1	1	1	1	1	1
	(1)	1	1	1	1	1	1
	4 x RJ-45 Powered RS232	4 x RJ-45 Powered RS232	4 x RJ-45 Powered RS232	4 x DB-9 Powered RS232	4 x DB-9 Powered RS232	4 x DB-9 Powered RS232	4 x DB-9 Powered RS232
	1	1	1	1	1	1	1
	DC-24V IN	DC-24V IN	DC-24V IN	DC-19V IN	DC-19V IN	DC-19V IN	DC-19V in
	1	1	1	1	1	1	1
	N/A	N/A	N/A	1	1	1	1
	2 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe	1 x mini-PCIe	1 x mini-PCIe	1 x mini-PCIe	1 x mini-PCIe
	External AC DC 24V/5.0A 120W Power Brick	External AC DC 24V/5.0A 120W Power Brick	External AC DC 24V/5.0A 120W Power Brick	External AC DC 19V/6.31A 120W Power Brick	External AC DC 19V/6.31A 120W Power Brick	External AC DC 19V/6.31A 120W Power Brick	External AC DC 19V/6.31A 120W Power Brick
	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃	0℃ to 40℃
	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C	-20˚C to 60˚C
	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing	20% ~ 80%, Non-condensing
	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65	Front Bezel IP65
	368 x 331 x 210 (No MSR)/ 410 x 331 x 210 (w/MSR)	394.6 x 331 x 49 (No MSR) 420 x 331 x 210 (w/MSR)	394.6 x 331 x 49 (No MSR) 420 x 331 x 210 (w/MSR)	394.6 x 331 x 49 (No MSR) 420 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR) 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR) 410 x 331 x 210 (w/MSR)	368 x 331 x 210 (No MSR) 410 x 331 x 210 (w/MSR)
	8.0 (17.6lbs)	4.0 (8.8lbs)	4.0 (8.8lbs)	4.0 (8.8lbs)	8.0 (17.6lbs)	8.0 (17.6lbs)	8.0 (17.6lbs)

IoT Gateway

Model	NIO 100	NIO 100Y	NIO 101	NIO 101Y
Category	Intel® Quark Processor X1021 IoT Gateway System, Moon Island OS	Intel® Quark Processor X1021 IoT Gateway System, Yacto OS	Intel® Quark Processor X1021 IoT Gateway System, Moon Island OS	Intel® Quark Processor X1021 IoT Gateway System, Yacto OS
CPU Support	Onboard Intel® Quark SoC processor X1021 Single Core 400MHz	Onboard Intel® Quark SoC processor X1021 Single Core 400MHz	Onboard Intel® Quark SoC processor X1021 Single Core 400MHz	Onboard Intel® Quark SoC processor X1021 Single Core 400MHz
RAM	DDR3 1GB (2 chips)	DDR3 1GB (2 chips)	DDR3 1GB (2 chips)	DDR3 1GB (2 chips)
eMMC	4GB	4GB	4GB	4GB
Ethernet	2 x 10/100 Base-TX MDI/MDIX Auto cross	2 x 10/100 Base-TX MDI/MDIX Auto cross	2 x 10/100 Base-TX MDI/MDIX Auto cross	2 x 10/100 Base-TX MDI/MDIX Auto cross
USB	2 x USB2.0 Type A	2 x USB2.0 Type A	2 x USB2.0 Type A	2 x USB2.0 Type A
Reset	1 x reset button	1 x reset button	1 x reset button	1 x reset button
DC	9 ~ 36V terminal 2pin	9 ~ 36V terminal 2pin	9 ~ 36V terminal 2pin	9 ~ 36V terminal 2pin
Expansion Slot	1 x mPCIe for Radio module	1 x mPCIe for Radio module	2 x mPCIe (for Radio module and FBI module)	2 x mPCIe (for Radio module and FBI module)
Serial Port	1 x RS232/485 (software selectable)	1 x RS232/485 (software selectable)	1 x RS232/485 (software selectable)	1 x RS232/485 (software selectable)
DIO	4 x 4 DIO supports	4 x 4 DIO supports	4 x 4 DIO supports	4 x 4 DIO supports
Wi-Fi	802.11 b/g/n 1x1	802.11 b/g/n 1x1	802.11 b/g/n 1x1	802.11 b/g/n 1x1
Operating Temp.	-20 to 70˚C	-20 to 70˚C	-20 to 70˚C	-20 to 70˚C
Dimension (mm)	130 x 130 x 40	130 x 130 x 40	130 x 130 x 60	130 x 130 x 60
FBI	-	-	FBI90E-REM Industrial Real Time Ethernet Fieldbus Master mini-PCIe Interface Card	FBI90E-REM Industrial Real Time Ethernet Fieldbus Master mini-PCIe Interface Card
	-	-	FBI90E-PBM Profibus Master mini-PCIe Interface Card	FBI90E-PBM Profibus Master mini-PCIe Interface Card
	-	-	FBI90E-DNM DeviceNet Master mini-PCIe Interface Card	FBI90E-DNM DeviceNet Master mini-PCIe Interface Card

IWSN Gateway

Model	NIO 50	NIO 200IER/ NIO 200HER	NIO 200IWR/ NIO 200HWR	NIO 210IAG/ NIO 210HAG	NIO 210IDG/ NIO 210HDG
WLAN Standard	802.11 b/g/n	N/A	802.11 a/n	802.11 a/n	N/A
Number of Wi-Fi radio	1	0	2	2	0
Number of Antennas	1	1	5	5	0
Type of RF Connector	RP-SMA	N-type	N-type	N-type	N/A
Wi-Fi mode	Client	N/A	AP/Client/Mesh	AP/Client/Mesh	N/A
WSN standard	N/A	IEEE802.15.4	IEEE802.15.4	IEEE802.15.4	N/A
Number of WAN Port	0	1	1	1	1
Number of LAN Port	1	1	1	1	1
Ethernet speed	10/100	10/100/1000	10/100/1000	10/100/1000	10/100/1000
Serial Port	DB-9	N/A	N/A	N/A	N/A
IP Rating	IP30	IP67	IP67	IP67	IP30
Mounting Style	DIN/Wall mount	VESA/Wall/Pole mount	VESA/Wall/Pole mount	VESA/Wall/Pole mount	Wall mount
Temperature	-20°C to 70°C	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C	-40°C to +65°C
PoE Type	N/A	IEEE802.3at	IEEE802.3at	IEEE802.3at	IEEE802.3at
DC Input	9 ~ 36V	12 ~ 48V	12 ~ 48V	12 ~ 48V	12 ~ 48V
Network Management	Web GUI/nCare	SNMP V1/V2c/Web/nCare	SNMP V1/V2c/Web/nCare	SNMP V1/V2c/Web/nCare	SNMP V1/V2c/Web/nCare
System Management	N/A	MCS	MCS	MCS	MCS
Certification	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC
Safety	EN60950-1	UL 60950, 2nd Edition	UL 60950, 2nd Edition	UL 60950, 2nd Edition	UL 60950, 2nd Edition
Anti-Explosive	N/A	UL: CID2, Groups A, B, C and D ATEX: Class I, Zone 2; Ex nA II, T5	UL: CID2, Groups A, B, C and D ATEX: Class I, Zone 2; Ex nA II, T5	UL: CID2, Groups A, B, C and D ATEX: Class I, Zone 2; Ex nA II, T5	N/A

IWF Access Point

Model					
	IWF 2220	**IWF 312**	**IWF 3320X**	**IWF 3310XM/H**	**IWF 5210**
Category	Light Duty Industrial AP	EN50155 Industrail AP	Industrial AP	Industrial Mesh AP/CPE	Outdoor AP
WLAN Standard	802.11b/g/n + 802.11a/n	802.11ac+b/g/n 2x2 MIMO	802.11a/b/g/n	802.11a/b/g/n	802.11 a/b/g/n
Number of Radios	2	2	2	1	1
Number of Antenna	4	4	4	2	2
Type of RF Connector	RP-SMA	RP-SMA	RP-SMA	RP-SMA	N-Type female
Number of WAN Port	1	1	1	1	1
Number of LAN Port	4	1	2	0	0
Type of LAN	RJ45	M12	RJ45	RJ45	RJ45 (Encapsulated by M25)
Console Port	DB-9	N/A	DB-9	-	-
USB2.0	-	N/A	-	-	-
IP Rating	IP30	IP30	IP30	IP30	IP68
Conformal Coating	-	N/A	-	-	-
Mounting Style	Wall Mount	Wall Mount	Wall/DIN-Rail Mount	Wall/DIN-Rail Mount	Wall/Pole Mount
Temperature	0℃ to +60℃	-40℃ to +80℃	-40℃ to +80℃	-40℃ to +80℃	-35℃ to +75℃
Dimension (mm)	213 x 125 x 37.4	185 x 108 x 43	58.8 x 139.6 x 167	58.8 x 139.6 x 167	182 x 111 x 45
PoE Input	IEEE 802.3at	N/A	IEEE 802.3af	IEEE 802.3at	IEEE 802.3af
DC Input	+12V	24VDC with M12	+9 ~ +36V	2 x DC input: +12~+48V	-
Certification	CE, FCC	CE, FCC, EN50155 compliance	CE, FCC	CE, FCC, EN50155	CE, FCC
Safety	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1
Operation Mode	AP/WDS	AP/Router/Client/WDS	AP/WDS	AP/Station/Mesh* (* Mesh model only)	AP/WDS
Management Mode	Central/GUI Management	SNMP/GUI Management	Central/GUI Management	SNMP/GUI Management	Central/GUI Management

IWF 5320	IWF 5320P	IWF 6320M/H	IWF 6330M/H	IWF 501/501D	IWF 502/502D	HWF 1310
Outdoor AP	Outdoor P2P	Outdoor AP	Outdoor AP	Outdoor CPE	Outdoor CPE	Hotspot AP
802.11a/b/g/n	802.11a/b/g/n	802.11a/b/g/n	802.11a/b/g/n	802.11b/g/n	802.11a/n	802.11b/g/n
2	2	2	3	1	1	1
4	4	4	6	IWF 501: 12dBi embedded antenna IWF 501D: 2 x RP-xSMA female	IWF 502: 14dBi embedded antenna IWF 502D: 2 x SMA female	2
N-Type female	N-Type female	N-Type female	N-Type female	IWF501D: 2 x RP-SMA female	IWF502D: 2 x RP-SMA female	RP-SMA
1	1	1	1	2	2	1
1	1	0	0	0	0	4
RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)	RJ45	RJ45	RJ45
RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)	-	-	-	-	DB-9
-	-	-	-	-	-	x1
IP68	IP68	IP67	IP67	IP55	IP55	IP30
Yes	Yes	-	-	-	-	-
Wall/Pole Mount	Wall/Pole Mount	Wall/Pole Mount	Wall/Pole Mount	Pole Mount	Pole Mount	Wall Mount
-20℃ to +70℃	-20℃ to +70℃	-35℃ to +75℃	-35℃ to +75℃	-35℃ to +75℃	-35℃ to +75℃	0℃ to +60℃
240 x 230 x 130	240 x 230 x 130	220 x 220 x 77	220 x 220 x 77	280 x 93 x 45	280 x 93 x 45	165 x 82 x 25
IEEE 802.3af	IEEE 802.3af	PoE: 48V	PoE: 48V	PoE: 12~24V	PoE: 12~24V	-
-	-	-	-	-	-	+5V
CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE
EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1
AP/WDS	Point to Point	AP/Station/Mesh	AP/Station/Mesh	AP/Client/Router/WISP	AP/Client/Router/WISP	AP/WDS
Central/GUI Management	GUI management	SNMP/GUI Management	SNMP/GUI Management	GUI Management	GUI management	GUI Management

IWF Controller

Model	IWF 8405	IWF 3320C
Number of AP	150	8
Local user	6000	2000
On-demand User	6000	2000
Number of Antenna	-	4
Type of RF Connector	-	RP-SMA
Number of WAN Port	2	1
Number of LAN Port	4	2
Console Port	RJ-45	DB-9
USB2.0	2	-
Mounting Style	19" 1U Rack	DIN-Rail & Wall Mount
Temperature	0°C to +40°C	-40°C to +80°C
Dimension (mm)	426 x 236 x 44	58.8 x 139.6 x 167
PoE Input	-	IEEE 802.3af
Power Input	100 ~ 240 VAC, 50/60 Hz	+9 ~ +36V DC (Thru Terminal block)
Certification	CE, FCC	CE, FCC
Safety	EN60950-1	EN60950-1

IWF Antenna

Part Number	603ANT0008X00	603ANT0011X00
Category	Omni-directional	Omni-directional
Frequency Range	2400 ~ 2500MHz	4900 ~ 5350MHz
Peak Gain	8 dBi	8 dBi
VSWR	2.0:1 (Max.)	2.0:1 (Max.)
Polarization	Linear, Vertical	Linear, Vertical
HPBW/Horizontal	360°	360°
HPBW/Vertical	15°	12°
Power Handling	20W (cw)	20W (cw)
Front to Back Ratio	-	-
Isolation (Front/Back)	-	-
Impedance	50Ω	50Ω
Connector*	N type, Female	N type, Female
Survival Wind Speed	216km/hr	216km/hr
Temperature	-40°C to +80°C	-40°C to +80°C
Humidity	95% at 55°C	95% at 55°C
Radome Color	Gray-white	Gray-white
Radome Material	Fiber glass, UV Resistant	Fiber glass, UV Resistant
Weight	340g	280g
Dimensions (mm)	80 x 78 x 520	80 x 78 x 373
Mount Kit	Included with Antenna	Included with Antenna

	603ANT0014X00	603ANT0009X00	603ANT0012X0 0	603ANT0010X00	603ANT0013X00
	Dual Band, Omni-directional	MIMO, Directional	MIMO, Directional	Directional Sector Antenna	Directional Sector Antenna
	2400 ~ 2500/ 5150 ~ 5875MHz	2300 ~ 2700MHz	5150 ~ 5875MHz	2400 ~ 2500MHz	5150 ~ 5875MHz
	4dBi@2.4GHz; 7dBi@5GHz	16~17 dBi	20 dBi	14±0.5 dBi	15±0.5 dBi
	2.0:1 (Max.)	2.0:1 (Max.)	2.0:1 (Max.)	2.0:1 (Max.)	2.0:1 (Max.)
	Linear, Vertical	Linear, Vertical/Horizontal	Dual linear, ±45°	Linear, ±45°	Linear, ±45°
	360°	18°~ 25°	10°	60°	60°
	30°/20°	18°~ 25°	10°	13°	6°
	2W (cw)	6W (cw)	6 W (cw)	10W (cw)	6W (cw)
	-	-25dB (Max.)	-30dB (Max.)	-25dB (Max)	-20dB (Max.)
	-	16dB (Min.)	24dB (Min.)	20dB (Min.)	20dB (Min.)
	50Ω	50Ω	50Ω	50Ω	50Ω
	N type, Male	N type, Femal	N type, Female	N type, Female	N type, Female
	216km/hr	216km/hr	216km/hr	216km/hr	216km/hr
	-40℃ to +80℃	-40℃ to +80℃	-40℃ to +80℃	-40℃ to +80℃	-40℃ to +80℃
	95% at 55℃	95% at 55℃	95% at 55℃	95% at 55℃	95% at 55℃
	Gray	Gray-white	Gray-white	Gray	Gray
	ABS, UV Resistant	PC, UV Resistant	PC, UV Resistant	ABS, UV Resistant	ABS, UV Resistant
	70g	1.1kg	1.245kg	970g	1060g
	Ø22 x 183	320 x 320 x 18	320 x 320 x 20	540 x 116 x 39	540 x 116 x 39
	Directly Mount, N jack	Pole & Wall Mount	Pole & Wall Mount	Pole & Wall Mount	Pole & Wall Mount

Outdoor Enterprise AP

Model		
	OWL530	OWL630
Deployment	Outdoor	Outdoor
Wireless Standard	802.11a/b/g/n	802.11a/b/g/n/ac
MIMO	2 x 2 : 2	3 x 3 : 3
PoE Specification	802.3af	802.3at
Uplink Ports	1 x GbE (PoE)	1 x GbE (PoE)
LAN Port	-	1 x GbE (802.3af PSE)
Console Port	-	1 x RJ-45
RJ-11/RJ-45 Bypass	-	-
Output Power*[1]	2.4 GHz: Up to 27 dBm, 5 GHz: Up to 23 dBm	2.4 GHz: Up to 23 dBm, 5 GHz: Up to 23 dBm
Antenna Gain	-	-
Max. Power Consumption	12W	22W
Max. Concurrent Users*[2]	256	384
Dimensions (WxDxH) (mm)	182 x 111 x 45	250 x 200 x 74
Weight	0.9 kg	2.8 kg

EZ Mesh & Cost-effective

Model				
	IWF 300	IWF 310	IWF 600	IWF 503/503D
Category	Industrail EZ Mesh AP	Industrail EZ Mesh AP	Outdoor AP	Outdoor AP/CPE
WLAN Standard	802.11an+b/g/n 2x2 MIMO	802.11an+b/g/n 2x2 MIMO	802.11ac+b/g/n 2x2 MIMO	802.11ac/an/a 3x3 MIMO
Number of Radios	2	2	2	1
Number of antenna	2	2	4	IWF503: 10dBi embedded antenna IWF503D: 3 x RP-xSMA female
Type of RF connector	RP-SMA	RP-SMA	N-Type female	IWF503D: 3 x RP-xSMA female
Number of WAN port	1	1	1	1
Number of LAN port	4	4	1	1
Type of LAN	RJ45	RJ45	RJ45 (Encapsulated by M25)	RJ45
Console Port	N/A	N/A	1	N/A
USB2.0	N/A	N/A	N/A	N/A
IP Rating	IP30	IP30	IP67	IP55
Conformal Coating	N/A	N/A	N/A	N/A
Mounting style	Wall mount	Wall mount	Wall/Pole mount	Wall/Pole mount
Temperature	-40℃ to +80℃	-40℃ to +80℃	-40℃ to +80℃	-35℃ to +75℃
Dimension (mm)	190 x 106 x 38.9	185 x 108 x 43	256 x 226 x 91	240 x 135 x 58
PoE Input	N/A	N/A	IEEE 802.3at	Passive PoE: 24V
DC Input	12VDC	12VDC	24VDC	N/A
Certification	CE, FCC	CE, FCC	CE, FCC	CE, FCC
Safty	EN60950-1	EN60950-1	EN60950-1	EN60950-1
Operation mode	AP/Router/EZ Mesh	AP/Router/EZ Mesh	AP/Client Bridge/ AP Router	AP/Client Bridge/ AP Router/Client Router
Management Mode	SNMP/GUI Management	SNMP/GUI Management	SNMP/GUI Management	SNMP/GUI Management

Enterprise Controller

Model	WHG321	WHG325	WHG425	WHG525	WHG711	WHG801
Managed APs	30	50	150	300	500	1200
Local Accounts	3000	4000	6000	10000	15000	30000
On-Demand Accounts	3000	4000	6000	10000	15000	30000
Form Factor	Desktop	19" Rack-mount (1U)	19" Rack-mount (1U)	19" Rack-mount (1U)	19" Rack-mount (1U)	19" Rack-mount (2U)
WAN Ports	2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE, 2 x 1G SFP	2 x GbE, 2 x 1G SFP, 1 x 10G SFP
LAN Port	2 x GbE	2 x GbE	4 x GbE	4 x GbE	10 x GbE, 2 x 1G SFP	6 x GbE, 6 x 1G SFP. 1 x 10G SFP
Dimensions (WxDxH)(mm)	330 x 180 x 45	430 x 280 x 44	426 x 236 x 44	426 x 236 x 44	426 x 450 x 44	430 x 580 x 88
Weight (kg)	2	5	5	5	8	19
High Availability/ Redundancy	Yes (N+1)	Yes (N+1)	Yes (N+1)	Yes (N+1)	Yes (N+1)	Yes (N+1)
Power Redundancy	-	-	-	-	-	Yes

Indoor Enterprise AP

Model	EAP210	EAP701	EAP727	EAP760	EAP767
Deployment	Indoor	Indoor	Indoor	Indoor	Indoor
Wireless Standard	802.11a/b/g/n	802.11b/g/n	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac
MIMO	2 x 2 : 2	2 x 2 : 2	2 x 2 : 2	3 x 3 : 3	3 x 3 : 3
PoE Specification	802.3af	802.3af	802.3af	802.3at	802.3at
Uplink Ports	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)
LAN Port	No	2 x FE	No	1 x GbE (802.3af PSE)	-
ConsolePort	1 x DB9M	No	No	1 x RJ-45	-
RJ-11/RJ-45 Bypass	No	No	No	No	-
Output Power*[1]	2.4 GHz: Up to 27 dBm, 5 GHz: Up to 23 dBm	2.4 GHz: Up to 15 dBm	2.4 GHz: Up to 23 dBm, 5 GHz: Up to 23 dBm	2.4 GHz: Up to 23 dBm, 5 GHz: Up to 23 dBm	2.4 GHz: Up to 25 dBm, 5 GHz: Up to 25 dBm
Antenna Gain	Detachable 3/4 dBi	Built-in 3 dBi	Built-in 3/5 dBi	Detachable 2/3 dBi	Built-in 3/5 dBi
Max. Power Consumption	12WW	7W	14.4W	22W	17W
Max. Concurrent Users*[2]	256	128	384	384	384
Dimensions (WxDxH)(mm)	190 x 133 x 33	120 x 70 x 26	160 x 160 x 28	183 x 183 x 36	180 x 180 x 44
Weight (kg)	0.82	0.099	0.28	0.52	0.61

Industy Firewall

Model Name				
	Industry Firewall Multi-port VPN Router			VPN Dispatcher
	IFA 1610	**IFA 2610**	**IFA 3610**	**IVD 1000-S/A**
Network Security	Yes	Yes	Yes	Yes
VPN Connections	Unlimited	Unlimited	Unlimited	25/100 Licenses
VPN Function	Client/Site-to-Site	Client/Site-to-Site	Client/Site-to-Site	VPN Management
LAN Bypass	-	-	Yes	Yes
High Availability	-	Yes	Yes	Yes
WAN Failover	-	Yes	Yes	Yes
Network Address Translation	Yes	Yes	Yes	Yes
Routing	-	Yes	Yes	Yes
Logging/Reporting	Yes	Yes	Yes	Yes
Updates and Backup	Yes	Yes	Yes	Yes
Centralized Management	Yes	Yes	Yes	Yes
Hardware Specification				
Mounting	Wall Mount/Desktop	Wall Mount/DIN Rail	Wall Mount/DIN Rail	Rack Mount
Power Input	24V DC Terminal/ DC Jack Input	24V DC Input	Dual 24V DC Input	65W Power Supply
CPU	ARM® Cortex® A8	ARM® Cortex® A8	ARM® Cortex® A8	Intel® Atom™
Memory	512MB	512MB	512MB	1GB
Ethernet	2 x 10/100/1000Mbps	3 x 10/100/1000Mbps	5 x 10/100/1000Mpbs	6 x 10/100/1000Mbps
Serial Communication	RS232/485/422	RS232/485/422	RS232/485/422	Console Port
USB	2 x USB	1 x USB	1 x USB	2 x USB
Digital Input/Output	-	1 x D1/1 x DO	1 x D1/1 x DO	-
Storage	MicroSD 4GB	MicroSD 4GB	MicroSD 4GB	2.5" HDD(RAID)
Cooling	Fanless	Fanless	Fanless	-
Dimension (HxWxD)(mm)	114 x 28 x 100	167 x 59 x 140	167 x 59 x 140	44 x 462 x 238
Operating Temperature	0℃ to 60℃ 32°F to 140°F	0℃ to 60℃ 32°F to 140°F	-20℃ to 70℃ -4°F to 158°F	0℃~40℃ 32°F~104°F
Storage Temperature	-20℃ to 70℃ -4°F to 58°F	-20℃ to 70℃ -4°F to 158°F	-40℃ to 80℃ -40°F to 176°F	-20℃ to 70℃ -4°F to 158°F
Relative Humidity	Operating 10% ~ 90%, non-condensing	Operating 5% ~ 95%, non-condensing	Operating 5% ~ 95%, non-condensing	Operating 10% ~ 90%, non-condensing
SIM Card Holder	-	Yes	Yes	-
Service & Maintenance	3 Years	3 Years	3 Years	3 Years
Regulation				
Safety	UL 508	UL 508	UL 508	UL
Certification	CE/FCC/RoHS	CE/FCC/RoHS	CE/FCC/RoHS	CE/FCC/RoHS
Protection Class	IP 30	IP 30	IP30	-
Ordering Information	10IF0161000X0	10IF0261000X0	10IF0361000X0	TBD

PICMG Single Board Computer
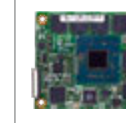
Model	PEAK 888Q	PEAK 888H	PEAK 887VL2
Form Factor	Full-size PICMG 1.3	Full-size PICMG 1.3	Full-size PICMG 1.3
CPU Type	Intel® LGA1151 Core™ i7/i5/i3	Intel® LGA1151 Core™ i7/i5/i3	Intel® LGA1150, Core™ i7/i5/i3
Chipset	Intel® Q170	Intel® H110	Intel® Q87
PCIe	ONE x 16 FOUR x 1	ONE x 16 FOUR x 1	ONE x 16 FOUR x 1
PCI	4	4	4
Memory Max. Capacity Socket	Dual Channel (Non-ECC) DDR4 1866/2133 32GB 2 x 288 PIN (DIMM)	Dual Channel (Non-ECC) DDR4 1866/2133 32GB 2 x 288 PIN (DIMM)	Dual Channel (Non-ECC) DDR3 & DDR3L 1066/1333/1600 16GB 2 x 240 PIN (DIMM)
Graphic	Intel® HD Graphics 530	Intel® HD Graphics 530	Intel® HD Graphics
Display	VGA/HDMI/DVI/DP	VGA/HDMI/DVI/DP	VGA/HDMI/DVI
Ethernet (10/100/100)	1 x Intel® WGI219LM GbE PHY 1 x Intel® I211 Gigabit Ethernet	1 x Intel® WGI219LM GbE PHY IAMT support 1 x Intel® I211 Gigabit Ethernet	1 x Intel® I217LM GbE PHY 1 x Intel® I211 Gigabit Ethernet
SATA	5	3	6
S/W RAID	0,1,5,10	-	0,1,5,10
M.2 M Type 2280/22110	1 (Share SATA port)	1 (Share SATA port)	-
USB3.0	4 (2 x Box header)	4 (2 x Box header)	4 (2 x Box header)
USB2.0	7 (2 x Box header, 4 x through BP, 1 x USB TYPE A)	6 (2 x Box header,4 x through BP)	6 (2 x Box header,4 x through BP)
Serial Ports	3	3	3
RS232/422/485	1	1	1
Parallel Port	1	1	1
PS/2	1	1	1

EmbeddedPro

Model	NEX 604	NEX 605	NEX 607	NEX 609	NEX 611	NEX 613	NEX 615
PCB Size (LxW) (mm)	170 x 170	170 x 170	170 x 170	170 x 170	170 x 170	170 x 170	170 x 170
Processors	Intel® Atom™ D2550	Intel® Atom™ D2550	2nd Gen. Intel® Core™ i7/i5/i3, Celeron® Socket rPGA 988	3rd/2nd Gen. Intel® Core™ i7/i5/i3, Celeron® Socket rPGA 988	AMD Embedded G-Series APU T48E	4th Gen. Intel® Core™ LGA1150 processors family	Intel® Atom™ E3800 product family
CPU/Speed Cores/ Cache/TDP	D2550/1.86GHz 2C/1MB/10W	D2550/1.86GHz 2C/1MB/10W	i7-2710QE/ 4 x 2.10GHz/45W i5-2510E/ 2 x 2.5GHz/35W i3-2330E/ 2 x 2.2GHz/35W Celeron® B810/ 2 x 1.6G/35W	i7-3610QE/ 4 x 2.3GHz/45W i5-3610ME/ 2 x 2.7GHz/35W Celeron® B810/ 2 x 1.6G/35W	T48E: 2 x 1.4GHz/512M/18W	i7-4770S/ 4 x 3.1GHz/65W i5-4570S/ 4 x 2.9GHz/65W i3-4330TE/ 2 x 2.4 GHz/35W	E3826/ 2 x 1.46GHz/6W E3845/ 4 x 1.91GHz/10W
Chipset	Intel® NM10/2.1W	Intel® ICH10R/4.5W	Intel® QM67 PCH/3.9W	Intel® QM77 PCH/3.9W	AMD A55E/ 2.7 ~ 5.9W	Intel® Q87 PCH/4.1W	by SoC
Max. Memory	4GB DDR3 (2 x SO-DIMM)	4GB DDR3 (2 x SO-DIMM)	8GB DDR3 (2 x SO-DIMM)	16GB DDR3 (2 x SO-DIMM)	8GB DDR3 (2 x SO-DIMM)	16GB DDR3 (2 x non-ECC)	8GB DDR3 (2 x non-ECC)
Grapgics Engine	Intel®	Intel® D2550 integrated Graphics	Intel® HD Graphics 3000	Intel® HD Graphics 4000	AMD Radeon™ HD 6250/280MHz	Intel® HD Graphics 4600	Intel® Gen.7 Graphics
VGA Interface	Yes	Yes	Yes	Yes	Yes	-	Yes
LCD Interface (TTL LCD)	-	-	-	-	-	-	-
LCD Interface (LVDS LCD)	Yes (1 CCFL for Inverter Power)	Yes (1 CCFL for Inverter Power)	Yes (1 CCFL for Inverter Power)	Dual 48-bit LVDS (2 x CCFL for Inverter Power)	Optional (DF-13-40P) shared with 2nd HDMI	-	2 x Dual Channel 18/24bitsLVDS
DVI/HDMI	0/1	0/1	1/1	DVI-I/HDMI	0/2	1/1	-
Ethernet(10/100)	-	-	-	-	-	-	-
Ethernet (10/100/1000)	2 x Realtek RTL8111E	2 x Intel® 82574L	1 x Intel® 82574L, 1 x Intel® 82579LM PHY	1 x Intel®82574L, 1 x Intel®82579LM PHY	2 x Realtek RTL8111E	1 x Intel® I217LM PHY 1 x Intel® I210	2 x Intel® I210
Wake on LAN	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Audio	Realtek ALC886 CODEC	Realtek ALC886 CODEC	Realtek ALC886 CODEC	Realtek ALC888 CODEC	Realtek ALC662 CODEC	Realtek ALC662 CODEC	Realtek ALC886 CODEC
CF	-	-	-	-	-	-	-
IDE Interface	-	-	-	-	-	-	-
mini-PCIe	2	1	1	1	-	1 (Shared with mSATA)	1
SATA2.0/3.0	2	4 x SATA2.0, 2 x e-SATA	4 x SATA2.0	4 x SATA3.0	4 x SATA3.0	1 x mSATA/ 4 x SATA3.0	1 x SATA2.0
USB2.0/3.0	6/0	6/0	10/0	6/4	14 x USB2.0	8/4	2/4
Serial Port	4	4	4	6	6	6	4
RS422/485 Support	-	-	Yes	Yes	Yes	Yes	Yes
Parallel Port	Yes	Yes	-	-	-	-	-
Power Input/Mode	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
5Vsb Input	-	Yes	-	-	-	Yes	Yes
Expansion	2 x mini-PCIe 1 x PCI (v2.3)	1 x mini-PCIe 1 x PCIex4	1 x mini-PCIe 1 x PCIex4	1 x PCIex16 1 x mini-PCIe 2 x PCIex1 (by golden finger)	1 x mini-PCIe (half) 1 x PCIex4	1 x mini-PCIe (full) 1 x PCIex16	1 x mini-PCIe (half) 1 x PCIex1

NEX 616	NEX 617	NEX 883	NEX 890	NEX 980	NEX 981	EBC 355X
170 x 170	170 x 170	244 x 244	244 x 244	305 x 244	305 x 244	146mm x 102
Intel® Atom™ E3800 product family	Intel® Celeron® Processor J1900	3rd/2nd Gen. Intel® Core™ LGA1155 processors family	2nd Gen.Intel® Core™ workstation processors	3rd/2nd Gen. Intel® Core™ LGA1155 processors family"	4th Gen. Intel® Core™ LGA1150 processors family	Intel® Atom™ Processor E3800 SoC family"
E3826/ 2 x 1.46GHz/6W E3845/ 4 x 1.91GHz/10W	4 x 2 GHz/10W	i7-3770/4 x 3.4GHz/77W i5-3550S/4 x 3.0GHz/65W i3-3220/2 x 3.3GHz/65W	E3-1225/4 x 3.10GHz/95W E3-1275/4 x 3.40GHz/95W i3-2120/2 x 3.3GHz/65W	i7-3770/4 x 3.4GHz/77W i5-3550S/4 x 3.0GHz/65W i3-3220/2 x 3.3GHz/65W	i7-4770S/4 x 3.1GHz/65W I5-4570S/4 x 2.9GHz/65W i3-4330TE/2 x 2.4 GHz/35W	E3845/ 4 x1.91GHz/ 10W
by SoC	by SoC	Intel® Q77 PCH/6.7W	Intel® C206 chipset	Intel® Q77 PCH/6.7W	Intel® Q87 PCH/4.1W	by SoC
8GB DDR3 (2 x non-ECC)	2 x SO-DIMM Dual Channel DDR3 1333 MHz SDRAM Max. 8GB	32GB DDR3 (4 x non-ECC)	32GB DDR3 (4 x ECC)	32GB DDR3 (4 x non-ECC)	32GB DDR3 (4 x non-ECC)	1 x 204-pin SO-DIMM DDR3L-1333MHz 4GB Max
Intel® Gen.7 Graphics	Intel® Gen7. Intel® Graphics DX 11, OGL3.2	Intel® HD Graphics 4000	CPU integrated HD Graphics	Intel® HD Graphics 4000	Intel® HD Graphics 4600	Bay trail series integrated graphic engine, Gen7 Intel® Graphics, DX 11, OGL3.2
-	yes	Yes (shared with DVI-I)	Yes	Yes	Yes	yes
-	-	-	-	-	-	-
-	Dual Channel 24-bit, max. resolution 1920x1200@60Hz	Dual Channel 24bits by DF13-30P (Shared with DP)	-	-	-	Support 18-bit Single Port, 18-bit Dual Port, 24-bit Single Port and 24-bit Dual Port LVDS.
0/2	0/1	1/1	1/0	0/1	0/1	0/1
-	-	-	-	-	-	N/A
2 x Intel® I210	2 x Realtek RTL8111G-CG	1 x Intel® 82579LM/V PHY, 1 x Intel® 82583V	1 x Intel®82583V, 1 x Intel®82579LM PHY	1 x Intel® 82579LM/V PHY, 1 x Intel® 82583V	1 x Intel® I217LM PHY 1 x Intel® I210	2 x Intel® I210 IT
Yes	yes	Yes	Yes	Yes	Yes	Yes
Realtek ALC886 CODEC	Realtek ALC662	MIC-in/Lin-in/Line-out	Realtek ALC886 CODEC	MIC-in/Lin-in/Line-out	MIC-in/Lin-in/Line-out	Realtek ALC886 HD Codec
-	N/A	-	-	-	-	N/A
-	N/A	-	-	-	-	N/A
1	1 (Full Size)	1	-	1	-	2
2 x SATA2.0	2 x SATA 2.0	2 x SATA2.0/ 2 x SATA3.0	6	2 x SATA2.0/ 2 x SATA3.0	1 x mSATA/ 5 x SATA3.0	2 x SATA 2.0
4/1	2 x USB3.0, 2 x USB2.0	8/4	10 x USB2.0	8/4	8/4	4 x USB2.0
6	3	6	2	6	6	4
Yes	yes	Yes	No	Yes	Yes	yes
-	N/A	1 x LPT by 26xpins header	No	1 x LPT by 26xpins header	-	N/A
AT/ATX	AT/ATX mode 9-19V DC-In (4-pin ATX PWR Con)	AT/ATX	ATX	AT/ATX	AT/ATX	AT/ATX mode
Yes	N/A	-	Yes	-	-	N/A
1 x mini-PCIe (full) 1 x PCIex1	1 x Mini PCI Express 1 x PCIex1	1 x PCIex16 (Gen.3.0/Ivy) 1 x PCIex4 2 x PCI (v2.3)	1 x PCIex8 (PCIex16 slot) 1 x PCIex8 slot (Q67) 2 x PCIex4 slots	1 x PCIex16 (Gen. 3.0/2.0 by CPU) 1 x PCIex4 1 x PCIex1 4 x PCI (v2.3)	1 x PCIex16 (Gen. 3.0) 1 x PCIex4 1 x PCIex1 4 x PCI (v2.3)	Two Mini-PCI Express slot

Computer-on-Modules

Model	ICES 254	ICES 267	ICES 267S	ICES 268	ICES 501X	ICES 620X
Form Factor	COM Express	COM Express	COM Express	COM Express	COMExpress	COM Express
Dimension (LxW) (mm²)	95 x 95	125 x 95	125 x 95	125 x 95	84 x 55	95 x 95
Type pin-outs	Type 2	Type 2	Type 2	Type 2	Type 10	Type 6
Processors	Intel® Atom™	2nd Gen. Intel® Core™ i7/i5/i3 processor	2nd Gen. Intel® Core™ i7/i5/i3 processor	3rd Gen. Intel® Core™ i7/i5/i3 processor, Celeron® Mobile	Intel® Atom™	Intel® Atom™
CPU/Speed Cores/Cache/TDP	D2550/1.86GHz 2C/1MB/10W	i5-2510E/2 x 2.5GHz i3-2330E/2 x 2.2GHz Celeron® B810/ 2 x 1.6G	i7-2715QE/4 x 2.1GHz i7-2610UE/2 x 1.5GHz i5-2515E/2 x 2.5GHz Celeron B810E/ 2 x 1.6GHz Celeron® 847E/ 2 x 1.1GHz	i7-3610QE/4 x 2.3GHz i5-3610ME/2 x2.7GHz Celeron® B810/ 2 x1.6G	E3845/4 x1.91GHz E3826/2 x 1.46GHz	E3826/2 x 1.46GHz E3845/4 x 1.91GHz
Chipset	ICH10R	QM67	QM67	QM77/HM76	E3845/E3826	E3826/E3845
Memory Type	DDR3/SO-DIMM	DDR3/SO-DIMM	DDR3/SO-DIMM	DDR3/SO-DIMM	4GB DDR3(2 x SO-DIMM)	ECC-DDR3/SO-DIMM
SO-DIMM	1	1	1	2		1
Max. capacity/ Speed	4GB, 800/ 1066MHz	8GB, 1066/1333MHz	8GB, 1066/1333MHz	16GB, 1333/1600MHz	DDR3L Memory down Up to 4GB 1333/1600MHZ	8GB, 1333/1600MHz
VGA	up to 1920 x 1200 (N2800/1920 x 1080)	up to 2048 x 1536	up to 2048 x 1536	up to 2048 x 1536	N/A	up to 2048 x 1536
LVDS	1 x ch. 18-/24-bit LVDS (1440 x 900/1366 x 768)	2 x ch. 18-/24-bit LVDS (up to 1920 x 1200)	2 x ch. 18-/24-bit LVDS (up to 1920 x 1200)	2 x ch. 18-/24-bit LVDS (up to 1920 x 1200)	1 x ch.18/24Bit LVDS (Up to 1366 x 768)	-
Digital Display I/F	Option EBK-A2HDMI	-	PEG/SDVO	Option 1 x DDI#1 (B)	0/1	3 xDDI (DP/HDMI/DVI)
SDVO	Option PEG/SDVO	-	by EBK-A2HDMI	Option EBK-A2HDMI	-	Only DDI#1 (B)
Networking	Intel® 82574L/GbE	Intel® 82579LM/GbE	Intel® 82579LM/GbE	Intel® 82579LM/GbE	1 x Intel® I210IT/GbE	Intel® I210IT/GbE
ISA	-	-	-	-	-	-
PCI	4	4	4	4	-	2
PCI Express	5 x PCIex1	5 x PCIex1	5 x PCIex1	5 x PCIex1	3 x PCIex1	4 x PCIex1
PCIex16	Option PEG/SVDO	1 x PCIex16	-	1 x PCIex16 (Gen3.0)	N/A	-
USB2.0/3.0	8/0	8/0	8/0	8/0	2	7/0
IDE/CF	1 or 1	1 or 1	1 or 1	1/1	2	-
SATA2.0/3.0	4/0	1 or 1	1 or 1	4/0	7/1	2/0
mini-SATA	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	-	SATA2.0/ICEB8050C
CFast	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	-	SATA2.0/ICEB8050C
Hardware Monitor	W83792G	NCT 7802Y	NCT 7802Y	NCT 7802Y	Yes	NCT 7802Y
Super I/O	LPC to ICEB8050C	LPC to ICEB8050C	LPC to ICEB8050C	LPC to ICEB8050C	-	LPC to ICEB8050C
LPC	1	1	1	1	1	1
SM/I2C Bus	1 or 1	1 or 1	1 or 1	1 or 1	1	1 or 1
Serial Ports	2 x COM/ICEB8050C	2 x COM/ICEB8050C	2 x COM/ICEB8050C	2 x COM/ICEB8050C	2	2 x COM/ICEB8050C
SPI	1	1	1	1	1	1
Audio	SPDIF/ICEB8050C	SPDIF/ICEB8050C	SPDIF/ICEB8050C	SPDIF/ICEB8050C	SPDIF/ICEB8060	SPDIF/ICEB8050C
LTP/FFD	-	-	-	-	-	-
Power Requirement	+12V, +5Vsb, +3.3V (RTC)	+12V, +5Vsb, +3.3V (RTC)	+12V, +5Vsb, +3.3V (RTC)	+12V, +5Vsb, +3.3V (RTC)	12V	+12V, +5Vsb, +3.3V (RTC)
Power Mode	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
Operating Temp.	-15°C to 60°C	-15°C to 60°C	-15°C to 60°C	-15°C to 60°C	-40°C to 85°C	-40°C to 85°C
Conformal Coating	by requested	by requested	by requested	by requested	By requested	by requested

ICES 621	ICES 667	ICES 668	ICES 670	ICES 671	ICES 672	ICEB 8060
COM Express	COM Express	COM Express	COM Express	COM Express	COMExpress	COM Express
95 x 95	125 x 95	125 x 95	125 x 95	95 x 95	95 x 95	305 x 244
Type 6	Type 6	Type 6	Type 6	Type 6	Type 6	Type 6
BGA type on board	3rd Gen. Intel® Core™ i7/i5/i3 processor, Celeron® Mobile	3rd Gen. Intel® Core™ i7/i5/i3 processor	4th Gen. Intel® Core™ i7/i5/i3 processor, Celeron® Mobile	4th Gen. Intel® Core™ i7/i5/i3 processor	BGA type on board	-
Braswell N3160/N3060	i7-3610QE/4 x 2.3GHz i5-3610ME/2 x 2.7GHz Celeron® B810/ 2 x 1.6G	i7-3615QE/4 x 2.3GHz i7-3555LE/2 x 2.5GHz i7-3517UE/2 x 1.7GHz i5-3610ME/2 x 2.7GHz i3-3217UE/2 x 1.6GHz	i5-4400E/2 x 2.7 GHz	i7-4650U/2 x 1.7GHz i5-4300U/2 x 1.9GHz i3-4010U/2 x 1.7GHz Celeron® 2980U/ 2 x 1.6GHz	i7-5650U/ i5-5350U/ i3-5010U	-
N/A	QM77/HM76	QM77	QM87	-	N/A	-
DDR3L/SO-DIMM	DDR3/SO-DIMM	ECC-DDR3/SO-DIMM	ECC-DDR3/SO-DIMM	DDR3/SO-DIMM	16G DDR3L	-
Dual Channels	2	2	2	2	Dual Channels	-
8GB, 1600MHz	16GB, 1333/1600MHz	16GB, 1333/1600MHz	16GB, 1333/1600MHz	16GB, 1333/1600MHz	DDR3L up to 16GB	-
up to 2048 x 1536	up to 2048 x 1536	up to 2048 x 1536	up to 2048 x 1536	up to 2048 x 1536	1	D-SUB
-	2 x ch. 18-/24-bit LVDS (up to 1920 x 1200)	2 x ch. 18-/24-bit LVDS (up to 1920 x 1200)	2 x ch. 18-/24-bit LVDS (up to 1920 x 1200)	1 x ch. 18-/24-bit LVDS (up to 1920 x 1200)	Dual Channels (Up to 1920x1200)	2 x DF13-20P
3 x DDI (DP/HDMI/VGA)	3 x DDI (DP/HDMI/DVI)	3 x DDI (DP/HDMI/DVI)	3 x DDI (DP/HDMI/DVI)	3 x DDI (DP/HDMI/DVI)	2 x DDI (DP/HDMI/DVI)	2 x DP/HDMI
-	Only DDI#1 (B)	Only DDI#1 (B)	Only DDI#1 (B)	Only DDI#1 (B)	-	Option EBK-A2HDMI
Intel® i210/GbE	Intel® 82579LM/GbE	Intel® 82579LM/GbE	Intel® I127/GbE	-	Gbe (PCIe)	2 x GbE/2 x RJ45
-	-	-	-	-	-	-
-	-	-	-	-	-	-
4 x PCIex1	7 x PCIex1	7 x PCIex1	7 x PCIex1	4 x PCIex1	4 x PCIex1	7 x PCIex1
N/A	1 x PCIex16 (Gen3.0)	1 x PCIex16 (Gen3.0)	1 x PCIex16 (Gen3.0)	-	N/A	1 x PCIex16 (Gen3.0)
8/4	8/4	8/4	8/4	8/2	8/2	8/4
-	-	-	-	-	-	-
0/2	2/2	2/2	0/4	0/4	0/4	2/2
-	SATA2.0/ICEB8060	SATA2.0/ICEB8060	SATA2.0/ICEB8060	SATA2.0/ICEB8060	N/A	1
-	SATA2.0/ICEB8060	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	SATA2.0/ICEB8050C	N/A	1
-	NCT 7802Y	NCT 7802Y	NCT 7802Y	NCT 7802Y	Yes	-
ITE8528	LPC to ICEB8060	F81216	LPC to ICEB8060	LPC to ICEB8060	N/A	iTE8783
1	1	1	1	1	1	1
1 or 1	1 or 1	1 or 1	1 or 1	1 or 1	1	1 or 1
2 x COM	6 x COM/ICEB8060	Optional 2 x COM + 6 x COM/ICEB8060	Optional 2 x COM + 6 x COM/ICEB8060	Optional 2 x COM + 6 x COM/ICEB8060	2	6 x COM (incl. 1 x RS232/422/485)
1	1	1	1	1	1	1
HD Audio, SPDIF	SPDIF/ICEB8060	SPDIF/ICEB8060	SPDIF/ICEB8060	SPDIF/ICEB8060	SPDIF/ICEB8060	HD Audio, SPDIF
-	-	-	-	-	-	-
ATX	+12V, +5Vsb, +3.3V (RTC)	+12V, +5Vsb, +3.3V (RTC)	+12V, +5Vsb, +3.3V (RTC)	+12V, +5Vsb, +3.3V (RTC)	12V	ATX
AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
-15℃ to 60℃	-15℃ to 60℃	-15℃ to 60℃	-15℃ to 60℃	-15℃ to 60℃	-15℃ to 60℃	-15℃ to 60℃
By requested	by requested	by requested	by requested	by requested	By reqeusted.	by requested

2016 New Products

NISE 50

**Slim PC-based Controller/IoT Gateway
with Intel® Atom™ Processor E3826**

- Onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- On Board 16GB eMMC
- 1 x HDMI, 4 x USB2.0, 3 x COM (1 x RS232, 1 x RS232 with Tx/Rx/GND only, 1 x RS422/485)
- 3 x mini-PCIe expansions support Wi-Fi/3.5G/LTE/mSATA modules
- 2x Intel® I210 GbE LAN Ports, support WoL, Teaming and PXE
- Typical DC input +24V; Support ATX power mode

NISE 50C

**Slim PC-based Controller/IoT Gateway
with Intel® Atom™ Processor E3826**

- Onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- On Board 16GB eMMC
- 1 x HDMI, 4 x USB2.0, 3 x RS232 with Tx/Rx/GND only
- 3 x mini-PCIe expansions support Wi-Fi/3.5G/LTE modules
- 1 x Intel® I210 GbE LAN Ports, support WoL and PXE
- Typical DC input +12V; Support ATX power mode

NISE 50C-H

**Compact PC-based Controller/IoT Gateway
with Intel® Atom™ Processor E3826**

- Onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- 1 x 2.5" HDD (SATA 2.0)
- 1 x HDMI, 4x USB2.0, 3x RS232 with Tx/Rx/GND only
- 3 x mini-PCIe expansions support Wi-Fi/3.5G/LTE modules
- 1 x Intel® I210 GbE LAN Ports; Support WoL and PXE
- Typical DC input +12V; Support ATX power mode

NISE 106

**Intelligent PC-based controller/IOT Gateway
with Intel® Pentium® Processor N3700**

- Onboard Intel® Atom™ Processor N3150/N3700 QC with difference SKUs.
- 3 x display output: 1 x HDMI display + 1 x DVI-D + 1 x DP port
- 1 x mini-PCIe expansions support Wi-Fi/3.5G/LTE modules
- 4 x USB3.0, 1 x CFast socket onboard
- 2 x Intel® I210 GbE LAN Ports, 4 x COM (2 x RS232, 2 x RS232/422/485 auto)
- Typical DC input +9V ~ +30V; Support ATX power mode

NISE 3700E

High Performance Fanless Box PC –
Haswell Refresh Core™-i Series

- 4th Gen. Intel® Core™ Haswell Refresh LGA1150 Processor with Q87
- 1 x HDMI, 1 x DVI-D, and 1 x DVI-I display output for three independent displays
- 2 x mini-PCIe expansions support Wi-Fi/3.5G/mSATA/Fieldbus
- 4 x USB2.0, 4 x USB3.0, 1 x C-Fast socket onboard
- 3 x Intel® GbE LAN Ports, 3 x COM (1 x RS232, 2 x RS232/422/485 auto) and 1 x PCIex4 expansion
- Typical DC input +9V ~ +30V; Support ATX power mode

NISE 3700E2/P2/P2E

High Performance Fanless Box PC
with 2 x PCI or PCIex4 Expansions

- 4th Gen. Intel® Core™ Haswell Refresh LGA1150 Processor with Q87
- 1 x HDMI, 1 x DVI-D, and 1 x DVI-I display output for three independent displays
- 2 x mini-PCIe expansions support Wi-Fi/3.5G/mSATA/Fieldbus
- 4 x USB2.0, 4 x USB3.0, 1 x C-Fast socket onboard
- 3 x Intel® GbE LAN Ports and 3 x COM (1 x RS232, 2 x RS232/422/485 auto)
- Typical DC input +9V ~ +30V; Support ATX power mode

NIFE 200

PC-based Automation Controller
with Fieldbus Expansion

- Onboard Intel® Atom™ processor J1900 quad cord 2.0GHz
- Dual independent display from DP and HDMI
- 2 x Intel® I210AT GbE LAN ports support WoL, teaming and PXE
- 3 x USB 2.0 & 1 x USB 3.0 & 2 x RS232/422/485 & TOP access SD card socket
- 2 x mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules
- Support -5 ~ 55 °C operating temperature & 24V DC input

NIFE 300

High Performance Industrial Automation System
with Skylake-S Core™-i Series

- 6th Gen. Intel® Core™ Skylake desktop processor with Q170 PCH
- Support un-buffered and non-ECC DDR4 2133MHz SODIMM, up to 8GB
- 1 x HDMI, 1 x DVI-D for two independent displays
- 2 x mini-PCIe expansions and support MSATA/Wi-Fi/3G functions
- 4 x USB3.1, 2 x USB2.0, 1 x CFast
- 3 x Intel® GbE LAN ports and 2 x COM with isolation protection
- Typical DC input +24V ± 20%

NIFE 300P2/P2E/E16

High Performance Industrial Automation System with Skylake-S Core™-i Series

- 6th Gen. Intel® Core™ Skylake desktop processor with Q170 PCH
- Support un-buffered and non-ECC DDR4 2133MHz SODIMM, up to 8GB
- 1 x HDMI, 1 x DVI-D for two independent displays
- 2 x mini-PCIe expansions and 2x PCI/PCIe expansions
- 4 x USB3.1, 2 x USB2.0, 1 x CFast
- 3 x Intel® GbE LAN ports and 2x COM with isolation protection
- Typical DC input +24V ± 20%

NIFE 300P3

High Performance Industrial Automation System with Skylake-S Core™-i Series

- 6th Gen. Intel® Core™ Skylake desktop processor with Q170 PCH
- Support un-buffered and non-ECC DDR4 2133MHz SODIMM, up to 8GB
- 1 x HDMI, 1 x DVI-D for two independent displays
- 2 x mini-PCIe expansions and 3x PCI/PCIe expansions
- 4 x USB3.1, 2 x USB2.0, 1 x CFast
- 3 x Intel® GbE LAN ports and 2x COM with isolation protection
- Typical DC input +24V ± 20%
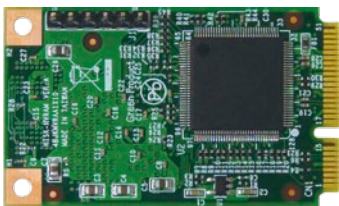
NISKNVRAM

Mini-PCIe 1MB NVRAM Module

- Mini-PCIe form factor
- Battery-less non-volatile RAM for vital data access
- Capacity support up to 1MB
- Data retained while system power lost

NISKLPT

Mini-PCIe Parallel Port Module

- Mini-PCIe form factor
- Parallel port via LPC connector
- Cable kit available

NET101-ECM

Front-access Compact EtherCAT Master

- EtherCAT technology with nexECM EtherCAT Master, and RTX2012
- EtherCAT communication cycle up to 250 μs
- Support high-level API for CiA 402 Profile
- Onboard Intel® Atom™ processor E3826 dual core 1.46GHz
- 1 x DVI display output or 1 x VGA converted from DVI-I
- Support -20 ~ 70°C extended operating temperature

NET200-ECM

Front-access EtherCAT Controller

- EtherCAT technology with nexECM EtherCAT Master, and RTX2012
- EtherCAT communication cycle up to 250 μs
- Support high-level API for CiA 402 profile
- Onboard Intel® Celeron® processor J1900 quad core 2.0GHz
- Dual independent display from DP and DVI-I
- 2 x mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus Modules

NexROBO 6R Edu Package

Open Robot Package for Articulated Robot

- 5kg, 6-axis articulated robot suitable for industrial applications
- EtherCAT base for easy I/O or encoder expansion
- Built-in C/C++ robotic control APIs
- 1ms execution cycle time
- Extra GbE LAN port for IP CAM connection

NexROBO miniDelta Edu Package

Open Robot Package for Delta Robot

- 0.5kg, 3-axis delta robot
- EtherCAT base for easy I/O or encoder expansion
- Built-in C/C++ robotic control APIs
- 1ms execution cycle time
- Extra GbE LAN port for IP CAM connection
- Optional conveyor system

NexROBO SCARA Edu Package

Open Robot Package for SCARA Robot

- 6kg, 4-axis SCARA robot suitable for industrial applications
- EtherCAT base for easy I/O or encoder expansion
- Built-in C/C++ robotic control APIs
- 1ms execution cycle time
- Extra GbE LAN port for IP CAM connection

NEIO B1101/B1102

32ch Digital Input EtherCAT Slave Module

- High Density I/O channels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Detachable screw terminals
- DIN-rail mounting

NEIO B1201/B1202

32ch Digital Output EtherCAT Slave Module

- High density I/O channels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Detachable screw terminals
- DIN-rail mounting

NEIO B1831

8ch Analog Input and 2ch Analog Output EtherCAT Slave Module

- High Density I/O channels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Detachable screw terminals
- DIN-rail mounting

NEIO B1106

32ch Digital Input EtherCAT Slave Module

- High density I/O channels
- Onboard I/O status LED for direct diagnosis
- Internal 24VDC for easy I/O operation
- Blank nameplate for channel labelling
- Spring terminals, Reliable connection
- DIN-rail mounting

NEIO B1206

32ch Digital Output EtherCAT Slave Module

- High density I/O channels
- Onboard I/O status LED for direct diagnosis
- Internal 24VDC for easy I/O operation
- Blank nameplate for channel labelling
- Spring terminals, Reliable connection
- DIN-rail mounting

NEIO B1816/B1817

16ch Digital Input and 16ch Digital Output/ Relay EtherCAT Slave Module

- High density I/O channels
- Onboard I/O status LED for direct diagnosis
- Internal 24VDC for easy I/O operation
- Blank nameplate for channel labelling
- Spring terminals, Reliable connection
- DIN-rail mounting

IWF 310

Rugged EZ Mesh AP, Dual RF, Dual Band,
1 x 802.11an + 1x 802.11 b/g/n

- Up to 27dBm High RF power
- AP/Router/EZ MESH Mode
- 12VDC input
- Support -40 ~ 80°C extended operating temperature
- 1+4 port GbE RJ45 ports

IWF 312

EN50155 Industrial Access Point, Dual RF,
1 x 802.11ac + 1 x 802.11 b/g/n 2x2 MIMO

- Up to 27dBm High RF power
- Compliant with IEEE 802.11 ac/a/b/g/n 2x2 MIMO, 867+300Mbps data rate
- AP/ Router/Bridge mode
- 24Vdc input with M12 connector
- Operating temperature range from -35 ~ 75°C
- 1 WAN+1 LAN Ports GbE Ethernet with M12 connectors

NIO 50

Industrial Wireless Serial/Ethernet IoT Gateway

- Support Transparent Modbus TCP & Transparent Modbus RTU
- Web-based configuration
- 9600 ~ 115200 bps baudrate for RS-232/485 transmissions
- Support 9 ~ 36V wide range DC input with 2 pin Phoenix Contact terminal block
- Support -20 ~ 70°C extended operating temperature
- LED indicators to display: Power, Serial Status and Wi-Fi RSSI signal strength

NIO 101

Intel® Quark Processor X1021 IoT Gateway System

- Onboard Intel® Quark processor X1021 single core 400MHz
- Wind River® or Yocto (only for NIO 101Y) operating system
- Optional Wi-Fi or 3G/LTE module, 1 x mPCIe slot for FBI module
- 2 x 10/100 Fast Ethernet ports, 2 x USB 2.0 type A, 1 x RS232/485 selectable, DIO 4x4
- Support 9 ~ 36V wide range DC input with phoenix 2 pin terminal block
- Support -20 ~ 70°C extended operating temperature

NIO 200 Series

ISA100.11a/WirelessHART IWSN Gateway

- Support full Mesh topology from field device coverage to Wi-Fi backbone
- Scalable & flexible installation with distributed topology
- Good receiving sensitivity, better communication range in WSN radio.
- Support -40 ~ +65°C wide operating temperature range
- Support power redundancy (DC 12 ~ 48V/PoE)
- Enhanced Surge, ESD & EFT Immunity (EN61000-4-2,3,4,5 Level 4) & CID2, ATEX Anti-explosive protection

eSMART04N

4.3" Widescreen True Color TFT WQVGA HMI Panel PC with Touch Screen

- 4.3" 480 x 272 LED backlight fanless panel computer with resistive touch
- 1 x Ethernet port
- 1 x USB Host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

eSMART07N

7" Widescreen True Color TFT WVGA HMI Panel PC with Touch Screen

- 7" 800 x 480 LED backlight fanless panel computer with resistive touch
- 1 x Ethernet port
- 1 x USB host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

eSMART10N

10.1" Widescreen True Color TFT WSVGA HMI Panel PC with Touch Screen

- 10.1" 1024 x 600 LED backlight fanless panel computer with resistive touch
- 1 x Ethernet port
- 1 x USB Host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

IPPC 1640P

15.6" TFT WXGA 16:9 Heavy Industrial Panel PC with Intel® Celeron™ J1900, up to 2.42GHz, Multi-Touch Screen, 4GB DDR3L, 3 x USB, 2 x COM and Fieldbus Port

- 15.6" WXGA 16:9 1366 x 768 LED Backlight fanless panel computer with P-Cap touch
- Intel® Celeron™ J1900 Quad core, low power consumption CPU with DDR3L 4GB
- Metal housing with robust aluminum front zero bezel IP66 compliant
- 10 points P-Cap touch and fieldbus module included
- Wide range power input 12V ~ 30VDC
- Support Citect SCADA and CODESYS SoftLogic (optional)
- Optional 3.5G/Wi-Fi module/2.5" HDD

IPPC 1770T/ IPPC 1770P

17" TFT SXGA 4:3 Heavy Industrial Panel PC with 4th Gen. Intel® Core™ i Processor

- 17" SXGA 4:3 1280x1024 LED Backlight fanless panel computer with P-Cap/resistive touch
- Intel® powerful 4th generation Intel® Core™ i processor with DDR3/DDR3L 4GB
- Metal housing with robust aluminum front zero bezel IP66 compliant
- 10 points P-Cap touch and fieldbus module Included
- Wide range power input 12V ~ 30VDC
- Support Citect SCADA and CODESYS SoftLogic (optional)
- Optional 3.5G/Wi-Fi module/2.5" HDD

Coming Soon

IPPC 1840P

18.5" TFT WXGA 16:9 Heavy Industrial Panel PC with Intel® Celeron™ J1900, up to 2.42GHz, Multi-Touch Screen, 4GB DDR3L, 3 x USB, 2 x COM and Fieldbus Port

- 18.5" WXGA 16:9 1366 x 768 LED Backlight fanless panel computer with P-Cap touch
- Intel® Celeron™ J1900 Quad core, low power consumption CPU with DDR3L 4GB
- Metal housing with robust aluminum front zero bezel IP66 compliant
- 10 points P-Cap touch and fieldbus module Included
- Wide range power input 12V ~ 30VDC
- Support Citect SCADA and CODESYS SoftLogic (optional)
- Optional 3.5G/Wi-Fi module/2.5" HDD

IPPC 2140P

21.5" TFT Full HD 16:9 Heavy Industrial Panel PC with Intel® Celeron™ J1900, up to 2.42GHz, Multi-Touch Screen, 4GB DDR3L, 3 x USB, 2 x COM and Fieldbus Port

- 21.5" Full HD 16:9 1920 x 1080 LED Backlight fanless panel computer with P-Cap touch
- Intel® Celeron™ J1900 Quad core, low power consumption CPU with DDR3L 4GB
- Metal housing with robust aluminum front zero bezel IP66 compliant
- 10 points P-Cap touch and fieldbus module Included
- Wide range power input 12V ~ 30VDC
- Support Citect SCADA and CODESYS SoftLogic (optional)
- Optional 3.5G/Wi-Fi module/2.5" HDD

OPPC 1540T

15" TFT XGA 4:3 Fanless Open Frame PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM and VGA

- 4:3 15" 1024 x 768 LED Backlight fanless panel computer with resistive touch
- Intel® Atom™ E3826 dual core, low power consumption CPU with DDR3L 2GB
- 5-wire Flush touch screen with front IP65 compliant
- Optional 3.5G/Wi-Fi module/2.5" HDD/2 x COM/2 x GbE LAN
- Wide range power input 12V ~ 30VDC and Remote power on/off switch
- Panel Mount/Stand/VESA 100mm x 100mm Compliance

OPPC 1940T

19" TFT SXGA 4:3 Fanless Open Frame PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM and VGA

- 4:3 19" 1280 x 1024 LED Backlight fanless panel computer with resistive touch
- Intel® Atom™ E3826 dual core, low power consumption CPU with DDR3L 2GB
- 5-wire Flush touch screen with front IP65 compliant
- Optional 3.5G/Wi-Fi module/2.5" HDD/2 x COM/2 x GbE LAN
- Wide range power input 12V ~ 30VDC and Remote power on/off switch
- Panel Mount/Stand/VESA 100mm x 100mm Compliance

ICES 672

COM Express Type 6, COMPACT Size Module with 5th Gen. Intel® Core™ i7/i5/i3 processors MCP solution, DDR3L/GbE/4SATA/4 x PCIex1/DP/2 x USB 3.0

- 5th gen. Intel® Core™ i7/i5/i3 processor
- Triple independent display integrated GT2/GT3 to support: VGA, dual 18-/24 LVDS, HDMI, DP, DVI
- Dual DDR3L/SO-DIMm (1600Mhz) up to 16GB without ECC memory support
- Up to 2 x USB 3.0/8 x USB 2.0/4 x SATA 3.0/4 x PCIex1/WDT/GPIO/I2C
- Dimension 95 x 95mm (W x L)

ICES 673

COMe Type 6, Compact Size Module with 6th Gen. Intel® Core™ Processor MCP Solution, DDR4/ 5 x PCIex1/4 x USB3.0/3 x SATA3.0 and GbE

- On-Board Intel® Core™ processor
- 2 channel DDR4 without ECC/SO-DIMMs 2133MHz up to 32GB
- Support three independent displays with eDP and 2 x DDI (Support HDMI/DP/DVI)
- Support eMMC 5.0 up to 16G
- 5 x PCIex1, 4 x USB3.0, 8 x USB 2.0, 3 x SATA 3.0 and GbE

EBC 356

3.5" SBC with 4 Core/2 Core Intel® Pentium®/Celeron® Processors N3000 SoC Support DDR3L/M.2 Module/ 4 x USB3.0/2 x SATA3.0/3 x HDMI Interfaces

- On-board Intel® Pentium®/Celeron® Processors N3000 product family (codename Braswell)
- Supports dual channel DDR3L 1600MHz, 2 x SO-DIMM, up to 8GB system memory
- 3 x HDMI connector, 2 of 3 HDMI resolution support 4K/2K
- 2 x SATA 3.0/4 x USB3.0/M.2 module/4-in & 4-out GPIO, Mic-in, Speak out
- Support AT/ATX mode and single +12VDC input
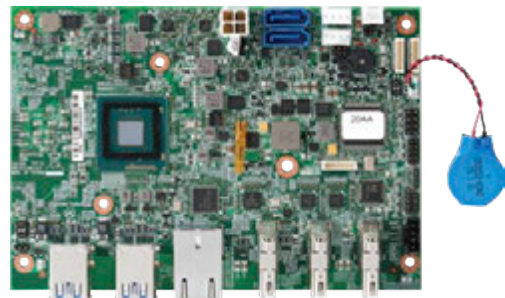
PEAK 888

PICMG 1.3 Full-size SBC with Intel® Q170/H110 Support 6th Gen. Intel® Core™ i7/i5/i3 Processors

- Support 6th gen. Intel® Core™ i7/i5/i3 processor
- Support Intel® Q170/ H110 PCH chipset PICMG 1.3 specification
- Support Dual channel DDR4 with Non-ECC DIMMs 1866/2133MHz up to 32GB
- Support PCIe 3.0 SATA 3.0 W/RAID 0,1,5,10, M.2 NVMe
- Support display for VGA, DVI/HDMI, DP
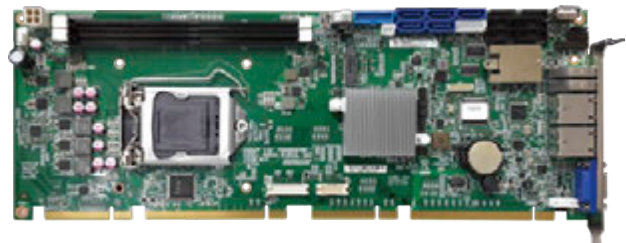
IFA 2610

Core**Fort**™ Industry Firewall, 3 ports VPN Router with Rugged Design

- Stateful (L4) packet firewall
- Intrusion prevention (IPS)
- SSL VPN secure remote access
- DI/DO support
- Serial gateway (RS485)
- Versatile logging & report system

nTUF 600

Main Features

- Onboard Intel® Atom™ Dual Core D525 processor, 1.8GHz
- 4 x USB ports
- Dual M12 connector for Intel® 82574L GbE LAN ports
- 1 x VGA display output
- 2 x RS232
- 2 x PS/2 for keyboard and mouse

- 1 x external CFast socket
- 1 x Mini-PCIe with two Antenna Holes
- Support +24V DC power input
- Dual cold swappable 2.5" SSD tray
- Supports ATX Power Mode, WoL, LAN teaming and PXE function

Product Overview

nTUF Series stands for NEXCOM Tough Computer mainly applied to ECDIS, Radar and Positioning system applications in Marine Bridge and Control Room. The nTUF 600 Marine Fanless Computer is based on Intel® Atom™ Dual Core D525 platform providing optimized graphic and computing performance with rich interfaces for Marine peripherals connection. The nTUF 600 features with 4 x USB 2.0, 2 x M12 GbE LAN port, 1 x VGA, 2 x DB9 RS232, 2 x PS/2, 1 x CFast socket and two cold swappable 2.5" SSD trays on the front panel. In the rear side, the nTUF 600 offers 4 x Digital Input, 4 x Digital Output and 4 x NMEA ports with 2KV optical protection. The 1.5KV isolation protection design on nTUF 600 enhance the system operation reliability in marinetime application.

The nTUF 600 and nTUF 610 have been certified by DNV, compliant to DNV 2.4, IACS-E10 and IEC60945 standards. With DNV certification, nTUF system can be easily applied to integrated bridge system, vessel automation system, ECDIS application for all vessels like bulk carriers, workboat, cruise, sea patrol..etc.

Specifications

CPU Support
- Onboard Intel® Atom™ Dual Core processor D525, (1M cache 1.8GHz)
- Intel® ICH8M PCHs chipset

Main Memory
- 1 x DDR2 SO-DIMM sockets, support up to 2GB DDR2 667/800 SDRAM, un-buffered and non-ECC

I/O Interface-Front
- ATX power on/off switch
- HDD access/power status LEDs
- LAN1 & LAN2 status LEDs
- 4 x USB 2.0 ports
- 2 x M12 GbE LAN ports
  Intel® 82574L GbE LAN controller on board with1.5KV surge protection
- 1 x VGA output
- 1 x DVI-D & 1 x HDMI
  (only work when optional MXM 3.0 graphic module is installed)
- Audio jack (speaker-out & Mic-in & Line-in)
- 2 x antenna holes

- 2 x DB9, RS232
- 2 x PS/2 for keyboard & mouse
- 2 x cold swappable 2.5" HDD tray
- 1 x external screwed type CFast socket
- 3-pin +24VDC input
- 1 x external fuse: 10A

I/O Interface-Rear
- 4 x Digital Input: 6-pin screw terminals
  Voltage level: 5V, TTL-level
- 4 x Digital Output: 8-pin screw terminals
  +36VDC with 100mA relay
- 4 x NMEA interfaces
  Signal: TX/ RX signals
  2KV optical isolation protection

Device
- 2 x 2.5" SSD driver bay
- 1 x external CFast socket
- 1 x Mini-PCIe socket
  Default: support optional Wi-Fi module
  Option: support optional 3.5G module

Dimension Drawing

Power Requirements
- DC input range: +16V to 30VDC input
- Nominal DC input: +24VDC input with 1.5KV isolation protection
- Pin definition: Positive, Negative and Chassis Ground

Dimensions
- 294mm (W) x 200mm (D) x 100mm (H) (11.6"x 7.9"x 3.94")

Construction
- Aluminum chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -25°C to 55°C (Follow Protected b device type
  in IEC60945, E10 and DNV Standards)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)

Certifications
- IEC60945 4th
- IACS E10
- DNV 2.4

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows CE 6.0

Ordering Information

Barebone

- **nTUF 600 (P/N: 10M00060000X2)**
  Intel® Atom™ Dual Core D525 Marine Fanless Computer

nTUF 610

Main Features

- Onboard Intel® 2nd Generation Core™ i7-2610UE, 1.5Ghz
- 4 x USB ports
- Dual M12 connector for Intel® 82574L GbE LAN ports
- 1 x VGA display output
- 2 x RS232
- 2 x PS/2 for keyboard and mouse

- 1 x external CFast socket
- 1 x Mini-PCIe with two antenna holes
- Support +24VDC power input
- Dual Cold Swappable 2.5" SSD tray
- Supports ATX power mode, WoL, LAN teaming and PXE function

Product Overview

nTUF Series stands for NEXCOM Tough Computer mainly applied to ECDIS, Radar and Positioning system applications in Marine Bridge and Control Room. The nTUF 610 Marine Fanless Computer is based on Intel® 2nd Generation Core™ i7 platform providing the highest graphic and computing performance with versatile interfaces for Marine peripherals connection. The nTUF 610 features with 4 x USB 2.0, 2 x M12 GbE LAN port, 1 x VGA, 1 x DVI-D, 2 x DB9 RS232, 2 x PS/2, 1 x CFast socket and two cold swappable 2.5" SSD trays on the front panel. In the rear side, the nTUF 600 offers 4 x Digital Input, 4 x Digital Output and 4 x NMEA ports with 2KV optical isolation protection. The isolated +24VDC input in nTUF 600 is designed for Marine applications followed by IEC60945 regulations.

Powered by Intel® Core™ i7 platform, the superior computing and graphic performance enable the nTUF 610 an ideal solution for Marine ECDIS Navigation applications. The nTUF 600 and nTUF 610 have been certified by DNV, compliant to DNV 2.4, IACS-E10 and IEC60945 standards. With DNV certification, nTUF system can be easily applied to integrated bridge system, vessel automation system, ECDIS application for all vessels like bulk carriers, workboat, cruise, sea patrol..etc.

Specifications

CPU Support
- Onboard Intel® 2nd Generation Core™ i7-2610UE (4M Cache 1.5Ghz)
- Intel® QM67 PCH

Main Memory
- 1 x DDR3 SO-DIMM sockets, support up to 2GB DDR3 1066/1333 SDRAM, un-buffered and non-ECC

I/O Interface-Front
- ATX power on/off switch
- HDD access/power status LEDs
- LAN1 & LAN2 Status LEDs
- 4 x USB 2.0 ports
- 2 x M12 GbE LAN ports
- Intel® 82574L GbE LAN controller on board
- 1.5KV ESD/surge protection
- 1 x VGA output & 1 x DVI-D display output
- 1 x HDMI
  (only work when optional MXM 3.0 graphic module is installed)
- Audio jack (speaker-out & Mic-in)
- 2 x antenna holes
- 2 x DB9, RS232

- 2 x PS/2 for keyboard & mouse
- 2 x cold swappable 2.5" HDD tray
- 1 x external screwed type CFast socket
- 3-pin +24VDC input
- 1 x external fuse

I/O Interface-Rear
- 4 x Digital Input: 6-pin screw terminals
  Voltage level: 5V, TTL-level digital input
- 4 x Digital Output: 8-pin screw terminals
  +36VDC with 100mA relay
- 4 x NMEA interfaces
  Signal: TX/RX signals
  2KV optical isolation protection

Device
- 2 x 2.5" SSD driver bay
- 1 x external CFast socket
- 1 x Mini-PCIe socket
  Default: support optional Wi-Fi module
  Option: support optional 3.5G module

Dimension Drawing

Power Requirements
- DC input range: +16V to 30VDC input
- Nominal DC input: +24VDC input with 1.5KV isolation protection
- Pin definition: Positive, Negative and Chassis Ground

Dimensions
- 294mm (W) x 200mm (D) x 100mm (H) (11.6"x 7.9"x 3.94")

Construction
- Aluminum chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -25°C to 55°C
  (Follow Protected b device type in IEC60945, E10 and DNV Standards)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)

Certifications
- IEC60945 4th
- IACS E10
- DNV 2.4

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows CE 6.0

Ordering Information

Barebone

- **nTUF 610 (P/N: 10M00061000X2)**
  Intel® 2nd generation Core™ i7-2610UE 1.5GHz Marine Fanless Computer

NISE 50

Main Features

- Onboard Intel® Atom™ processor E3826 dual core, 1.46GHz
- 1 x HDMI Display
- 2 x Intel® I120AT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0
- 3 x Optional Interface for optional WiFi/3.5G/LTE modules

- 1x RS232, 1x RS232 (only Tx/Rx/GND), 1xRS422/485 with auto flow control
- Support -5 ~ 55 degree C extended operating temperature
- Support 24V DC input

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NISE 50 presents intelligent PC-based controller and IoT gateway for factory automation. Up to 4G on-board DDR3L memory, The NISE 50 support operating temperature from -5 up to 55 degree C with wide range of DC input, 24V +/-20%. The NISE 50 has high integration ability with optional Mini-PCIe module and 3 x COM ports which makes it a reliable connection with devices in factory automation applications, IoT applications (with optional Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232). NISE 50 is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
- Default: Onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- Option: Support Intel® Atom™ E3800 processor family (by request)
  - Single Core E3815
  - Dual Core E3825/E3826/E3827
  - Quad Core E3845

Main Memory
- On-board 2GB DDR3L 1066/1333 RAM
  - Un-buffered and non-ECC
  - Max up to 4GB for option

Display Option
- 1 x HDMI display

I/O Interface-Front
- ATX power on/off switch
- 1x Storage/2x GPIO Programming LEDs
- 1 x SIM Card holder
- 2 x Intel® I210AT GbE LAN ports; Support WoL, Teaming and PXE
- 1 x HDMI Display Output
- 4 x USB 2.0 (500mA per each)
- 2 x Antenna Holes for optional WiFi/3.5G antenna

I/O Interface-Rear
- 3x DB9 for COM1 & COM2 & COM3
  - COM1: full RS232 signal
  - COM2: RS232, only support Tx/Rx/GND
  - COM3: RS422/485 auto flow control
- 1 x Line-out
- Support 24V +/-20% DC INPUT

I/O Interface - Internal
- 4 x GPI and 4 x GPO (Programmable to GPI or GPO)
- 1 x DB9, only support RS232, Tx/Rx/GND single

Storage Device
- On-board 16GB EMMC

Expansion Slot
- 3 x Mini-PCIe socket for optional WiFi/3.5G modules

Mini-PCIe	Size	USB	PCIe	mSATA	3.5G/4G
CN5	Full	v	N/A	Support	Support
CN6	Full	v	v	N/A	Support
CN7	Half	v	v	N/A	N/A

Power Requirements
- Power input: 24V +/-20% DC Vdc
- 1 x optional 24V, 60W power adapter

Dimension Drawing
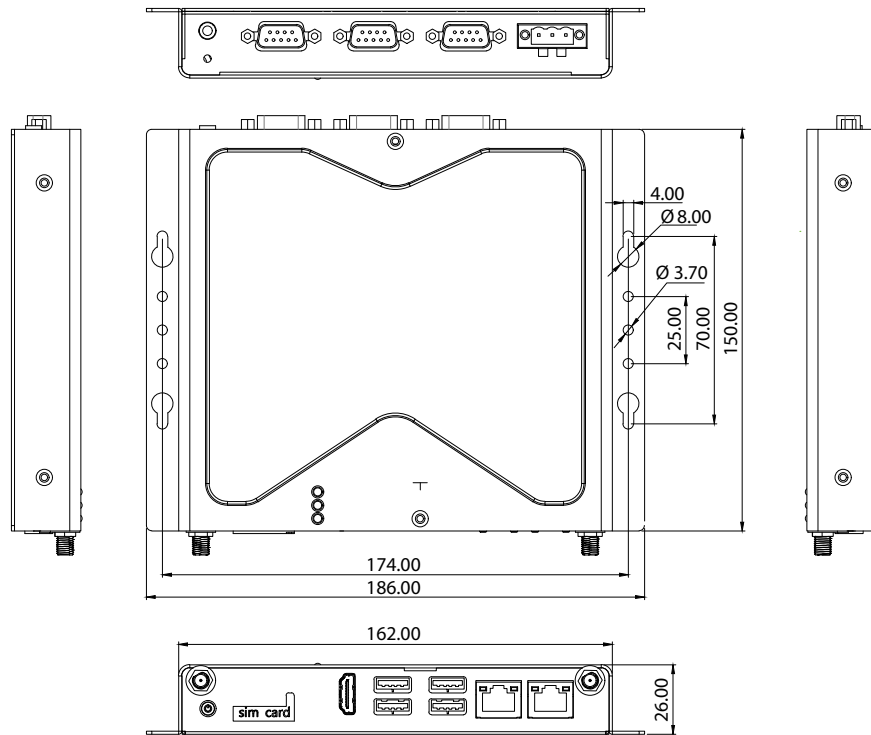
Support OS
- Windows 8.1
- Windows Embedded Standard 8.1
- Windows 10 IoT core
- Android 4.4

Dimensions
- 162mm(W) x 26mm(H) x 150mm(D) without wall-mount bracket

Construction
- Aluminum and Metal Chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20°C to 75°C
- Relative Humidity: 10% to 95% (non-Condensing)
- Shock Protection:
  - EMMC: 50G, half sine, 11ms, IEC60068-27
- Vibration Protection w/ EMMC Condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

Ordering Information

- **NISE 50 (P/N: 10J00005000X0)**
  Intel® Atom™ Processor E3826 Dual Core Fanless System, with on-board 16GB EMMC and 2G DDR3L RAM

- **24V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060024X00)

NISE 50C

Intel® Atom™ Processor E3826 Dual Core Fanless System

Main Features

- Onboard Intel® Atom™ processor E3826 dual core, 1.46GHz
- 1 x HDMI Display
- 1 x Intel® I120AT GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0

- 3 x COM ports with RS232, each port only have Tx/Rx/GND
- 3 x Optional Interface for optional WiFi/3.5G/LTE modules
- Support -5 ~ 55 degree C extended operating temperature
- Support 12V DC input

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NISE 50C presents intelligent PC-based controller and IoT gateway for factory automation. Up to 2G on-board DDR3L memory, The NISE 50C support operating temperature from -5 up to 55 degree C with typical DC input 12V. The NISE 50C has high integration ability with optional Mini-PCIe module and 3 x COM ports which makes it a reliable connection with devices in factory automation applications, IoT applications (with optional Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232). NISE 50C is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- Support Intel® Atom™ E3800 processor family from Single Core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs.

Main Memory
- On-board 2GB DDR3L 1066/1333 RAM, un-buffered and non-ECC, max up to 2GB

Display Option
- 1 x HDMI display

I/O Interface-Front
- ATX power on/off switch
- 1 x Wifi/1 x GSM LEDs
- 1 x SIM Card holder
- 1 x Intel® I210AT GbE LAN ports; Support WoL and PXE
- 1 x HDMI Display Output
- 4 x USB 2.0 (500mA per each)
- 2 x Antenna Holes for optional WiFi/3.5G antenna

I/O Interface-Rear
- 3 x DB9, only support RS232 Tx/Rx/GND single
- 1 x Line-out
- Support 12V DC INPUT

I/O Interface - Internal
- 4 x GPI and 4 x GPO (5V, TTL Type)
- 1 x DB9, only support RS232, Tx/Rx/GND single

Storage Device
- On-board 16GB EMMC

Expansion Slot
- 3 x Mini-PCIe socket for optional WiFi/3.5G modules

Power Requirements
- Power input: 12Vdc
- 1 x optional 12V, 60W power adapter

Support OS
- Windows 8.1
- Windows Embedded Standard 8
- Windows 10 IoT core
- Android 4.4

Dimensions
- 146mm(W) x 26mm(H) x 150mm(D) without wall-mount bracket

Construction
- Aluminum and Metal Chassis with fanless design

Environment
- Operating Temperature:

Dimension Drawing

Ambient with air flow: -5°C to 55°C
(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
* Storage Temperature: -20°C to 75°C
* Relative Humidity: 10% to 95% (non-Condensing)
* Shock Protection:
  - EMMC: 50G, half sine, 11ms, IEC60068-27
* Vibration Protection w/ EMMC Condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications
* CE
* FCC Class A

Ordering Information

* **NISE 50C (P/N: 10J00005001X0)**
  Intel® Atom™ Processor E3826 Dual Core Fanless System

* **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060017X00)

NISE 50C-H

Intel® Atom™ Processor E3826 Dual Core Fanless System

Main Features

- Onboard Intel® Atom™ processor E3826 dual core, 1.46GHz
- 1 x HDMI Display
- 1 x Intel I120AT LAN ports support WoL and PXE
- 4 x USB 2.0

- 3 x COM ports with RS232, each port only have Tx/Rx/GND
- 3 x Optional Interface for optional WiFi/3.5G/LTE modules
- Support -5 ~ 55 degree C extended operating temperature
- Support 12V DC input

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NISE 50C-H presents intelligent PC-based controller and IoT gateway for factory automation. Up to 2G on-board DDR3L memory, The NISE 50C-H support operating temperature from -5 up to 55 degree C with typical DC input 12V. The NISE 50C-H has high integration ability with optional Mini PCIe module and 3 x COM ports which makes it a reliable connection with devices in factory automation applications,IoT applications (with optional Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232). NISE 50C-H is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- Support Intel® Atom™ E3800 processor family from Single Core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs.

Main Memory
- On-board 2GB DDR3L 1066/1333, un-buffered and non-ECC, max up to 2GB

Display Option
- 1 x HDMI display

I/O Interface-Front
- ATX power on/off switch
- 1 x Storage Access/1 x Wifi/1 x GSM LEDs
- 1 x SIM Card holder
- 1 x Intel I210AT GbE LAN Ports, support Wake on LAN and PXE
- 1 x HDMI Display Output
- 4 x USB 2.0 (500mA per each)
- 2 x Antenna Holes for optional WiFi/3.5G antenna

I/O Interface-Rear
- 3 x DB9, only support RS232 Tx/Rx/GND single
- 1 x Line-out
- Support 12V DC INPUT

I/O Interface - Internal
- 4 x GPI and 4 x GPO (5V, TTL Type)
- 1 x DB9, only support RS232, Tx/Rx/GND single

Storage Device
- 1 x 2.5" HDD (SATA 2.0) only for NISE 50C-H

Expansion Slot
- 3 x Mini-PCIe socket for optional WiFi/3.5G modules

Power Requirements
- Power input: 12Vdc
- 1 x optional 12V, 60W power adapter

Support OS
- Windows 7
- Windows Embedded Standard 7
- Windows 8.1
- Windows Embedded Standard 8
- Android 4.4

Dimensions
- 146mm(W) x 42mm(H) x 150mm(D) without wall-mount bracket

Construction
- Aluminum and Metal Chassis with fanless design

NEXCOM

Dimension Drawing
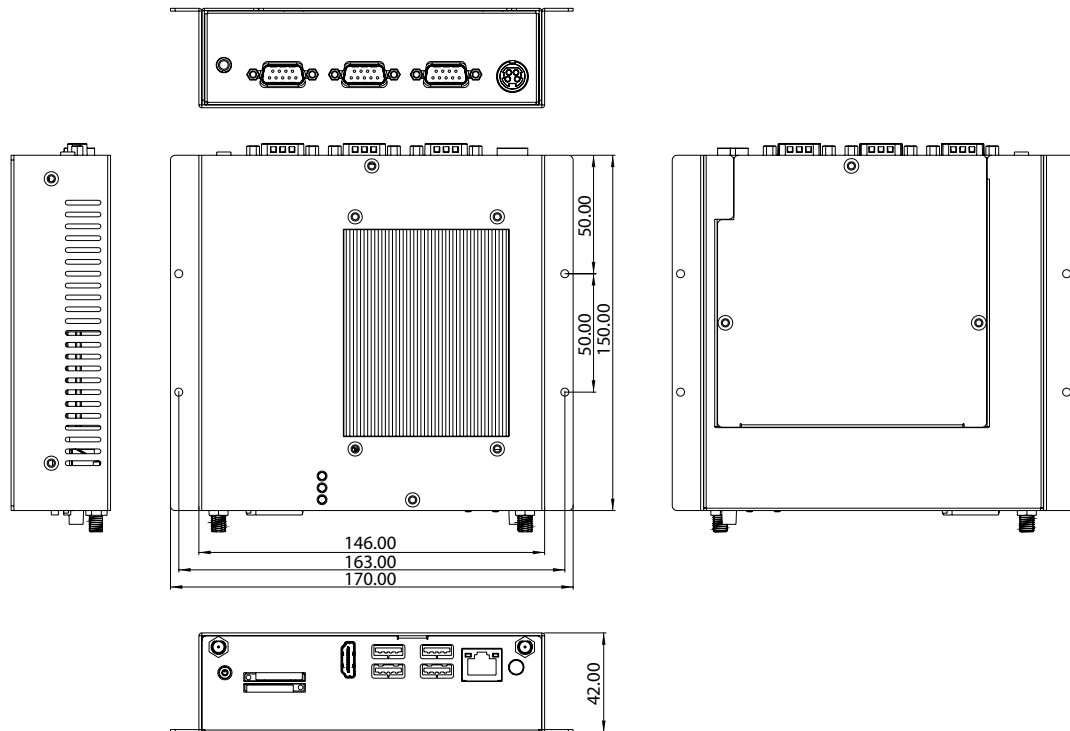
Environment

- Operating Temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20°C to 75°C
- Relative Humidity: 10% to 95% (non-Condensing)
- S hock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - SDD: 50G, half sine, 11ms, IEC60068-27
- Vibration Protection w/HDD Condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6
- Vibration Protection SSD Condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications

- CE
- FCC Class A

Ordering Information

- **NISE 50C-H (P/N: 10J00005003X0)**
  Intel® Atom™ Processor E3826 Dual Core Fanless System

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060017X00)

NISE 103

Main Features

- OnBoard Intel® Atom™ D425 Processor, 1.8GHz
- Intel® ICH8M chipsets
- Dual Intel® GbE LAN ports Support WoL, Teaming, PXE
- 4 x USB 2.0

- 1 x RS232/422/485 and 3 x RS232
- 1 x Mini-PCIe with Two Antenna Holes and One SIM Card Holder
- 1 x DB15 Digital Input & Output
- Support +12VDC Input; Support ATX power mode

Product Overview

Designed with Intel® D425 1.8GHz processor and ICH8M embedded chipset and 12VDC input to take a low power consumption advantage, NISE 103 is a compact fanless industrial computing housed in a size of 185mm x 131mm x 54mm. The NISE 103 supports three RS232, one RS232/422/485, two GbE LAN ports, four USB ports, one digital I/O, one VGA display, audio jack (speaker-out, Mic-in) and one external CF card socket. It is also a wireless-ready platform which has Mini-PCIe socket and SIM card holder onBoard to support optional GSM wireless module or Wi-Fi module (default). EZ Controller, NISE 103 has a digital I/O port which offers 8X isolated digital input/output channels.

With isolation protection of 2,500VDC, and dry contact support, NISE 103 can be applied to industrial and building automation applications. With rich I/O connection in palm-sized system, NISE 103 is an ideal fanless system for gate control, public information, self-service system, POS, Kiosk, low-power budget devices, and transportation applications etc.

Specifications

CPU Support
- OnBoard Intel® Atom™ D425 processor, 1.8GHz
- Intel® ICH8M chipsets

Main Memory
- 1 x DDR3 SO-DIMM sockets, single channel, support up to 2GB DDR3 667/800 SDRAM, un-buffered and non-ECC

I/O Interface-Front
- ATX power on/off switch
- HDD access/power status LEDs
- 3 x COM ports
  COM2: RS232/422/485
  COM3& COM4: RS232
- 2 x USB 2.0 pocrt
- Audio jack (Line-out, Mic-in)
- 2 x Antenna holes

I/O Interface-Rear
- 1 x VGA
- COM1: 1 x RS232
- 2 x Intel® GbE LAN port; Support WoL, Teaming and PXE
- 2 x USB 2.0 port

- +12VDC power input
- 1 x DB15 male digital input & output

Digital Input & Output
- 4 x Digital Input (Source type)
  - Input Voltage (Dry Contact):
    Logic 0: Close to GND
    Logic 1: Open
  - Input Voltage:
    Logic 0: 3V max
    Logic 1: +5V to +30V
- 4 x Digital Output
  - Supply voltage: 5 ~ 30VDC
  - Sink current: 200 mA max. per channel

Device
- 1 x 2.5" HDD driver bay
- 1 x External CF Socket
- 1 x SATA DOM
- 1 x Mini-PCIe socket
  Default: support optional Wi-Fi module
  Option: support optional 3.5G module

NEXCOM

Dimension Drawing
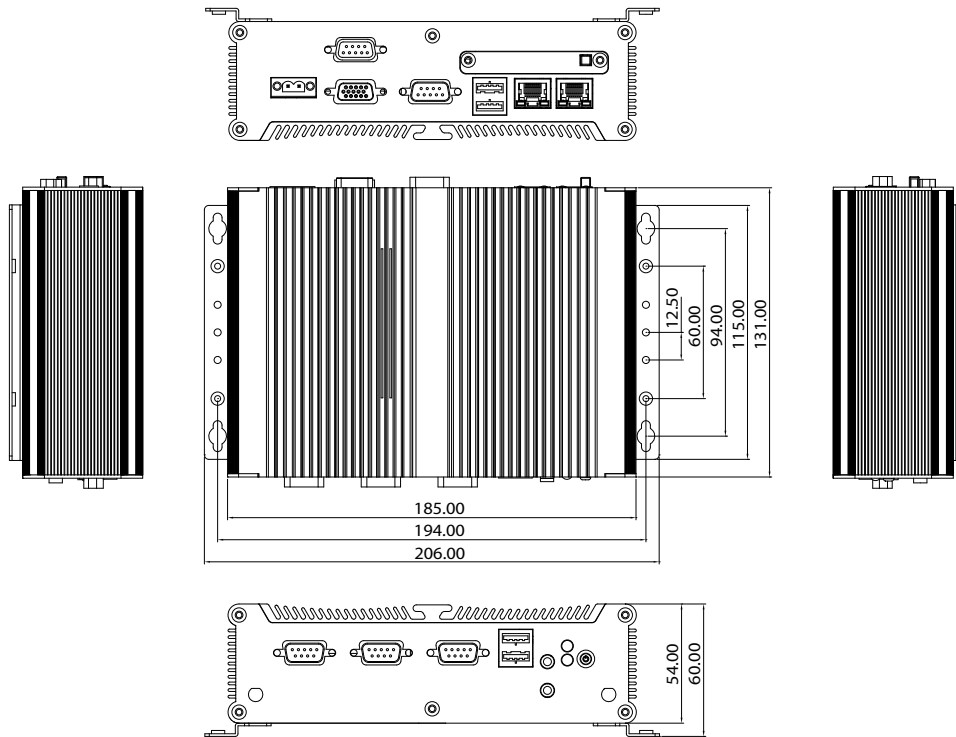
Power Requirements
- DC to DC power designed for onBoard support of +12VDC
- 1 x optional 12V, 60W power adapter

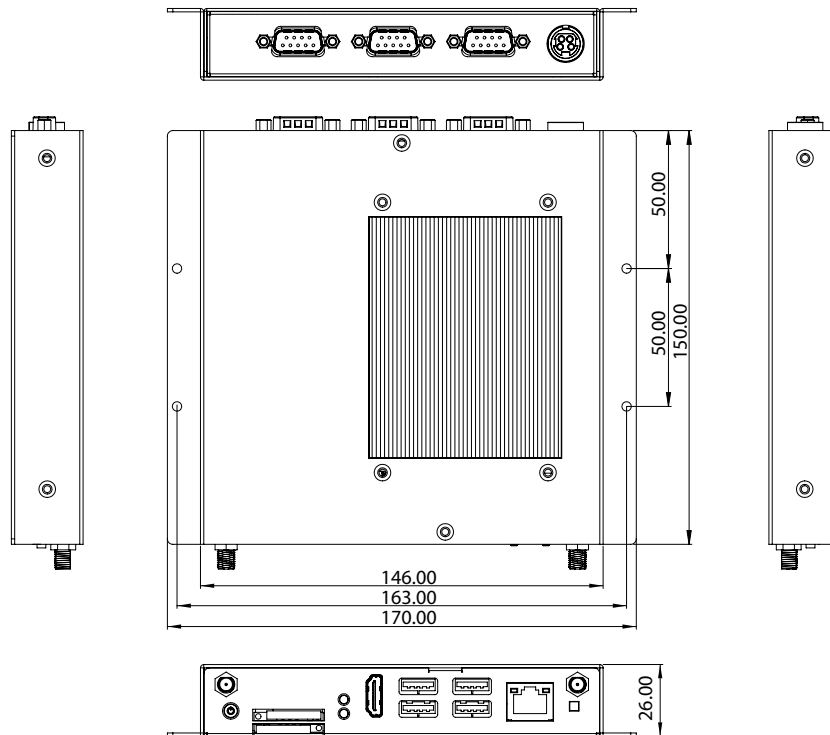## Dimensions
- 185mm (W) x 131mm (D) x 54mm (H) (7.28" x 5.2" x 2.13")

Construction
- Aluminum chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-Condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CF: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A

OS Support List
- Windows XP 32bits
- Windows 7 32bits
- WinCE 6.0

Ordering Information

Barebone

- **NISE 103 (P/N: 10J00010300X0)**
  Intel® Atom™ D425 Fanless System

- **NISE 103D (P/N: 10J00010302X2)**
  Intel® Atom™ D525 Fanless System

- **12V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060018X00)

NISE 104

Main Features

- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz
- Intel® NM10 Express chipset
- 1 x DVI-I & 1 x HDMI display output
- Dual Intel® 82574L GbE LAN ports; Support WoL, Teaming and PXE
- 2 x RS232/422/485 and 2 x RS232

- 6 x USB 2.0
- 1 x external CFast socket
- 1 x Mini-PCIe with two antenna holes
- Support +10 to 28VDC input; Support ATX power mode

Product Overview

Powered by Intel® Atom™ Dual Core D2550 1.86GHz and NM10 PCH, NISE 104 has higher graphic and computing performance, but 3 Watts less power consumption compared with previous Atom™ platform! With performance enhance, NISE 104 still follow NISE guideline with fanless and cables-less concept housed in a compact chassis, 185mm (W) x 131mm (D) x 54mm (H). The NISE 104 offers dual independent display capability through DVI-I and HDMI connectors, Dual Intel® GbE LAN ports, 6 x USB 2.0, 2 x RS232, 2 x RS232/422/485, CFast socket and Mini-PCIe socket for optional wireless module connection, either Wi-Fi or 3.5G module.

NISE 104's support for +10 to 28VDC input enhances its reliability in different power condition in factory automation or machinery automation. With Dual independent display and super graphic performance, the NISE 104 is an idea choice for public information, self-service Kiosk, access control or data acquisition controller…etc.

Specifications

CPU Support
- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz, 1M L2 cache
- Intel® NM10 Express chipset

Main Memory
- 1 x DDR3 SO-DIMM sockets, support up to 4G DDR3 800/1066 SDRAM, un-buffered and non-ECC

I/O Interface-Front
- ATX power on/off switch
- HDD access/power status LEDs
- 4 x COM ports (COM2& 3: RS232/422/485)
- 2 x USB 2.0 port
- Audio jack (Line-out and Mic-in)
- 2 x antenna holes

I/O Interface-Rear
- Dual Intel® 82574L GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0 port
- 1 x HDMI
- 1 x DVI-I (support VGA & DVI-D display via cable)
- 1 x 2-pin DC input, Support +10 to 28VDC input
- 1 x external screwed type CFast socket

Device
- 1 x 2.5" HDD driver bay
- 1 x External CFast Socket
- 1 x Mini-PCIe socket (support optional Wi-Fi or 3.5G module)

Power Requirements
- Support +10 to 28VDC input
- 1 x optional 12V, 60W power adapter

Dimensions
- 185mm (W) x 131mm (D) x 54mm (H) (7.28" x 5.2" x 2.13")

Construction
- Aluminum chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-Condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27

Dimension Drawing
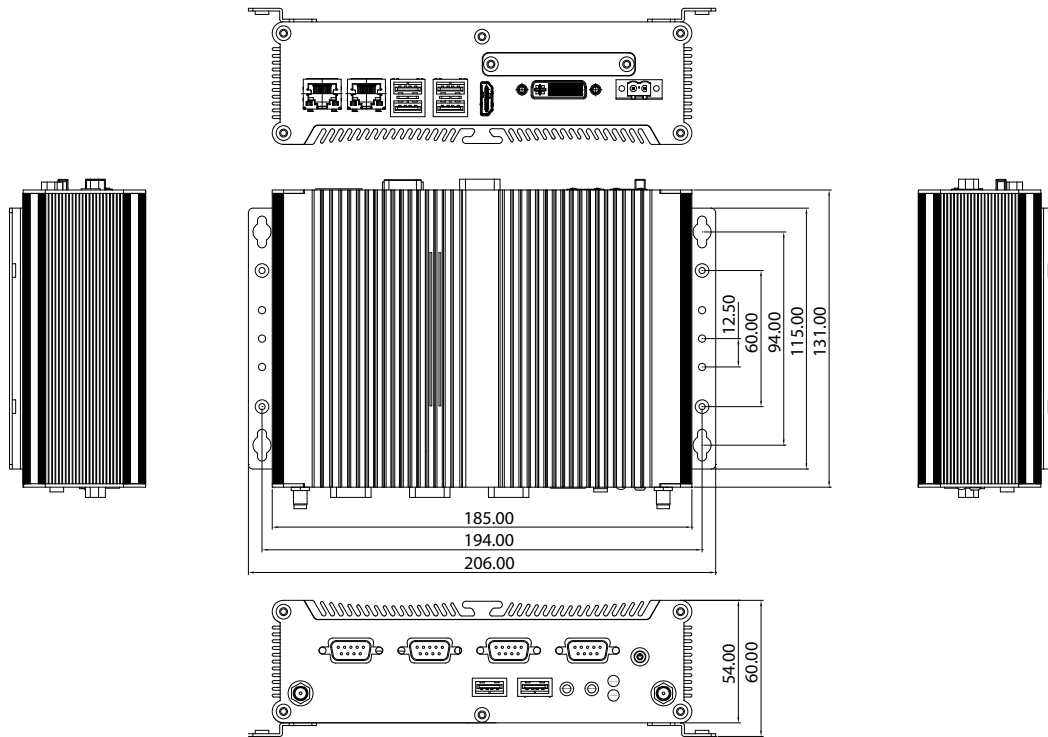
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A
- UL

OS Support List
- windows XP 32bits/64bits
- Windows 7 32bits
- WinCE 7.0
- Andriod 4.0

Ordering Information

Barebone

- **NISE 104 (P/N: 10J00010400X2)**
  Intel® Atom™ Dual Core D2550 fanless system

- **12V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060018X00)

NISE 105/105A

Intel® Atom™ Processor E3826 Dual Core Fanless System

Main Features

- Onboard Intel® Atom™ processor E3826 dual core, 1.46GHz
- Dual Independent Display from DVI-I and HDMI
- 2 x Intel® I120IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x USB 2.0, 1 x USB 3.0
- 4 x COM ports (COM1 & COM2 with RS232/422/485, jumper-free setting)

- 1 x Optional Interface for optional Wi-Fi/3.5G/Automation modules
- External RTC battery holder for easy replacement
- Support -20 to 70 degrees Celsius extended operating temperature
- Support 9-30VDC input

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), the NISE 105 provides outstanding performance not only on computing but also on graphics, and it presents a brand new opportunity for both intelligent and industrial computing solutions. NISE105 support ACP ThinManager that offers management solutions for the modern factory by simplifying management and also support Indusoft for HMI and SCADA. Up to 4G DDR3L memory, NISE 105 have several options on storage devices like CFast, HDD and SSD. The NISE 105 is also the 1st system in Compact NISE 100 series to support extended operating temperature from -20 to 70 degrees Celsius with wide DC input range from 9-30VDC. In addition to no cable connection on the NISE 105, it brings NISE 105 the sustainability to work in harsh environment both with temperature and vibration concern. The NISE 105 has high integration ability with optional Mini-PCIe module and 4 x COM ports, which makes it a real intelligent system for various applications such as factory automation applications (with optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, Ethernet IP master module), network applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NISE 105 is definitely the top choice for M2M intelligent system and factory automation platforms.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- Support Intel® Atom™ E3800 processor family from Single Core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs

Main Memory
- 1 x DDR3L SO-DIMM Socket, Support DDR3L 1066/1333 4GB RAM max., un-buffered and non-ECC

Display Option
- Dual Independent Display
  - HDMI and DVI-D
  - HDMI and VGA (via DVI-I to VGA converter)

I/O Interface-Front
- ATX power on/off switch
- 1 x Power Status/1 x HDD Access/1 x Battery Low/1 x Programing LEDs
- 1 x External CFast socket
- 1 x SIM Card holder
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 1 x DVI-I Display Output

- 1 x USB 3.0 (900mA per each)
- 1 x USB 2.0 (500mA per each)
- 2 x DB9 for COM1 & COM2, both support RS232/422/485 with auto flow control
  - Jumper-free setting on RS232/422/485
  - Support 5V/12V/Ring function by jumper setting, Ring as the default (COM2 Only)
- 1 x Remote Power ON/OFF Switch
- 1 x 2-pin DC input, support +9 to 30VDC input

I/O Interface - Rear
- 1 x USB 2.0
- 1 x HDMI
- 1 x RTC Battery
- 2 x DB9 for COM3 & COM4
  - NISE 105: support RS232 only
  - NISE 105A: support RS232/422/485 with auto flow control
- 1 x Mic-in & 1 x Line-out
- 2 x Antenna Holes for optional Wi-Fi/3.5G antenna
- 1 x Optional I/F for optional Mini-PCIe Wi-Fi/3.5G/Hilscher Automation module output

NEXCOM

Dimension Drawing
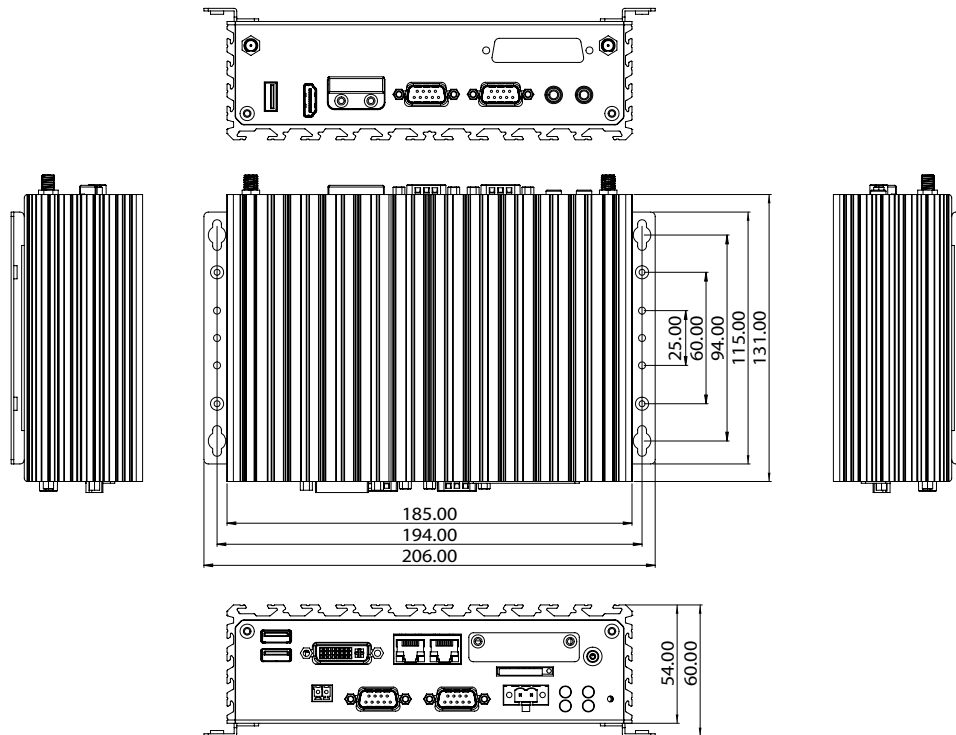
I/O Interface - Internal
• 4 x GPI and 4 GPO (5V, TTL Type)

Storage Device
• 1 x CFast (SATA 2.0)
• 1 x 2.5" HDD (SATA 2.0)
• 1Mb NVRAM (on NISE105A Only)

Expansion Slot
• 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/Hilscher automation modules

Power Requirement
• Power input: +9VDC to +30VDC
• 1 x optional 24V, 60W power adapter

Support OS
• Windows 8, 32bit/64bit
• Windows Embedded Standard 8, 32bit/64bit
• Windows 7, 32bit/64bit
• Windows Embedded Standard 7, 32bit/64bit
• Windows Embedded Compact 7, 32bit
• Linux Kernel version 3.8.0
• Wind River® Intelligent Device Platfrom XT 2.0
• Android 4.4, 64bit

Dimensions
• 185mm (W) x 131mm (D) x 54mm (H) without wall-mount bracket

Construction
• Aluminum and Metal Chassis with fanless design

Environment
• Operating Temperature:
  Ambient with air flow: -20℃ to 70℃ with industrial grade device
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
• Storage Temperature: -30℃ to 85℃
• Relative Humidity: 10% to 95% (non-Condensing)
• Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27

- CFast: 50G, half sine, 11ms, IEC60068-2-27
• Vibration Protection w/ HDD Condition:
  - Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6
• Vibration Protection w/ CFast & SSD Condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
• CE
• FCC Class A
• UL/cUL

Ordering Information

• **NISE 105 (P/N: 10J00010501X0)**
  Intel® Atom™ Processor E3826 Dual Core Fanless System

• **NISE 105A (P/N: 10J00010500X0)**
  Intel® Atom™ Processor E3826 Dual Core All in one Fanless System

• **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060023X00)

NISE 105-E3845

Main Features

- Onboard Intel® Atom™ processor E3845 Quad Core, 1.91GHz
- Dual Independent Display from DVI-I and HDMI
- 2 x Intel® I120IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x USB 2.0 & 1 x USB 3.0
- 4 x COM ports (COM1&COM2 with RS232/422/485, jumper-free setting)

- 1 x Optional Interface for optional Wi-Fi/3.5G/Automation modules
- External RTC battery holder for easy replacement
- Support -5~55 degree C operating temperature
- Support 9-30VDC input

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3845 (formerly codenamed "Bay Trail-I"), the NISE 105-E3845 provides outstanding performance not only on computing but also on graphics, and it presents a brand new opportunity for both intelligent and industrial computing solutions. NISE 105-E3845 support ACP ThinManager that offers management solutions for the modern factory by simplifying management and also support Indusoft for HMI and SCADA. Up to 4G DDR3L memory, NISE 105-E3845 have several up to 4G DDR3L memory and have several options on storage devices like CFast, HDD and SSD. The NISE 105-E3845 is also the 1st system in Compact NISE 100 series to support extended operating temperature from -5 up to 55 degree C with wide DC input range from 9-30VDC. In addition to no cable connection on the NISE 105-E3845, it brings NISE 105-E3845 the sustainability to work in harsh environment both with temperature and vibration concern. The NISE 105-E3845 has high integration ability with optional Mini-PCIe module and 4 x COM ports, which makes it a real intelligent system for various applications such as factory automation applications (with optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, Ethernet IP master module), network applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NISE 105-E3845 is definitely the top choice for M2M intelligent system and factory automation platforms.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3845 Quad Core, 1.91GHz

Main Memory
- 1 x DDR3L SO-DIMM Socket, Support DDR3L 1066/1333 4GB RAM max., un-buffered and non-ECC

Display Option
- Dual Independent Display
  - HDMI and DVI-D
  - HDMI and VGA (via DVI-I to VGA converter)

I/O Interface-Front
- ATX power on/off switch
- 1 x Power Status/1 x HDD Access/1 x Battery Low/1 x Programing LEDs
- 1 x External CFast socket
- 1 x SIM Card holder
- 2 x Intel® I210IT GbE LAN ports; Support WoL,Teaming and PXE
- 1 x DVI-I Display Output
- 1 x USB 3.0 (900mA per each)
- 1 x USB 2.0 (500mA per each)
- 2 x DB9 for COM1 & COM2, both support RS232/422/485 with auto

flow control
  - Jumper-free setting on RS232/422/485
  - Support 5V/12V/Ring function by jumper setting, Ring as the default (COM2 Only)
- 1 x Remote Power ON/OFF Switch
- 1 x 2-pin DC input, support +9 to 30VDC input

I/O Interface - Rear
- 1 x USB 2.0
- 1 x HDMI
- 1 x RTC Battery
- 2 x DB9 for COM3 & COM4, both support RS232 only
- 1 x Mic-in & 1 x Line-out
- 2 x Antenna Holes for optional Wi-Fi/3.5G antenna
- 1 x Optional I/F for optional Mini-PCIe Wi-Fi/3.5G/Hilscher Automation| module output

I/O Interface - Internal
- 4 x GPI and 4 GPO (5V, TTL Type)

Storage Device
- 1 x CFast (SATA 2.0)
- 1 x 2.5" HDD (SATA 2.0)

Dimension Drawing

Expansion Slot
- 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/Hilscher automation modules

Power Requirement
- Power input: +9VDC to +30VDC
- 1 x optional 24V, 60W power adapter

Support OS
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bit/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Windows Embedded Compact 7, 32bit
- Linux Kernel version 3.8.0
- Wind River® Intelligent Device Platfrom XT 2.0
- Android 4.4, 64bit

Dimensions
- 185mm (W) x 131mm (D) x 54mm (H) without wall-mount bracket

Construction
- Aluminum and Metal Chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C with industrial grade device
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -30°C to 85°C
- Relative Humidity: 10% to 95% (non-Condensing)
- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/HDD Condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6
- Vibration Protection w/ CFast & SSD Condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A
- UL / cUL

Ordering Information

- **NISE 105-E3845 (P/N: 10J00010503X0)**
  Intel® Atom™ Processor E3845 Quad Core Fanless System

- **24V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060023X00)

NISE 106

Main Features

- Onboard Intel® Pentium® processor N3700 quad core, 1.6GHz
- 3 x display output: 1 x HDMI display + 1 x DVI-D + 1x DP port
- 2 x Intel® I210AT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 3.0

- 2 x DB9 for RS232/422/485, 2x DB9 for RS232
- 1 x optional interface for optional Wi-Fi/3.5G/LTE modules
- Support -5°C~55°C extended operating temperature
- Support 9~30V DC input

Product Overview

Powered by the latest generation of Intel® Pentium processor N3700 Quad core, 1.6GHz (formerly codenamed "Braswell "), NISE 106 presents intelligent PC-based controller and IOT gateway for factory automation. Up to 4G on board DDR3L memory, The NISE 106 support operating temperature from -5 up to 55 degree C with typical DC input 9~30V. The NISE 106 has high integration ability with optional Mini-PCIe module and 4 x COM ports which makes it a reliable connection with devices in factory automation applications, IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NISE 106 is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
- Onboard Intel® Pentium® processor N3700 quad core, 1.6GHz
- Support Intel® Pentium®/Celeron® N3000 processor family from dual core N3000/N3050 and quad core N3150/N3700 with difference SKUs.

Main Memory
- 1 x DDR3L SO-DIMM socket, support DDR3L 1600/1333 4GB RAM max., un-buffered and non-ECC

Display Option
- 1 x HDMI + 1 x DVI-D + 1 x DP display port

I/O Interface-Front
- ATX power on/off switch
- 1 x Power status/1 x HDD access/1 x battery low/1 x programing/ 4 x Tx/Rx LEDs
- 2 x Intel® I210AT GbE LAN ports; Support WoL, Teaming and PXE
- 1 x HDMI + 1x DVI-D display output
- 4 x USB 3.0 (900mA per each)
- 1 x 3-pin DC input, support +9 to 30VDC input

I/O Interface - Rear
- 1 x Display Port
- 1 x SIM Card holder
- 1 x external CFast socket
- 2 x DB9 for RS232/422/485 with auto flow control (COM1 and COM2)
- 2x DB9 for RS232 (COM3 and COM4)
- 2 x Antenna holes for optional Wi-Fi/3.5G antenna
- 1 x remote power on/off switch
- 1 x optional I/F for optional Mini-PCIe Wi-Fi/3.5G/LTE/NEXCOM's automation module output
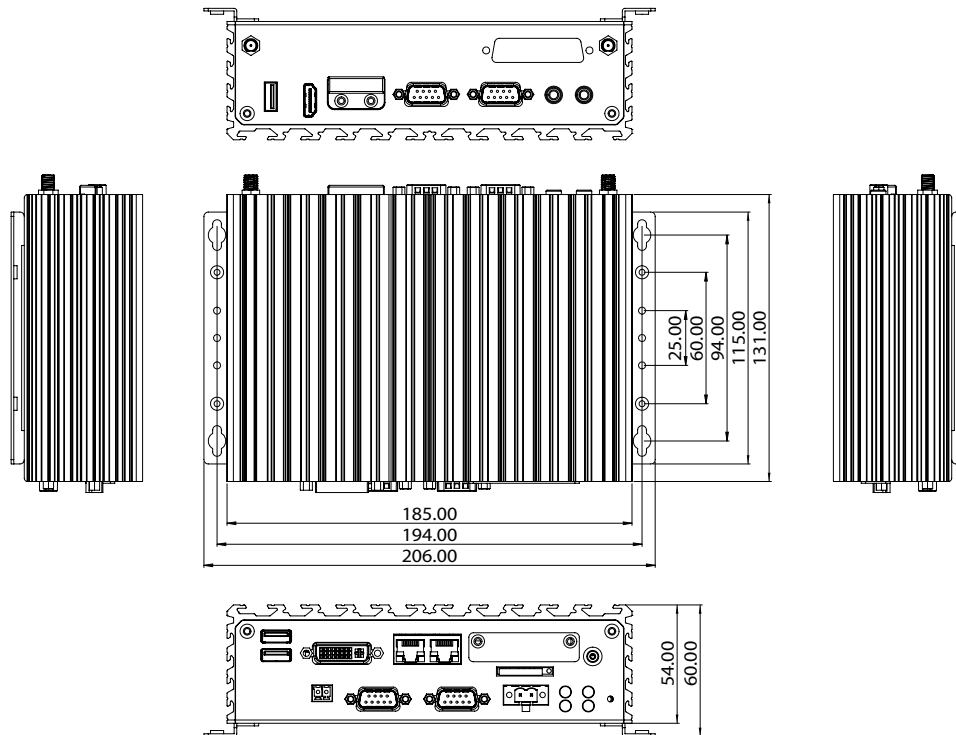
I/O Interface - Internal
- 4x GPI and 4x GPO (5V, TTL type)

Storage Device
- 1 x 2.5" HDD (SATA3.0)

Expansion Slot
- 1 x Mini-PCIe socket for optional Wi-Fi/4G LTE/3.5G modules

Power Requirement
- Power input: +9 to 30 Vdc
- 1 x optional 24V, 60W power adapter

Dimension Drawing

Dimensions
- 185mm (W) x 131mm (D) x 54mm (H) without wall-mount bracket

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C
  (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative Humidity: 10% to 95% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/HDD condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6
- Vibration protection w/CFast & SSD condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

Support OS
- Windows 7
- Windows 8.1
- Windows Embedded Standard 7
- Windows Embedded Standard 8
- Android 4.4

Ordering Information
- **NISE 106-N3700 (P/N: 10J00010600X0)**
  Intel® Pentium® processor N3700 quad core, 1.6GHz fanless system

- **NISE106-N3150 (P/N: 10J00010601X0)**
  Intel® Celeron® Processor N3150 quad core, 1.6GHz fanless system

- **24V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060024X00)

NISE 2200

Main Features

- OnBoard Intel® Atom™ Dual Core D2550 processor 1.86GHz
- Intel® 82801JIR ICH10 RAID
- 1 x DVI-I & 1 x HDMI display output
- Dual Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 6 x COM (2 x RS232/422/485 w/ isolation protection)

- 4 x GPI & 4 x GPO
- 6 x USB 2.0; 1 x external CFast socket; 1 x SIM card socket
- 1 x internal Mini-PCIe with two antenna holes
- Support +9V to 36VDC Input; Support ATX power mode

Product Overview

NISE 2200 series powered by Intel® Atom™ Dual Core D2550 CPU with higher graphic and computing performance. With its outstanding performance, NISE 2200 series can be utilized within industrial automation, self-service machines like KIOSK check-in machines, recycling machines as well as factory automation and etc. NISE 2200 series support multiple I/O especially contains up to 6 x COM (2 x RS232/422/485 w/ isolation protection) and 6 x USB 2.0. Other than that, NISE 2200 series has a wide DC input range from 9V to 36V and a wide operating temperature; it is therefore designed to meet most application requirements.

Specifications

CPU Support
- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz, 1M L2 cache
- Intel® 82801JIR ICH10 RAID

Main Memory
- 2 x DDR3 so-dimm socket, support up to 4G DDR3/DDR3L 1066/1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Dual Independent Display Option
- HDMI + VGA
  (P/N: 60233VGA50X00, 1.8M cable, from DVI-I to VGA male type)
- HDMI + DVI-D
  (P/N: 60233DVI18X00, 1.8M cable, from DVI-I to DVI-D male type)

I/O Interface-Front
- ATX Power on/off switch
- HDD access/power status LEDs
- 2 x DB9, RS232/422/485 w/ 2.5KV isolation protection
- 2 x USB 2.0
- 1 x DB15, 4 x GPI & 4 x GPO
- 1 x Mic-in & 1 x Line out
- SIM card socket
- CFast socket
- 2 x antenna holes

I/O Interface-Rear
- 1 x 2-pin DC input, Support +9 to 36VDCinput
- 1 x HDMI
- 1 x DVI-I
- Dual Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0
- 2 x DB9, RS232/422/485
- 2 x DB9, RS232 only

Device
- 1 x 2.5" SATA HDD driver bay
- 1 x External CFast socket
- 1 x External SIM card socket
- 1 x internal Mini-PCIe socket
  (Support optional Wi-Fi or 3.5G wireless module, jumper free)

Power Requirements
- Support +9 to 36VDC input; Support ATX power mode
- Optional 19V, 65W power adapter

Dimensions
- 195mm (W) x 200mm (D) x 65mm (H) (7.7" x 7.9" x 2.6")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:

NEXCOM

Dimension Drawing

Ambient with air flow: -20°C to 65°C with industrial grade device
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 40G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A

OS Support List
- Windows XP 32bits
- Windows 7 32bits
- WinCE 7.0

Ordering Information

Barebone

- **NISE 2200 (P/N: 10J00220000X0)**
  Intel® Atom™ Dual Core D2550 fanless system

- **19V 65W AC/DC power adapter w/ o power cord**

  (P/N: 7400065009X00)

NISE 2210/2210E

Intel® Atom™ Dual Core D2550 1.86GHz Fanless System
with 6 x COM ports, 6 x USB 2.0 and 1 x PCI/PCIe Expansion

Main Features

- OnBoard Intel® Atom™ Dual Core D2550 processor 1.86GHz
- Intel® 82801JIR ICH10 RAID
- 1 x DVI-I & 1 x HDMI display output
- Dual Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 6 x COM (2 x RS232/422/485 w/ isolation protection)

- 4 x GPI & 4 x GPO
- 6 x USB 2.0; 1 x external CFast socket; 1 x SIM card socket
- 1 x internal Mini-PCIe with two antenna holes
- Support +9V to +36VDC input; Support ATX power mode

Product Overview

NISE 2210/2210E powered by Intel® Atom™ Dual Core D2550 CPU with higher graphic and computing performance. With its outstanding performance, NISE 2210/2210E can be utilized within industrial automation, self-service machines like KIOSK check-in machines, recycling machines as well as factory automation and etc. NISE 2210/2210E support multiple I/O especially contains up to 6 x COM (2 x RS232/422/485 w/ isolation protection) and 6 x USB 2.0. Other than that, NISE 2200/2210E has a wide DC input range from 9V to 36V, a wide operating temperature and a PCI or PCIe expansion; it is therefore designed to meet most application requirements.

Specifications

CPU Support
- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz, 1M L2 cache
- Intel® 82801JIR ICH10 RAID

Main Memory
- 2 x DDR3 so-dimm socket, support up to 4G DDR3/DDR3L 1066/1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Dual Independent Display Option
- HDMI + VGA
  (P/N: 60233VGA50X00, 1.8M cable, from DVI-I to VGA male type)
- HDMI + DVI-D
  (P/N: 60233DVI18X00, 1.8M cable, from DVI-I to DVI-D male type)

I/O Interface-Front
- ATX Power on/off switch
- HDD access/power status LEDs
- 2 x DB9, RS232/422/485 w/ 2.5KV isolation protection
- 2 x USB 2.0
- 1 x DB15, 4 x GPI & 4 x GPO
- 1 x Mic-in & 1 x Line out
- SIM card socket
- CFast socket
- 2 x antenna holes

I/O Interface-Rear
- 1 x 2-pin DC input, Support +9 to 36VDC input
- 1 x HDMI
- 1 x DVI-I
- Dual Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0
- 2 x DB9, RS232/422/485
- 2 x DB9, RS232 only

Device
- 1 x 2.5" SATA HDD driver bay
- 1 x External CFast socket
- 1 x External SIM card socket
- 1 x internal Mini-PCIe socket (Support optional Wi-Fi or 3.5G wireless module, jumper free)

Expansion
- NISE 2210: One PCI Expansion
  - Add-on card length: 176mm max.
  - Power consumption: 10W/ slot max.
- NISE 2210E: One PCIex4 Expansion (w/ o Mini-PCIe device)
  - Add-on card length: 176mm max.
  - Power consumption: 10W/ slot max.
- * Note: if Mini-PCIe device is installed, only supports PCIex1

Power Requirements
- Support +9 to 36VDC input; Support ATX power mode

NEXCOM

Dimension Drawing
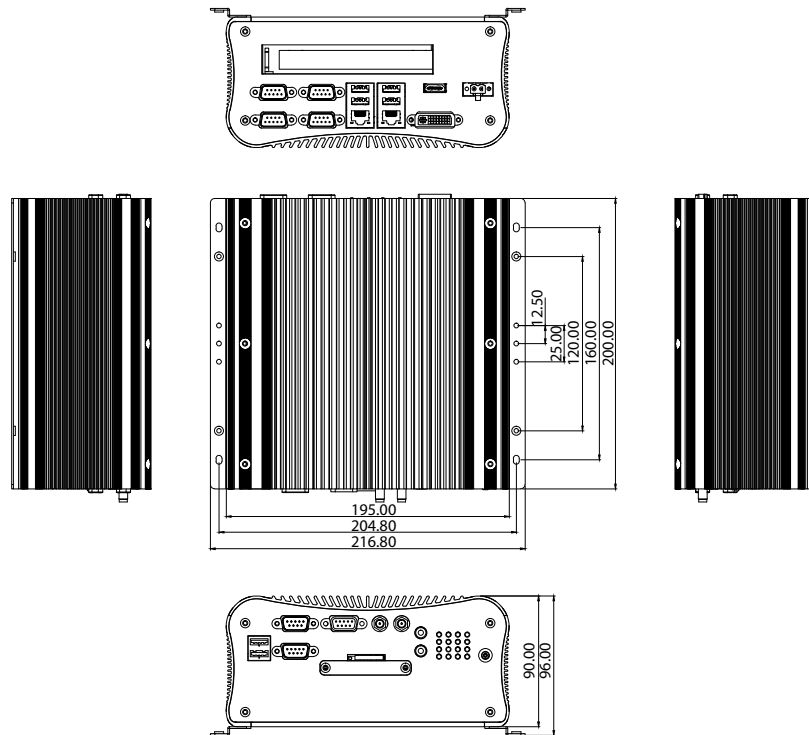
- Optional 19V, 65W power adapter
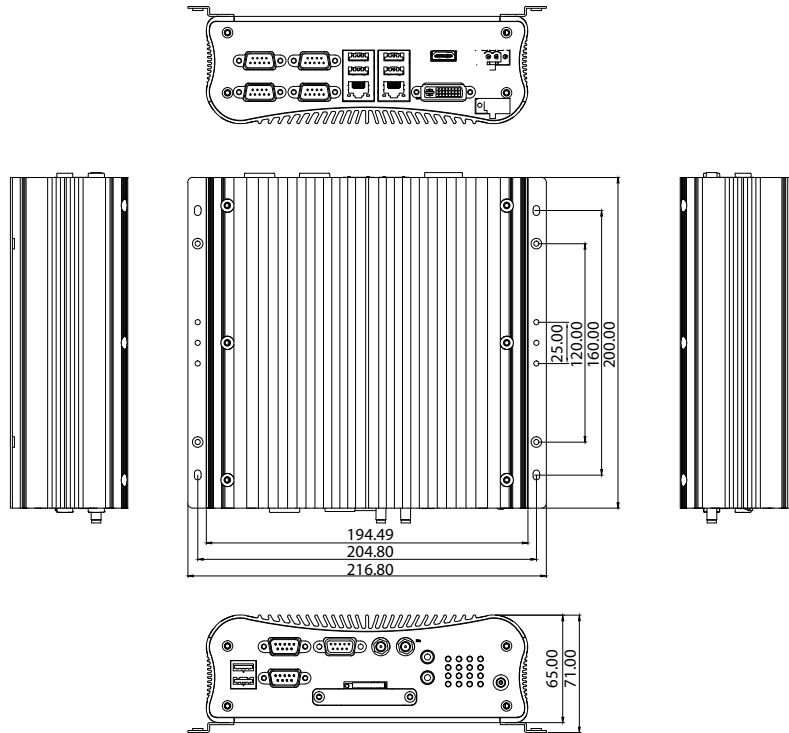
Dimensions
- 195mm (W) x 200mm (D) x 90mm (H) (7.7" x 7.9" x 3,6")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -20°C to 65°C with industrial grade device
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 40G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A

OS Support List
- Windows XP 32bits
- Windows 7 32bits
- WinCE 7.0

Ordering Information

Barebone

- **NISE 2210 (P/N: 10J00221000X0)**
  Intel® Atom™ Dual Core D2550 fanless system with One PCI expansion

- **NISE 2210E (P/N: 10J00221001X0)**
  Intel® Atom™ Dual Core D2550 fanless system with One PCIex4 expansion

- **19V 65W AC/DC power adapter w/ o power cord**

  (P/N: 7400065009X00)

NISE 2300

Main Features

- OnBoard Intel® Atom™ Dual Core D2550 processor 1.86GHz
- Intel® 82801JIR ICH10 RAID
- 1 x DVI-I & 1 x DVI-D display output
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x RS232/422/485
- 4 x GPI & 4 x GPO
- 6 x USB 2.0; 1 x external CFast socket; 1 x SIM card socket
- 1 x internal Mini-PCIe with two antenna holes
- Support +9V to 36VDC input; Support ATX power mode

Product Overview

Powered by Intel® Atom™ Dual Core D2550 Processor, NISE 2300 series is another utilized within industrial automation. It is designed with wide operating temperature and can be operated in rough environment. NISE 2300 series follows NISE guideline with fanless and cables-less concept. NISE 2300 series designed with 4 x LAN ports; Support WoL and LAN Teaming and PXE functions. Other than above, NISE 2300 series also provide 6 x USB 2.0, dual independent display and super graphic performance for variety needs. NISE 2300 series support a wide range DC input from +9V to 36V enhances its reliability in different power condition in any demand.

Specifications

CPU Support
- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz, 1M L2 cache
- Intel® 82801JIR ICH10 RAID

Main Memory
- 2 x DDR3 so-dimm socket, support up to 4G DDR3/DDR3L 1066/1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Dual Independent Display Option
- DVI-D + VGA
  (P/N: 60233VGA50X00, 1.8M cable, from DVI-I to VGA male type)
- DVI-D + DVI-D

I/O Interface-Front
- ATX Power on/off switch
- HDD access/power status LEDs
- 2 x DB9, RS232/422/485 w/ 2.5KV isolation protection
- 2 x USB 2.0
- 4 x GPO & 4 x GPI
- 1 x Mic-in and 1 x Line-out
- SIM card socket
- CFast socket
- 2 x antenna holes

I/O Interface-Rear
- 1 x 2-pin DC input, Support +9V to 36VDC input
- 1 x DVI-I
- 1 x DVI-D
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0
- 2 x DB9, RS232/422/485

Device
- 1 x 2.5" SATA HDD driver bay
- 1 x External CFast socket
- 1 x External SIM card socket
- 1 x internal Mini-PCIe socket (Support optional Wi-Fi or 3.5G wireless module, jumper free)

Power Requirements
- Support +9V to 36VDC input; Support ATX power mode

Dimensions
- 195mm (W) x 200mm (D) x 65mm (H) (7.7" x 7.9" x 2.6")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -20°C to 65°C with industrial grade device
- Storage temperature: -30°C to 85°C

Dimension Drawing

- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 40G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A

OS Support List
- Windows XP 32bits
- Windows 7 32bits
- WinCE 7.0

Ordering Information

Barebone

- **NISE 2300 (P/N: 10J00230000X0)**
  Intel® Atom™ Dual Core D2550 fanless system with 4G DDR3 memory

- **19V 65W AC/DC power adapter w/ o power cord**

  (P/N: 7400065009X00)

NISE 2310/2310E

Main Features

- OnBoard Intel® Atom™ Dual Core D2550 processor 1.86GHz
- Intel® 82801JIR ICH10 RAID
- 1 x DVI-I & 1 x DVI-D display output
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x RS232/422/485

- 4 x GPI & 4 x GPO
- 6 x USB 2.0; 1 x external CFast socket; 1 x SIM card socket
- 1 x internal Mini-PCIe with two antenna holes
- Support +9V to 36VDC input; Support ATX power mode
- 1 x PCI or PCIe expansion

Product Overview

Powered by Intel® Atom™ Dual Core D2550 Processor, NISE 2310/2310E is another utilized within industrial automation. It is designed with wide operating temperature and can be operated in rough environment. NISE 2310/2310E follows NISE guideline with fanless and cables-less concept. NISE 2310/2310E designed with 4 x LAN ports; Support WoL and LAN Teaming and PXE functions. Other than above, NISE 2310/2310E also provide 6 x USB 2.0, dual independent display and super graphic performance for variety needs and one PCI or PCIex1 expansion is available. NISE 2310/2310E series support a wide range DC input from +9V to 36V enhances its reliability in different power condition in any demand.

Specifications

CPU Support
- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz, 1M L2 cache
- Intel® 82801JIR ICH10 RAID

Main Memory
- 2 x DDR3 so-dimm socket, support up to 4G DDR3/DDR3L 1066/1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G industrial-grade memory as the manufacture configuration for shipment

Dual Independent Display Option
- DVI-D + VGA
  (P/N: 60233VGA50X00, 1.8M cable, from DVI-I to VGA male type)
- DVI-D + DVI-D

I/O Interface-Front
- ATX Power on/off switch
- HDD access/power status LEDs
- 2 x DB9, RS232/422/485 w/ 2.5KV isolation protection
- 2 x USB 2.0
- 4 x GPO & 4 x GPI
- 1 x Mic-in and 1 x Line-out
- SIM card socket
- CFast socket
- 2 x antenna holes

I/O Interface-Rear
- 1 x 2-pin DC input, Support +9 to 36VDC input
- 1 x DVI-I
- 1 x DVI-D
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0
- 2 x DB9, RS232/422/485

Device
- 1 x 2.5" SATA HDD driver bay
- 1 x External CFast socket
- 1 x External SIM card socket
- 1 x internal Mini-PCIe socket (Support optional Wi-Fi or 3.5G wireless module, jumper free)

Expansion
- NISE 2310: One PCI Expansion
  Add-on card length: 176mm max.
  Power consumption: 10W/ slot max.
- NISE 2310E: One PCIex1 Expansion
  Add-on card length: 176mm max.
  Power consumption: 10W/ slot max.

Power Requirements
- Support +9V to 36VDC input; Support ATX power mode

Dimensions
- 195mm (W) x 200mm (D) x 90mm (H) (7.7" x 7.9" x 3.6")

Dimension Drawing

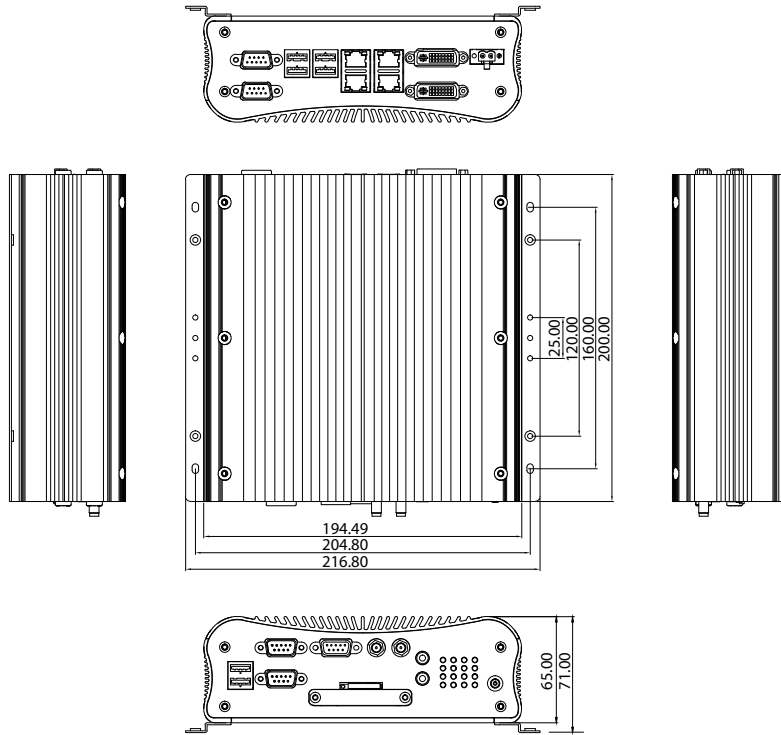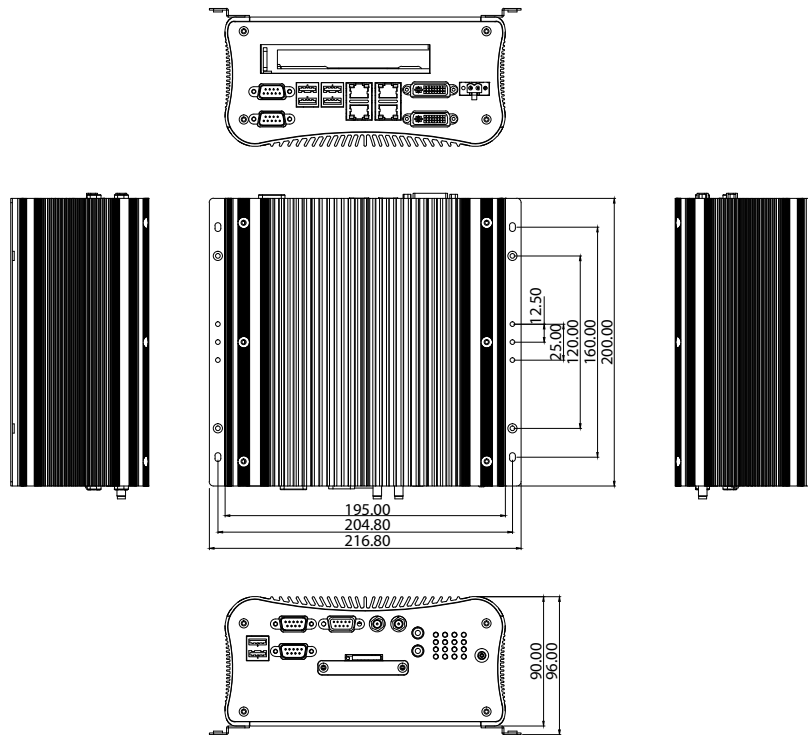

Construction

- Aluminum Chassis with fanless design

Environment

- Operating temperature:
  Ambient with air flow: -20℃ to 65℃ with industrial grade device
- Storage temperature: -30℃ to 85℃
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 40G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications

- CE approval
- FCC Class A

OS Support List

- Windows XP 32bits
- Windows 7 32bits
- WinCE 7.0

Ordering Information

Barebone

- **NISE 2310 (P/N: 10J00231000X0)**
  Intel® Atom™ Dual Core D2550 fanless system with DDR3 4G memory and One PCI expansion

- **NISE 2310E (P/N: 10J00231001X0)**
  Intel® Atom™ Dual Core D2550 fanless system with DDR3 4G memory and One PCIex1 expansion

- **19V 65W AC/DC power adapter w/ o power cord**

  (P/N: 7400065009X00)

NISE 2400

Main Features

- Onboard Intel® Atom™ processor E3827 Dual Core, 1.75GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0 & 1 x USB 3.0

- 4 x RS232 & 2 x RS422/485 with auto flow control
- 2 x Mini-PCIe socket for optional mSATA/Wi-Fi/4G LTE/3.5G/Fieldbus modules
- Support -20 to 70 degree Celus extended operating temperature
- Support 9-30V DC input

Product Overview

Powered by Intel® Atom™ Bay Trail Dual Core processor E3827, 1.75GHz. Driven by the latest Dual Core Intel® Atom™ processor, NISE 2400 can provide excellent computing power and is more power-efficient than the platforms based on the previous generation Intel® Atom™ product family.

NISE 2400 supports up to 8G DDR3L memory and have several options on storage devices like CFast, HDD, SSD or mSATA . The NISE2400 comes with 1 x HDMI, 1 x DVI-I, 2 x GbE LAN ports, 2x COM port with RS232/422/485 and 5x USB ports including one USB 3.0. NISE 2400 supports 9 ~ 30V DC input, and can be operated in an extended operating temperature range from -20 to 70 degrees Celsius. This Fanless system supports two Mini-PCIe modules, which can be an excellent platform for IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and factory automation applications with optional fieldbus module. Its expansion versatility makes NISE 2400 a perfect platform for factory automation and M2M intelligent computing applications.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3827 Dual Core, 1.75GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, dual core E3825/E3826/E3827 and quad core E3845 with difference SKUs

Main Memory
- 2 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 8GB RAM max., un-buffered and non-ECC

Display Option
- Dual independent display
  - HDMI and DVI-D
  - HDMI and VGA (via DVI-I connector)

Front I/O Interface
- ATX power on/off switch
- 1 x Power Status, 1 x HDD access, 1 x battery low, 4 x programming LEDs, 4 x Tx/Rx LEDs, 2 x LAN LEDs
- 2 x DB9 RS232 for COM1 & COM2
- 1 x External CFast socket
- 1 x SIM card holder
- 1 x USB 3.0 (900mA per each)

- 1 x Mic-in & 1 x Line-out
- 2 x antenna holes for optional Wi-Fi/3.5G antenna

I/O Interface - Rear
- 4 x USB 2.0
- 1 x DVI-I display output
- 1 x HDMI display output
- 1 x remote power on/off switch
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x DB9 for COM3 & COM4, both support RS232/422/485 with auto flow control
  - Jumper-free setting on RS232/422/485
- 1 x 3-pin DC input, support +9 to 30VDC input

I/O Interface - Internal
- 4 x GPI and 4 GPO (5V, TTL Type)

Storage Device
- 1 x CFast card socket (SATA 2.0)
- 1 x 2.5" HDD space (SATA 2.0)
- 1 x mSATA from Mini-PCIe socket if SATA HDD is not installed

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/4G LTE/3.5G

Dimension Drawing

Power Requirement
- Power input: +9Vdc to +30Vdc
- 1 x optional 24V, 60W power adapter

Dimensions
- 191mm (W) x 200mm (D) x 60mm (H) without wall-mount bracket

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -20°C to 70°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock Protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
  CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:
  Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6
- Vibration protection w/ CFast & SSD condition:
  Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

OS Support Lists
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bit/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Android 4.4, 64bit
- Moon Island

Ordering Information

Barebone

- **NISE 2400 (P/N:10J00240000X0)**

  Onboard Intel® Atom™ processor E3827 Dual Core, 1.75GHz

- **24V 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NISE 2400-J1900

Main Features

- Onboard Intel® Celeron® Processor J1900 Quad Core, 2.0GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0 & 1 x USB 3.0
- 4 x RS232 & 2 x RS422/485 with auto flow control

- 2 x Mini-PCIe socket for optional mSATA/Wi-Fi/4G LTE/3.5G/Fieldbus modules
- Support -5 to 55 degree Celus extended operating temperature
- Support 9-30V DC input

Product Overview

Powered by Intel® Celeron® Processor J1900 Quad Core, 2.0GHz. Driven by the latest Quad Core Intel® Celeron® Processor, NIE2400-J1900 can provide excellent computing power and is more power-efficient than the platforms based on the previous generation Intel® Celeron® product family.

NISE2400-J900 supports up to 8G DDR3L memory and have several options on storage devices like CFast, HDD, SSD or mSATA . The NISE2400-J900 comes with 1 x HDMI, 1 x DVI-I, 2 x GbE LAN ports, 2x COM port with RS232/422/485 and 5x USB ports including one USB 3.0. NISE2400-J900 supports 9 ~ 30V DC input, and can be operated in an extended operating temperature range from -5 to 55 degrees Celsius. This Fanless system supports two Mini-PCIe modules, which can be an excellent platform for IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and factory automation applications with optional fieldbus module. Its expansion versatility makes NISE2400-J900 a perfect platform for factory automation and M2M intelligent computing applications.

Specifications

CPU Support
- Onboard Intel® Celeron® Processor J1900 Quad Core, 2.0GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, dual core E3825/E3826/E3827 and quad core E3845 with difference SKUs

Main Memory
- 2 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 8GB RAM max., un-buffered and non-ECC

Display Option
- Dual independent display
  - HDMI and DVI-D
  - HDMI and VGA (via DVI-I connector)

Front I/O Interface
- ATX power on/off switch
- 1 x Power Status, 1 x HDD access, 1 x battery low, 4 x programming LEDs, 4 x Tx/Rx LEDs, 2 x LAN LEDs
- 2 x DB9 RS232 for COM1 & COM2
- 1 x External CFast socket
- 1 x SIM card holder
- 1 x USB 3.0 (900mA per each)

- 1 x Mic-in & 1 x Line-out
- 2 x antenna holes for optional Wi-Fi/3.5G antenna

I/O Interface - Rear
- 4 x USB 2.0
- 1 x DVI-I display output
- 1 x HDMI display output
- 1 x remote power on/off switch
- 2 x Intel® I210IT GbE LAN ports; Support WoL,Teaming and PXE
- 2 x DB9 for COM3 & COM4, both support RS232/422/485 with auto flow control
  - Jumper-free setting on RS232/422/485
- 1 x 3-pin DC input, support +9 to 30VDC input

I/O Interface - Internal
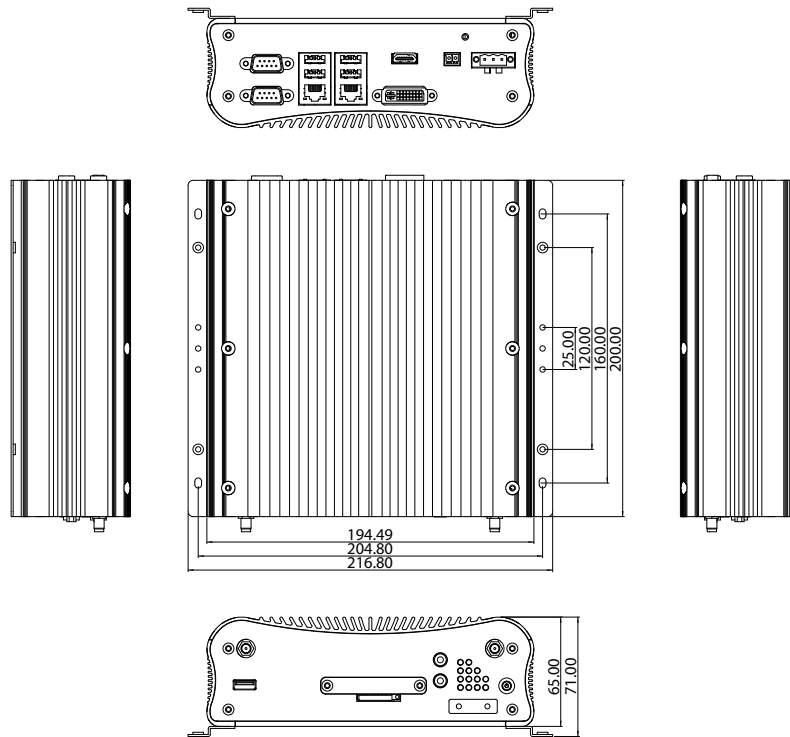- 4 x GPI and 4 GPO (5V, TTL Type)

Storage Device
- 1 x CFast card socket (SATA 2.0)
- 1 x 2.5" HDD space (SATA 2.0)
- 1 x mSATA from Mini-PCIe socket if SATA HDD is not installed

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/4G LTE/3.5G

Dimension Drawing

Power Requirement
- Power input: +9Vdc to +30Vdc
- 1 x optional 24V, 60W power adapter

Dimensions
- 191mm (W) x 200mm (D) x 60mm (H) without wall-mount bracket

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock Protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
  CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:
  Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6
- Vibration protection w/ CFast & SSD condition:
  Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

OS Support Lists
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Android 4.4, 64bit

Ordering Information

Barebone

- **NISE 2400-J1900 (P/N:10J00240002X0)**

  Onboard Intel® Celeron® Processor J1900 Quad Core, 2.0GHz

- **24V 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NISE 2410/2410E

Intel® Atom™ Processor E3827 Dual Core Fanless System

Main Features

- Onboard Intel® Atom™ processor E3827 Dual Core, 1.75GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0 & 1 x USB 3.0
- 2 x Mini-PCIe socket for optional mSATA/Wi-Fi/4G LTE/3.5G
- 4 x RS232 & 2 x RS422/485 with auto flow control
- Support -20 ~ 70 degree Celus extended operating temperature
- Support 9-30V DC input

Product Overview

Powered by Intel® Atom™ Bay Trail Dual Core processor E3827, 1.75GHz. Driven by the latest Dual Core Intel® Atom™ processor, NISE 2410/2410E can provide excellent computing power and is more power-efficient than the platforms based on the previous generation Intel® Atom™ product family.

NISE 2410/2410E supports up to 8G DDR3L memory and have several options on storage devices like CFast, HDD, SSD or mSATA. The NISE 2410/2410E comes with 1 x HDMI, 1 x DVI-I, 2 x GbE LAN ports, 2x COM port with RS232/422/485 and 5x USB ports including one USB 3.0. NISE 2410/2410E supports 9 ~ 30V DC input, and can be operated in an extended operating temperature range from -20 to 70 degrees Celsius. This Fanless system supports two Mini-PCIe modules, which can be an excellent platform for IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and factory automation applications with optional fieldbus module. Its expansion versatility makes NISE 2400 a perfect platform for factory automation and M2M intelligent computing applications.

Specifications

CPU Support
- Onboard Intel® Atom™ E3800 processor family
  - E3827 Dual Core, 1.75GHz for NISE 2410
  - E3845 Quadl Core, 1.91GHz for NISE 2410E
- Support Intel® Atom™ E3800 processor family from single core E3815, dual core E3825/E3826/E3827 and quad core E3845 with differenceS KUs

Main Memory
- 2 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 8GB RAM max., un-buffered and non-ECC

Display Option
- Dual independent display
  - HDMI and DVI-D
  - HDMI and VGA (via DVI-I connector)

Front I/O Interface
- ATX power on/off switch
- 1 x Power Status, 1 x HDD access, 1 x battery low, 4 x programming LEDs, 4 x Tx/Rx LEDs, 2 x LAN LEDs
- 2 x DB9 RS232 for COM1 & COM2
- 1 x External CFast socket

- 1 x SIM card holder
- 1 x USB 3.0 (900mA per each)
- 1 x Mic-in & 1 x Line-out
- 2 x antenna holes for optional Wi-Fi/3.5G antenna

I/O Interface - Rear
- 4 x USB 2.0
- 1 x DVI-I display output
- 1 x HDMI display output
- 1 x remote power on/off switch
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x DB9 for COM3 & COM4, both support RS232/422/485 with auto flow control
  - Jumper-free setting on RS232/422/485
- 1 x 3-pin DC input, support +9 to 30VDC input

I/O Interface - Internal
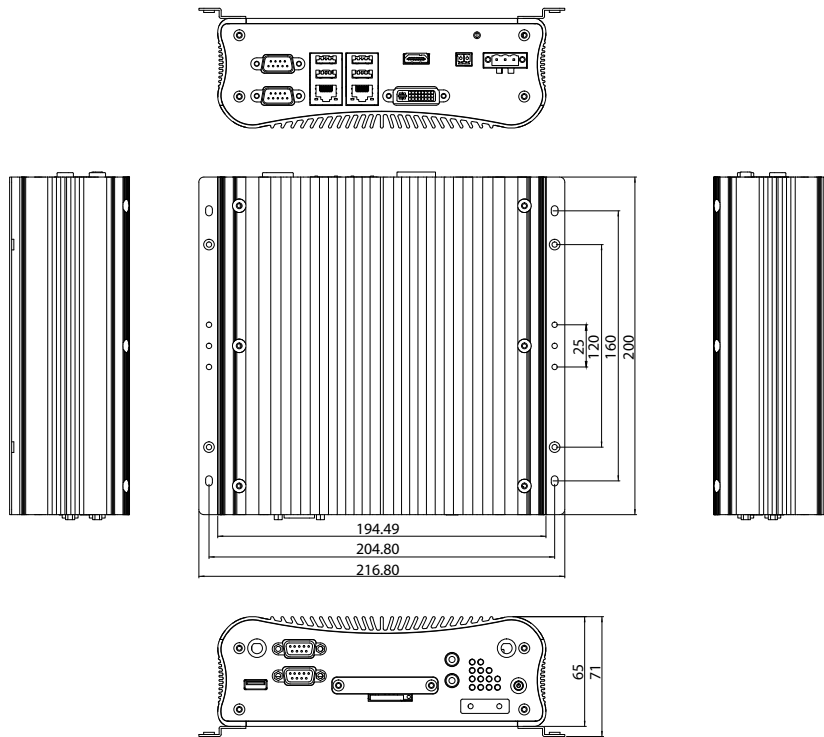- 4 x GPI and 4 GPO (5V, TTL Type)

Storage Device
- 1 x CFast card socket (SATA 2.0)

NEXCOM

Dimension Drawing

- 1 x 2.5" HDD space (SATA 2.0)
- 1 x mSATA from Mini-PCIe socket if SATA HDD is not installed

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/4G LTE/3.5G
- NISE 2410: One PCI Expansion
  - Add-on card length: 176mm max.
  - Power consumption: 10W/ slot max.
- NISE 2410E: One PCIe x4 Expansion
  (only support PCIex1 speed & signal)
  - Add-on card length: 176mm max.
  - Power consumption: 10W/ slot max.

Power Requirement
- Power input: +9Vdc to +30Vdc
- 1 x optional 24V, 60W power adapter

Dimensions
- 195mm (W) x 200mm (D) x 90mm (H) without wall-mount bracket

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -20°C to 70°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock Protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
  CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:
  Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6
- Vibration protection w/ CFast & SSD condition:
  Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

OS Support Lists
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Android 4.4, 64bit
- Moon Island

Ordering Information

- **NISE 2410 (P/N: 10J00241000X0)**
  Onboard Intel® Atom™ processor E3827 Dual Core, 1.75GHz with
  One PCI expansion

- **NISE 2410E (P/N: 10J00241001X0)**
  Onboard Intel® Atom™ processor E3845 Quad Core, 1.91GHz with
  One PCIe x1 expansion

- **24V 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NISE 2410-J1900

Main Features

- Onboard Intel® Celeron® Processor J1900 Quad Core, 2.0GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 2.0 & 1 x USB 3.0

- 2 x Mini-PCIe socket for optional mSATA/Wi-Fi/4G LTE/3.5G
- 4 x RS232 & 2 x RS422/485 with auto flow control
- Support -5 ~ 55 degree Celus extended operating temperature
- Support 9-30V DC input

Product Overview

Powered by Intel® Celeron® Processor J1900 Quad Core, 2.0GHz. Driven by the latest Quad Core Intel® Celeron® Processor, NISE2410-J1900 can provide excellent computing power and is more power-efficient than the platforms based on the previous generation Intel® Atom™ product family.

NISE2410-J1900 supports up to 8G DDR3L memory and have several options on storage devices like CFast, HDD, SSD or mSATA. The NISE2410-J1900 comes with 1 x HDMI, 1 x DVI-I, 2 x GbE LAN ports, 2x COM port with RS232/422/485 and 5x USB ports including one USB 3.0. NISE2410-J1900 supports 9 ~ 30V DC input, and can be operated in an extended operating temperature range from -5 to 55 degrees Celsius. This Fanless system supports two Mini-PCIe modules, which can be an excellent platform for IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and factory automation applications with optional fieldbus module. Its expansion versatility makes NISE2410-J1900 a perfect platform for factory automation and M2M intelligent computing applications.

Specifications

CPU Support
- Onboard Intel® Celeron® Processor J1900 Quad Core, 2.0GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, dual core E3825/E3826/E3827 and quad core E3845 with differenceS KUs

Main Memory
- 2 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 8GB RAM max., un-buffered and non-ECC

Display Option
- Dual independent display
  - HDMI and DVI-D
  - HDMI and VGA (via DVI-I connector)

Front I/O Interface
- ATX power on/off switch
- 1 x Power Status, 1 x HDD access, 1 x battery low, 4 x programming LEDs, 4 x Tx/Rx LEDs, 2 x LAN LEDs
- 2 x DB9 RS232 for COM1 & COM2
- 1 x External CFast socket
- 1 x SIM card holder
- 1 x USB 3.0 (900mA per each)
- 1 x Mic-in & 1 x Line-out
- 2 x antenna holes for optional Wi-Fi/3.5G antenna

I/O Interface - Rear
- 4 x USB 2.0
- 1 x DVI-I display output
- 1 x HDMI display output
- 1 x remote power on/off switch
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x DB9 for COM3 & COM4, both support RS232/422/485 with auto flow control
  - Jumper-free setting on RS232/422/485
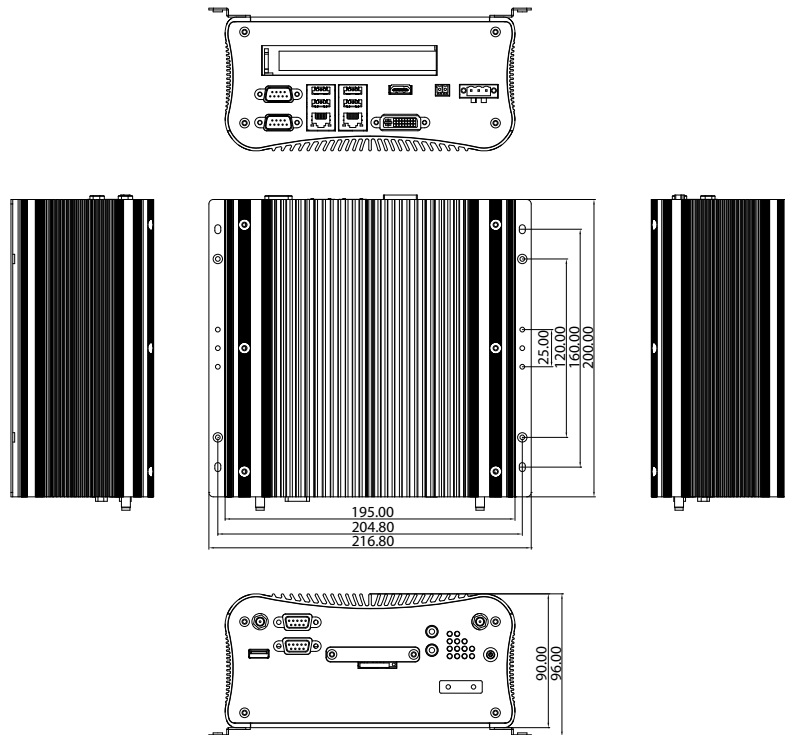- 1 x 3-pin DC input, support +9 to 30VDC input

I/O Interface - Internal
- 4 x GPI and 4 GPO (5V, TTL Type)

Storage Device
- 1 x CFast card socket (SATA 2.0)
- 1 x 2.5" HDD space (SATA 2.0)
- 1 x mSATA from Mini-PCIe socket if SATA HDD is not installed

Expansion Slot
- 2 x Mini PCIe socket for optional Wi-Fi/4G LTE/3.5G
- NISE2410-J1900: One PCI Expansion

Power Requirement
- Power input: +9Vdc to +30Vdc

Dimension Drawing

- 1 x optional 24V, 60W power adapter

Dimensions
- 195mm (W) x 200mm (D) x 90mm (H) without wall-mount bracket

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock Protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
  CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:
  Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6
- Vibration protection w/ CFast & SSD condition:
  Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

OS Support Lists
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Android 4.4, 64bit

Ordering Information

- **NISE2410-J1900 (P/N: 10J00241002X0)**
  Onboard Intel® Celeron® Processor J1900 Quad Core, 2.0GHz with
  One PCI expansion

- **24V 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NISE 2420

Main Features

- Onboard Intel® Atom™ processor E3845 Quad core, 1.91GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 4 x RS232 & 2 x RS422/485 with auto flow control

- 4 x USB 2.0 & 1 x USB 3.0
- 2 x Mini-PCIe socket for optional mSATA/Wi-Fi/4G LTE/3.5G
- Support -20 to 70 degree Celus extended operating temperature
- Support 9-30V DC input

Product Overview

Powered by Intel® Atom™ Bay Trail Quad core processor E3845, 1.91GHz. Driven by the latest Dual Core Intel® Atom™ processor, NISE 2420 can provide excellent computing power and is more power-efficient than the platforms based on the previous generation Intel® Atom™ product family.

NISE 2420 supports up to 8G DDR3L memory and have several options on storage devices like CFast, HDD, SSD or mSATA . The NISE 2420 comes with 1 x HDMI, 1 x DVI-I, 2 x GbE LAN ports, 2x COM port with RS232/422/485 and 5x USB ports including one USB 3.0. NISE 2420 supports 9 ~ 30V DC input, and can be operated in an extended operating temperature range from -20 to 70 degrees Celsius. This Fanless system supports two Mini-PCIe modules, Which can be an excellent platform for IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and factory automation applications with optional fieldbus module expansion versatility makes NISE 2420 a perfect platform for factory automation and M2M intelligent computing applications.

Specifications

CPU Support
- Onboard Intel® Atom™ E3845 Quad core, 1.91GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, dual core E3825/E3826/E3827 and quad core E3845 with difference SKUs

Main Memory
- 2 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 8GB RAM max., un-buffered and non-ECC

Display Option
- Dual independent display
  - HDMI and DVI-D
  - HDMI and VGA (via DVI-I connector)

Front I/O Interface
- ATX power on/off switch
- 1 x Power Status, 1 x HDD access, 1 x battery low, 4 x programming LEDs, 4 x Tx/Rx LEDs, 2 x LAN LEDs
- 2 x DB9 RS232 for COM1 & COM2
- 1 x External CFast socket
- 1 x SIM card holder
- 1 x USB 3.0 (900mA Max.)
- 1 x Mic-in & 1 x Line-out

- 2 x antenna holes for optional Wi-Fi/3.5G antenna

I/O Interface - Rear
- 4 x USB 2.0
- 1 x DVI-I display output
- 1 x HDMI display output
- 1 x remote power on/off switch
- 2 x Intel® I210IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x DB9 for COM3 & COM4, both support RS232/422/485 with auto flow control
  - Jumper-free setting on RS232/422/485
- 1 x 3-pin DC input, support +9 to 30VDC input

I/O Interface - Internal
- 4 x GPI and 4 GPO (5V, TTL Type)

Storage Device
- 1 x CFast card socket (SATA 2.0)
- 1 x 2.5" HDD space (SATA 2.0)
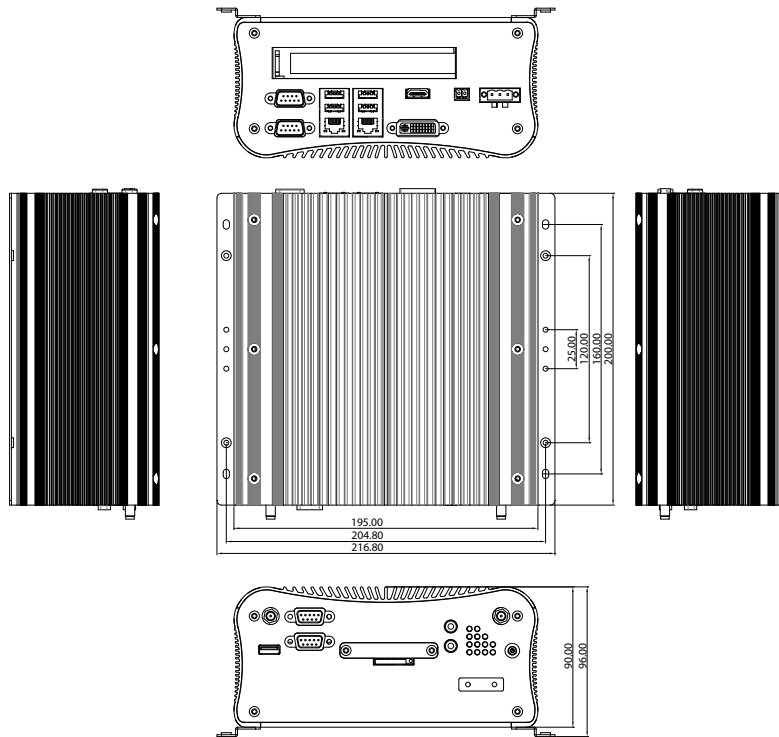- 1 x mSATA from Mini-PCIe socket if SATA HDD is not installed

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/4G LTE/3.5G
- NISE 2420: Two PCI Expansion

Dimension Drawing
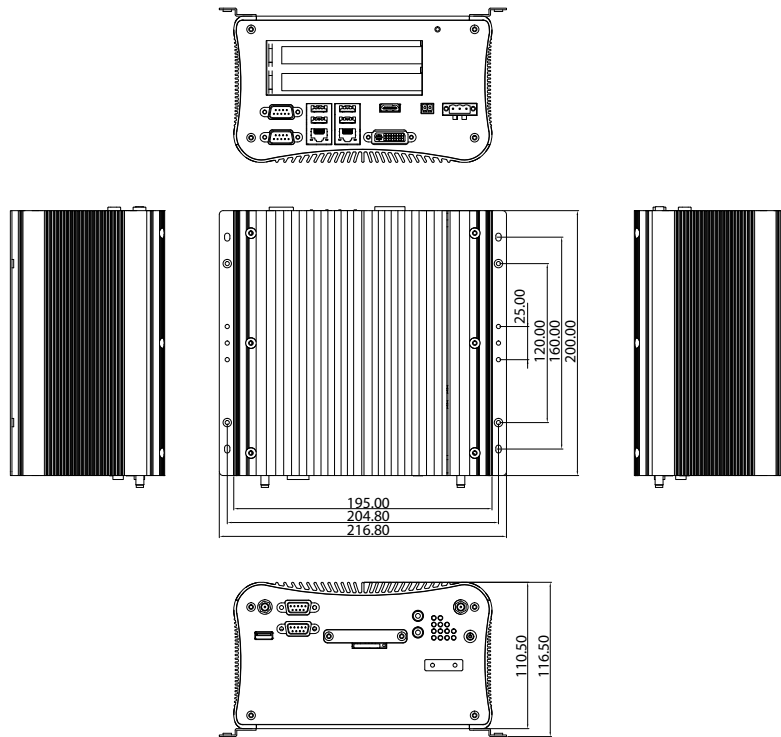
- Add-on card length: 176mm max.
- Power consumption: 10W/ slot max.

Power Requirement
- Power input: +9Vdc to +30Vdc
- 1 x optional 24V, 60W power adapter

Dimensions
- 195mm (W) x 200mm (D) x 111mm (H) without wall-mount bracket

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -20°C to 70°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock Protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
  CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:
  Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6
- Vibration protection w/ CFast & SSD condition:
  Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

OS Support Lists
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Android 4.4, 64bit
- Moon Island

Ordering Information

- **NISE 2420 (P/N: 10J00242000X0)**
  Onboard Intel® Atom™ processor E3845 Quad core, 1.91GHz with Two PCI expansion

- **24V 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NISE 300

Optional Module kit

| NISK2U Tray | FBI90E Series Fieldbus Card | NISKLAN01 1 x GbELAN | NISKLAN02 2 x GbELAN | NISKECOM3/ECOM4 4 x COM | Mobile Wireless | Wi-Fi |

Main Features

- Onboard BGA type 4th Generation Intel® Core™ i5 Processor
- Mobile Intel® QM87 PCH
- 2 x USB 3.0; 2 x USB 2.0
- 6 x Mini-PCIe, 2 x RS232/422/485 with Auto Flow
- Support 1 x mSATA, 1 x CFast and 2 x 2.5" SATA

- User-friendly I/O Design; All I/O Interface at Front
- Support Wireless Communication; Optional for Wi-Fi or 3G Modules
- Support +9V and +30VDC Input; Support ATX Power Mode
- Easy Replacement for RTC Battery
- Dual Intel® GbE LAN ports; Support WoL, Teaming and PXE

Product Overview

The high performance NISE 300, which is integrated with 4th generation Intel® Core™ i5 processor and QM87 PCH, can provide outstanding system performance and presents a brand new opportunity for both intelligent and industrial computing solutions. NISE 300 supports up to 8G un-buffered and non-ECC DDR3/DDR3L memory, CFast , SATA 3.0, the latest USB 3.0 technology. Support +9V to +30VDC input and the operating temperature range is from -5 Celsius degree to 55 Celsius degree. NISE 300 comes with user-friendly I/O design; all I/O interfaces are at front panel and it makes system much easier to use and to expand the functionalities. It's mechanical design also fits with 2U 19" rack-mount dimension. NISE 300 also integrates with 6 Mini-PCIe sockets and 2 COM Port interfaces, which makes it a real versatile box for various applications such as factory automation applications (PROFIBUS, DeviceNet, EtherCAT, PROFINET, Ethernet/IP), network applications (GbE LAN, Wi-Fi, GSM), and storage devices (mSATA). With the latest features and flexible module expansions, NISE 300 is definitely the top choice for M2M intelligence and factory automation platforms.

Specifications

CPU Support
- Onboard BGA type 4th generation Intel® Core™ i7/i3/i5 processors
  - Core™ i7-4712HQ, Quad Core™, 3.3GHz
  - Core™ i5-4402E, Dual Core™, 1.6GHz (Onboard Default)
  - Core™ i3-4112E, Dual Core™, 1.8GHz
  - Celeron 2002E, Dual Core™, 1.5GHz
- Mobile Intel® QM87 PCH

Main Memory
- 2 x DDR3/DDR3L SO-DIMM Socket, support up to 8GB DDR3/DDR3L 1333/1600 RAM, un-buffered and non-ECC

Display Option
- Three Independent Display
  - VGA+DVI-D (Through DVI-I Y Cable) + HDMI
- Dual Independent Display
  - DVI-D + VGA
  - HDMI + VGA

Front I/O Interface
- ATX power on/off switch
- 1 x Remote Power ON/OFF Switch
- 1 x Power Status/1 x HDD Access LEDs
- 2 x USB 3.0 ports (Blue Color, 900mA per each)

- 2 x USB 2.0 Ports (500mA per each)
- 1 x DVI-I, 1 x HDMI
- 2 x DB9 for COM1 & COM2
  - support RS232/422/485 with Auto Flow Control
  - support 5V/12V/Ring function by jumper setting
- 2 x Intel® 82574L GbE LAN ports; Support WoL, Teaming and PXE
- 1 x External CFast socket
- 1 x SIM Card holder
- 1 x External RTC Li-ion Battery holder
- 1 x Line out and 1 x Mic-in

Internal I/O Interface
- 4 x GPI and 4 GPO (5V, TTL Type)
- 4 x COM Ports Box Header (RS232 only)
- 1 x USB 2.0 Internal Connector, for USB dongle
- 2 x USB 2.0 Internal Box Header

Storage Device
- 1 x CFast (SATA 3.0)
- 1 x mSATA (SATA 3.0)
- 2 x 2.5" HDD (SATA 3.0)

Expansion Slot
- 1 x Mini-PCIe socket for GSM/Wi-Fi

NEXCOM

Dimension Drawing
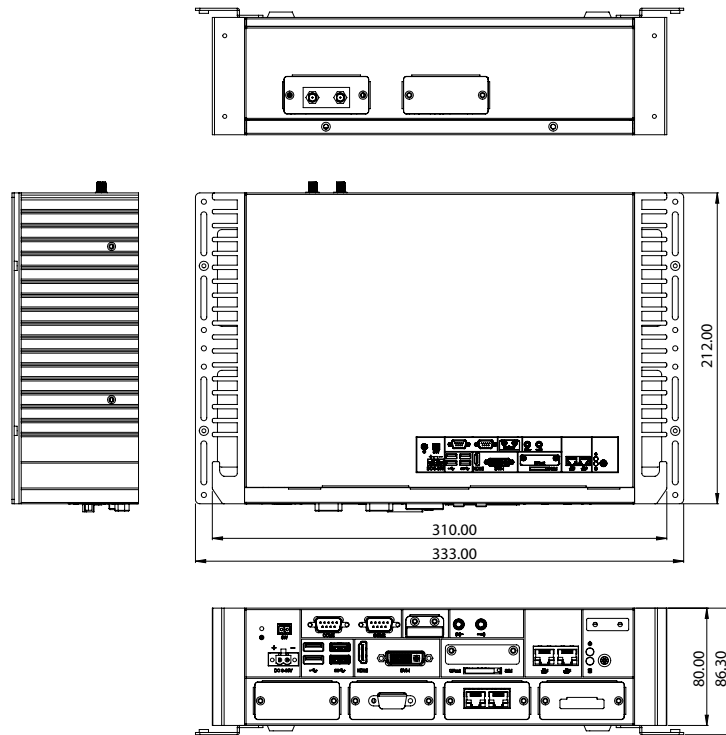
1 x Mini-PCIe socket for mSATA
4 x Mini-PCIe socket for expansion modules

Power Requirement
- ATX Power Mode
- Typical +9V to +30VDC Input
- Power adapter: Optional AC to DC power adapter (+19VDC, 120W)

Dimensions
- 310mm (W) x 212mm (D) x 80mm (H) without Wall-Mount bracket

Construction
- Aluminum and Metal Chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -40°C to 85°C
- Operating humidity:
  10% to 90% relative humidity, non-condensing Limits to be at 90%
  RH at max 40C
- Shock Protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
  CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:
  Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE/FCC Class A

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 300 System (P/N: 10J00030000X0)**

- **19V, 120W AC to DC power adapter w/ o power core (P/N:7400120013X00)**

Optional Fieldbus kit

88J50090E00X0	FBI 90E-PNM KIT (w/25 cm Cable)	ProfINET Master Module Kit
88J50090E01X0	FBI 90E-EP KIT (w/25 cm Cable)	Ethernet IP Master Module Kit
88J50090E02X0	FBI 90E-ECM KIT (w/25 cm Cable)	EtherCATMaster Module Kit
88J50090E03X0	FBI 90E-PBM KIT (w/25 cm Cable)	Profibus Master Module Kit
88J50090E04X0	FBI 90E-DNM KIT (w/25 cm Cable)	DeviceNet Master Module Kit
88J50090E13X0	FBI 90E-COM KIT (w/25 cm Cable)	CANopen Master Module Kit
88J50090E15X0	FBI 90E-S3M KIT (w/25 cm Cable)	SERCOSIII Master Module Kit

Optional Module kit

88J00030004X0	NISE300 3.5G Module Kit SIERRA: MC8090(SMS)	US
88J00030009X0	NISE300 3.5G Module Kit SIERRA: MC8092(SMS)	EU
88J00030009X0	NISE300 Wifi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT, HMC
88J00030002X0	NISE300 Wifi Module Kit INTEL: 7260.HMWBNWB.R	WLAN+ BLUETOOTH COMBO MODULE
88JK0ECOM03X0	NISKECOM3 UNIVERSAL KIT (w/25 cm DB26 cable)	Mini-PCIe to 4xCOM Module W/ ISOLATION RS232/422/485 Auto Flow Control w/Universal Bracket
88JK0ECOM07X0	NISKECOM4 UNIVERSAL KIT (w/25 cm DB26 cable)	Mini-PCIe to 4 PORT RS232 MODULE w/ Universal Bracket

NISE 301

Optional Module kit

NISK2U Tray	FBI90E Series Fieldbus Card	NISKLAN01 1 x GbELAN	NISKLAN02 2 x GbELAN	NISKECOM3/ECOM4 4 x COM	Mobile Wireless / Wi-Fi

Main Features

- Onboard Intel® Atom™ processor E3845 quad core, 1.91GHz
- 2 x Mini-PCIe sockets, 2 x COM Ports expansions
- 3 x USB 2.0, 1x CFast (SATA 2.0), 1x 2.5" HDD (SATA 2.0)
- Wi-Fi/GSM

- VGA/DVI-D
- External RTC Battery Holder
- DC Input 24V +/- 20%

Product Overview

Integrated with Intel® Atom™ Bay Trail-I E3845 quad core processor, NISE 301 is a reliable factory solution for the factory automation projects which require running in space-critical and low power consumption environments. E3845 quad core processor comes with four physical cores and it allows NISE 301 to be multi-core PC controller for real-time processing. NISE 301 supports up to 4G DDR3L memory and have several options on storage devices like CFast, HDD, or SSD. NISE301 supports 24V +/- 20% DC input, and can be operated in an extended operating temperature range between -5 to 55 Celsius degree. NISE 301 follows user-friendly front access design and also supports two optional Mini-PCIe modules and two RS232/422/485 com ports. With rich I/O availability, NISE301 is capable of transforming into factory intelligent system for factory automation applications (with optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, Ethernet IP master/salve module), network applications (with optional GbE LAN, Wi-Fi, 3.5G module) and communication applications (with optional GPIO, RS232/422/485).

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3845 quad core, 1.91GHz

Main Memory
- 1 x DDR3L SO-DIMM Socket, support up to 4GB with un-buffered and non-ECC

Display Option
- Dual Independent Display
  - DVI-D + VGA

Front I/O Interface Status LEDs
- 1 x Power Status/1 x HDD Access LEDs
- 2 x LAN Status/1 x CFast LEDs
- 4 x GPO Status/1 x Battery Low LEDs

Front I/O Interface
- 1 x ATX power on/off switch
- 1 x VGA, 1 x DVI-D
- 3 x USB 2.0 Ports (500mA per each)
- 2 x Intel® I210AT GbE ports; Support WoL, Teaming and PXE
- 2 x Serial Ports (2x RS232/422/485 with auto flow control)
- 2 x Antenna Holes for Wi-Fi/GSM
- 1 x External CFast socket
- 1 x SIM Card holder

- 1 x External RTC Li-ion Battery holder

Front Expansion Slot
- 2 x Mini-PCIe expansion slots
  - optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, Ethernet IP master/salve module
  - optional GbE LAN, Wi-Fi, 3.5G module
  - optional RS232/422/485 module

Storage Device
- 1 x CFast (SATA 2.0)
- 1 x 2.5" HDD (SATA 2.0)

Power Requirement
- AT/ATX Power Mode (default with ATX power mode)
- Power input: Typical +24Vdc +/-20%
- Power adapter: Optional AC to DC power adapter (+24Vdc, 60W)

Dimensions
- 205mm (W) x 160mm (D) x 80mm (H) without Wall-Mount bracket

Construction
- Aluminum and Metal Chassis with fanless design

Environment
- Operating Temperature:

Dimension Drawing
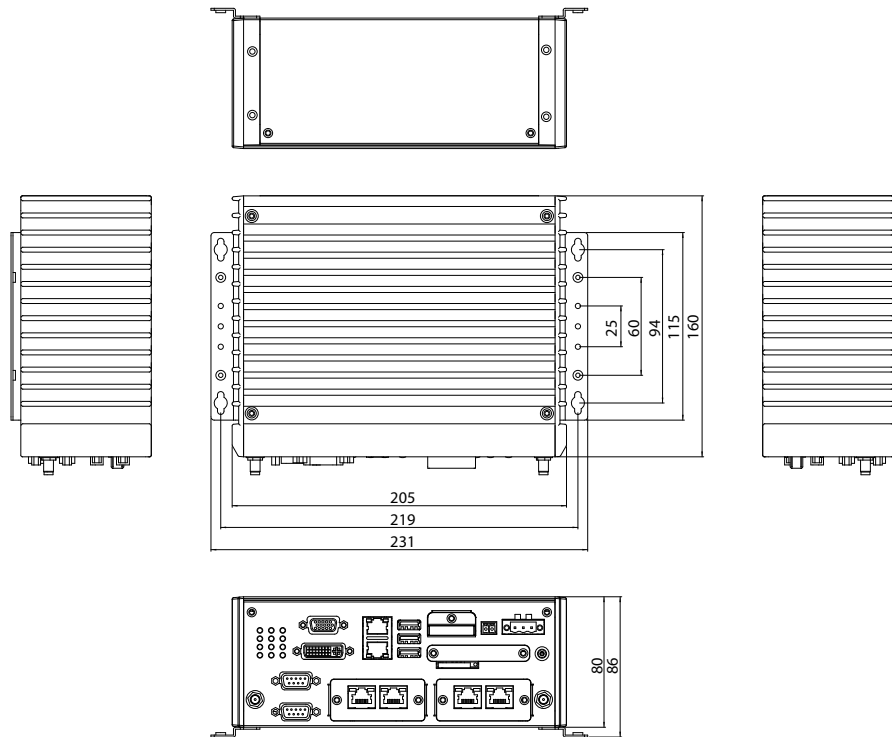
Ambient with air flow: -5℃ to 55℃
(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20℃ to 85℃
- Relative Humidity: 10% to 93% (non-condensing)
- Shock Protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
  CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:
  Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE Class A
- FCC Class A
- LVD

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 301 System (P/N: 10J00030100X0)**

- **24V, 60W AC to DC power adapter w/ o power core (P/N: TBD)**

Optional Fieldbus kit

88J50090E05X0	FBI 90E-DNM KIT (w/ 15 cm Cable)	DeviceNet Master Module Kit
88J50090E06X0	FBI 90E-ECM KIT (w/ 15 cm Cable)	EtherCAT Master Module Kit
88J50090E07X0	FBI 90E-EP KIT (w/ 15 cm Cable)	Ethernet IP Master Module Kit
88J50090E08X0	FBI 90E-PBM KIT (w/ 15 cm Cable)	Profibus Master Module Kit
88J50090E09X0	FBI 90E-PNM KIT (w/ 15 cm Cable)	ProfINET Master Module Kit
88J50090E14X0	FBI 90E-S3M KIT w/ 15 cm Cable)	SERCOSIII Master Module Kit
88J50090E16X0	FBI 90E-COM KIT (w/ 15 cm Cable)	CANopen Master Module Kit

Optional Module kit

88J00030110X0	NISE301 3.5G Module Kit TELIT: HE910-G	5 Bands UMTS / HSPA w/ GPS and voice data
88J00030100X0	NISE301 Wifi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J00030101X0	NISE301 Wifi Module Kit INTEL: 7260.HMWBNWB.R	WLAN+ BLUETOOTH COMBO MODULE
88JK0ECOM02X0	NISKECOM3 UNIVERSAL KIT (w/ 15 cm DB26 cable)	Mini-PCIe to 4xCOM Module W/ ISOLATION RS232/422/485 Auto Flow Control w/Universal Bracket
88JK0ECOM03X0	NISKECOM3 UNIVERSAL KIT (w/ 25 cm DB26 cable)	Mini-PCIe to 4xCOM Module W/ ISOLATION RS232/422/485 Auto Flow Control w/Universal Bracket
88JK0ECOM06X0	NISKECOM4 UNIVERSAL KIT (w/ 15 cm DB26 cable)	Mini-PCIeto 4 PORT RS232 MODULE w/Universal Bracket

NISK2U Tray Kit

2U Height Universal Tray for NISE 300/NISE 301
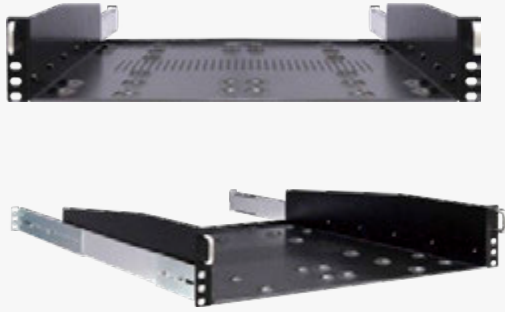
Main Features

- Standard industrial 2U height
- Easy installation for NISE 300/NISE 301
- Support sliding rail

Product Overview

NISK2U Tray kit is the fixed and sliding shelves which specifically designed for NISE 300 and NISE 301 systems. It can fix and hold two NISE 300 or four NISE 301 systems. When the tray is installed with custom sliding rails, it can be fully extended for easy access to equipments.

Specifications

Form Factor
- 2U 19" Height Universal Tray for NISE 300 and NISE 301 systems
- Compliant to the 19" rack-mount cabinet with 450mm (W) x 900/1000 mm (D) (according to EIA-310 standard)

Dimensions
- 482mm (W) x 539mm (D) x 88mm (H)

NISK2U Tray with NISE 300
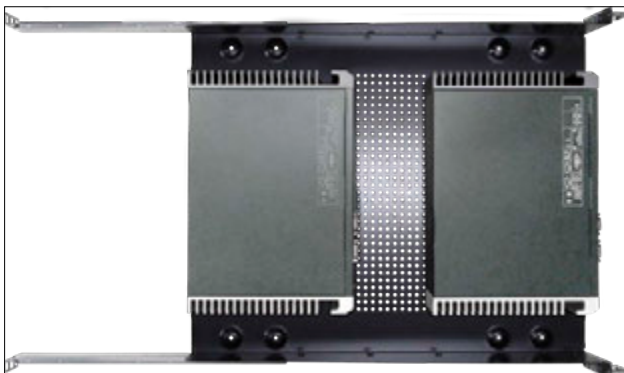
NISK2U Tray with NISE 301

NEXCOM
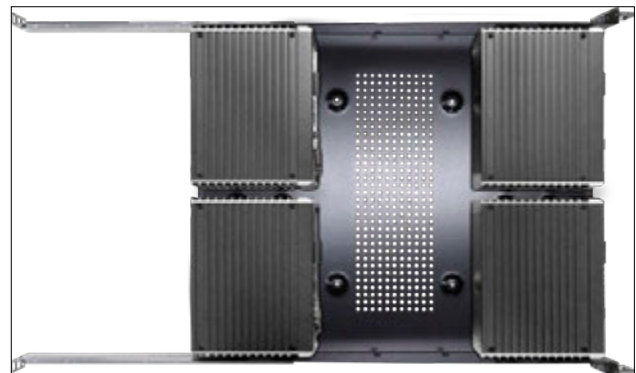
Dimension Drawing
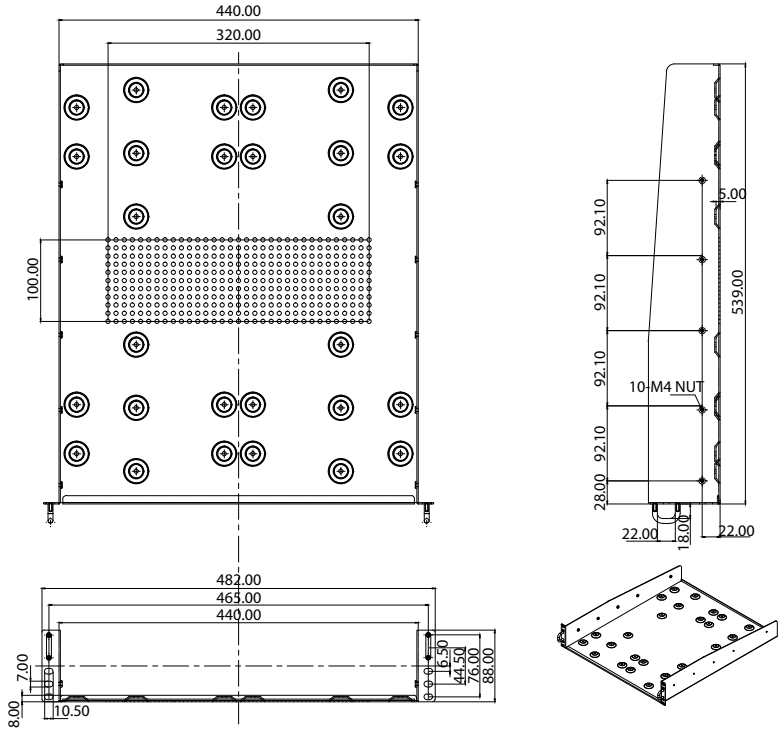
Ordering Information

Barebone

• **NISK2U Tray Kit for NISE 300 and NISE 301 (P/N: 10J00030007X0)**

NISE 3500

Intel® Core™ i7/i5 Fanless System
with VGA, DVI-I, eSATA and one Expansion Slot

Main Features

- Support Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® GbE LAN ports; Support WoL and PXE
- Dual VGA or VGA/DVI Independent Display

- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 5th RS232 (option: 4 x digital input, 4 x digital output)
- Support +9 to 30VDC power input; Support ATX power mode

Product Overview

Utilizing 32nm Intel® Core™ i7/i5 processor, NISE 3500 series feature Intel® Turbo Boost and Intel® Hyper-Threading technologies (2 cores, 4 threads), as well as on-processor graphics and two DDRIII 800/1066 memory modules up to 4GB. In addition, NISE 3500 provides a wide variety of display I/O configurations and rich I/O interfaces including two Intel® GbE Ethernet ports, 5 x COM ports, 6 x USB, 8 x GPIO, 2 x SATAII, 2 x eSATA, audio interfaces. NISE 3500M has more features than NISE 3500, for example, it is equipped with 3 x IEEE1394b ports and 1 x HDMI port. NISE 3500 is designed for a broad range of applications which demand intense graphics performance, these include medical diagnostic equipment, medical imaging, data storage, industrial automation, public infotainment, surveillance security applications.

Specifications

Main Board
- NISB 3500
- OnBoard Mobile Intel® QM57 Platform Controller Hub
- Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory
- 2 x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM, un-buffered and non-ECC
- * Note: Actual memory size is dynamic based on the OS I/O resource allocation

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- 2 x USB 2.0 ports
- 2 x eSATA ports

I/O Interface-Rear
- 2-pin Remote Power on/ff switch
- +9 to 30VDC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB9 for COM5, RS232 (option: 4 x GPI and 4 x GPO)
- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with auto flow control)

- 2 x GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I port
- 1 x Line-out and 1 x Mic-in

Device
- 1 x 2.5" HDD driver bay

Expansion
- 1 x PCI expansion (10W max./per slot)
- Add-on card length: 169mm max.

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from +9 to 30VDC
- Optional power adapter

Dimensions
- 195mm (W) x 268mm (D) x 80mm (H) (7.7" x 10.5" x 3.1")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5℃ to 55℃
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)

126   Fanless Computer

NEXCOM

Dimension Drawing

- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class B
- UL/cUL
- e13

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits

Ordering Information

Barebone

- **NISE 3500 (P/N: 10J00350000X0) RoHS Compliant**
  Intel® Core™ i7/i5 Fanless System with one PCI Expansion Slot

- **19V, 120W AC/DC Power Adapter w/ o power core**

  (P/N: 7410120002X00)

NISE 3500P2

Main Features

- Support Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® GbE LAN ports; Support WoL and PXE
- Dual VGA or VGA/DVI Independent Display

- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 5th RS232 (option: 4 x digital input, 4 x digital output)
- Support +9 to 30VDC power input; Support ATX power mode

Product Overview

Utilizing 32nm Intel® Core™ i7/i5 processor, NISE 3500 series feature Intel® Turbo Boost and Intel® Hyper-Threading technologies (2 cores, 4 threads), as well as on-processor graphics and two DDRIII 800/1066 memory modules up to 4GB. In addition, NISE 3500 provides a wide variety of display I/O configurations and rich I/O interfaces including two Intel® GbE Ethernet ports, 5 x COM ports, 6 x USB, 8 x GPIO, 2 x SATAII, 2 x eSATA, audio interfaces. NISE 3500M has more features than NISE 3500, for example, it is equipped with 3 x IEEE1394b ports and 1 x HDMI port. NISE 3500 is designed for a broad range of applications which demand intense graphics performance, these include medical diagnostic equipment, medical imaging, data storage, industrial automation, public infotainment, surveillance security applications.

Specifications

Main Board
- NISB 3500
- OnBoard Mobile Intel® QM57 Platform Controller Hub
- Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory
- 2 x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM, unbuffered and non-ECC
- * Note: Actual memory size is dynamic based on the OS I/O resource allocation

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- 2 x USB 2.0 ports
- 2 x eSATA ports

I/O Interface-Rear
- 2-pin Remote Power on/off switch
- +9 to 30VDC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB9 for COM5, RS232 (option: 4 x GPI and 4 x GPO)
- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with auto flow control)

- 2 x GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I port
- 1 x Line-out and 1 x Mic-in

Device
- 1 x 2.5" HDD driver bay

Expansion
- 2 x PCI expansion (10W max./per slot)
- Add-on card length: 169mm max.

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from +9 to 30VDC
- Optional power adapter

Dimensions
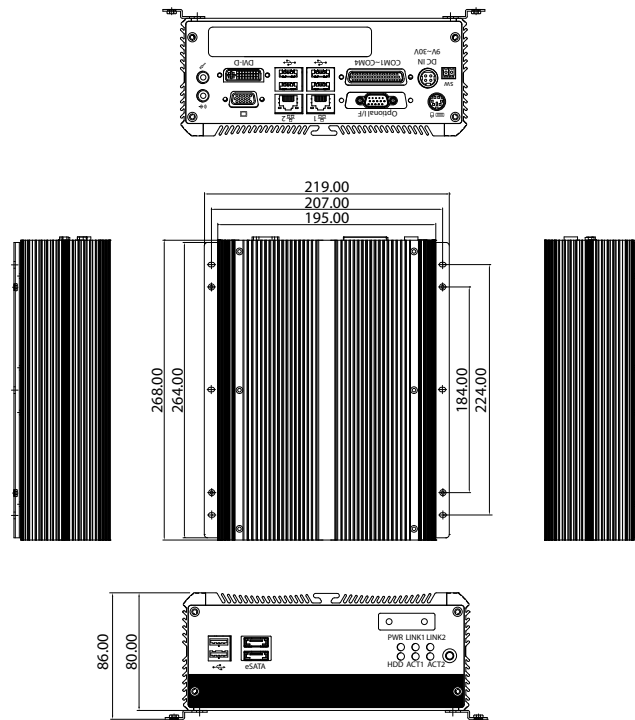- 195mm (W) x 268mm (D) x 101mm (H) (7.7" x 10.5" x 3.98")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)

Dimension Drawing
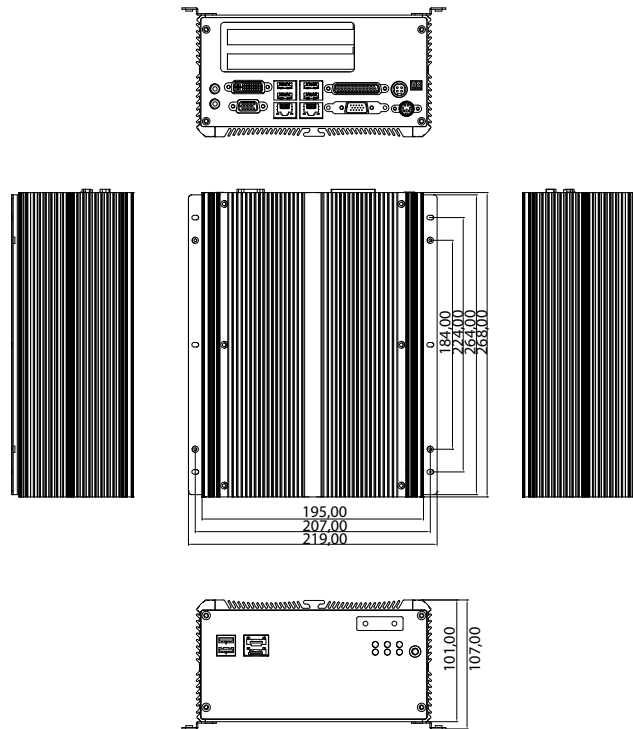
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class B
- UL/cUL
- e13

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits

Ordering Information

Barebone

- **NISE 3500P2 (P/N: 10J00350002X0) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with two PCI expansion slots

- **NISE 3500P2E (P/N: 10J00350004X0) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with one PCI and one PCIex1 expansion sots (MoQ is required)

- **NISE 3500E2 (P/N: 10J00350005X0) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with two PCIex1 expansion slots (MoQ is required, not in UL model list)

- **NISE 3500P2E4 (P/N: 10J00350017X0) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with one PCI and one PCIex4 expansion slots (MoQ is required, not in UL model list)

- **19V, 120W AC/DC power adapter w/ o power core**

  (P/N: 7410120002X00)

NISE 3500M

Main Features

- Support Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® GbE LAN ports; Support WoL and PXE
- Dual VGA or VGA/DVI or DVI/HDMI Independent Display

- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 5th RS232 (option: 4 x digital input, 4 x digital output)
- 3 x IEEE1394b ports, 2 x eSATA
- Support +9 to 30VDC power input; Support ATX power mode

Product Overview

Utilizing 32nm Intel® Core™ i7/i5 processor, NISE 3500 series feature Intel® Turbo Boost and Intel® Hyper-Threading technologies (2 cores, 4 threads), as well as on-processor graphics and two DDRIII 800/1066 memory modules up to 4GB. In addition, NISE 3500 provides a wide variety of display I/O configurations and rich I/O interfaces including two Intel® GbE Ethernet ports, 5 x COM ports, 6 x USB, 8 x GPIO, 2 x SATAII, 2 x eSATA, audio interfaces. NISE 3500M has more features than NISE 3500, for example, it is equipped with 3 x IEEE1394b ports and 1 x HDMI port. NISE 3500 is designed for a broad range of applications which demand intense graphics performance, these include medical diagnostic equipment, medical imaging, data storage, industrial automation, public infotainment, surveillance security applications.

Specifications

Main Board
- NISB 3500
- OnBoard Mobile Intel® QM57 Platform Controller Hub
- Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory
- 2 x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM, un-buffered and non-ECC
- * Note: Actual memory size is dynamic based on the OS I/O resource allocation

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- 2 x USB 2.0 ports
- 2 x eSATA ports
- 3 x IEEE1394b ports
- 1 x HDMI

I/O Interface-Rear
- 2-pin Remote Power on/ff switch
- +9V to 30VDC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB9 for COM5, RS232 (option: 4 x GPI and 4 x GPO)

- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with auto flow control)
- 2 x GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I port
- 1 x Line-out and 1 x Mic-in

Device
- 1 x 2.5" HDD driver bay

Expansion
- 1 x PCI expansion (10W max./per slot)
- Add-on card length: 169mm max.

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from +9 to 30VDC
- Optional power adapter

Dimensions
- 195mm (W) x 268mm (D) x 80mm (H) (7.7" x 10.5" x 3.1")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:

Dimension Drawing

Ambient with air flow: -5°C to 55°C
(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class B
- UL/cUL
- e13

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits

Ordering Information

Barebone

- **NISE 3500M (P/N: 10J00350001X0) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with one PCI expansion slot

- **NISE 3500ME (P/N: 10J00350014X2) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with one PCIex1 expansion slot
  (MoQ is required)

- **19V, 120W non-medical grade AC/DC power adapter**
  w/ o power core (P/N: 7410120002X00)

NISE 3500M2E

Intel® Core™ i7/i5 Fanless System
with IEEE 1394b, eSATA, HDMI and one Expansion Slot

Main Features

- Support Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® GbE LAN ports; Support WoL and PXE
- Dual VGA or VGA/DVI or DVI/HDMI Independent Display
- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control

- 5th RS232 (option: 4 x digital input, 4 x digital output)
- 3 x IEEE1394b ports, 2 x eSATA
- Support +9V to 30VDC power input; Support ATX power mode
- 1 x PCI expansion slots and 1 x PCIe expansion slots

Product Overview

Utilizing 32nm Intel® Core™ i7/i5 processor, NISE 3500 series feature Intel® Turbo Boost and Intel® Hyper-Threading technologies (2 cores, 4 threads), as well as on-processor graphics and two DDRIII 800/1066 memory modules up to 4GB. In addition, NISE 3500 provides a wide variety of display I/O configurations and rich I/O interfaces including two Intel® GbE Ethernet ports, 5 x COM ports, 6 x USB, 8 x GPIO, 2 x SATAII, 2 x eSATA, audio interfaces. NISE 3500M has more features than NISE 3500, for example, it is equipped with 3 x IEEE1394b ports and 1 x HDMI port. NISE 3500 is designed for a broad range of applications which demand intense graphics performance, these include medical diagnostic equipment, medical imaging, data storage, industrial automation, public infotainment, surveillance security applications.

Specifications

Main Board
- NISB 3500
- OnBoard Mobile Intel® QM57 Platform Controller Hub
- Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory
- 2 x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM,
- unbuffered and non-ECC
- * Note: Actual memory size is dynamic based on the OS I/O resource allocation

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- 2 x USB 2.0 ports
- 2 x eSATA ports
- 3 x IEEE1394b ports
- 1 x HDMI

I/O Interface-Rear
- 2-pin Remote Power on/ff switch
- +9V to 30VDC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB9 for COM5, RS232 (option: 4 x GPI and 4 x GPO)

- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with auto fl ow control)
- 2 x GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I port
- 1 x Line-out and 1 x Mic-in

Device
- 2 x 2.5" HDD driver bay (support RAID 0/1 functions)

Expansion
- 1 x PCI expansion (10W max./per slot)
- 1 x PCIe expansion (10W max./per slot)
- Add-on card length: 169mm max.

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from +9 to 30VDC
- Optional power adapter

Dimensions
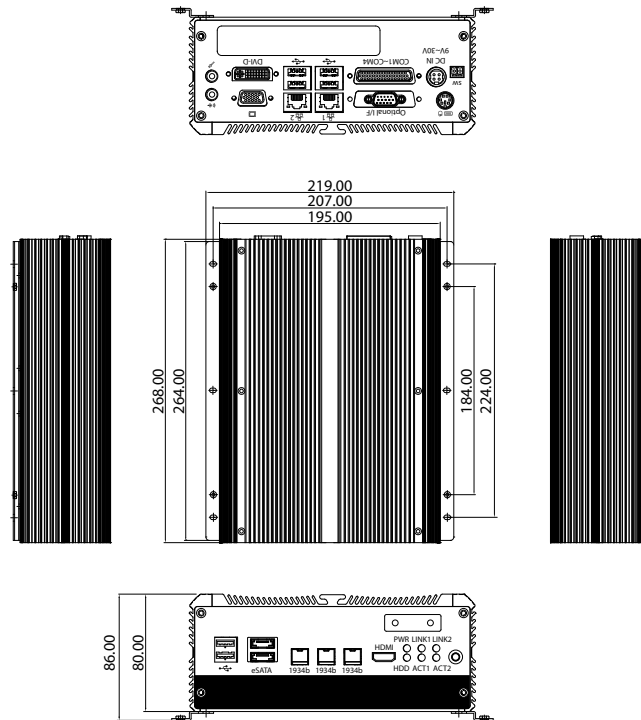- 195mm (W) x 268mm (D) x 101mm (H) (7.7" x 10.5" x 3.98")

Construction
- Aluminum Chassis with fanless design

132   Fanless Computer

NEXCOM

Dimension Drawing

Environment

- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications

- CE approval
- FCC Class B
- UL/cUL
- e13

OS Support Lists

- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits

Ordering Information

Barebone

- **NISE 3500M2E (P/N: 10J00350003X0) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with one PCI expansion and
  one PCIex1 expansion slot

- **NISE 3500M2 (P/N: 10J00350006X0) RoHS Compliant**
  Intel® Core™ i7/i5 fanless system with two PCI expansion
  (MoQ is required)

- **19V, 120W non-medical grade AC/DC power adapter**
  w/ o power core (P/N: 7410120002X00)

NISE 3520

Main Features

- Support Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® GbE LAN ports; Support WoL and PXE
- Dual VGA or VGA/DVI or DVI/HDMI Independent Display

- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 1 x Mini-PCIe socket with one external SIM card holder
- Support +9V to 30VDC power input; Support ATX power mode

Product Overview

A wireless-ready system, Utilizing 32nm Intel® Core™ i7/i5 processor, NISE 3520 series feature Intel® Turbo Boost and Intel® Hyper-Threading technologies (2 cores, 4 threads), as well as on-processor graphics and two DDRIII 800/1066 memory modules up to 4GB. In addition, NISE 3520 provides a wide variety of display I/O configurations and rich I/O interfaces including two Intel® GbE Ethernet ports, 4 x COM ports, 6 x USB, 8 x GPIO, 1 x Mini-PCIe socket, 1 x SIM card holder, 1 x HDMI and mobile audio interfaces. NISE 3520 is designed for a broad range of applications which demand intense graphic performance, these include medical diagnostic equipment, medical imaging, data storage, industrial automation, public infotainment, surveillance security applications. With mobile communication ability, NISE 3520 can be applied to mobile application or those applications where cannot reach LAN cable, for example, mobile DVR, Kiosk and Data Acquisition in the field.

Specifications

Main Board
- NISB3520
- OnBoard Mobile Intel® QM57 Platform Controller Hub
- Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory
- 2 x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM, unbuffered and non-ECC
- * Note: Actual memory size is dynamic based on the OS I/O resource allocation

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- Wireless Active LEDs
- 2 x Antenna holes
- 2 x USB 2.0 ports
- 1 x Line-out and 1 x Mic-in
- 1 x HDMI
- 1 x External SIM card holder

I/O Interface-Rear
- 2-pin Remote Power on/ff switch

- +9V to 30VDC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB15 male connector for GPIO (4 x input and 4 x output)
- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with auto flow control)
- 2 x GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I port
- 1 x Line-out and 1 x Mic-in

Device
- 1 x 2.5" HDD driver bay

Expansion
- 1 x PCI expansion (10W max./nper slot)
  Add-on card length: 169mm max
- 1 x Mini-PCIe socket
  Default: support optional 3.5G module
  Option: support optional Wi-Fi module

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from +9 to 30VDC
- Optional power adapter

NEXCOM

Dimension Drawing

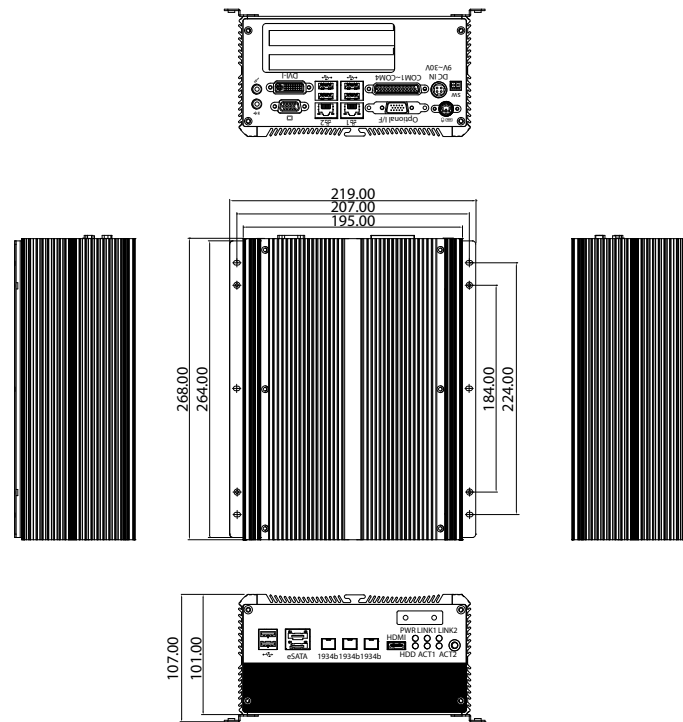

Dimensions
- 195mm (W) x 268mm (D) x 80mm (H) (7.7" x 10.5" x 3.1")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class B

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits

Ordering Information

Barebone

- **NISE 3520 (P/N: 10J00352000X0) RoHS Compliant**
  Intel® Core™ i7/i5 Fanless System with one PCI Expansion Slot

- **19V, 120W AC/DC Power Adapter w/ o power core**

  (P/N: 7410120002X00)

NISE 3520P2/P2E

Main Features

- Support Intel® Core™ i7/i5 socket processor
- Mobile Intel® QM57 PCH
- Dual Intel® GbE LAN ports; Support WoL and PXE
- Dual VGA or VGA/DVI or DVI/HDMI Independent Display

- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 1 x Mini-PCIe socket with one external SIM card holder
- Support +9V to 30VDC power input; Support ATX power mode

Product Overview

A wireless-ready system, Utilizing 32nm Intel® Core™ i7/i5 processor, NISE 3520 series feature Intel® Turbo Boost and Intel® Hyper-Threading technologies (2 cores, 4 threads), as well as on-processor graphics and two DDRIII 800/1066 memory modules up to 4GB. In addition, NISE 3520 provides a wide variety of display I/O configurations and rich I/O interfaces including two Intel® GbE Ethernet ports, 5 x COM ports, 6 x USB, 8 x GPIO, 1 x Mini-PCIe socket, 1 x SIM card holder, 1 x HDMI, 2 x GSM audio, 2 x PCI slot. NISE 3520 is designed for a broad range of applications which demand intense graphics performance, these include medical diagnostic equipment, medical imaging, data storage, industrial automation, public infotainment, surveillance security applications.

Specifications

Main Board
- NISB3500M
- OnBoard Mobile Intel® QM57 Platform Controller Hub
- Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory
- 2 x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM, unbuffered and non-ECC
- * Note: Actual memory size is dynamic based on the OS I/O resource allocation

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- Wireless Active LEDs
- 2 x Antenna holes
- 2 x USB 2.0 ports
- 1 x Line-out and 1 x Mic-in
- 1 x HDMI
- 1 x External SIM card holder

I/O Interface-Rear
- 2-pin Remote Power on/off switch
- +9V to 30VDC input
- 1 x PS/2 for Keyboard/Mouse

- 1 x DB15 male connector for GPIO (4 x input and 4 x output)
- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with auto flow control)
- 2 x GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I port
- 1 x Line-out and 1 x Mic-in

Device
- 1 x 2.5" HDD driver bay

Expansion
- 2 x PCI expansion (NISE 3520P2 only, 10W max./per slot)
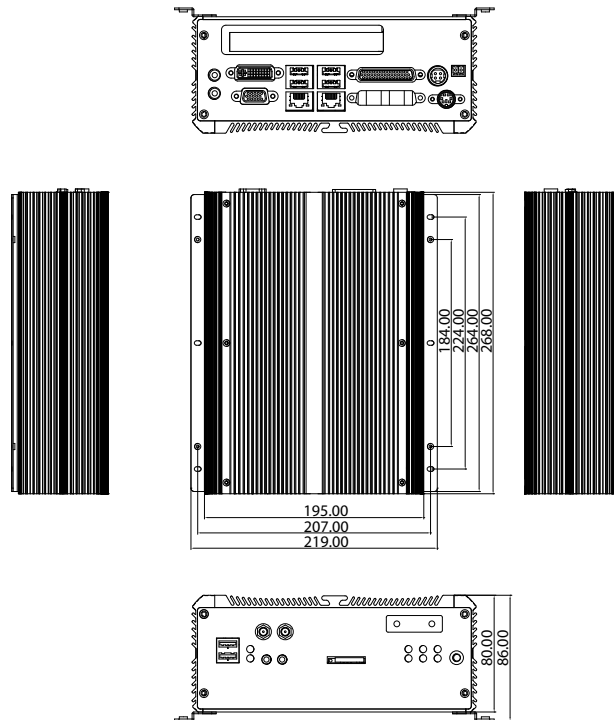- 1 x PCI & 1 x PCIex1 expansion (NISE 3520P2E only, 10W max./per slot
- Add-on card length: 169mm max
- 1 x Mini-PCIe socket
  - Default: support optional 3.5G module
  - Option: support optional Wi-Fi module

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from 9V to 30VDC
- Optional power adapter

Dimensions
- 195mm (W) x 268mm (D) x 101mm (H) (7.7" x 10.5" x 3.98")

NEXCOM

Dimension Drawing

Construction
• Aluminum Chassis with fan-less design

Environment
• Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
• Storage temperature: -20°C to 80°C
• Relative humidity: 10% to 93% (non-condensing)
• Shock protection:
  HDD: 20G, half sine, 11ms, IEC60068-2-27
• Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
• CE approval
• FCC Class B

OS Support Lists
• Windows XP 32bits and 64bits
• Windows 7 32bits and 64bits

Ordering Information

Barebone

• **NISE 3520P2 (P/N: 10J00352002X0) RoHS Compliant**
  Intel® Core™ i7/i5 Fanless System with two PCI Expansion slot

• **NISE 3520P2E (P/N: 10J00352003X0) RoHS Compliant**
  Intel® Core™ i7/i5 Fanless System with one PCI and one PCIex1 Expansion slots

• **19V, 120W AC/DC Power Adapter w/ o power core (P/N: 7410120002X00)**

NISE 3600E

Main Features

- Support 3rd generation Intel® Core™ i7/i5/i3 rPGA socket type processor
- Mobile Intel® QM77 PCH
- Support 1 x 2.5" SATA HDD or 2 x SATA DOM
- 1 x VGA, 1 x DVI-D and 2 x Display port with Independent Display support
- Dual Intel® GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 3.0, 2 x USB 2.0, 5 x RS232 and 1 x RS232/422/485
- 1 x internal Mini-PCIe socket support optional Wi-Fi or 3.5G module
- 1 x external CFast socket & 1 x SIM card socketSupport
- Support +9V to 30VDC input; Support ATX power mode
- One PCIex4 expansion

Product Overview

Integrated with 3rd generation Intel® Core™ i7/i5/i3 with QM77 PCH platform, NISE series evolve to a new generation called NISE 3600E series. It is not only sustained its good reputation on quality and user friendly features but also innovated its mechanical design.

With computing and graphic performance enhancement, NISE 3600E series supports 2 x display port, 1 x VGA port and 1 x DVI-D port to fulfill the graphic intensive or computing oriented applications, including Auto Optical Inspection, Machinery Automation, ePolice infotainment, Surveillance or Image Processing equipment and Healthcare industry. In addition, NISE 3600E series offers 4 x USB 3.0 and 2 x USB 2.0, greater expansion capability with 2 x Intel® GbE LAN ports, 6 x COM ports, and 1 x external CFast socket for front accessible availability. NISE 3600E series is sufficient to support wide range of DC input from +9 to 30V and ATX power; it is a new generation to meet most application requirements.

Specifications

CPU Support

- Support 3rd Generation Intel® Core i7/i5/i3 rPGA Socket Type Processor
  - Core™ i7-3632QM, Quad Core, 3.2GHz, 6M Cache
  - Core™ i7-3612QM, Quad Core, 3.1GHz, 6M Cache
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support Three Independent Display with above processors

Main Memory

- 2 x DDR3 SO-DIMM socket, supports up to 8GB DDR3/DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC

Display Option

- Three Independent Display (only support on 3rd Generation Processor)
  - Two Display Port and 1 x VGA
  - Two Display Port and 1 x DVI-D
- Dual Independent Display
  - VGA and DVI-D
  - Display Port and VGA
  - Display Port and DVI-D
  - Display Port and Display Port

I/O Interface-Front

- ATX power on/off switch
- HDD Access/Power status LEDs
- 2 x USB 3.0 ports (Blue Color)
- 2 x Display Port
  (Can be converted to DVI-D or HDMI via active cables)
- 2 x Antenna holes
- 1 x external CFast
- 1 x SIM card socket

I/O Interface-Rear

- 2 x DB9 for COM5 & COM6 (RS232)
- 1 x DB44 Serial Port for 4 x COM port
  - COM1/COM3/COM4: RS232
  - COM2: RS232/422/485
- 2 x Intel® GbE LAN ports (Intel® 82574L and 82579LM); Support WoL, Teaming and PXE
- 2 x USB 2.0 ports
- 2 x USB 3.0 ports (Blue Color)
- 1 x DB15 VGA port
- 1 x DVI-D port
- 1 x Line-out and 1 x Mic-in
- 2-pin Remote Power on/off switch
- +9V to 30VDC input

NEXCOM

Dimension Drawing

Storage Device
- 1 x CFast socket
- 1 x 2.5" SATA HDD or 2 x SATA DOM
- SATA DOM: support 90°C horizontal type only

Expansion Slot
- One PCIex4 Expansion Slot
  - Add-on card length: 169mm max.
  - Power consumption: 10W/ slot max.
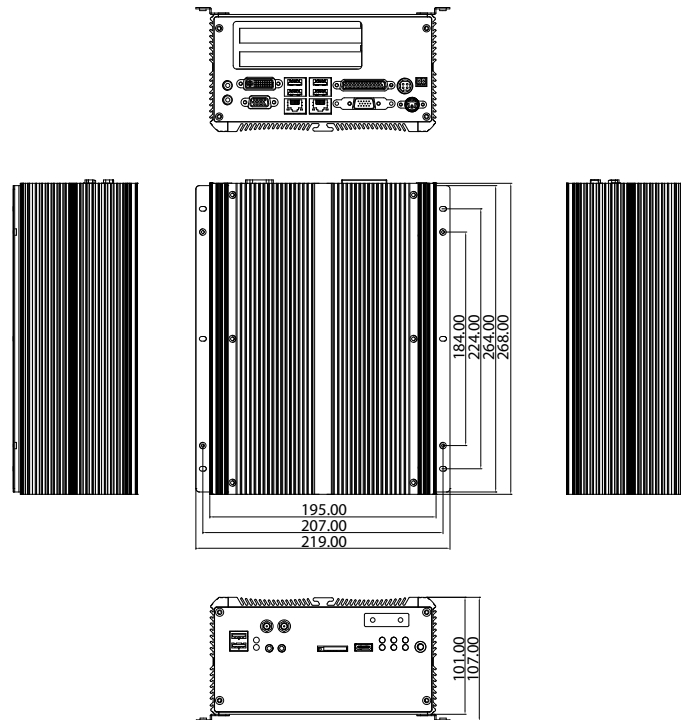- 1 x Mini-PCIe socket (support optional Wi-Fi or 3.5G module)

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from 9V to 30VDC
- Optional power adapter

Dimensions
- 215mm (W) x 272mm (D) x 93mm (H) without wall mount bracket (8.5" x 10.7" x 4.5")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  Ambient with air flow: -5°C to 50°C if using Core™ i7-3612QM
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 95% at 40°C
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A
- UL

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3600E (P/N: 10J00360000X0)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with one PCIex4 Expansion

- **NISE 3600E2 (P/N: 10J00360001X2)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with two PCIex4 Expansion

- **NISE 3600P2 (P/N: 10J00360002X0)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with two PCI Expansion

- **NISE 3600P2E (P/N: 10J00360003X0)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with one PCI Expansion and one PCIex4 Expansion

- **19V, 120W AC/DC power adapter w/ o power core**

  (P/N: 7410120002X00)

NISE 3600E2/P2/P2E

Main Features

- Support 3rd generation Intel® Core™ i7/i5/i3 rPGA socket type processor
- Mobile Intel® QM77 PCH
- Support 1 x 2.5" SATA HDD or 2 x SATA DOM
- 1 x VGA, 1 x DVI-D and 2 x Display port with Independent Display support

- Dual Intel® GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 3.0, 2 x USB 2.0, 5 x RS232 and 1 x RS232/422/485
- 1 x internal Mini-PCIe socket support optional Wi-Fi or 3.5G module
- 1 x external CFast socket & 1 x SIM card socket
- Support +9V to 30VDC input; Support ATX power mode
- Two PCI or PCIex4 expansion

Product Overview

Integrated with 3rd generation Intel® Core™ i7/i5/i3 with QM77 PCH platform, NISE series evolve to a new generation called NISE 3600E series. It is not only sustained its good reputation on quality and user friendly features but also innovated its mechanical design.

With computing and graphic performance enhancement, NISE 3600E series supports 2 x display port, 1 x VGA port and 1 x DVI-D port to fulfill the graphic intensive or computing oriented applications, including Auto Optical Inspection, Machinery Automation, ePolice infotainment, Surveillance or Image Processing equipment and Healthcare industry. In addition, NISE 3600E series offers 4 x USB 3.0 and 2 x USB 2.0, greater expansion capability with 2 x Intel® GbE LAN ports, 6 x COM ports, and 1 x external CFast socket for front accessible availability. NISE 3600E series is sufficient to support wide range of DC input from +9 to 30V and ATX power; it is a new generation to meet most application requirements.

Specifications

CPU Support
- Support 3rd generation Intel® Core™ i7/i5/i3 rPGA Socket Type Processor
  - Core™ i7-3632QM, Quad Core, 3.2GHz, 6M Cache
  - Core™ i7-3612QM, Quad Core, 3.1GHz, 6M Cache
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support Three Independent Display with above processors

Main Memory
- 2 x DDR3 SO-DIMM socket, supports up to 8GB DDR3/DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC

Display Option
- Three Independent Display (only support on 3rd Generation Processor)
  - Two Display Port and 1 x VGA
  - Two Display Port and 1 x DVI-D
- Dual Independent Display
  - VGA and DVI-D
  - Display Port and VGA
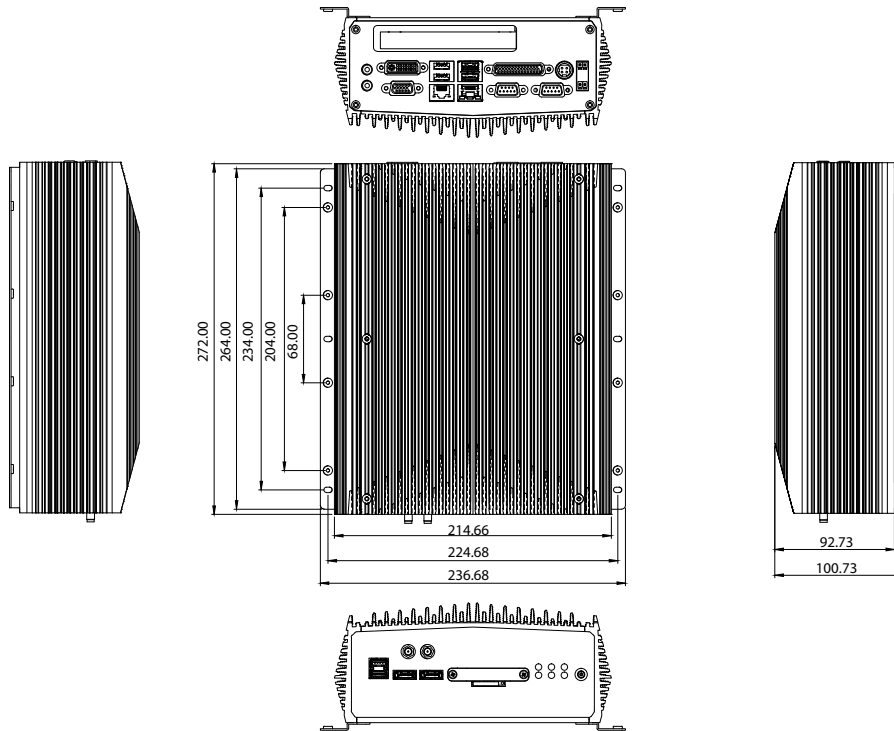 - Display Port and DVI-D
  - Display Port and Display Port

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- 2 x USB 3.0 ports (Blue Color)
- 2 x Display Port (Can be converted to DVI-D or HDMI via active cables)
- 2 x Antenna holes
- 1 x external CFast
- 1 x SIM card socket

I/O Interface-Rear
- 2 x DB9 for COM5 & COM6 (RS232)
- 1 x DB44 Serial Port for 4 x COM port
  - COM1/COM3/COM4: RS232
  - COM2: RS232/422/485
- 2 x Intel® GbE LAN ports (Intel® 82574L and 82579LM); Support WoL, Teaming and PXE
- 2 x USB 2.0 ports
- 2 x USB 3.0 ports (Blue Color)
- 1 x DB15 VGA port
- 1 x DVI-D port
- 1 x Line-out and 1 x Mic-in
- 2-pin Remote Power on/off switch
- +9V to 30VDC input

Dimension Drawing
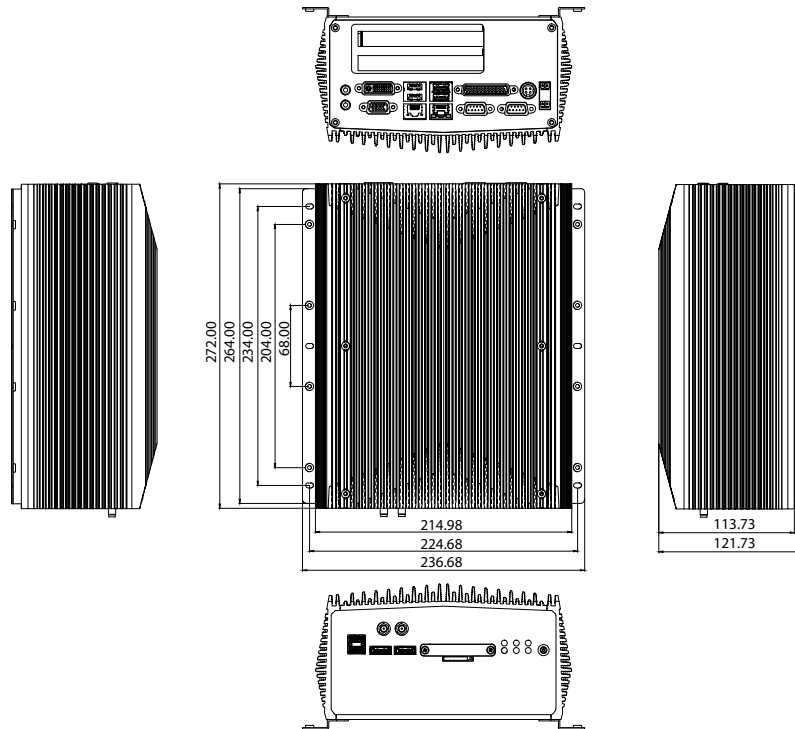
Storage Device
- 1 x CFast socket
- 1 x 2.5" SATA HDD or 2 x SATA DOM
- SATA DOM: support 90°C horizontal type only

Expansion Slot
- NISE 3600E2: Two PCIex4 Expansion Slot
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power consumption: 10W/ slot max.
- NISE 3600P2: Two PCI Expansion Slot
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power consumption: 10W/ slot max.
- NISE 3600P2E: One PCIex4 and One PCI Expansion Slot
  - Add-on card length: 169mm max. for PCIex4 and 240mm max. for PCI expansion
  - Power consumption: 10W/ slot max.
- 1 x Mini-PCIe socket (Support optional Wi-Fi or 3.5G module)

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from 9V to 30VDC
- Optional power adapter

Dimensions
- 215mm (W) x 272mm (D) x 114mm (H) without wall mount bracket (8.5" x 10.7" x 4.5")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 50°C if using Core™ i7-3612QM
  Ambient with air flow: -5°C to 55°C (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 95% at 40°C

- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A
- UL

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3600E (P/N: 10J00360000X0)**
  3rd Generation Intel® Core™ i3/i5 rPGA Fanless System with one PCIex4 Expansion

- **NISE 3600E2 (P/N: 10J00360001X2) RoHS Compliant**
  3rd Generation Intel® Core™ i5/i3 Fanless System with two PCIex4 Expansion

- **NISE 3600P2 (P/N: 10J00360002X0)**
  3rd Generation Intel® Core™ i3/i5 rPGA Fanless System with two PCI Expansion

- **NISE 3600P2E (P/N: 10J00360003X0)**
  3rd Generation Intel® Core™ i3/i5 rPGA Fanless System with one PCI Expansion and one PCIex4 Expansion

- **19V, 120W AC/DC power adapter w/ o power core (P/N: 7410120002X00)**

NISE 3640E

Main Features

- OnBoard 3rd generation Intel® Core™ i7 BGA processor
- Mobile Intel® QM77 PCH
- Support 1 x 2.5" SATA HDD or 2 x SATA DOM
- 2 x Display Port; 1 x VGA; 1 x DVI-D; 2 x USB 3.0; 2 x USB 2.0
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE

- 2 x DB9 for RS232/422/485; 1 x DB44 Serial Port for 4 x RS232
- 1 x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module
- 1 x CFast socket; 1 x SIM card socket
- Support +24VDC input; Support ATX Power mode
- 1 x PCIex4 expansion

Product Overview

Integrated with 3rd generation Intel® Core™ i7 with QM77 PCH platform, NISE 3640E series designed with 4 x Intel® 82574IT GbE LAN controllers which can support up to 4 cameras and better throughput; besides, NISE 3640E series also supports WoL, LAN Teaming and PXE function. With computing and graphic performance enhancement, NISE 3640E series support 3 independent display and deliver a level of performance ideal for image and vision measurement on traffice control, overspeed monitoring, real time update and ePlice. More, NISE 3640E seires support 2 x RS232/422/485, 4 x RS232, 2 x USB 3.0, 2 x USB 2.0, 1 x CFast socket, 1 x SIM card socket, and 1 x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module.

Leveraging a reliable fanless, durable cable-free design and wide operating temperature, NISE 3640E series can be exhibited in harsh environments, where severe temperature variation and vibration may exist.

Specifications

CPU Support
- Onboard BGA 3rd generation Intel® Core™ i7/i5/i3 processors
  - Core™ i7-3517UE, Dual Core, 1.7GHz, 4M Cache (Onboard Default)
  - Core™ i5-3437U, Dual Core, 2.9GHz, 3M Cache
  - Core™ i3-3217UE, Dual Core, 1.6GHz, 3M Cache
  - Celeron 1047UE, Dual Core, 1.4GHz, 2M Cache
- Mobile Intel® QM77 PCH

Main Memory
- On-board 2 x DDR3/DDR3L SO-DIMM, supports up to 8GB DDR3/ DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Display Option
- Three Independent Display
  (only support on 3rd Generation Processor)
  - Two Display Port and 1 x VGA
  - Two Display Port and 1 x DVI-D
- Dual Independent Display
  - VGA and DVI-D
  - Display Port and VGA

I/O Interface-Front
- ATX power on/off switch

- HDD access/Power status/LAN status LEDs
- 2 x USB 3.0 (Blue color)
- 2 x USB 2.0
- 2 x Display Port (Can be converted to DVI-D or HDMI via active cables)
- 1 x CFast socket
- 1 x SIM card socket
- 2 x Antenna holes

I/O Interface-Rear
- 2 x DB9 for RS232/422/485
- 1 x DB44 for 4 x RS232
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 1 x DB15 VGA port
- 1 x DVI-D
- 1 x Line-out and 1 x Mic-in
- 2-pin Remote Power on/off switch
- +24VDC Input

Storage Device
- 1 x 2.5" SATA HDD or 2 x SATA DOM (support 90°C horizontal type only)
- 1 x CFast socket

Expansion Slot
- One PCIex4 Expansion Slot

Dimension Drawing

- Add-on card length: 169mm max.
- Power consumption: 10W/ slot max.
• 1 x Mini-PCIe socket (support optional Wi-Fi or 3.5G module)

Power Requirements
• ATX Power mode
• Support +24VDC Input
• Optional power adapter

Dimensions
• 215mm (W) x 272mm (D) x 93mm (H) without wall mount bracket (8.5" x 10.7" x 3.7")

Construction
• Aluminum Chassis with fanless design

Environment
• Operating temperature:
  Ambient with air flow: -20°C to 60°C with industrial grade device (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
  Ambient with air flow: -20°C to 70°C with industrial grade SSD
• Storage temperature: -30°C to 85°C
• Relative humidity: 95% at 40°C
• Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
• Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
• CE approval
• FCC Class A

OS Support Lists
• Windows XP 32bits and 64bits
• Windows 7 32bits and 64bits
• Windows 8.1 32bits and 64bits

Ordering Information

Barebone

• **NISE 3640E (P/N: 10J00364000X0)**
  3rd Generation Intel® Core™ i7 Fanless System with One PCIex4 Expansion

• **NISE 3640E2 (P/N: 10J00364001X0)**
  3rd Generation Intel® Core™ i7 Fanless System with Two PCIex4 Expansion

• **NISE 3640P2 (P/N: 10J00364002X0)**
  3rd Generation Intel® Core™ i7 Fanless System with Two PCI Expansion

• **NISE 3640P2E (P/N: 10J00364003X0)**
  3rd Generation Intel® Core™ i7 Fanless System with One PCI Expansion and One PCIex4 Expansion

• **24V, 120W AC/DC power adapter w/ o power cord**

  (P/N: 7400120001X00)

NISE 3640E2/P2/P2E

3rd Generation Intel® Core™ i7 Fanless System
with 4 x LANs, 6 x COMs and PCI/PCIe Expansion

Main Features

- OnBoard 3rd generation Intel® Core™ i7 BGA processor
- Mobile Intel® QM77 PCH
- Support 1 x 2.5" SATA HDD or 2 x SATA DOM
- 2 x Display Port; 1 x VGA; 1 x DVI-D; 2 x USB 3.0; 2 x USB 2.0
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x DB9 for RS232/422/485; 1 x DB44 Serial Port for 4 x RS232

- 2 x Mini-PCIe sockets
  (Top side Mini-PCIe Socket support optional Wi-Fi or 3.5G module)
- 1 x CFast socket; 1 x SIM card socket
- Support +24VDC input; Support ATX Power mode
- Support PCI or PCIe expansion

Product Overview

Integrated with 3rd generation Intel® Core™ i7 with QM77 PCH platform, NISE 3640E2/P2/P2E designed with 4 x Intel® 82574IT GbE LAN controllers which can supports up to 4 cameras and better throughput; besides, 3640E2/P2/P2E also supports WoL, LAN Teaming and PXE function. With computing and graphic performance enhancement, NISE 3640E2/P2/P2E supports 3 independent display and delivers a level of performance ideal for image and vision measurement on traffice control, overspeed monitoring, real time update and ePlice. More, NISE 3640E2/P2/P2E supports 2 x RS232/422/485, 4 x RS232, 2 x USB 3.0, 2 x USB 2.0, 1 x CFast socket, 1 x SIM card socket, and 1 x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module. In NISE 3640E series, multiple chooses for PCI or PCIe expansion is also supported here.

Leveraging a reliable fanless, durable cable-free design and wide operating temperature, 3640E2/P2/P2E can be exhibited in harsh environments, where severe temperature variation and vibration may exist.

Specifications

CPU Support
- Onboard BGA 3rd generation Intel® Core™ i7/i5/i3 processors
  - Core™ i7-3517UE, Dual Core, 1.7GHz, 4M Cache (Onboard Default)
  - Core™ i5-3437U, Dual Core, 2.9GHz, 3M Cache
  - Core™ i3-3217UE, Dual Core, 1.6GHz, 3M Cache
  - Celeron 1047UE, Dual Core, 1.4GHz, 2M Cache
- Mobile Intel® QM77 PCH

Main Memory
- On-board 2 x DDR3/DDR3L SO-DIMM, supports up to 8GB DDR3/DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Display Option
- Three Independent Display
  (only support on 3rd Generation Processor)
  - Two Display Port and 1 x VGA
  - Two Display Port and 1 x DVI-D
- Dual Independent Display
  - VGA and DVI-D
  - Display Port and VGA

I/O Interface-Front
- ATX power on/off switch
- HDD access/Power status/LAN status LEDs
- 2 x USB 3.0 (Blue color)
- 2 x USB 2.0
- 2 x Display Port
  (Can be converted to DVI-D or HDMI via active cables)
- 1 x CFast socket
- 1 x SIM card socket
- 2 x Antenna holes

I/O Interface-Rear
- 2 x DB9 for RS232/422/485
- 1 x DB44 for 4 x RS232
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 1 x DB15 VGA port
- 1 x DVI-D
- 1 x Line-out and 1 x Mic-in
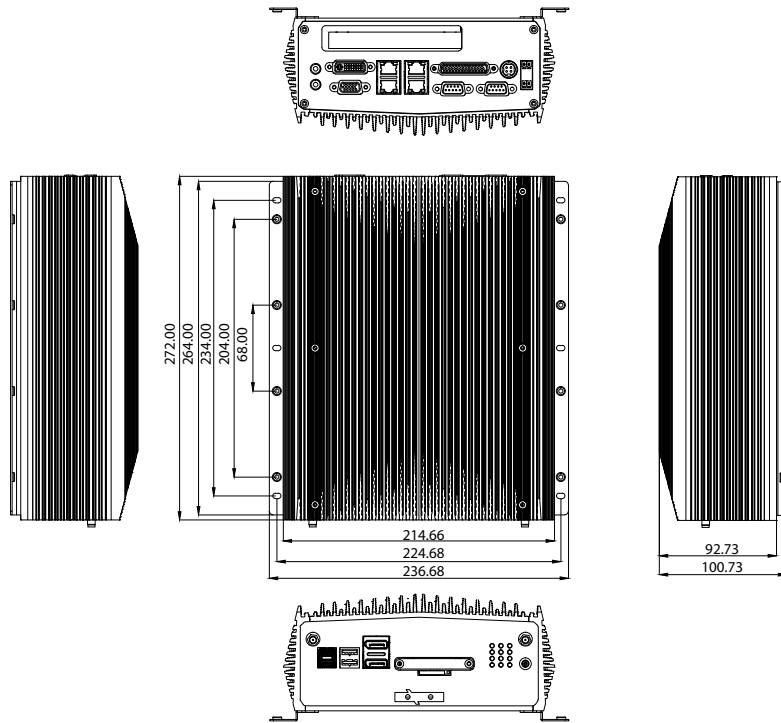- 2-pin Remote Power on/off switch
- +24VDC Input

Storage Device
- 1 x 2.5" SATA HDD or 2 x SATA DOM

NEXCOM

Dimension Drawing

(support 90°C horizontal type only)
+ 1 x CFast socket

Expansion Slot
+ NISE 3640E2: Two PCIex4 expansion
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power consumption: 10W/ slot max.
+ NISE 3640P2: Two PCI expansion
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power consumption: 10W/ slot max.
+ NISE 3640P2E: One PCI expansion and One PCIex4 expansion
  - Add-on card length: 169mm max. for PCIex4 and 240mm max. for PCI expansion
  - Power consumption: 10W/ slot max.
+ 2 x Mini-PCIe sockets
  (Top side Mini-PCIe Socket support optional Wi-Fi or 3.5G module)

Power Requirements
+ ATX Power mode
+ Support +24VDC Input
+ Optional power adapter

Dimensions
+ 215mm (W) x 272mm (D) x 114mm (H) without wall mount bracket (8.5" x 10.7" x 4.5")

Construction
+ Aluminum Chassis with fanless design

Environment
+ Operating temperature:
  Ambient with air flow: -20°C to 60°C with industrial grade device (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
  Ambient with air flow: -20°C to 70°C with industrial grade SSD
+ Storage temperature: -20°C to 80°C
+ Relative humidity: 95% at 40°C
+ Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27

  - CFast: 50G, half sine, 11ms, IEC60068-2-27
+ Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
+ CE approval
+ FCC Class A

OS Support Lists
+ Windows XP 32bits and 64bits
+ Windows 7 32bits and 64bits
+ Windows 8.1 32bits and 64bits

Ordering Information

Barebone

+ **NISE 3640E (P/N: 10J00364000X0)**
  3rd Generation Intel® Core™ i7 Fanless System with One PCIex4 Expansion

+ **NISE 3640E2 (P/N: 10J00364001X0)**
  3rd Generation Intel® Core™ i7 Fanless System with Two PCIex4 Expansion

+ **NISE 3640P2 (P/N: 10J00364002X0)**
  3rd Generation Intel® Core™ i7 Fanless System with Two PCI Expansion

+ **NISE 3640P2E (P/N: 10J00364003X0)**
  3rd Generation Intel® Core™ i7 Fanless System with One PCI Expansion and One PCIex4 Expansion

+ **24V, 120W AC/DC power adapter w/o power cord**

  (P/N: 7400120001X00)

NISE 3640M

Main Features

- OnBoard 3rd generation Intel® Core™ i7 BGA processor
- Mobile Intel® QM77 PCH
- Support 1x 2.5" SATA HDD or 2x SATA DOM
- 2x Display Port; 1x VGA; 1x DVI-D; 2x USB 3.0; 2x USB 2.0
- 4x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE

- 2x DB9 for RS232/422/485; 1x DB44 Serial Port for 4x RS232
- 1x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module
- 1x CFast socket; 1xSIM card socket;
- Support +24VDC input; Support ATX Power mode
- TUV/RH Certificate: EN60601-1:2006

Product Overview

Compliant with TUV/RH Certificate: EN60601-1:2006, NISE 3640M series designed specifically for medical applications in hospital, clinics, or any medical environments. This fanless system integrated with 3rd generation Intel® Core™ i7 with QM77 PCH platform and brings great processing power to all medical equipments.

With 4x Intel® 82574IT GbE LAN controllers which can support up to 4 cameras and better throughput; besides, NISE 3640M series also supports WoL, LANTeaming and PXE function. With computing and graphic performance enhancement, NISE 3640M series support 3 independent display and deliver a level of performance ideal for image and vision measurement on traffice control, overspeed monitoring, real time update and ePlice. More, NISE 3640M seires support 2x RS232/422/485, 4x RS232, 2x USB 3.0, 2x USB 2.0, 1x CFast socket, 1x SIM card socket, and 1x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module.

Leveraging a reliable fanless, durable cable-free design and wide operating temperature, NISE 3640M series can be exhibited in harsh environments, where severe temperature variation and vibration may exist.

Specifications

CPU Support
- OnBoard 3rd generation Intel® Core™ i7 BGA processor
  Core™ i7-3517UE, Dual Core, 1.7GHz, 4M Cache
- Mobile Intel® QM77 PCH

Main Memory
- On-board 2x DDR3/DDR3L SO-DIMM, supports up to 8GB DDR3/
  DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture
  configuration for shipment

Display Option
- Three Independent Display
  (only support on 3rd Generation Processor)
  - Two Display Port and 1x VGA
  - Two Display Port and 1x DVI-D
- Dual Independent Display
  - VGA and DVI-D
  - Display Port and VGA

I/O Interface-Front
- ATX power on/off switch

- HDD access/Power status/LAN status LEDs
- 2x USB 3.0 (Blue color)
- 2x USB 2.0
- 2x Display Port (Can be converted to DVI-D or HDMI via active cables)
- 1x CFast socket
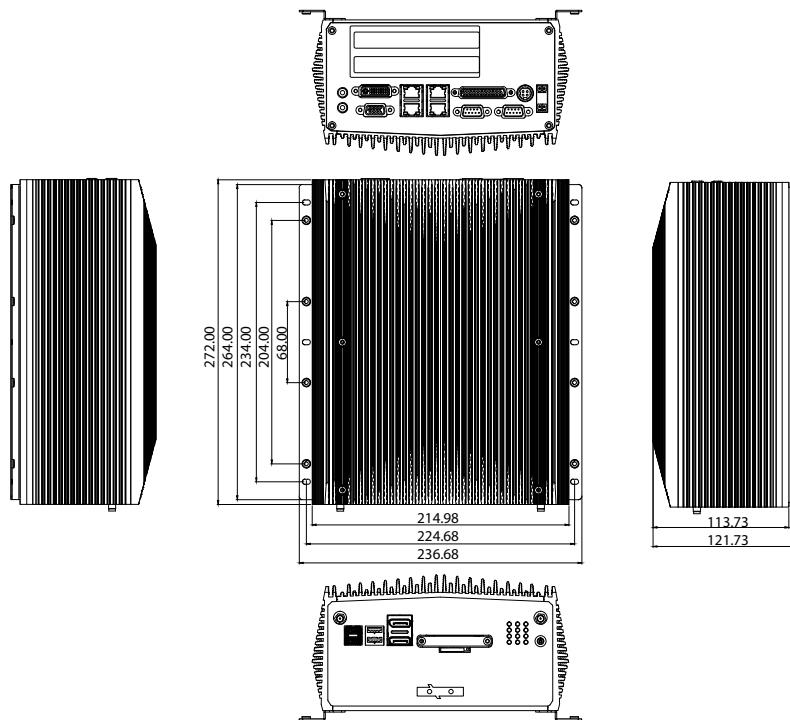- 1x SIM card socket
- 2x Antenna holes

I/O Interface-Rear
- 2x DB9 for RS232/422/485
- 1x DB44 for 4x RS232
- 4x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 1x VGA and 1x DVI-D
- 1x Potential Equalization Connector (M6 Type)
- 1x Line-out and 1x Mic-in
- 2-pin Remote Power on/off switch
- +24VDC Input

Storage Device
- 1x 2.5" SATA HDD or 2x SATA DOM
  (support 90℃ horizontal type only)
- 1x CFast socket

Dimension Drawing

Expansion Slot
- One PCIe x4 Expansion Slot
  - Add-on card length: 169mm max.
  - Power consumption: 10W/ slot max.
- 2x Mini-PCIe sockets
  (Top side Mini-PCIe Socket support optional Wi-Fi or 3.5G module)

Power Requirements
- ATX Power mode
- Support +24VDC Input
- Optional medical AC/DC power adapter

Dimensions
- 215mm (W) x 272mm (D) x 93mm (H) without wall mount bracket (8.5" x 10.7" x 3.7")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -20°C to 45°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Operating humidity:
  - 10% to 90% relative humidity, non-condensing Limits to be at 90% RH at max. 40C
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE/FCC Class B
- TUV/RH Certificate: EN60601-1:2006

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3640M (P/N: 10J00364006X0)**
  3rd Generation Intel® Core™ i7 Fanless System with one PCIe x4 Expansion

- **NISE 3640M2 (P/N: 10J00364008X0)**
  3rd Generation Intel® Core™ i7 Fanless System with two PCI Expansion

- **NISE 3640M2E (P/N: 10J00364009X0)**
  3rd Generation Intel® Core™ i7 Fanless System with one PCIe x4 Expansion and one PCI Expansion

- **NISE 3640ME2 (P/N: 10J00364007X0)**
  3rd Generation Intel® Core™ i7 Fanless System with two PCIe x4 Expansion

- **Optional Medical AC/DC Power Adapter**
  SINPRO HPU101-108 24V/4.16A w/ EN60601-1
  (P/N: 7400100006X00)

NISE 3640M2/ME2/M2E

Medical Grade 3rd Generation Intel® Core™ i7 Fanless System

Certified by TUV/RH Certificate: EN60601-1:2006

Main Features

- OnBoard 3rd generation Intel® Core™ i7 BGA processor
- Mobile Intel® QM77 PCH
- Support 1x 2.5" SATA HDD or 2x SATA DOM
- 2x Display Port; 1x VGA; 1x DVI-D; 2x USB 3.0; 2x USB 2.0
- 4x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE

- 2x DB9 for RS232/422/485; 1x DB44 Serial Port for 4x RS232
- 1x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module
- 1x CFast socket; 1xSIM card socket;
- Support +24VDC input; Support ATX Power mode
- TUV/RH Certificate: EN60601-1:2006

Product Overview

Compliant with TUV/RH Certificate: EN60601-1:2006, NISE 3640M series designed specifically for medical applications in hospital, clinics, or any medical environments. This fanless system integrated with 3rd generation Intel® Core™ i7 with QM77 PCH platform and brings great processing power to all medical equipments.

With 4x Intel® 82574IT GbE LAN controllers which can support up to 4 cameras and better throughput; besides, NISE 3640M series also supports WoL, LAN Teaming and PXE function. With computing and graphic performance enhancement, NISE 3640M series support 3 independent display and deliver a level of performance ideal for image and vision measurement on traffice control, overspeed monitoring, real time update and ePlice. More, NISE 3640M seires support 2x RS232/422/485, 4x RS232, 2x USB 3.0, 2x USB 2.0, 1x CFast socket, 1x SIM card socket, and 1x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module.

Leveraging a reliable fanless, durable cable-free design and wide operating temperature, NISE 3640M series can be exhibited in harsh environments, where severe temperature variation and vibration may exist.

Specifications

CPU Support
- OnBoard 3rd generation Intel® Core™ i7 BGA processor Core™ i7-3517UE, Dual Core, 1.7GHz, 4M Cache
- Mobile Intel® QM77 PCH

Main Memory
- On-board 2x DDR3/DDR3L SO-DIMM, supports up to 8GB DDR3/ DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Display Option
- Three Independent Display (only support on 3rd Generation Processor)
  - Two Display Port and 1x VGA
  - Two Display Port and 1x DVI-D
- Dual Independent Display
  - VGA and DVI-D
  - Display Port and VGA

I/O Interface-Front
- ATX power on/off switch

- HDD access/Power status/LAN status LEDs
- 2x USB 3.0 (Blue color)
- 2x USB 2.0
- 2x Display Port (Can be converted to DVI-D or HDMI via active cables)
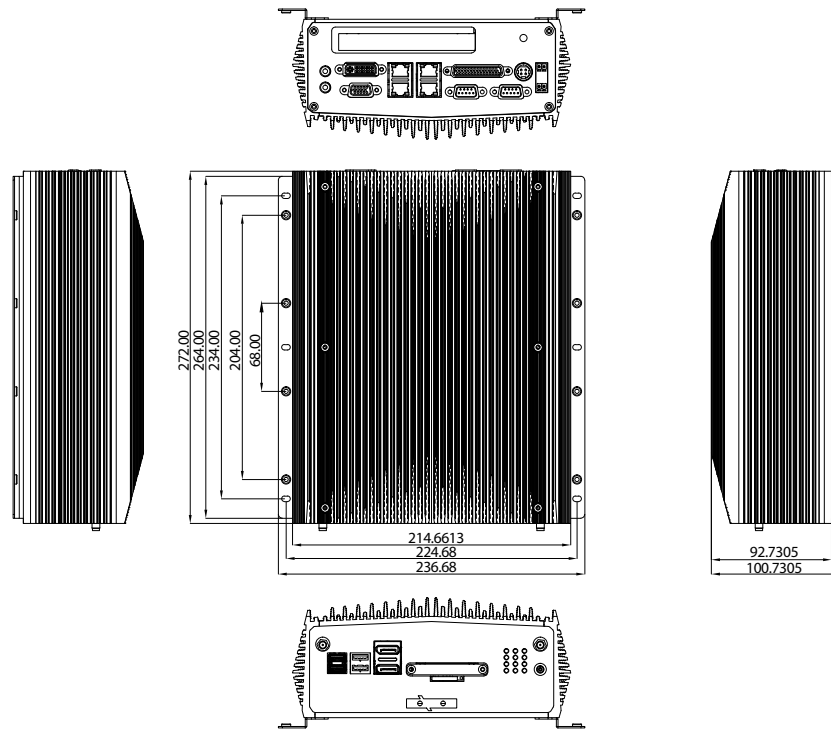- 1x CFast socket
- 1x SIM card socket
- 2x Antenna holes

I/O Interface-Rear
- 2x DB9 for RS232/422/485
- 1x DB44 for 4x RS232
- 4x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 1x VGA and 1x DVI-D
- 1x Potential Equalization Connector (M6 Type)
- 1x Line-out and 1x Mic-in
- 2-pin Remote Power on/off switch
- +24VDC Input

Storage Device
- 1x 2.5" SATA HDD or 2x SATA DOM (support 90℃ horizontal type only)
- 1x CFast socket

NEXCOM

Dimension Drawing

Expansion Slot
- NISE 3640ME2: Two PCIex4 expansion
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power consumption: 10W/ slot max.
- NISE 3640M2: Two PCI expansion
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power consumption: 10W/ slot max.
- NISE 3640M2E: One PCI expansion and One PCIex4 expansion
  - Add-on card length: 169mm max. for PCIex4 and 240mm max. for PCI expansion
  - Power consumption: 10W/ slot max.
- 2 x Mini-PCIe sockets
  (Top side Mini-PCIe Socket support optional Wi-Fi or 3.5G module)

Power Requirements
- ATX Power mode
- Support +24VDC Input
- Optional medical AC/DC power adapter

Dimensions
- 215mm (W) x 272mm (D) x 114mm (H) without wall mount bracket (8.5" x 10.7" x 4.5")

Construction
- Aluminum Chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -20°C to 45°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Operating humidity:
  - 10% to 90% relative humidity, non-condensing Limits to be at 90% RH at max 40C
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27

- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE/FCC Class B
- TUV/RH Certificate: EN60601-1:2006

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3640M (P/N: 10J00364006X0)**
  3rd Generation Intel® Core™ i7 Fanless System with one PCIe x4 Expansion

- **NISE 3640M2 (P/N: 10J00364008X0)**
  3rd Generation Intel® Core™ i7 Fanless System with two PCI Expansion

- **NISE 3640M2E (P/N: 10J00364009X0)**
  3rd Generation Intel® Core™ i7 Fanless System with one PCIe x4 Expansion and one PCI Expansion

- **NISE 3640ME2 (P/N: 10J00364007X0)**
  3rd Generation Intel® Core™ i7 Fanless System with two PCIe x4 Expansion

- **Optional Medical AC/DC Power Adapter**
  SINPRO HPU101-108 24V/4.16A w/ EN60601-1
  (P/N: 7400100006X00)

NISE 3640VR

Main Features

- OnBoard 3rd generation Intel® Core™ i7 BGA processor
- Mobile Intel® QM77 PCH
- Support 2 x 3.5" SATA HDD
- 2 x Display Port; 1 x VGA; 1 x DVI-D
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 2 x USB 3.0; 2 x USB 2.0
- 2 x DB9 for RS232/422/485; 1 x DB44 Serial Port for 4 x RS232

- 1 x internal Mini-PCIe socket supports optional Wi-Fi or 3.5G module
- 1 x CFast socket; 1 x SIM card socket
- Support +24VDC input; Support ATX Power mode
- Support 2 x 3.5" HDD

* Note: Air ventilation holes design will be defined as product launch

Product Overview

NISE 3640VR features the 3rd Generation Intel® Core™ i7 17W BGA type processor with QM77 PCH platform. NISE 3640VR inherits high performance, rich I/O, fanless and cable-free design from NISE family which successful meets market demands.

NISE 3640VR designed with 4 x Intel® 82574IT GbE LAN controller, which can support up to 4 cameras and better throughput; also, NISE 3640VR , supports WoL, LAN Teaming and PXE function. Moreover, NISE 3640VR delivers a level of performance ideal for image and vision measurement on traffic control, overspeed monitoring, real time update and ePolice. NISE 3640VR supports 2 x 3.5" HDD w/ ventilation holes on panels for HDD cooling design, 2 x USB 3.0, 2 x USB 2.0, 2 x Display port, 1 x VGA, 1 x DVI-D, 2 x RS232/422/485 and 4 x RS232. Leveraging a reliable fanless and durable cable-free design in aluminum chassis, NISE 3640VR can be exhibited in harsh environments, where severe temperature variation and vibration may exist.

Specifications

CPU Support
- Onboard BGA 3rd generation Intel® Core™ i7/i5/i3 processors
  - Core™ i7-3517UE, Dual Core, 1.7GHz, 4M Cache (Onboard Default)
  - Core™ i5-3437U, Dual Core, 2.9GHz, 3M Cache
  - Core™ i3-3217UE, Dual Core, 1.6GHz, 3M Cache
  - Celeron 1047UE, Dual Core, 1.4GHz, 2M Cache
- Mobile Intel® QM77 PCH

Main Memory
- On-board 2 x DDR3/DDR3L SO-DIMM, supports up to 8GB DDR3/ DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Display Option
- Three Independent Display
  (only support on 3rd Generation Processor)
  - Two Display Port and 1 x VGA
  - Two Display Port and 1 x DVI-D
- Dual Independent Display
  - VGA and DVI-D
  - Display Port and VGA

I/O Interface-Front
- ATX power on/off switch
- HDD access/Power status/LAN status LEDs
- 2 x USB 3.0 (Blue color)
- 2 x USB 2.0
- 2 x Display Port (Can be converted to DVI-D or HDMI via active cables)
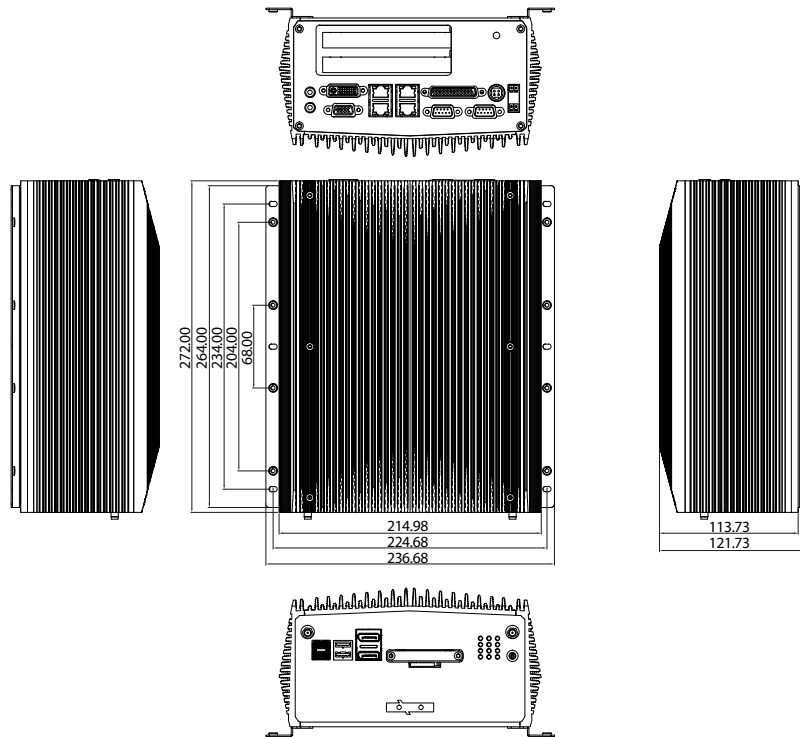- 1 x CFast socket
- 1 x SIM card socket
- 2 x Antenna holes

I/O Interface-Rear
- 2 x DB9 for RS232/422/485
- 1 x DB44 for 4 x RS232
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, Teaming and PXE
- 1 x DB15 VGA port
- 1 x DVI-D
- 1 x Line out and 1 x Mic-in
- 2-pin Remote Power on/off switch
- +24VDC Input

Storage Device
- 2 x 3.5" SATA HDD
- 1 x CFast socket

Dimension Drawing
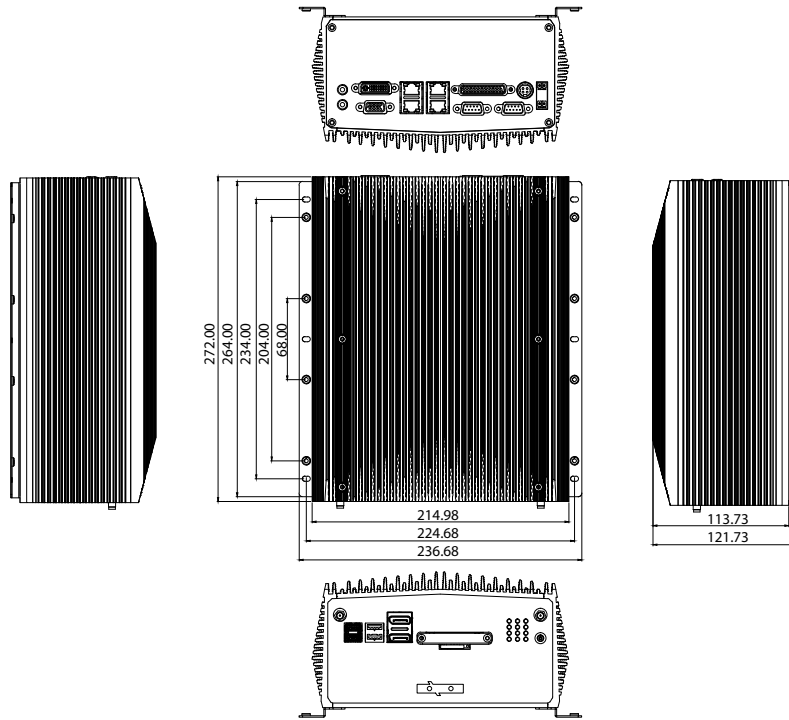
Expansion Slot
- 1 x Mini-PCIe socket (support optional Wi-Fi or 3.5G module)

Power Requirements
- ATX Power mode
- Support +24VDC Input
- Optional power adapter

Dimensions
- 215mm (W) x 272mm (D) x 114mm (H) without wall mount bracket (8.5" x 10.7" x 4.5")

Construction
- Aluminum Chassis with fanless design
- Ventilation holes on panels for HDD cooling design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 95% at 40 °C
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3640VR (P/N: 10J00364004X0)**
  3rd Generation Intel® Core™ i7 System with 2 x 3.5" SATA HDD

- **24V, 120W AC/DC power adapter w/ o power cord**

  (P/N: 7400120001X00)

NISE 3700E

Main Features

- Support 4th generation Intel® Core™ i7/i5/i3 LGA Socket Type Embedded Processor
- Intel® Q87 PCH
- Support 1 x 2.5" SATA HDD
- 1 x DVI-I, 1 xDVI-D, and 1x HDMI with Independent Display Support
- Three Intel® GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 3.0, 4 x USB 2.0, 1 x RS232 and 2 x RS232/422/485 with auto flow control

- 2 x internal Mini-PCIe socket support optional Wi-Fi/3.5G/mSATA/Fieldbus
- 1 x External CFast socket and 1x SIM card socket
- Support +9V to 30VDC input; ATX power mode
- 1 x PCIe x4 expansion

Product Overview

Integrated with 4th generation Intel® Core™ i7/i5/i3 processors, NISE 3700 series is the fanless PC designed for industrial applications which demand high CPU and graphics performance. NISE 3700 supports up to 8G DDR3 or DDR3L memory and have several options on storage devices like CFast, HDD, mSATA or SSD. NISE 3700 supports wide range of DC input from +9V to 30V DC input, and can be operated in an extended operating temperature range between -5 to 55 Celsius degree. For extended module availability, NISE 3700 also designed two internal Mini-PCIe sockets to support IoT applications (integrate with optional GbE LAN, Wi-Fi, 3.5G module) and common communication applications (integrate with optional GPIO, RS232/422/485 module).

Specifications

CPU Support

- Support 4th generation Intel® Core™ i7/i5/i3 LGA Socket Type Embedded Processor
  - Core™ i7-4770TE, Quad Core, 3.30 GHz, 8M Cache
  - Core™ i5-4590T, Quad Core, 3.0GHz, 6M Cache
  - Core™ i3-4350T, Dual Core, 3.1GHz, 4M Cache
  - Pentium® G3320TE, Dual Core, 2.3GHz, 3M Cache
  - Celeron® G1820TE, Dual Core, 2.2GHz, 2M Cache

Main Memory

- 2 x DDR3/DDR3L SO-DIMM Socket, support up to 8GB with un-buffered and non-ECC

Display Option

- Three Independent Display
  - HDMI + DVI-I + DVI-D
- Dual Independent Display
  - HDMI + DVI-I
  - HDMI + DVI-D
  - DVI-I + DVI-D

Front I/O Interface Status LEDs

- 3 x LAN Active LEDs/1 x CFast access LEDs
- 3 x GPO Status/COM1/2 TX/RX LEDs
- 1 x HDD Access LEDs

Front I/O Interface

- 1 x ATX power on/off switch
- 1 x HDMI
- 2 x USB3.0 Ports (900mA per each)
- 1 x Line-out and 1 x Mic-in
- 2 x Antenna Holes
- 1 x External CFast socket
- 1 x SIM Card holder

Rear I/O Interface

- 3 x DB9 for COM1 & COM2 & COM3
  - COM1: RS232/422/485 auto flow control
  - COM2: RS232/422/485 auto flow control
  - COM3: RS232
- 2 x USB 3.0 Ports (900mA per each)
- 4 x USB 2.0 Ports (500mA per each)
- 1 x DVI-D port
- 1 x DVI-I port
- 3 x Intel® I210AT GbE LAN Ports ; Support WoL, Teaming and PXE
- 1 x 2-pin Remote Power on/off switch
- +9V to 30 V DC input

Storage Device

- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (SATA 3.0)
- 1 x mSATA (internal Mini-PCIe socket)

Dimension Drawing

Expansion Slot
- One PCIex4 Expansion Slot
  - Add-on card length: 169mm max.
  - Power Consumption: 10W/slot max.
- 2 x internal Mini-PCIe socket support optional Wi-Fi/3.5G/mSATA/Fieldbus

Power Requirement
- AT/ATX Power Mode (default: ATX power mode)
- Power input: +9 to +30V DC
- Power adapter: Optional AC to DC power adapter (24V DC, 120W)

Dimensions
- 215 mm(W) x 272mm (D) x 93mm (H) without wall mount bracket (8.5" x 10.7" x 3.7")

Construction
- Aluminum and Metal Chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5℃ to 55℃
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20℃ to 85℃
- Relative Humidity: 10% to 93% (Non-Condensing)
- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration Protection with HDD Condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE Approval
- FCC Class B

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32 bits and 64 bits

Weight Information
- Gross Weight: 5.9kg
- Net Weight: 4.5kg

Ordering Information

- **NISE 3700E System (P/N: 10J00370000X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with one PCIex4 Expansion

- **NISE 3700E2 System (P/N: 10J00370001X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with two PCIex4 Expansions

- **NISE 3700P2 System (P/N: 10J00370002X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with two PCI Expansions

- **NISE 3700P2E System (P/N: 10J00370003X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with one PCI and one PCIex4 Expansion

- **24V, 120W AC to DC power adapter w/o power cord**

  (P/N: 7400120015X00)

NISE 3700E2/P2/P2E

Main Features

- Support 4th generation Intel® Core™ i7/i5/i3 LGA Socket Type Embedded Processor
- Intel® Q87 PCH
- Support 1 x 2.5" SATA HDD
- 1 x DVI-I, 1 x DVI-D, and 1 x HDMI with Independent Display Support
- Three Intel® GbE LAN ports; Support WoL, Teaming and PXE
- 4 x USB 3.0, 4 x USB 2.0, 1 x RS232 and 2 x RS232/422/485 with auto flow control
- 2 x internal Mini-PCIe socket support optional Wi-Fi/3.5G/mSATA/ Fieldbus
- 1x External CFast socket and 1 x SIM card socket
- Support +9V to 30VDC input; ATX power mode
- 2 x PCI or PCIe x4 expansions

Product Overview

Integrated with 4th generation Intel® Core™ i7/i5/i3 processors, NISE 3700 series is the fanless PC designed for industrial applications which demand high CPU and graphics performance. NISE 3700 supports up to 8G DDR3 or DDR3L memory and have several options on storage devices like CFast, HDD, mSATA or SSD. NISE 3700 supports wide range of DC input from +9V to 30V DC input, and can be operated in an extended operating temperature range between -5 to 55 Celsius degree. For extended module availability, NISE 3700 also designed two internal Mini-PCIe sockets to support IoT applications (integrate with optional GbE LAN, Wi-Fi, 3.5G module) and common communication applications (integrate with optional GPIO, RS232/422/485 module).

Specifications

CPU Support
- Support 4th generation Intel® Core™ i7/i5/i3 LGA Socket Type Embedded Processor
  - Core™ i7-4770TE, Quad Core, 3.30 GHz, 8M Cache
  - Core™ i5-4590T, Quad Core, 3.0GHz, 6M Cache
  - Core™ i3-4350T, Dual Core, 3.1GHz, 4M Cache
  - Pentium® G3320TE, Dual Core, 2.3GHz, 3M Cache
  - Celeron® G1820TE, Dual Core, 2.2GHz, 2M Cache

Main Memory
- 2 x DDR3/DDR3L SO-DIMM Socket, support up to 8GB with un-buffered and non-ECC

Display Option
- Three Independent Display
  - HDMI + DVI-I + DVI-D
- Dual Independent Display
  - HDMI + DVI-I
  - HDMI + DVI-D
  - DVI-I + DVI-D

Front I/O Interface Status LEDs
- 3 x LAN Active LEDs/1x CFast access LEDs
- 3 x GPO Status/COM1/2 TX/RX LEDs
- 1 x HDD Access LEDs

Front I/O Interface
- 1 x ATX power on/off switch
- 1 x HDMI
- 2 x USB 3.0 Ports (900mA per each)
- 1 x Line-out and 1xMic-in
- 2 x Antenna Holes
- 1 x External CFast socket
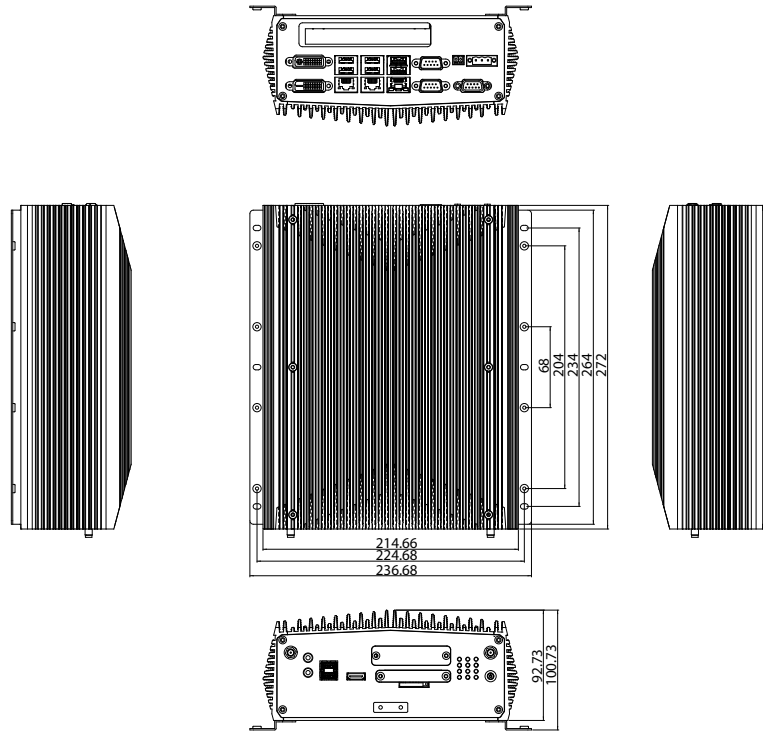- 1 x SIM Card holder

Rear I/O Interface
- 3 x DB9 for COM1 & COM2 & COM3
  - COM1: RS232/422/485 auto flow control
  - COM2: RS232/422/485 auto flow control
  - COM3: RS232
- 2 x USB 3.0 Ports (900mA per each)
- 4 x USB 2.0 Ports (500mA per each)
- 1 x DVI-D port
- 1 x DVI-I port
- 3 x Intel® I210AT GbE LAN Ports; Support WoL, Teaming and PXE
- 1 x 2-pin Remote Power on/off switch
- +9V to 30V DC input

Storage Device
- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (SATA 3.0)
- 1 x mSATA (internal Mini-PCIe socket)

Dimension Drawing

Expansion Slot
- NISE 3700E2: Two PCIex4 Expansion Slots
  - Add-on card length: One 169mm max, and one 240mm max.
  - Power Consumption: 10W/slot max
- NISE 3700P2: Two PCI Expansion Slots
  - Add-on card length: One 169mm max, and one 240mm max.
  - Power Consumption: 10W/slot max
- NISE 3700P2E: One PCIex4 and one PCI Expansion Slot
  - Add-on card length: One 169mm max for PCIex4, and one 240mm max for PCI
  - Power Consumption: 10W/slot max
- 2 x internal Mini-PCIe socket support optional Wi-Fi/3.5G/mSATA/Fieldbus

Power Requirement
- AT/ATX Power Mode (default: ATX power mode)
- Power input: +9 to +30V DC
- Power adapter: Optional AC to DC power adapter (24V DC, 120W)

Dimensions
- 215 mm(W) x 272mm (D) x 114mm (H) without wall mount bracket (8.5" x 10.7" x 4.5")

Construction
- Aluminum and Metal Chassis with fanless design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20°C to 85°C
- Relative Humidity: 10% to 93% (Non-Condensing)
- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration Protection with HDD Condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE Approval
- FCC Class B

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32 bits and 64 bits

Weight Information
- Gross Weight: 6.4kg
- Net Weight: 5.0kg

Ordering Information

- **NISE 3700E System (P/N: 10J00370000X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with one PCIex4 Expansion

- **NISE 3700E2 System (P/N: 10J00370001X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with two PCIex4 Expansions

- **NISE 3700P2 System (P/N: 10J00370002X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with two PCI Expansions

- **NISE 3700P2E System (P/N: 10J00370003X0)**
  4th Generation Intel® Core™ i7/i5/i3 Fanless System with one PCI and one PCIex4 Expansion

- **24V, 120W AC to DC power adapter w/o power cord**

  (P/N: 7400120015X00)

NISE 3720E

Main Features

- Support both Intel® 5th Generation i7/i5/i3 Processors with U Platform, Dual Core with HD Graphical power
- 1 x DVI-I , 1 x DVI-D with three independent display support
- 2 x Intel® GbE LAN ports; support WoL, Teaming and PXE
- 2 x USB 3.0 & 2 x USB 2.0
- 2 x RS232/422/485 with auto flow control
- 1 x CFast socket
- 1 x internal Mini-PCIe socket support optional mSATA or Field-Bus module (by jumper switch)
- 1 x internal Mini-PCIe socket support optional WiFi or 3.5G (auto detection)
- Support External RTC Battery Holder
- Support 24V DC Input

Product Overview

With the 5th generation Intel® Core™ BGA processor, NISE 3720 immediately becomes a remarkable model in the NISE family line. By comparing to the previous Ivy-Bridge mobile platform, the 5th generation mobile platform increases computing power up to 10%, and the graphical performance also increases up to 30% with Intel® HD graphics 6000. The mobile processor features ultra low power consumption (15W), and the NISE 3720 system is housing in a ruggedized design with aluminum chassis. This combination allows NISE 3720 to offer great computing/graphical power and able to run from -20 to 60 Celsius Degree.

NISE 3720 supports up to 8G DDR3L memory and provides SATAIII/CFast interfaces for storage expansions. For network connectivity, NISE 3720 supports 2x Intel® I210-IT LAN ports onboard for dual network teaming functions. For power input range, NISE 3720 supports +24V DC Input with +/- 20% and this is significant design improvement for allowing more voltage fluctuation of DC power source.

In addition of the design improvement, NISE3720 is designed to support PCI, PCIex4 and 2x Mini-PCIe for more interface expansions. For the 2x Mini-PCIe, it can install either fieldbus interfaces (PROFIBUS, PROFINET, DeviceNet, EtherCAT, and EtherNet/IP) for automation applications, or 3G/ Wi-Fi/GSM/LTE interface for building up IoT applications. For the PCI/PCIex4 expansion, the user can adapt suitable PCI and PCIex4 cards for their project needs.

With such rich expansions, the users can easily transform this reliable general purpose PC and set it ready for any specific markets.

Specifications

CPU Support
- Onboard BGA type CPU is Core™ i7-5650U, Dual Core, 3.2GHz, 4M Cache.
- Support following onboard BGA type processors by project base
  - 5th generation Intel® Core™ i5/i3/Celeron MCP processors
  - Core™ i5-5350U, Dual Core, 2.9GHz, 3M Cache
  - Core™ i3-5010U, Dual Core, 2.1GHz, 3M Cache

Main Memory
- 2 x DDR3L SO-DIMM Socket, support up to 8GB DDR3L 1333/1600 RAM, un-buffered and non-ECC

Display Option
- Support Dual Independent Display
  - DVI-I (DVI-D + VGA)
  - DVI-D

I/O Interface-Front
- ATX power on/off switch

- 1 x Power Status/1x HDD Access LEDs
- 2 x LAN Status/1x CFast LEDs
- 3 x Programmable GPO/1 x Battery Low LEDs
- 2 x USB 2.0 Ports (500mA per each)
- 1 x External CFast socket
- 1 x SIM Card holder
- 1 x External RTC Li-ion Battery holder
- 2 x Antenna Holes for Wi-Fi/GSM

I/O Interface-Rear
- 2 x USB 3.0 ports (Blue Color, 900mA per each)
- 1 x DVI-I
- 1 x DVI-D
- 2 x DB9 for 2x COM ports
  - COM1: RS232/422/485 with auto flow control
  - COM2: RS232/422/485 with auto flow control
  - COM1 support 5V/12V/Ring function by jumper, default is Ring
- 1 x Line out and 1 x Mic-in (Realtek HD ALC886)

Dimension Drawing
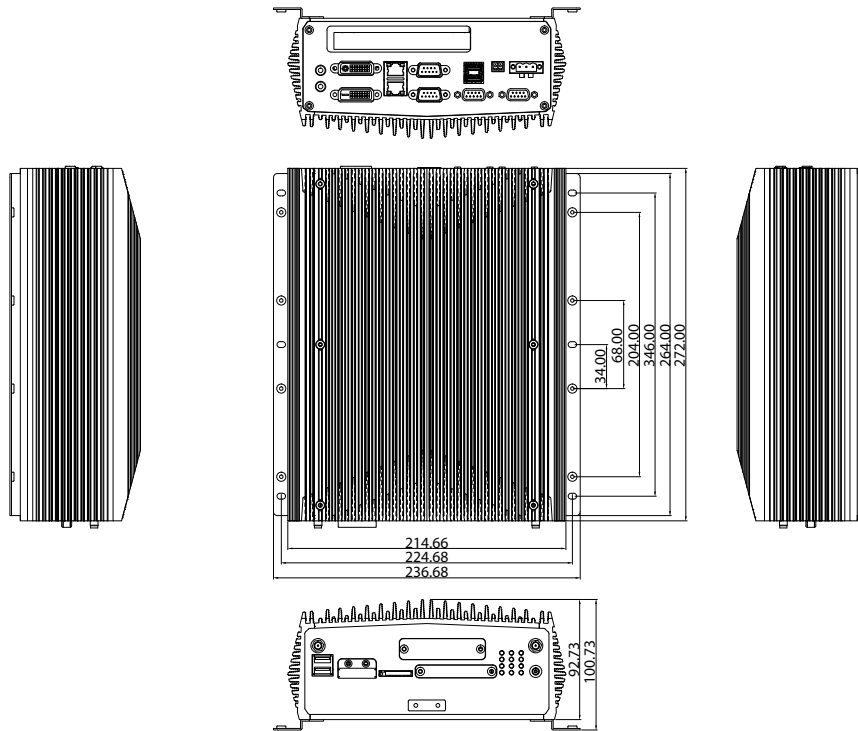
- 2 x Intel I210IT GbE LAN Ports; Support WoL, Teaming and PXE

I/O Interface-Internal
- 4 x GPI and 4 GPO (5V, TTL Type)
- 1 x Pin Header for COM3 ~ COM6, RS232 only
- 1 x USB 2.0 Internal Connector

Storage Device
- 1 x CFast (SATA 3.0)
- 1 x mSATA (SATA 3 0)
- 1 x 2.5" HDD (SATA 3.0)

Expansion Slot
- 2 x Mini-PCIe sockets
  - 1 x Mini-PCIe socket for Wi-Fi/3.5G
  - 1 x Mini-PCIe socket for mSATA/Field-Bus
    *Onboard JP8 Jumper switch for mSATA/Field-Bus
- NISE3720E: One PCIe x4 Expansion Slot
  - Add-on card length: One 169mm max.
  - Power Consumption: 10W/ slot max.

Power Requirements
- AT/ATX Power Mode (ATX Power Mode, default with jumper switch)
- Power input: Typical +24Vdc +/-20%
- Power adapter: Optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- 215mm (W) x 272mm (D) x 93mm (H) without wall mount bracket

Environment
- Operating Temperature:
  Ambient with air flow: -20℃ to 60℃
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -40℃ to 85℃
- Relative Humidity: 95% at 40℃
- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration Protection w/ HDD Condition:

- Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
- Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE Approval
- FCC Class B
- LVD

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3720E (P/N: 10J00372000X0)**
  Intel® Core™ i7-4650U Fanless System with One PCIe Expansion

- **NISE 3720E2 (P/N: 10J00372001X0)**
  Intel® Core™ i7-4650U Fanless System with Two PCIe Expansion

- **NISE 3720P2 (P/N: 10J00372002X0)**
  Intel® Core™ i7-4650U Fanless System with Two PCI Expansion

- **NISE 3720P2E (P/N: 10J00372003X0)**
  Intel® Core™ Core™ i7-4650U System with One PCI Expansion
  and One PCIe Expansion

- **24V, 120W AC/DC power adapter w/ o power core**

  (P/N: 7400120015X00)

NISE 3720E2/P2/P2E

Main Features

- Support both Intel® 5th Generation i7/i5/i3 Processors with U Platform, Dual Core with HD Graphical power
- 1 x DVI-I , 1 x DVI-D with three independent display support
- 2 x Intel® GbE LAN ports; support WoL, Teaming and PXE
- 2 x USB 3.0 & 2 x USB 2.0
- 2 x RS232/422/485 with auto flow control
- 1 x CFast socket

- 1 x internal Mini-PCIe socket support optional mSATA or Field-Bus module (by jumper switch)
- 1 x internal Mini-PCIe socket support optional WiFi or 3.5G (auto detection)
- Support External RTC Battery Holder
- Support 24V DC Input

Product Overview

With the 5th generation Intel® Core™ BGA processor, NISE 3720 immediately becomes a remarkable model in the NISE family line. By comparing to the previous Ivy-Bridge mobile platform, the 5th generation mobile platform increases computing power up to 10%, and the graphical performance also increases up to 30% with Intel® HD graphics 6000. The mobile processor features ultra low power consumption (15W), and the NISE 3720 system is housing in a ruggedized design with aluminum chassis. This combination allows NISE 3720 to offer great computing/graphical power and able to run from -20 to 60 Celsius Degree.

NISE 3720 supports up to 8G DDR3L memory and provides SATAIII/CFast interfaces for storage expansions. For network connectivity, NISE 3720 supports 2x Intel® I210-IT LAN ports onboard for dual network teaming functions. For power input range, NISE 3720 supports +24V DC Input with +/- 20% and this is significant design improvement for allowing more voltage fluctuation of DC power source.

In addition of the design improvement, NISE3720 is designed to support PCI, PCIex4 and 2x Mini-PCIe for more interface expansions. For the 2x Mini-PCIe, it can install either fieldbus interfaces (PROFIBUS, PROFINET, DeviceNet, EtherCAT, and EtherNet/IP) for automation applications, or 3G/Wi-Fi/GSM/LTE interface for building up IoT applications. For the PCI/PCIex4 expansion, the user can adapt suitable PCI and PCIex4 cards for their project needs.

With such rich expansions, the users can easily transform this reliable general purpose PC and set it ready for any specific markets.

Specifications

CPU Support
- Onboard BGA type CPU is Core™ i7-5650U, Dual Core, 3.2GHz, 4M Cache.
- Support following onboard BGA type processors by project base
  - 5th generation Intel® Core™ i5/i3/Celeron MCP processors
  - Core™ i5-5350U, Dual Core, 2.9GHz, 3M Cache
  - Core™ i3-5010U, Dual Core, 2.1GHz, 3M Cache

Main Memory
- 2 x DDR3L SO-DIMM Socket, support up to 8GB DDR3L 1333/1600 RAM, un-buffered and non-ECC

Display Option
- Support Dual Independent Display
  - DVI-I (DVI-D + VGA)
 - DVI-D

I/O Interface-Front
- ATX power on/off switch

- 1 x Power Status/1x HDD Access LEDs
- 2 x LAN Status/1x CFast LEDs
- 3 x Programmable GPO/1 x Battery Low LEDs
- 2 x USB 2.0 Ports (500mA per each)
- 1 x External CFast socket
- 1 x SIM Card holder
- 1 x External RTC Li-ion Battery holder
- 2 x Antenna Holes for Wi-Fi/GSM

I/O Interface-Rear
- 2 x USB 3.0 ports (Blue Color, 900mA per each)
- 1 x DVI-I
- 1 x DVI-D
- 2 x DB9 for 2x COM ports
  - COM1: RS232/422/485 with auto flow control
  - COM2: RS232/422/485 with auto flow control
  - COM1 support 5V/12V/Ring function by jumper, default is Ring

Dimension Drawing
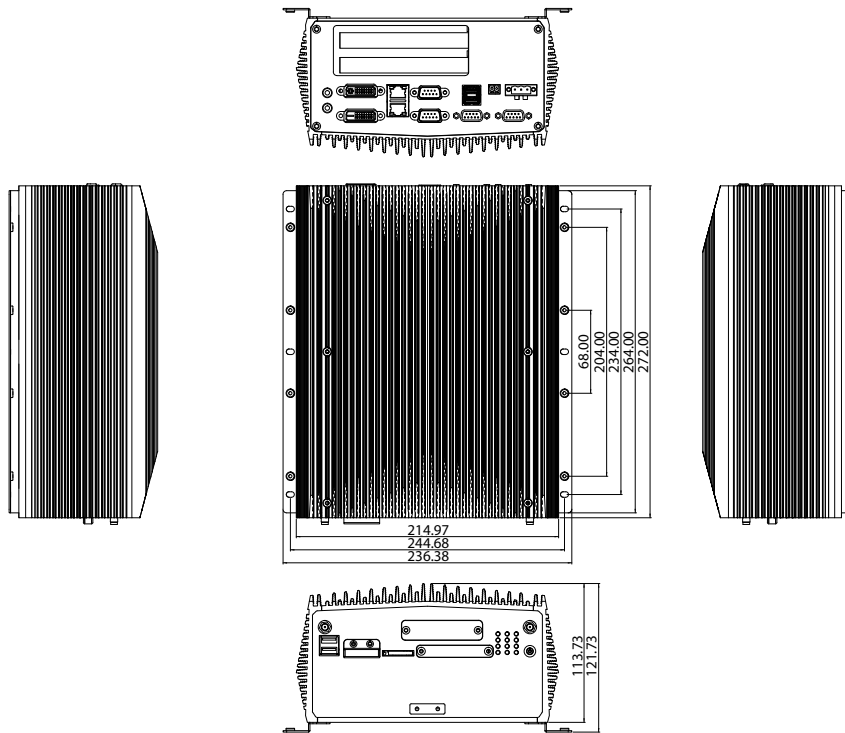
- 1 x Line out and 1 x Mic-in (Realtek HD ALC886)
- 2 x Intel I210IT GbE LAN Ports; Support WoL, Teaming and PXE

I/O Interface-Internal
- 4 x GPI and 4 GPO (5V, TTL Type)
- 1 x Pin Header for COM3 ~ COM6, RS232 only
- 1 x USB 2.0 Internal Connector

Storage Device
- 1 x CFast (SATA 3.0)
- 1 x mSATA (SATA 3 0)
- 1 x 2.5" HDD (SATA 3.0)

Expansion Slot
- 2 x Mini-PCIe sockets
  - 1 x Mini-PCIe socket for Wi-Fi/3.5G
  - 1 x Mini-PCIe socket for mSATA/Field-Bus
    *Onboard JP8 Jumper switch for mSATA/Field-Bus
- NISE3720E2: One PCIe x4 and One PCIe x1 Expansion Slot
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power Consumption: 10W/ slot max.
- NISE3720P2: Two PCI Expansion Slot
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power Consumption: 10W/ slot max.
- NISE3720P2E: One PCIe x4 and One PCI Expansion Slot
  - Add-on card length: One 169mm max. and One 240mm max.
  - Power Consumption: 10W/ slot max.

Power Requirements
- AT/ATX Power Mode (ATX Power Mode, default with jumper switch)
- Power input: Typical +24Vdc +/-20%
- Power adapter: Optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- 215mm(W)x272mm(D)x114mm(H) without wall mount bracket

Environment
- Operating Temperature:
  Ambient with air flow: -20°C to 60°C

(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -40°C to 85°C
- Relative Humidity: 95% at 40°C
- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration Protection w/ HDD Condition:
  - Random: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE Approval
- FCC Class B
- LVD

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3720E (P/N: 10J00372000X0)**
  Intel® Core™ i7-4650U Fanless System with One PCIe Expansion

- **NISE 3720E2 (P/N: 10J00372001X0)**
  Intel® Core™ i7-4650U Fanless System with Two PCIe Expansion

- **NISE 3720P2 (P/N: 10J00372002X0)**
  Intel® Core™ i7-4650U Fanless System with Two PCI Expansion

- **NISE 3720P2E (P/N: 10J00372003X0)**
  Intel® Core™ Core™ i7-4650U System with One PCI Expansion
  and One PCIe Expansion

- **24V, 120W AC/DC power adapter w/ o power core
  (P/N: 7400120015X00)**

NISE 4000

Main Features

- Support 3rd generation Intel® Core™ i3/i5 rPGA socket type processor
- Intel® QM77 PCH
- 2 x USB 3.0 & 2 x USB 2.0
- 4 x Intel® GbE LAN Ports
- 1 x DVI-D & 1 x VGA

- 2 x 2.5KV isolated RS232/422/485
- 1 x CFast socket
- Two Mini-PCIe sockets
- Support +24VDC power input
- Support ATX power mode, WoL and PXE function

Product Overview

Integrated with Intel® 3rd generation Core™ i3/i5 process, NISE 4000 offers excellent computing performance. The QM77 PCH provides original USB 3.0, which ensures the high throughput and is suitable for the high bandwidth devices, such as industrial cameras. The four Intel® GbE LAN ports provide high communication bandwidth and can be used to access GbE camera for surveillance and industrial automation projects. NISE 4000 provides built-in optical isolated digital input and digital output, 16 channels respectively. The LED indicators can be configured to show the status of the first four digital outputs. All built-in I/O connectors of NISE 4000 locate at the front panel. It makes the wiring and maintenance easier for typical installation style for factory automation devices. Alone with well-proven fanless design experience of NEXCOM which ensures the stability, these make NISE 4000 well fitting with the factory automation applications.

Specifications

CPU Support
- Support 3rd generation Intel® Core™ i5/i3 rPGA socket type processor
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support Three Independent Display with above processor
- Intel® QM77 PCH chipset

Main Memory
- 2 x DDR3/DDR3L SO-DIMM sockets, support dual channel up to 8GB, DDR3 1333 SDRAM, un-buffered and non-ECC

Display Option
- Dual independent display
  - VGA
  - DVI-D
- Three independent display
  - VGA
  - VGA output via optional Y-cable
  - DVI-D

I/O Interface
- ATX power on/off switch
- Power status LED
- HDD/CFast access LEDs
- RF access LED

- COM ports access LEDs
- 2 x USB 2.0 ports & 2 x USB 3.0 ports
- 2 x 2.5KV isolated RS232/422/485 terminal connector
- 1 x DB44 for 16CH isolated DI and 16CH isolated DO
- 1 x VGA output & 1 x DVI-I output
- 4 x Intel® GbE LAN ports (with Intel® WG82574L & WG82579LM LAN chip)
- 1 x PS/2 connector for keyboard and mouse
- 1 x Mic-in and 1 x Line-out
- 2-pin remote power on/off switch
- 2 x Optional I/O knockout for additional functions

Isolated Digital Input
- 16CH 2.5KV optical isolated Digital Input
  - Digital logic levels
  - 0-24V, non-polarity type
  - Input low voltage (L): 0 ~ 1.5V
  - Input high voltage (H): 5 ~ 24V
  - Input resistance: 1.2kΩ @ 0.5W
  - Max. response frequency: 10KHz @ 50% duty

Isolated Digital Output
- 16CH 2.5KV optical isolated Digital Output
- Output type: Open-collector NPN Darlington transistor
- Supply voltage: 5-35V
- Sink current: 200mA max. for all channel @ 100% duty

Dimension Drawing
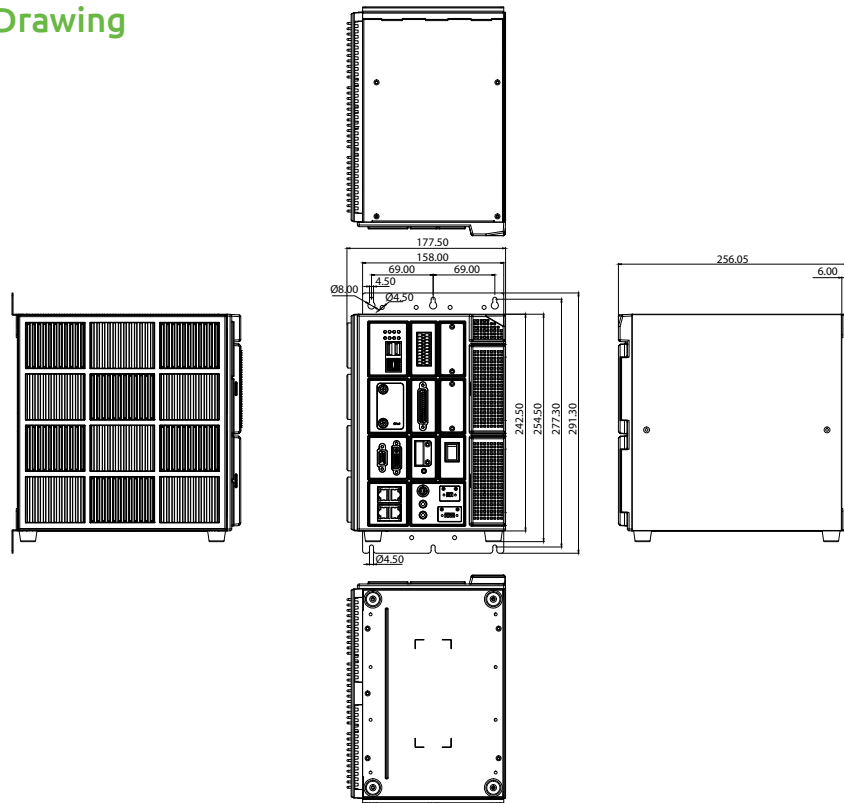
Storge Device
- 2 x External 2.5" HDD bay, cold swappable
- 1 x External CFast socket

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/GSM/Automation modules

Power Requirements
- Typical DC input: 24VDC (Range: 21.6V ~ 26.4V)

Dimensions
- 178mm (W) x 250mm (D) x 255mm (H) without wall mount bracket

Environment
- Operating temperature:
  Ambient with air flow: 0°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27 with HDD
- Vibration protection
  Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  Sinusoidal: 0.5 Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE/FCC Class A

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

- **NISE 4000 (P/N: 10J00400000X0)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System without Expansions

- **24V, 120W AC/DC power adapter w/ o power cord**

  (P/N: 7400120012X00)

NISE 4000P2E

Main Features

- Support 3rd generation Intel® Core™ i3/i5 rPGA socket type processor
- Intel® QM77 PCH
- 2 x USB 3.0 & 2 x USB 2.0
- 4 x Intel® GbE LAN Ports
- 1 x DVI-I & 1 x VGA

- 2 x 2.5KV isolated RS232/422/485
- 1 x CFast socket
- One PCIex4 and One PCI expansion
- Two Mini-PCIe sockets
- Support +24VDC power input
- Support ATX power mode, WoL and PXE function

Product Overview

Integrated with Intel® 3rd generation Core™ i3/i5 process, NISE 4000P2E offers excellent computing performance. The QM77 PCH provides original USB 3.0, which ensures the high throughput and is suitable for the high bandwidth devices, such as industrial cameras. The four Intel® GbE LAN ports provide high communication bandwidth and can be used to access GbE camera for surveillance and industrial automation projects. NISE 4000P2E provides built-in optical isolated digital input and digital output, 16 channels respectively. The LED indicators can be configured to show the status of the first four digital outputs. One PCIex4 and One PCI expansion slots and two Mini-PCIe sockets are available, providing the expansion for Fieldbus interface. All built-in I/O connectors of NISE 4000P2E locate at the front panel. It makes the wiring and maintenance easier for typical installation style for factory automation devices. Alone with well-proven fanless design experience of NEXCOM which ensures the stability, these make NISE 4000P2E well fitting with the factory automation applications.

Specifications

CPU Support
- Support 3rd generation Intel® Core™ i5/i3 rPGA socket type processor
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support Three Independent Display with above processors
- Intel® QM77 PCH chipset

Main Memory
- 2 x DDR3/DDR3L SO-DIMM sockets, support dual channel up to 8GB, DDR3 1333 SDRAM, un-buffered and non-ECC

Display Option
- Dual independent display
  - VGA
  - DVI-D
- Three independent display
  - VGA
  - VGA (output via optional Y-cable)
  - DVI-D (output via optional Y-cable)

I/O Interface
- ATX power on/off switch
- Power status LED
- HDD/CFast access LEDs
- RF access LED

- COM ports access LEDs
- 2 x USB 2.0 ports & 2 x USB 3.0 ports
- 2 x 2.5KV isolated RS232/422/485 terminal connector
- 1 x DB44 for 16CH isolated DI and 16CH isolated DO
- 1 x VGA output & 1 x DVI-I output
- 4 x Intel® GbE LAN ports
  (with Intel® WG82574L & WG82579LM LAN chip)
- 1 x PS/2 connector for keyboard and mouse
- 1 x Mic-in and 1 x Line-out
- 2-pin remote power on/off switch
- 2 x Optional I/O knockout for additional functions

Isolated Digital Input
- 16CH 2.5KV optical isolated Digital Input
- Digital logic levels
  - 0-24V, non-polarity type
  - Input low voltage (L): 0 ~ 1.5V
  - Input high voltage (H): 5 ~ 24V
  - Input resistance: 1.2kΩ @ 0.5W
  - Max. response frequency: 10KHz @ 50% duty

Isolated Digital Output
- 16CH 2.5KV optical isolated Digital Output
- Output type: Open-collector NPN Darlington transistor

Dimension Drawing

- Supply voltage: 5-35V
- Sink current: 200mA max. for all channel @ 100% duty

Storage Device
- 2 x Internal 2.5" HDD bay
- 1 x External CFast socket

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/GSM/Automation modules
- 1 x PCIex4 and 1 x PCI expansion (10W max. per slot)
- Add-on card length: 220mm max.

Power Requirements
- Typical DC input: 24VDC (Range: 21.6V ~ 26.4V)

Dimensions
- 216mm (W) x 250mm (D) x 255mm (H) without wall mount bracket

Environment
- Operating temperature:
  Ambient with air flow: 0°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27 with HDD
- Vibration protection
  Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  Sinusoidal: 0.5 Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE/FCC Class A

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

- **NISE 4000P2E (P/N: 10J00400001X0)**
  3rd Generation Intel® Core™ i3/i5 rPGA Fanless System with PCI/PCIe Expansions

- **24V, 120W AC/DC power adapter w/ o power cord**

  (P/N: 7400120012X00)

NISE 4000P4E

Main Features

- Support 3rd generation Intel® Core™ i3/i5 rPGA socket type processor
- Intel® QM77 PCH
- 2 x USB 3.0 & 2 x USB 2.0
- 4 x Intel® GbE LAN Ports
- 1 x DVI-I & 1 x VGA

- 2 x 2.5KV isolated RS232/422/485
- 1 x CFast socket
- Four PCI/PCIe expansion slots
- Two Mini-PCIe sockets
- Support +24VDC power input
- Support ATX power mode, WoL and PXE function

Product Overview

Integrated with Intel® 3rd generation Core™ i7 process, NISE 4000P4E offers excellent computing performance. The QM77 PCH provides original USB 3.0, which ensures the high throughput and is suitable for the high bandwidth devices, such as industrial cameras. The four Intel® GbE LAN ports provide high communication bandwidth and can be used to access GbE camera for surveillance and industrial automation projects. NISE 4000P4E provides built-in optical isolated digital input and digital output, 16 channels respectively. The LED indicators can be configured to show the status of the first four digital outputs. Four PCI/PCIe expansion slots and two Mini-PCIe sockets are available, providing the expansion for Fieldbus interface. All built-in I/O connectors of NISE 4000P4E locate at the front panel. It makes the wiring and maintenance easier for typical installation style for factory automation devices. Alone with well-proven fanless design experience of NEXCOM which ensures the stability, these make NISE 4000P4E well fitting with the factory automation applications.

Specifications

CPU Support
- Support 3rd generation Intel® Core™ i5/i3 rPGA socket type processor
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support Three Independent Display with above processors
- Intel® QM77 PCH chipset

Main Memory
- 2 x DDR3/DDR3L SO-DIMM sockets, support dual channel up to 8GB, DDR3 1333 SDRAM, un-buffered and non-ECC

Display Option
- Dual independent display
  - VGA
  - DVI-D
- Three independent display
  - VGA
  - VGA (output via optional Y-cable)
  - DVI-D (output via optional Y-cable)

I/O Interface
- ATX power on/off switch
- Power status LED
- HDD/CFast access LEDs
- RF access LED

- COM ports access LEDs
- 2 x USB 2.0 ports & 2 x USB 3.0 ports
- 2 x 2.5KV isolated RS232/422/485 terminal connector
- 1 x DB44 for 16CH isolated DI and 16CH isolated DO
- 1 x VGA output & 1 x DVI-I output
- 4 x Intel® GbE LAN ports
  (with Intel® WG82574L & WG82579LM LAN chip)
- 1 x PS/2 connector for keyboard and mouse
- 1 x Mic-in and 1 x Line-out
- 2-pin remote power on/off switch
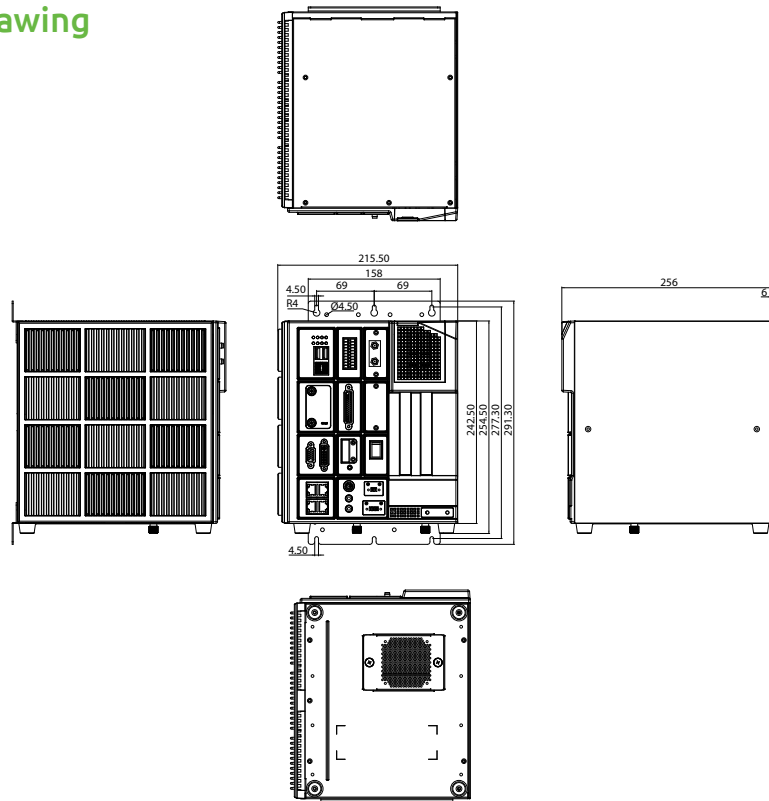- 2 x Optional I/O knockout for additional functions

Isolated Digital Input
- 16CH 2.5KV optical isolated Digital Input
- Digital logic levels
  - 0-24V, non-polarity type
  - Input low voltage (L): 0 ~ 1.5V
  - Input high voltage (H): 5 ~ 24V
  - Input resistance: 1.2kΩ @ 0.5W
  - Max. response frequency: 10KHz @ 50% duty

Isolated Digital Output
- 16CH 2.5KV optical isolated Digital Output
- Output type: Open-collector NPN Darlington transistor

Dimension Drawing

- Supply voltage: 5-35V
- Sink current: 200mA max. for all channel @ 100% duty

Storage Device
- 1 x External 2.5" HDD bay, cold swappable
- 1 x Internal 2.5" HDD bay
- 1 x External CFast socket

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/GSM/Automation modules
- 3 x PCI expansions (6W max. per slot)
- 1 x PCIex4 expansion (6W max. per slot)
- Add-on card length: 220mm max.

Power Requirements
- Typical DC input: 24VDC (Range: 21.6V ~ 26.4V)

Dimensions
- 258mm (W) x 250mm (D) x 255mm (H) without wall mount bracket

Environment
- Operating temperature:
  Ambient with air flow: 0°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27 with HDD
- Vibration protection
  Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  Sinusoidal: 0.5 Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE/FCC Class A

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

- **NISE 4000P4E (P/N: 10J00400002X0)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with 3 x PCI and one PCIex4 expansions

- **24V, 120W AC/DC power adapter w/ o power cord**

  (P/N: 7400120012X00)

NISE 4010P2

Main Features

- Support 3rd generation Intel® Core™ i3/i5 rPGA socket type processor
- Intel® QM77 PCH
- 2 x USB 3.0 & 2 x USB 2.0
- 2 x Intel® GbE LAN Ports
- 1 x DVI-I & 1 x VGA

- 2 x 2.5KV isolated RS232/422/485
- Two PCI expansions
- Two Mini-PCIe sockets
- Support +24VDC power input
- Support ATX power mode, WoL and PXE function

Product Overview

Integrated with Intel® 3rd generation Core™ i3/i5 process, NISE 401P2 offers excellent computing performance. The QM77 PCH provides original USB 3.0, which ensures the high throughput and is suitable for the high bandwidth devices, such as industrial cameras. The two Intel® GbE LAN ports provide high communication bandwidth and can be used to access GbE camera for surveillance and industrial automation projects. NISE 4010P2 features two PCI expansion slots and two Mini-PCIe sockets are available, providing the expansion for Fieldbus interface. All built-in I/O connectors of NISE 4010P2 locate at the front panel. It makes the wiring and maintenance easier for typical installation style for factory automation devices. Alone with well-proven fanless design experience of NEXCOM which ensures the stability, these make NISE 4010P2 well fitting with the factory automation applications.

Specifications

CPU Support
- Support 3rd generation Intel® Core™ i5/i3 rPGA socket type processor
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support Three Independent Display with above processors
- Intel® QM77 PCH chipset

Main Memory
- 2 x DDR3/DDR3L SO-DIMM sockets, support dual channel up to 8GB, DDR3 1333 SDRAM, un-buffered and non-ECC

Display Option
- Dual independent display
  - VGA
  - DVI-D
- Three independent display
  - VGA
  - VGA (output via optional Y-cable)
  - DVI-D (output via optional Y-cable)

I/O Interface
- ATX power on/off switch
- Power status LED
- HDD access LED
- RF access LED

- COM ports access LEDs
- 2 x USB 2.0 ports & 2 x USB 3.0 ports
- 2 x 2.5KV isolated RS232/422/485 terminal connector
- 1 x VGA output & 1 x DVI-I output
- 2 x Intel® GbE LAN ports (both with Intel® WG82574L)
- 1 x PS/2 connector for keyboard and mouse
- 2-pin remote power on/off switch
- 2 x Optional I/O knockout for additional functions

Storage Device
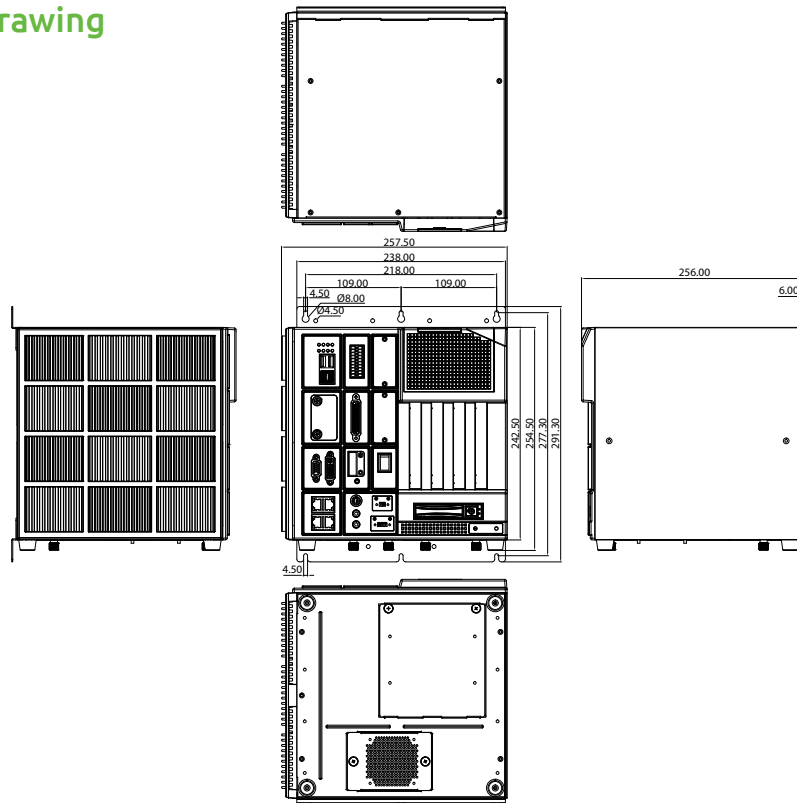- 2 x Internal 2.5" HDD bay

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/GSM/Automation modules
- 2 x PCI expansion (10W max. per slot)
- Add-on card length: 220mm max.

Power Requirements
- Typical DC input: 24VDC (Range: 21.6V ~ 26.4V)

Dimensions
- 216mm (W) x 250mm (D) x 255mm (H) without wall mount bracket

Environment
- Operating temperature:
  Ambient with air flow: 0°C to 55°C

NEXCOM

Dimension Drawing

(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27 with HDD
- Vibration protection
  Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  Sinusoidal: 0.5 Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications
- CE/FCC Class A

OS Support Lists
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

- **NISE 4010P2 (P/N: 10J00401000X0)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with two PCI expansions

- **24V, 120W AC/DC power adapter w/ o power cord**

  (P/N: 7400120012X00)

NISE 4010P4E

Main Features

- Support 3rd generation Intel® Core™ i3/i5 rPGA socket type processor
- Intel® QM77 PCH
- 2 x USB 3.0 & 2 x USB 2.0
- 2 x Intel® GbE LAN Ports
- 1 x DVI-I & 1 x VGA

- 2 x 2.5KV isolated RS232/422/485
- Four PCI/PCIe expansion slots
- Two Mini-PCIe sockets
- Support +24VDC power input
- Support ATX power mode, WoL and PXE function

Product Overview

Integrated with Intel® 3rd generation Core™ i7 process, NISE4010P4E offers excellent computing performance. The QM77 PCH provides original USB 3.0, which ensures the high throughput and is suitable for the high bandwidth devices, such as industrial cameras. The two Intel® GbE LAN ports provide high communication bandwidth and can be used to access GbE camera for surveillance and industrial automation projects. NISE4010P4E also features four PCI/PCIe expansion slots and two Mini-PCIe sockets are available, providing the expansion for Fieldbus interface. All built-in I/O connectors of NISE 4010P4E locate at the front panel. It makes the wiring and maintenance easier for typical installation style for factory automation devices. Alone with well-proven fanless design experience of NEXCOM which ensures the stability, these make NISE 4010P4E well fitting with the factory automation applications.

Specifications

CPU Support
- Support 3rd generation Intel® Core™ i5/i3 rPGA socket type processor
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support Three Independent Display with above processors
- Intel® QM77 PCH chipset

Main Memory
- 2 x DDR3/DDR3L SO-DIMM sockets, support dual channel up to 8GB, DDR3 1333 SDRAM, un-buffered and non-ECC

Display Option
- Dual independent display
  - VGA
  - DVI-D
- Three independent display
  - VGA
  - VGA (output via optional Y-cable)
  - DVI-D (output via optional Y-cable)

I/O Interface
- ATX power on/off switch
- Power status LED
- HDD access LED
- RF access LED
- COM ports access LEDs
- 2 x USB 2.0 ports & 2 x USB 3.0 ports
- 2 x 2.5KV isolated RS232/422/485 terminal connector
- 1 x VGA output & 1 x DVI-I output
- 2x Intel® GbE LAN ports (both with Intel® WG82574L)
- 1 x PS/2 connector for keyboard and mouse
- 2-pin remote power on/off switch
- 2 x Optional I/O knockout for additional functions

Storage Device
- 1 x External 2.5" HDD bay, cold swappable
- 1 x Internal 2.5" HDD bay

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/GSM/Automation modules
- 3 x PCI expansions (6W max. per slot)
- 1 x PCIex4 expansion (6W max. per slot)
- Add-on card length: 220mm max.

Power Requirements
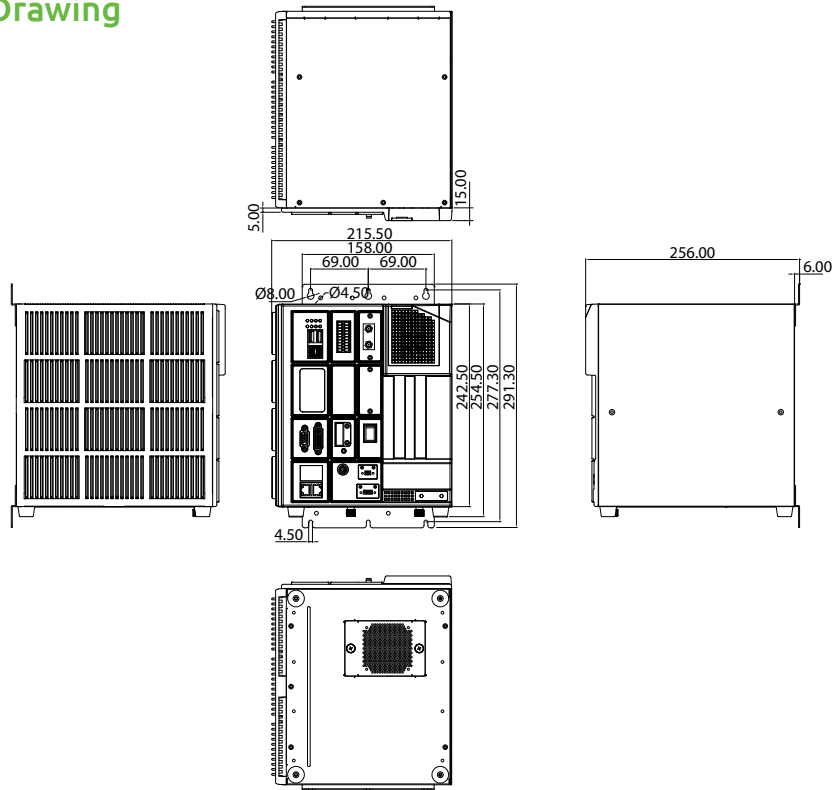- Typical DC input: 24VDC (Range: 21.6V ~ 26.4V)

Dimensions
- 258mm (W) x 250mm (D) x 255mm (H) without wall mount bracket

Dimension Drawing
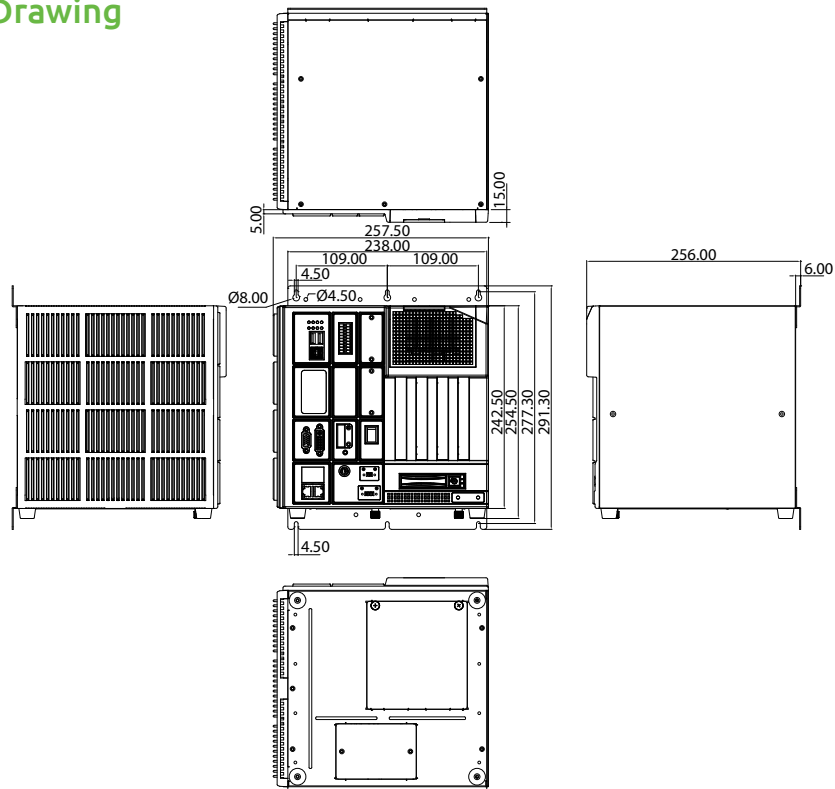
Environment

- Operating temperature:
  Ambient with air flow: 0°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27 with HDD
- Vibration protection
  Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  Sinusoidal: 0.5 Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications

- CE/FCC Class A

OS Support Lists

- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

- **NISE 4010P4E (P/N: 10J00401001X0)**
  3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with 3 x PCI and one PCIex4 expansions

- **24V, 120W AC/DC power adapter w/ o power cord**

  (P/N: 7400120012X00)

NIFE 100

Intel® Atom™ E3826 Dual Core Factory Automation Fanless System
with Fieldbus Expansion Ability

Optional Module kit

FBI90E Series
Fieldbus Modules

GSM

Wi-Fi

PLC & Remote I/O module as the option
FBI Fieldbus module kit as the option

* Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
* 1 x DVI display output or 1x VGA converted from DVI-I
* 2 x Intel® I210IT GbE LAN ports support WoL, Teaming and PXE
* 1 x USB 2.0 & 1 x USB 3.0
* 2 x RS232/422/485 with 2.5KV isolation protection

* 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules
* Front access CFast socket and RTC battery
* Support -20 ~ 70 degree C extended operating temperature
* Typical 24V DC input with +/-20% range

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NIFE100 presents intelligent PC-based controller and IOT gateway for factory automation. NIFE100 support ACP ThinManager that offers management solutions for the modern factory by simplifying management and also support Indusoft for HMI and SCADA. Up to 4G DDR3L memory, NIFE100 have several options on storage devices like CFast and SSD. The NIFE 100 support extended operating temperature from -20 upto 70 degree C with typical DC input 24V +/-20% range. The NIFE 100 has high integration ability with optional Mini-PCIe module and 2 x COM ports with 2.5KV isolation protect, which makes it a reliable connection with devices in factory automation applications (with optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, EtherNet/IP master module), IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NIFE100 is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
* Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
* Support Intel® Atom™ E3800 processor family from single core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs

Main Memory
* 1 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 4GB RAM max., un-buffered and non-ECC

Display Option
* 1 x DVI display output
* 1 x VGA display output (converted from DVI-I to VGA adapter)

I/O Interface-Front
* ATX power on/off switch
* LEDs for power status, HDD access, battery Low, 2 x programing LEDs, 4x Tx/Rx LEDs
* 1 x External CFast socket
* 1 x SIM card holder
* 2 x Intel® I210IT GbE LAN ports, support WoL, Teaming and PXE
* 1 x DVI-I display output
* 1 x USB 3.0 (900mA per each)

* 1 x USB 2.0 (500mA per each)
* 2 x RS232/422/485 with 2.5KV isolation protection, support auto flow control
  - Jumper-free setting on RS232/422/485
  - Support RI function on COM2
* 1 x 2-pin remote power On/Off switch
* 1 x 3-pic DC input, Typical 24V DC input with +/-20% range

Storage Device
* 1 x CFast (SATA 2.0)
* 1 x 2.5" SSD (SATA 2.0)

Expansion Slot
* 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power Requirement
* Typical 24V DC input with +/-20% range
* 1 x optional 24V, 60W power adapter

Dimensions
* 92mm (W) x 135.5mm (D) x 192.5mm (H)

Construction
* Aluminum and metal chassis with fanless design

NEXCOM

Dimension Drawing

Environment

- Operating temperature:
  Ambient with air flow: -20°C to 70°C with industrial grade device
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications

- CE
- FCC Class A

Support OS

- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Wind River® Intelligent Device Platfrom XT 2.0

Ordering Information

- **NIFE 100 (P/N: 10J70010000X0)**
  Intel® Atom™ processor E3826 Dual Core fanless system

- **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

Optional Fieldbus kit

88J50090E05X0	DeviceNet Master Module Kit (w/15 cm Cable)	FBI 90E-DNM KIT
88J50090E06X0	EtherCAT Master Module Kit(w/15 cm Cable)	FBI 90E-ECM KIT
88J50090E07X0	Ethernet IP Master Module Kit (w/15 cm Cable)	FBI 90E-EP KIT
88J50090E08X0	Profibus Master Module Kit (w/15 cm Cable)	FBI 90E-PBM KIT
88J50090E09X0	ProfINET Master Module Kit (w/15 cm Cable)	FBI 90E-PNM KIT
88J50090E14X0	SERCOSIII Master Module Kit (w/15 cm Cable)	FBI 90E-S3M KIT
88J50090E16X0	CANopen Master Module Kit (w/15 cm Cable)	FBI 90E-COM KIT

Optional WiFi/GSM module

88J70010004X0	NIFE100 3.5G Module Kit SIERRA: MC8705	-
88J70010005X0	NIFE 100 Wifi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010006X0	NIFE 100 Wifi Module Kit INTEL: 7260.HMWBNWB.R	WLAN+ BLUETOOTH COMBO MODULE

Optional Din Rail Kit

88J70010000X0	NIFE 100/101 Series Din Rail kit	@Shock 20G

NIFE 100S

Intel® Atom™ E3826 Dual Core Factory Automation Fanless System
with Fieldbus Expansion Ability

Optional Module kit

FBI90E Series
Fieldbus Modules

GSM

Wi-Fi

PLC & Remote I/O module as the option
FBI Fieldbus module kit as the option

- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
- 1 x DVI display output or 1x VGA converted from DVI-I
- 2 x Intel® I210IT GbE LAN ports support WoL, Teaming and PXE
- 1 x USB 2.0 & 1 x USB 3.0
- 2 x RS232/422/485 with 2.5KV isolation protection

- 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules
- Front access CFast socket and RTC battery
- Support -20 ~ 70 °C extended operating temperature
- Typical 24V DC input with +/-20% range with 1KV isolation protection

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NIFE 100S presents intelligent PC-based controller and IOT gateway for factory automation. NIFE 100S support ACP ThinManager that offers management solutions for the modern factory by simplifying management and also support Indusoft for HMI and SCADA. Up to 4G DDR3L memory, NIFE 100S have several options on storage devices like CFast and SSD. The NIFE 100S support extended operating temperature from -20 upto 70 degree C with typical DC input 24V +/-20% range. The NIFE 100S has high integration ability with optional Mini-PCIe module and 2 x COM ports with 2.5KV isolation protect, which makes it a reliable connection with devices in factory automation applications (with optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, EtherNet/IP master module), IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NIFE 100S is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs

Main Memory
- 1 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 4GB RAM max., un-buffered and non-ECC

Display Option
- 1 x DVI display output
- 1 x VGA display output (converted from DVI-I to VGA adapter)

I/O Interface-Front
- ATX power on/off switch
- LEDs for power status, HDD access, battery Low, 2 x programing LEDs, 4x Tx/Rx LEDs
- 1 x External CFast socket
- 1 x SIM card holder
- 2 x Intel® I210IT GbE LAN ports, support WoL, Teaming and PXE
- 1 x DVI-I display output
- 1 x USB 3.0 (900mA per each)
- 1 x USB 2.0 (500mA per each)

- 2 x RS232/422/485 with 2.5KV isolation protection, support auto flow control
  - Jumper-free setting on RS232/422/485
  - Support RI function on COM2
- 1 x 2-pin remote power On/Off switch
- 1 x 3-pic DC input, Typical 24V DC input with +/-20% range with 1KV isolation protection

Storage Device
- 1 x CFast (SATA 2.0)
- 1 x 2.5" SSD (SATA 2.0)

Expansion Slot
- 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power Requirement
- Typical 24V DC input with +/-20% range with 1KV isolation protection
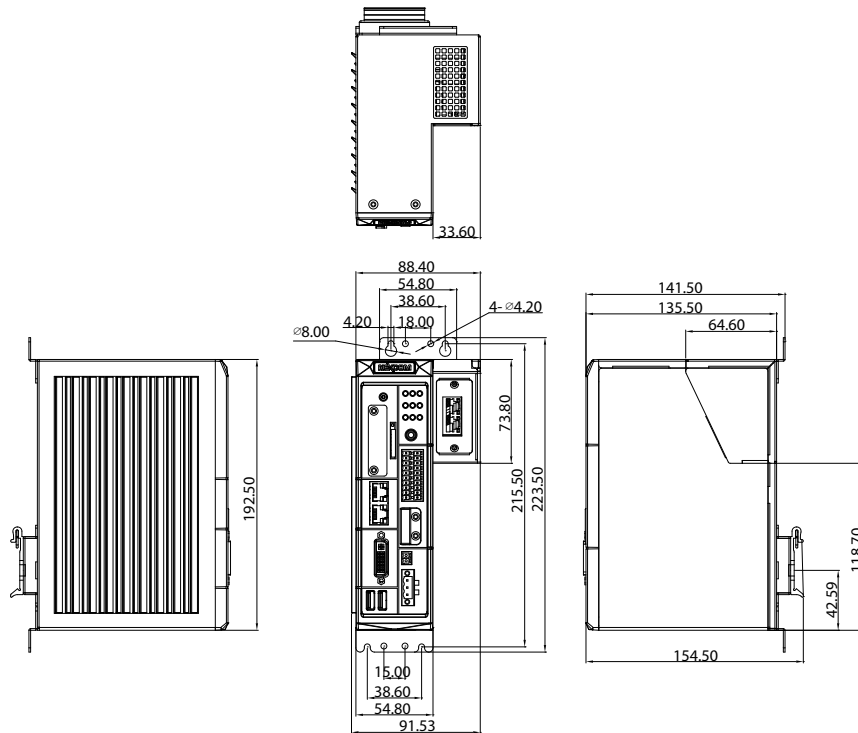- 1 x optional 24V, 60W power adapter

Dimensions
- 92mm (W) x 135.5mm (D) x 192.5mm (H)

Construction
- Aluminum and metal chassis with fanless design

Dimension Drawing

Environment

- Operating temperature:
  Ambient with air flow: -20°C to 70°C with industrial grade device
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications

- CE
- FCC Class A

Support OS

- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Wind River® Intelligent Device Platfrom XT 2.0

Ordering Information

- **NIFE100S (P/N: 10J70010001X0)**
  Intel® Atom™ processor E3826 Dual Core Fanless System with 1KV
  Isolation Protection on the DC input.

- **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

Optional Fieldbus kit

88J50090E05X0	DeviceNet Master Module Kit (w/15 cm Cable)	FBI 90E-DNM KIT
88J50090E06X0	EtherCAT Master Module Kit (w/15 cm Cable)	FBI 90E-ECM KIT
88J50090E07X0	Ethernet IP Master Module Kit (w/15 cm Cable)	FBI 90E-EP KIT
88J50090E08X0	Profibus Master Module Kit (w/15 cm Cable)	FBI 90E-PBM KIT
88J50090E09X0	ProfINET Master Module Kit (w/15 cm Cable)	FBI 90E-PNM KIT
88J50090E14X0	SERCOSIII Master Module Kit (w/15 cm Cable)	FBI 90E-S3M KIT
88J50090E16X0	CANopen Master Module Kit (w/15 cm Cable)	FBI 90E-COM KIT

Optional WiFi/GSM module

88J70010004X0	NIFE 100 3.5G Module Kit SIERRA: MC8705	-
88J70010005X0	NIFE 100 Wifi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010006X0	NIFE 100 Wifi Module Kit INTEL: 7260.HMWBNWB.R	WLAN+ BLUETOOTH COMBO MODULE

Optional Din Rail Kit

88J70010000X0	NIFE 100/101 Series Din Rail kit	@Shock 20G

NIFE 101

Intel® Atom™ E3826 Dual Core Factory Automation Fanless System

- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
- 1 x DVI display output or 1x VGA converted from DVI-I
- 2 x Intel® I210IT GbE LAN ports support WoL, Teaming and PXE
- 1 x USB 2.0 & 1 x USB 3.0
- 2 x RS232/422/485 with 2.5KV isolation protection

- 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE
- Front access CFast socket and RTC battery
- Support -20 ~ 70 °C extended operating temperature
- Typical 24V DC input with +/-20% range

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NIFE101 presents intelligent PC-based controller and Modbus RTU/TCP gateway for factory automation. NIFE101 support ACP ThinManager that offers management solutions for the modern factory by simplifying management and also support Indusoft for HMI and SCADA. Up to 4G DDR3L memory, NIFE101 have several options on storage devices like CFast and SSD. The NIFE 101 support extended operating temperature from -20 upto 70 degree C with typical DC input 24V +/-20% range. The NIFE 101 has high integration ability with optional Mini-PCIe module and 2 x COM ports with Isolation 2.5kv protect, which makes it a reliable connection with devices in IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module). NIFE 101 is definitely the top choice for IOT/M2M intelligent system.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs

Main Memory
- 1 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 4GB RAM max., un-buffered and non-ECC

Display Option
- 1 x DVI display output
- 1 x VGA display output (converted from DVI-I to VGA adapter)

I/O Interface-Front
- ATX power on/off switch
- LEDs for power status, HDD access, battery Low, 2 x programing LEDs, 4x Tx/Rx LEDs
- 1 x External CFast socket
- 1 x SIM card holder
- 2 x Intel® I210IT GbE LAN ports, support WoL, Teaming and PXE
- 1 x DVI-I display output
- 1 x USB 3.0 (900mA per each)
- 1 x USB 2.0 (500mA per each)
- 2 x RS232/422/485 with 2.5KV isolation protection, support auto flow control

- Jumper-free setting on RS232/422/485
- Support RI function on COM2
- 1 x 2-pin remote power On/Off switch
- 1 x 3-pic DC input, Typical 24V DC input with +/-20% range

Storage Device
- 1 x CFast (SATA 2.0)
- 1 x 2.5" SSD (SATA 2.0)

Expansion Slot
- 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE

Power Requirement
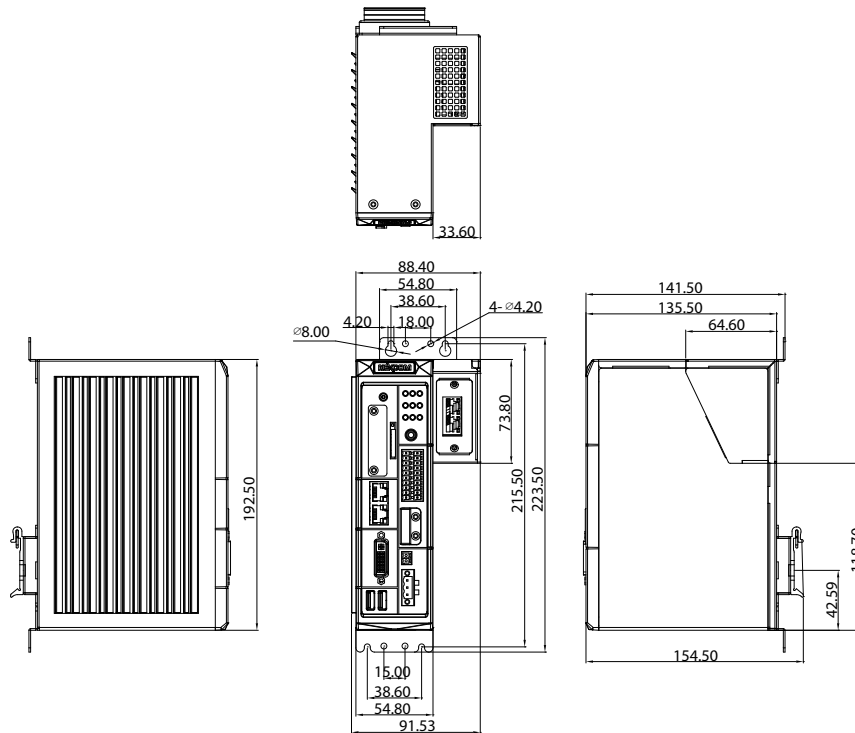- Typical 24V DC input with +/-20% range
- 1 x optional 24V, 60W power adapter

Dimensions
- 58mm (W) x 135.5mm (D) x 192.5mm (H)

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -20°C to 70°C with industrial grade device
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C

Dimension Drawing

- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

Support OS
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0
- Wind River® Intelligent Device Platfrom XT 2.0

Ordering Information

- **NIFE 101 (P/N: 10J70010100X0)**
  Intel® Atom™ processor E3826 Dual Core fanless system

- **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

Optional WiFi/GSM module

88J70010100X0	NIFE101 3.5G Module Kit SIERRA: MC8705	-
88J70010101X0	NIFE101 Wifi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010102X0	NIFE101 Wifi Module Kit INTEL: 7260.HMWBNWB.R	WLAN+ BLUETOOTH COMBO MODULE

Optional Din Rail Kit

88J70010000X0	NIFE100/101 Series Din Rail kit	@Shock 20G

NIFE 200

Intel® Celeron® J1900 Quad Cord 2.0GHz Factory Automation Fanless System
with Fieldbus Expansion Ability

- Onboard Intel® Celeron® processor J1900 Quad Cord 2.0GHz
- Dual independent display from DP and DVI-I
- 2 x Intel® I210AT GbE LAN ports support WoL, Teaming and PXE
- 3 x USB 2.0 & 1 x USB 3.0
- 2 x RS232/422/485

- 2 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules
- TOP access SD card socket
- Support -5 ~ 55 degree C operating temperature
- Typical 24V DC input with +/-20% range

Product Overview

Powered by the latest generation of Intel® Celeron® processor J1900 (formerly codenamed "Bay Trail-D"), NIFE200 presents intelligent PC-based controller and IOT gateway for factory automation. NIFE 200 supports up to 8G DDR3L memory and have several options on storage devices like SD, mSATA, HDD and SSD. The NIFE 200 support operating temperature from -5 up to 55 degree C with typical DC input 24V +/-20% range. The NIFE 200 has high integration ability with optional Mini-PCIe module and 2 x COM ports, which makes it a reliable connection with devices in factory automation applications (with optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, EtherNet/IP, CANopen, SERCOSIII master module), IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NIFE200 is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
- Onboard Intel® Celeron® processor J1900 Quad Cord 2.0GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs

Main Memory
- 2 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 8GB RAM max., un-buffered and non-ECC

Display Option
- Dual independent display
  - DVI-I and DP

I/O Interface-Front
- ATX power on/off switch
- LEDs for HDD LED, Batty LEDs, Power LED, COM port TX/RX, 5x programmable GPO LEDs
- 1 x External SD Card
- 1 x SIM card holder
- 2 x Intel® I210AT GbE LAN ports, support WoL, Teaming and PXE
- 1 x DP display output
- 1 x DVI-I display output
- 1 x USB 3.0 (900mA per each)
- 3 x USB 2.0 (500mA per each)

- 2 x RS232/422/485 support auto flow control
  - Jumper-free setting on RS232/422/485
  - Support 2.5KV isolation protection on COM1
- 1 x 3-pic DC input, Typical 24V DC input with +/-20% range

Storage Device
- 1 x 2.5" SSD/HDD(SATA 2.0) --front accessible
- 1 x SD card (Data storage only)
- 1 x mSATA

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power Requirement
- Typical 24V DC input with +/-20% range
- 1 x optional 24V, 60W power adapter

Dimensions
- 85mm (W) x 157mm (D) x 214mm (H)

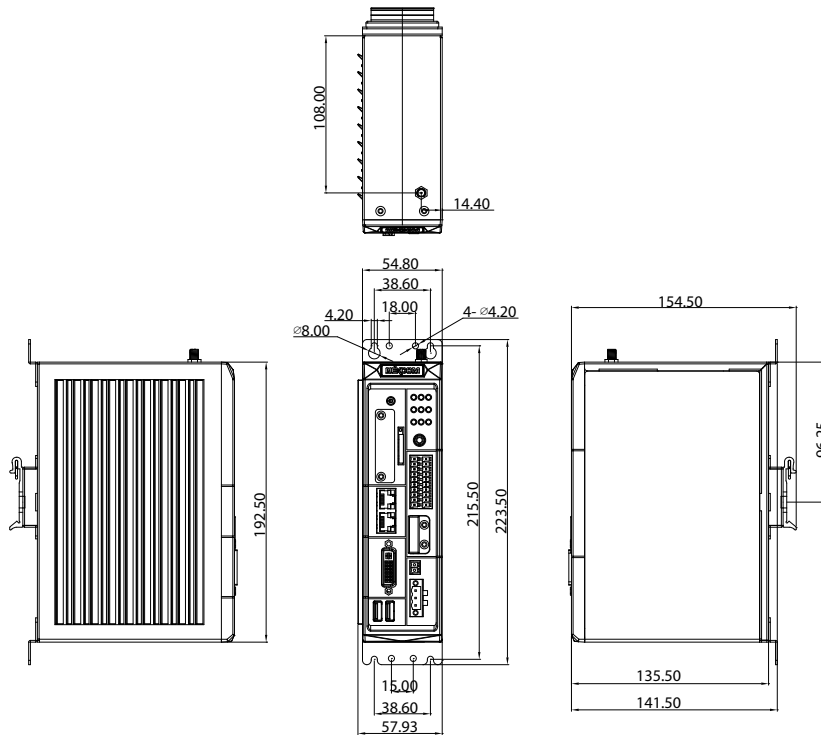### Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C

NEXCOM

Dimension Drawing

(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20℃ to 80℃
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE Approval
  - EN61000-4-2
  - EN61000-4-4
- FCC Class A
- LVD

Support OS
- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0

Ordering Information

- **NIFE 200 (P/N: 10J70020000X0)**
  Intel® Atom™ processor J1900 Quad Cord 2.0GHz fanless system

- **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NIFE 200P2

Intel® Celeron® J1900 Quad Core 2.0GHz Factory Automation Fanless System
with Fieldbus Expansion Ability

- Onboard Intel® Celeron® processor J1900 Quad Core 2.0GHz
- Dual independent display from DP and DVI-I
- 2 x Intel® I210AT GbE LAN ports support WoL, Teaming and PXE
- 3 x USB 2.0 & 1 x USB 3.0
- 2 x RS232/422/485

- 2 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules
- TOP access SD card socket
- Support -5 ~ 55 degree C operating temperature
- Typical 24V DC input with +/-20% range

Product Overview

Powered by the latest generation of Intel® Celeron® processor J1900 (formerly codenamed "Bay Trail-D"), NIFE200P2 presents intelligent PC-based controller and IOT gateway for factory automation. NIFE 200P2 supports up to 8G DDR3L memory and have several options on storage devices like SD, mSATA, HDD and SSD. The NIFE 200P2 support operating temperature from -5 up to 55 degree C with typical DC input 24V +/-20% range. The NIFE 200P2 has high integration ability with optional Mini-PCIe module and 2 x COM ports, which makes it a reliable connection with devices in factory automation applications (with optional PROFIBUS, ProfiNET, DeviceNET, EtherCAT, EtherNet/IP, CANopen, SERCOSIII master module), IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NIFE200P2 is definitely the top choice for M2M intelligent system as a factory automation controller and gateway.

Specifications

CPU Support
- Onboard Intel® Celeron® processor J1900 Quad Core 2.0GHz
- Support Intel® Atom™ E3800 processor family from single core E3815, Dual Core E3825/E3826/E3827 and Quad Core E3845 with difference SKUs

Main Memory
- 2 x DDR3L SO-DIMM socket, support DDR3L 1066/1333 8GB RAM max., un-buffered and non-ECC

Display Option
- Dual independent display
  - DVI-I and DP

I/O Interface-Front
- ATX power on/off switch
- LEDs for HDD LED, Batty LEDs, Power LED, COM port TX/RX, 5x programmable GPO LEDs
- 1 x External SD Card
- 1 x SIM card holder
- 2 x Intel® I210AT GbE LAN ports, support WoL, Teaming and PXE
- 1 x DP display output
- 1 x DVI-I display output
- 1 x USB 3.0 (900mA per each)
- 3 x USB 2.0 (500mA per each)

- 2 x RS232/422/485 support auto flow control
  - Jumper-free setting on RS232/422/485
  - Support 2.5KV isolation protection on COM1
- 1 x 3-pic DC input, Typical 24V DC input with +/-20% range

Storage Device
- 1 x 2.5" SSD/HDD(SATA 2.0) --front accessible
- 1 x SD card (Data storage only)
- 1 x mSATA

Expansion Slot
- Two PCI Expansion
  - Add-on card length: 176mm max.
  - Power consumption: 10W/ slot max.
- 2 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power Requirement
- Typical 24V DC input with +/-20% range
- 1 x optional 24V, 60W power adapter

Dimensions
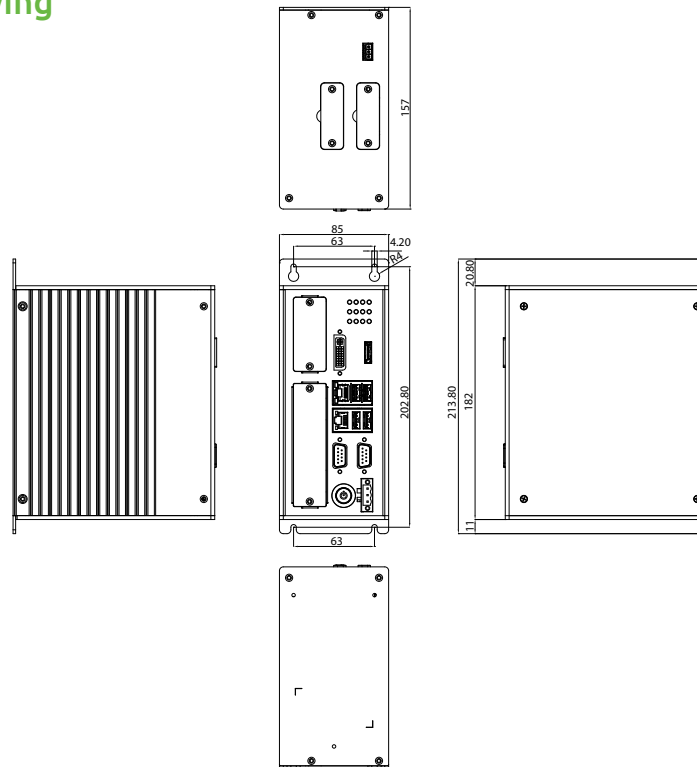- 151mm (W) x 157mm (D) x 230mm (H)

Construction
- Aluminum and metal chassis with fanless design

Dimension Drawing

Environment

- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications

- CE Approval
  - EN61000-4-2
  - EN61000-4-4
- FCC Class A
- LVD

Support OS

- Windows 8, 32bit/64bit
- Windows Embedded Standard 8, 32bt/64bit
- Windows 7, 32bit/64bit
- Windows Embedded Standard 7, 32bit/64bit
- Linux Kernel version 3.8.0

Ordering Information

- **NIFE 200P2 (P/N: 10J70020001X0)**
  Intel® Atom™ processor J1900 Quad Core 2.0GHz fanless system

- **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NIFE 300

- Support 6th generation Intel® Core™ i7/i5/i3 LGA1151 socket type processors
- Intel® Q170 PCH
- 1 x DVI-D, and 1x HDMI for dual independent display support
- 3 x Intel® GbE LAN ports; support WoL, teaming and PXE

- 4 x USB 3.0, 2 x USB 2.0 and 2 x RS232/422/485 auto
- 1 x front access 2.5"SATA HDD tray
- 2 x Mini-PCIe socket support optional modules and mSATA device
- 1 x external CFast socket and 1 x SIM card socket
- Support +24VDC input; support ATX power mode

Product Overview

NEXCOM PC-based IoT controller solution NIFE 300 accelerates the migration of automation systems to cyber-physical systems for smart manufacturing. Boosted by Intel® Core™ i5-6500TE and i7-6700TE processors (formerly codenamed Skylake-S), the NIFE 300's open architecture features high interoperability to provide a unified infrastructure, communication network, and programming tool for factory floors and company offices, regaining speed, efficiency, and agility in manufacturing.

The 6th generation Intel® Core™ processors utilizing Intel's 14nm process have integrated Intel® HD Graphics and the latest generation interfaces including DDR4 2133. NIFE300 excellent performance is suited for graphic- and compute-intensive applications such as motion control and machine vision, while the 4K2K support enables human machine interface (HMI) to show exquisite details of working pieces and 3D simulation of working processes.

NIFE 300 also meets PLCopen® specifications and allows easy control programming via CODESYS Control RTE and CODESYS SoftMotion tool kit. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC and IoT controllers.

Specifications

CPU Support
- Support 6th generation Intel® Core™ i7/i5/i3 LGA socket type processors
  - Core™ i7-6700TE, quad core, 3.4GHz, 8M cache
  - Core™ i5-6500TE, quad core, 3.3GHz, 6M cache
  - Core™ i3-6100TE, dual core, 2.7GHz, 4M cache
  - Pentium G4400TE, dual core, 2.9GHz, 3M cache
  - Celeron, G3900TE dual core, 2.6GHz, 2M cache

Main Memory
- 2 x DDR4 SO-DIMM socket, supports 2133MHz and up to 8GB with un-buffered and non-ECC type

Display Option
- Dual independent display
  - HDMI + DVI-D

Front I/O Interface Status LEDs
- 1 x Battery/ 1 x C-Fast LEDs
- 4 x GPO status/ 2 x TX/ RX LEDs
- 1 x Power/ 1 x HDD access LEDs

Front I/O Interface
- 1 x ATX power on/ off switch

- 1 x HDMI and 1 x DVI-D
- 4 x USB 3.0 ports (900mA per each)
- 2 x USB 2.0 ports (500mA per each)
- 1 x Line-out and 1 x Mic-in
- 2 x Antenna holes for WI-FI/ GSM
- 1 x Front access 2.5" HDD tray
- 1 x Mini-PCIe expansion support optional modules
- 2x RS232/422/485 auto with 2.5KV Isolation

Top I/O Interface
- 1 x 3Pin remote switch
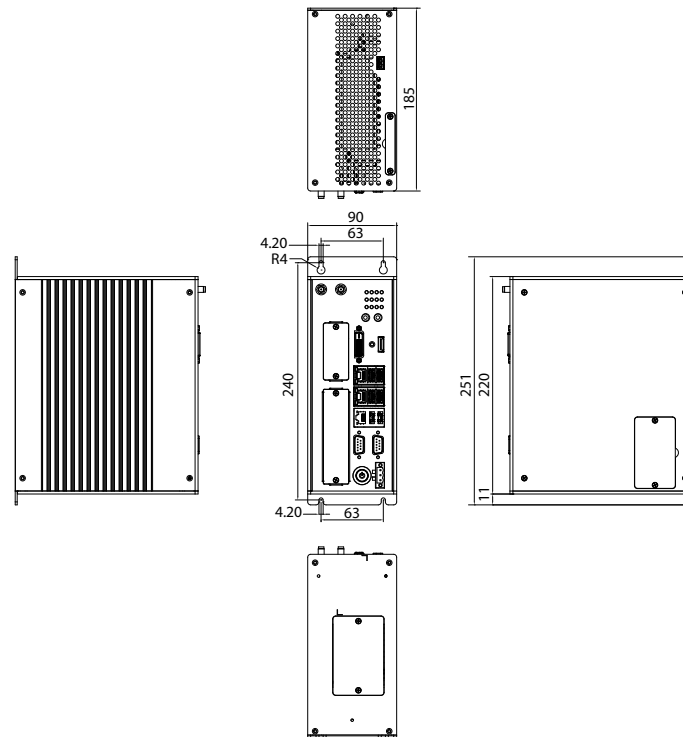- 1 x CFast expansion
- 1 x SIM card

Storage Device
- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (external, SATA 3.0)
- 1 x 2.5" HDD (internal, SATA 3.0)
- 1 x mSATA (via internal Mini-PCIe socket)

Expansion Slot
- NIFE300: No expansion

Dimension Drawing

- NIFE300P2: Two PCI expansion slots
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE300P2E: One PCI expansion slot, and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/ slot max
- NIFE300P3: Two PCI expansion slots and one PCIex8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE300E16: One PCIex16 expansion slot
  - Add-on card length: 180mm
  - Power consumption: 30W/ slot max

Power Requirement
- AT/ ATX power mode (default with ATX power mode)
- Power input: typical +24VDC +/- 20%
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- NIFE300: 90 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P2: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P2E: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300E16: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P3: 175 mm(W) x 185mm (D) x 251mm (H)

Construction
- Aluminum and metal chassis with front access design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20°C to 85°C
- Relative Humidity: 10% to 93% (non-condensing)
- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/HDD condition:

- Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
- Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE Approval
  - EN61000-4-2
  - EN61000-4-4
- FCC Class A
- LVD

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32 bits and 64 bits

Ordering Information

- **NIFE300 system (P/N: 10J70030000X0)**
- **NIFE300P2 system (P/N: 10J70030001X0)**
- **NIFE300P2E system (P/N: 10J70030002X0)**
- **NIFE300P3 system (P/N: 10J70030003X0)**
- **NIFE300E16 system (P/N: 10J70030004X0)**
- **24V, 120W AC to DC power adapter w/o power core (P/N: 7400120015X00)**

NIFE 300P2/P2E/E16

- Support 6th generation Intel® Core™ i7/i5/i3 LGA1151 socket type processors
- Intel® Q170 PCH
- 1 x DVI-D, and 1 x HDMI for dual independent display support
- 3 x Intel® GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 3.0, 2 x USB 2.0 and 2 x RS232/422/485 auto

- 1 x front access 2.5"SATA HDD tray
- 2 x Mini-PCIe socket support optional modules and mSATA device
- 1 x external CFast socket and 1 x SIM card socket
- 2 x PCI/PCIe expansions
- Support +24VDC input; support ATX power mode

Product Overview

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NIFE 300 also meets PLCopen® specifications and allows easy control programming via CODESYS Control RTE and CODESYS SoftMotion tool kit. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC and IoT controllers.

Specifications

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- Support 6th generation Intel® Core™ i7/i5/i3 LGA socket type processors
  - Core™ i7-6700TE, quad core, 3.4GHz, 8M cache
  - Core™ i5-6500TE, quad core, 3.3GHz, 6M cache
  - Core™ i3-6100TE, dual core, 2.7GHz, 4M cache
  - Pentium G4400TE, dual core, 2.9GHz, 3M cache
  - Celeron, G3900TE dual core, 2.6GHz, 2M cache

Main Memory
- 2 x DDR4 SO-DIMM socket, supports 2133MHz and up to 8GB with un-buffered and non-ECC type

Display Option
- Dual independent display
  - HDMI + DVI-D

Front I/O Interface Status LEDs
- 1 x Battery/ 1 x C-Fast LEDs
- 4 x GPO status/ 2 x TX/ RX LEDs
- 1 x Power/ 1 x HDD access LEDs

Front I/O Interface
- 1 x ATX power on/ off switch
- 1 x HDMI and 1 x DVI-D
- 4 x USB 3.0 ports (900mA per each)
- 2 x USB 2.0 ports (500mA per each)
- 1 x Line-out and 1 x Mic-in
- 2 x Antenna holes for WI-FI/ GSM
- 1 x Front access 2.5" HDD tray
- 1 x Mini-PCIe expansion support optional modules
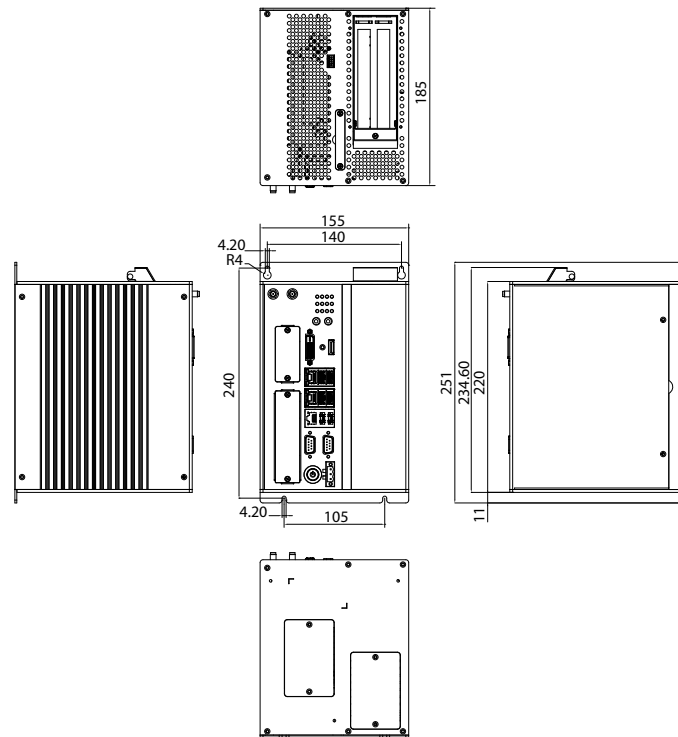- 2x RS232/422/485 auto with 2.5KV Isolation

Top I/O Interface
- 1 x 3Pin remote switch
- 1 x CFast expansion
- 1 x SIM card

Storage Device
- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (external, SATA 3.0)
- 1 x 2.5" HDD (internal, SATA 3.0)

Dimension Drawing

- 1 x mSATA (via internal Mini-PCIe socket)

Expansion Slot
- NIFE300: No expansion
- NIFE300P2: Two PCI expansion slots
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE300P2E: One PCI expansion slot, and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/ slot max
- NIFE300P3: Two PCI expansion slots and one PCIex8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE300E16: One PCIex16 expansion slot
  - Add-on card length: 180mm
  - Power consumption: 30W/ slot max

Power Requirement
- AT/ ATX power mode (default with ATX power mode)
- Power input: typical +24VDC +/- 20%
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- NIFE300: 90 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P2: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P2E: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300E16: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P3: 175 mm(W) x 185mm (D) x 251mm (H)

Construction
- Aluminum and metal chassis with front access design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20°C to 85°C

- Relative Humidity: 10% to 93% (non-condensing)
- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/HDD condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE Approval
  - EN61000-4-2
  - EN61000-4-4
- FCC Class A
- LVD

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32 bits and 64 bits

Ordering Information

- **NIFE300 system (P/N: 10J70030000X0)**
- **NIFE300P2 system (P/N: 10J70030001X0)**
- **NIFE300P2E system (P/N: 10J70030002X0)**
- **NIFE300P3 system (P/N: 10J70030003X0)**
- **NIFE300E16 system (P/N: 10J70030004X0)**
- **24V, 120W AC to DC power adapter w/o power core (P/N: 7400120015X00)**

NIFE 300P3

- Support 6th generation Intel® Core™ i7/i5/i3 LGA1151 socket type processors
- Intel® Q170 PCH
- 1 x DVI-D, and 1 x HDMI for dual independent display support
- 3 x Intel® GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 3.0, 2 x USB 2.0 and 2 x RS232/422/485 auto

- 1 x front access 2.5"SATA HDD tray
- 2 x Mini-PCIe socket support optional modules and mSATA device
- 1 x external CFast socket and 1 x SIM card socket
- Support PCI/ PCIe expansions
- Support +24VDC input; support ATX power mode

Product Overview

NEXCOM PC-based IoT controller solution NIFE 300 accelerates the migration of automation systems to cyber-physical systems for smart manufacturing. Boosted by Intel® Core™ i5-6500TE and i7-6700TE processors (formerly codenamed Skylake-S), the NIFE 300's open architecture features high interoperability to provide a unified infrastructure, communication network, and programming tool for factory floors and company offices, regaining speed, efficiency, and agility in manufacturing.

The 6th generation Intel® Core™ processors utilizing Intel's 14nm process have integrated Intel® HD Graphics and the latest generation interfaces including DDR4 2133. NIFE300 excellent performance is suited for graphic- and compute-intensive applications such as motion control and machine vision, while the 4K2K support enables human machine interface (HMI) to show exquisite details of working pieces and 3D simulation of working processes.

NIFE 300 also meets PLCopen® specifications and allows easy control programming via CODESYS Control RTE and CODESYS SoftMotion tool kit. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC and IoT controllers.

Specifications

CPU Support
- Support 6th generation Intel® Core™ i7/i5/i3 LGA socket type processors
  - Core™ i7-6700TE, quad core, 3.4GHz, 8M cache
  - Core™ i5-6500TE, quad core, 3.3GHz, 6M cache
  - Core™ i3-6100TE, dual core, 2.7GHz, 4M cache
  - Pentium G4400TE, dual core, 2.9GHz, 3M cache
  - Celeron, G3900TE dual core, 2.6GHz, 2M cache

Main Memory
- 2 x DDR4 SO-DIMM socket, supports 2133MHz and up to 8GB with un-buffered and non-ECC type

Display Option
- Dual independent display
  - HDMI + DVI-D

Front I/O Interface Status LEDs
- 1 x Battery/ 1 x C-Fast LEDs
- 4 x GPO status/ 2 x TX/ RX LEDs
- 1 x Power/ 1 x HDD access LEDs

Front I/O Interface
- 1 x ATX power on/ off switch
- 1 x HDMI and 1 x DVI-D
- 4 x USB 3.0 ports (900mA per each)
- 2 x USB 2.0 ports (500mA per each)
- 1 x Line-out and 1 x Mic-in
- 2 x Antenna holes for WI-FI/ GSM
- 1 x Front access 2.5" HDD tray
- 1 x Mini-PCIe expansion support optional modules
- 2x RS232/422/485 auto with 2.5KV Isolation
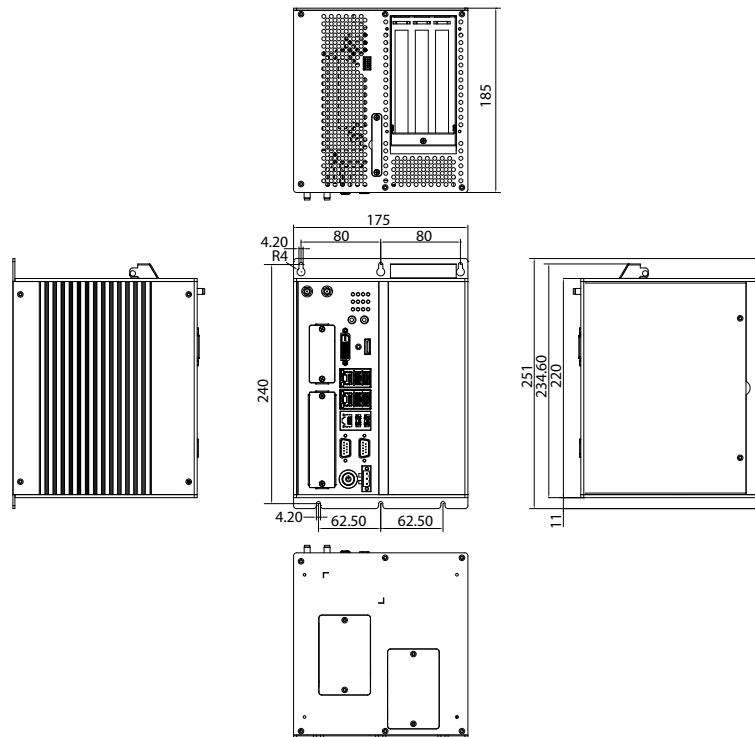
Top I/O Interface
- 1 x 3Pin remote switch
- 1 x CFast expansion
- 1 x SIM card

Storage Device
- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (external, SATA 3.0)
- 1 x 2.5" HDD (internal, SATA 3.0)

Dimension Drawing

- 1 x mSATA (via internal Mini-PCIe socket)

Expansion Slot
- NIFE300: No expansion
- NIFE300P2: Two PCI expansion slots
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE300P2E: One PCI expansion slot, and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/ slot max
- NIFE300P3: Two PCI expansion slots and one PCIex8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE300E16: One PCIex16 expansion slot
  - Add-on card length: 180mm
  - Power consumption: 30W/ slot max

Power Requirement
- AT/ ATX power mode (default with ATX power mode)
- Power input: typical +24VDC +/- 20%
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- NIFE300: 90 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P2: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P2E: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300E16: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE300P3: 175 mm(W) x 185mm (D) x 251mm (H)

Construction
- Aluminum and metal chassis with front access design

Environment
- Operating Temperature:
  Ambient with air flow: -5°C to 55°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage Temperature: -20°C to 85°C
- Relative Humidity: 10% to 93% (non-condensing)

- Shock Protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/HDD condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6

Certifications
- CE Approval
  - EN61000-4-2
  - EN61000-4-4
- FCC Class A
- LVD

OS Support Lists
- Windows 7 32bits and 64bits
- Windows 8.1 32 bits and 64 bits

Ordering Information

- **NIFE300 system (P/N: 10J70030000X0)**
- **NIFE300P2 system (P/N: 10J70030001X0)**
- **NIFE300P2E system (P/N: 10J70030002X0)**
- **NIFE300P3 system (P/N: 10J70030003X0)**
- **NIFE300E16 system (P/N: 10J70030004X0)**
- **24V, 120W AC to DC power adapter w/o power core (P/N: 7400120015X00)**

FBI90E-DNM

DeviceNET Master/Slave, Universal FBI module kit

FBI90E-DNM (P/N: 10J50090E03X0)

FBI90E-DNM Universal Kit (P/N: 10J50090E10X0)

Main Features

- Support DeviceNet Master Interface
- Mini-PCIe Form Factor
- Fully Compatible with DeviceNet I/O Modules and Slave Devices
- Driver Support for Windows, WinCE, RTX, QNX, VxWorks, Linux

- 1 x 5-pins Phoenix Contact Connectors
- User Friendly Configuration Utility
- OPC Server Support (Optional)

Product Overview

DeviceNet is the communication protocol developed by Allen-Bradley. It is the typical protocol used in the Allen-Bradley compatible slave devices and remote I/O modules. It is very popular in factory automation application in American and Asian area. By using this interface card in PC-based platform, it can easily to establish the Allen-Bradley compatible PC-based control system.

Specifications

Form Factor
- mini-PCIe card with separated connector board

Slaves Max.
- 63

Cyclic Data Max.
- 7168, 255 Bytes/Slave

Acylic Data
- Get/Set_Attribute

I/O Connections
- Poll
- Change-of-State
- Cyclic
- Bit-Strobe

Functions
- Predefined Master-Slave
- Connection Set
- UCMM supported

Ordering Information

- **FBI90E-DNM (P/N: 10J50090E03X0)**
  Mini-PCIe DeviceNet master card
  Cable length: 15cm

- **FBI 90E-DNM Universal Kit (P/N: 10J50090E10X0)**
  Mini-PCIe DeviceNet master module kit w/ universal bracket
  Cable length: 25cm
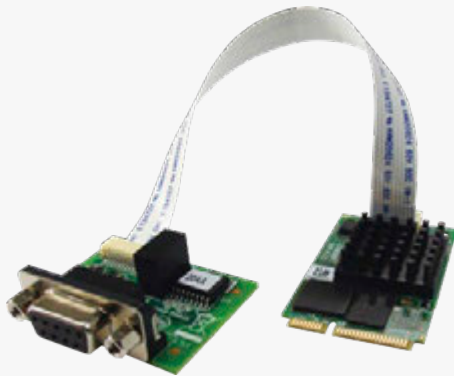
FBI90E-PBM

FBI90E-PBM (P/N: 10J50090E01X0)

FBI 90E-PBM Universal Kit (P/N:10J50090E09X0)

Main Features

- Support Profibus-DP Master Interface
- Mini-PCIe Form Factor
- Fully Compatible with Profibus Remote I/O Modules and Slave Devices

- Driver Support for Windows, WinCE, RTX, QNX, VxWorks, Linux
- 1 x DB-9 Connectors
- User Friendly Configuration Utility
- OPC Server Support (Optional)

Product Overview

The Profibus is the protocol developed by Siemens. It is the major communication protocol in Siemens system and it is almost the most popular industrial communication protocol in worldwide. In factory automation application system, this protocol is with over 40% marketing share. And it is the basic network protocol for Siemens system. By equipping this interface, it can be compatible with lots of the Siemens systems in factory automation application.

Specifications

Form Factor
- mini-PCIe card with separated connector board

I/O Devices Max.
- 125

Cyclic Data Max.
- 7168, 244 Bytes/Slave

Acylic Data
- 240 Bytes/Request

DPVI Class 1, 2
- Yes

Configuration Data
- 244 Bytes/Slave

Appl. Specific Parameter
- 237 Bytes/Slave

Ordering Information

- **FBI90E-PBM (P/N: 10J50090E01X0)**
  Mini-PCIe Profibus master card
  Cable length: 15cm

- **FBI 90E-PBM Universal Kit (P/N:10J50090E09X0)**
  Mini-PCIe Profibus master module kit w/ universal bracket
  Cable length: 25cm

FBI90E-REM

FBI90E-REM (P/N: 10J50090E00X0)

FBI 90E-REM Universal Kit (P/N:10J50090E08X0)

Main Features

- Support ProfiNET, Ethernet/IP, EtherCAT, SERCOS III Master Interface (depends on the downloaded firmware)
- Real Time Ethernet Communication
- Mini-PCIe Form Factor
- Driver Support for Windows, WinCE, RTX, QNX, VxWorks, Linux

- Fully Compatible with ProfiNET, Ethernet/IP, EtherCAT, SERCOS III Controllers and I/O Modules
- 2 x RJ45 Connectors
- User Friendly Configuration Utility
- OPC Server Support (Optional)

Product Overview

The FBI 90E-REM is the Fieldbus module supports industrial real time Ethernet Fieldbus protocols for ProfiNET, Ethernet/IP, EtherCAT, SERCOS III. Users can download the required firmware to make this card as the master interface for these protocols. By equipping this interface card, it can enable the platform to be the control station for the ProfiNET, Ethernet/IP, EtherCAT, SERCOS III slave devices.

Specifications

Form Factor
- mini-PCIe card with separated connector board

ProfiNET Master
- I/O Devices max.: 128
- Cyclic Data max.: 11472 Bytes
- Acylic Data : Read/Write Record max 4096 Bytes/Request
- Functions:
  Alarmtreatment
  DCP
  Minimum cycle time 1 ms

Ethernet/IP
- Cyclic Data max.: 11472 Bytes
- Unscheduled Data max.: 504 Bytes per Telegram
- Functions:
  Max. 64 connections
  Cyclic Connection
  UCMM class 3 supported
  DHCP, BOOTP
- Server Service
  Get_Attribute_Single/All
  Set_Attribute_Single/All

EtherCAT Master
- Slaves max.: 200
- Cyclic Data max.: 11520 Bytes

- Acylic Data: CoE (CANopen over EtherCAT)
  Up-/Download max. 1500 Bytes
- Functions:
  Get OD List
  Emergency
  Topology Line

Ordering Information

- **FBI90E-REM (P/N: 10J50090E00X0)**
  Mini-PCIe ProfiNET/Ethernet IP/EtherCAT/SERCOS III master/slave card
  Cable length: 15cm

- **FBI 90E-REM Universal Kit (P/N:10J50090E08X0)**
  Mini-PCIe ProfiNET/Ethernet IP/EtherCAT/SERCOS III master/slave module kit w/ universal bracket
  Cable length: 25cm
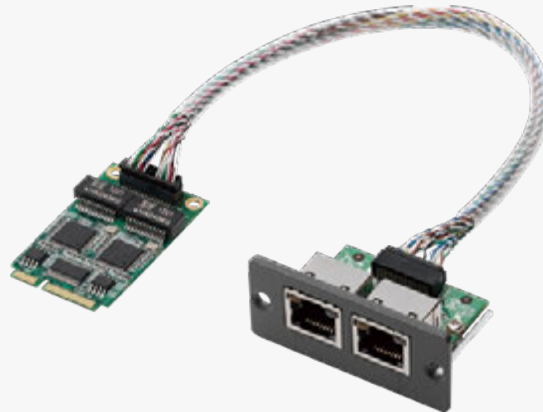
NISK300LAN Kit

Main Features

- Mini-PCIe Form Factor
- Easy and User-Friendly Configurations
- Dual RJ45 Ethernet Interface

Product Overview

NISK300LAN Kit with universal I/O bracket is specifically designed with NISE300 and NISE 4000/NIFE 4000 models for network connectivity expansions. It provides dual Intel® Gigabit Ethernet ports with latest I210IT controllers, which gives great network connectivity and less power consumption compared to the previous generation Intel® 82574L controllers. The dual LAN ports on NISK300LAN Kit supports WoL, PXE and teaming functions for managing network activities.

Specifications

Form Factor
- Mini-PCIe Form Factor

Chipset
- Intel® LAN Controller I210 Family (I210-IT)
- Compliant with IEEE802.3, 802.3u, and 802.ab

Transfer Rate
- Support 10/100/1000 Mbps transfer rates

Functions
- Support WoL, PXE and Teaming Functions

Dimensions
- Dimensions 30mm (W) x 51mm (L)

LAN LED Definitions

LAN Speed	Activity LED	Link type LED
10/100 Mbps	Orange (Left, Flashing)	Orange (Right, permanent)
1000 Mbps (Gigabit)	Orange(Left, Flashing)	Green (Right, permanent)

Environment
- Environment Operating Temperature: 0°C to 70°C
- Storage Temperature: -20°C to 75°C

OS Support
- Windows 7 32bits and 64bits
- Windows 8 32bits and 64bits

Ordering Information

Barebone

- **NISK300LAN Kit with universal I/O bracket, Cable Length 25CM (P/N: 10JK0030000X0)**

NISKLAN01

Single Gigabit LAN module, Intel® 82574L
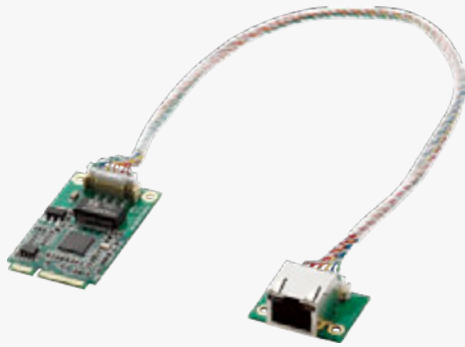
NISKLAN01 without bracket, Cable Length 250mm (P/N: 10JKLAN0100X0)
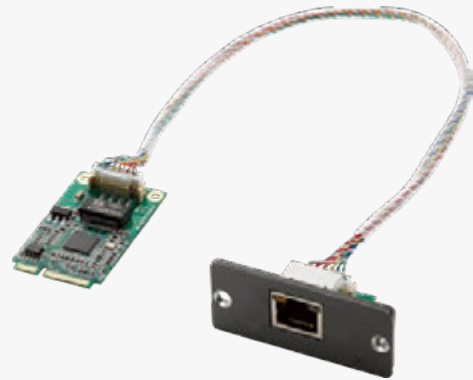
NISKLAN01 with universal I/O bracket, Cable Length 250mm (P/N: 10JKLAN0101X0)

Main Features
- Mini-PCIe Form Factor
- Easy and User-Friendly Configurations

- One RJ45 Ethernet Interface

Product Overview

NISKLAN01 with universal I/O bracket is specifically designed with NISE/NIFE models for network connectivity expansions. It provides one Intel® Gigabit Ethernet ports with 82574L controller, which gives great network connectivity. The LAN Port supports WOL, PXE and teaming functions for managing network activities.

Specifications

Form Factor
- Mini-PCIe Form Factor

Chipset
- Intel® Ethernet Controller 82574L
- Compliant with IEEE802.3, 802.3u, and 802.ab

Transfer Rate
- Support 10/100/1000 Mbps transfer rates

Functions
- Support WOL, PXE and Teaming Functions

Dimensions
- Dimensions 30mm (W)x 51mm (L)

LAN LED Definitions

LAN Speed	Activity LED	Link type LED
10/100 Mbps	Orange (Left, Flashing)	Orange (Right, permanent)
1000 Mbps (Gigabit)	Orange (Left, Flashing)	Green (Right, permanent)

Environment
- Environment Operating Temperature: 0℃ to 70℃
- Storage Temperature: -20℃ to 75℃

OS Support
- Windows 7 32bits and 64bits
- Windows 8 32bits and 64bits

Ordering Information

Barebone

- **NISKLAN01 Universal Kit (P/N: 10JKLAN0101X0)**
  miniPCIe to one GbE LAN module w/Universal Bracket (Cable Length:25cm, LAN Controller:82574L)

- **NISKLAN01 Kit (P/N: 10JKLAN0100X0)**
  miniPCIe to one GbE LAN module w/o Bracket (Cable Length:25cm, LAN Controller:82574L)

NISKLAN02

Dual Gigabit LAN module, Intel® I210-AT

NISKLAN02 without bracket, Cable Length 250mm (P/N: 10JKLAN0200X0)
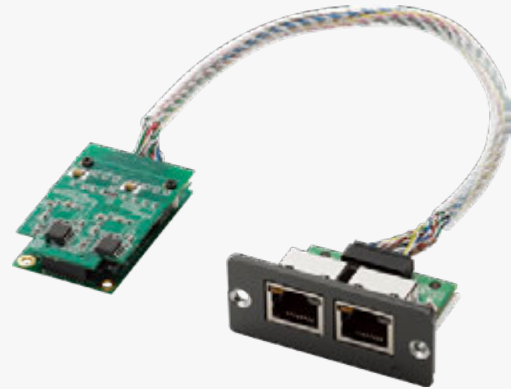
NISKLAN02 with universal I/O bracket, Cable Length 250mm (P/N: 10JKLAN0201X0)

Main Features

- Mini-PCIe Form Factor
- Easy and User-Friendly Configurations

- Dual RJ45 Ethernet Interface

Product Overview

NISKLAN02 with universal I/O bracket is specifically designed with all NISE models for network connectivity expansions. It provides dual Intel® Gigabit Ethernet ports with latest I210-AT controllers, which gives great network connectivity and less power consumption compared to the previous generation Intel® 82574L controllers. The dual LAN ports on NISKLAN02 supports WOL, PXE and teaming functions for managing network activities.

Specifications

Form Factor
- Mini-PCIe Form Factor

Chipset
- Intel® Ethernet Controller I210-AT
- Compliant with IEEE802.3, 802.3u, and 802.ab

Transfer Rate
- Support 10/100/1000 Mbps transfer rates

Functions
- Support WOL, PXE and Teaming Functions

Dimensions
- Dimensions 30mm (W)x 51mm (L)

LAN LED Definitions

LAN Speed	Activity LED	Link type LED
10/100 Mbps	Orange (Left, Flashing)	Orange (Right, permanent)
1000 Mbps (Gigabit)	Orange (Left, Flashing)	Green (Right, permanent)

Environment
- Environment Operating Temperature: 0℃ to 70℃
- Storage Temperature: -20℃ to 75℃

OS Support

- Windows 7 32bits and 64bits
- Windows 8 32bits and 64bits

Ordering Information

Barebone

- **NISKLAN02 Universal Kit (P/N: 10JKLAN0201X0)**
  miniPCIe to two GbE LAN MODULE w/Universal Bracket
  (Cable Length: 25cm, Lan Controller: I210-AT)

- **NISKLAN02 Kit (P/N: 10JKLAN0200X0)**
  miniPCIe to two GbE LAN MODULE w/o Bracket
  (Cable Length: 25cm, Lan Controller: I210-AT)
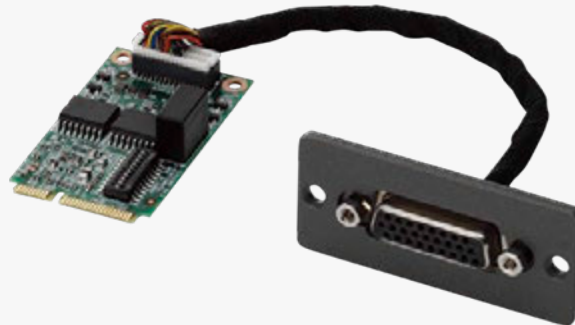
NISKECOM3

Main Features

- Mini-PCIe Form Factor
- Easy and User-Friendly Configurations
- 2.5KV Galvanic Isolation for four ports
- DB26 Connector Interface

Product Overview

NISKECOM3 with universal I/O bracket is specifically designed with all NISE models for serial port expansions. Based on four independent UART channel, NISKECOM3 can support four independent RS232/RS422/RS485 auto ports via cables with DB26 connector type, with 2.5KV Galvanic Isolation protection.

Specifications

Form Factor
- Mini-PCIe Form Factor

Dimensions
- 30mm (W) x 51mm (L) x 10mm (H)
- At least 20mm height for installation

Interface and Operation
- PCIe 2.0 Gen 1 compliant
- Data read/write 32-bit operation

Isolation Protection
- 2.5KV Galvanic Isolation for four ports

UART and Register
- Support four independent UART channels controlled with
  - 16550 compatible register Set
  - 256-byte TX and RX FIFOs
  - Programmable TX and RX Trigger Levels
  - TX/RX FIFO Level Counters
  - Fractional baud rate generator
  - Automatic RTS/CTS or DTR/DSR hardware
  - flow control with programmable hysteresis with programmable turn-around delay

Environment
- Environment Operating Temperature: 0℃ to 70℃
- Storage Temperature: -20℃ to 75℃

OS Support
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits

Ordering Information

Barebone

- **NISKECOM3 UNIVERSAL KIT (DB26)**

  (P/N: 10JK0ECOM04X0)
  miniPCIe to 4xCOM Module (RS232/422/485 auto) w/ 2.5KV Isolation via internal DB26 cable w/ Universal Bracket (Cable Length:25cm)
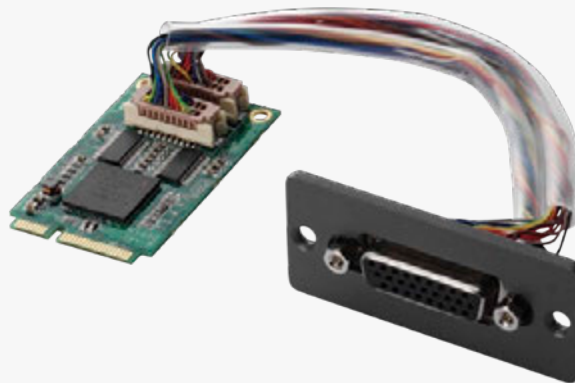
NISKECOM4

Main Features

- Mini-PCIe Form Factor
- Easy and User-Friendly Configurations
- DB26 Connector Interface

Product Overview

NISKECOM4 with universal I/O bracket is specifically designed with all NISE models for serial port expansions. Based on four independent UART channel, NISKECOM4 can support four independent RS232 ports via cables with DB26 connector type.

Specifications

Form Factor
- Mini-PCIe Form Factor

Dimensions
- 30mm (W) x 51mm (L)

Interface and Operation
- Expansion bus interface
- PCIe 2.0 Gen 1 Compliant
- x 1 Link, Dual Simplex, 2.5Gbps in each direction
- Data read/write 32-bit operation

UART and Register
- Global interrupt status register for all four UARTs
- Up to 25Mbps serial data rate
- 16 multi-purpose inputs/outputs(MPIOs)
- 16-bit general purpose timer/counter
- Four independent UART channels controlled with
  - 16550 compatible register Set
  - 256-byte TX and RX FIFOs
  - Programmable TX and RX Trigger Levels
  - TX/RX FIFO Level Counters
  - Fractional baud rate generator
  - Automatic RTS/CTS or DTR/DSR hardware flow control with programmable hysteresis
  - Automatic Xon/Xoff software flow control

Environment
- Environment Operating Temperature: 0℃ to 70℃
- Storage Temperature: -20℃ to 75℃

OS Support
- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits

Ordering Information

Barebone

- **NISKECOM4 UNIVERSAL KIT (DB26)**

  (P/N: 10JK0ECOM06X0)
  miniPCIe to 4 PORT RS232 via internal DB26 connector w/ Universal Bracket (Cable Length:25cm)

- **NISKECOM4 UNIVERSAL KIT (DB9)**

  (P/N: 10JK0ECOM05X0)
  miniPCIe to 4 PORT RS232 MODULE w/ Universal Bracket (Cable Length:25cm)

NISKNVRAM

Main Features

- Mini-PCIe Form Factor
- No Batteries
- Non-Volatile RAM Design
- Capacity Support 1MB
- Data retained while system power lost

Product Overview

NISKNVRAM is a MRAM Mini-PCIe device which provides non-volatile data storage and access for all NISE/NIFE models. The MRAM density is 1MB and the data speed is 12MB/s for both read/write timing. NISKNVRAM is a great solution for Factory Automation application that requires data secure and protection during power loss or low voltage.

Specifications

Form Factor
- Mini-PCIe Gen1, MiniCard full size

Dimension
- 51 x 30mm

MRAM Density
- 1MB, MRAM
- 4MB, MRAM (maximum support, By request)

Power Requirement
- + 3.3V, Mini-PCIe standard

Data Bus
- 32 bits

Speed
- 12MB/s for read/write (32bits)

Endurance
- Unlimited Read/Write Endurance

Data Retention:
- Data Retained For >20-Years Without Backup Cycle

Environment
- Operating Temperature:
  Ambient with air flow: 0°C ~ 70°C
- Storage Temperature: -40°C ~ 85°C
- Relative Humidity: 5% to 95% (Non-Condensing)

RoHS
- Compliance with RoHS

Driver OS Support Lists
- Windows 7 32bits

Ordering Information

- **NISKNVRAM (P/N: 10JKNVRAM00X0)**

NISKLPT

Main Features

- Full Size Mini-PCIe Form Factor
- Cable Kit Available

- Mini-PCIe via LPC connector

Product Overview

NISKLPT module enables parallel port function for NISE/NIFE models. This module requires on-board LPC connector and only support by specific NISE/NIFE models.

Specifications

Form Factor
- MiniPCIe Gen1, MiniCard full size

Dimensions
- 51x30mm

Power Consumption
- +3.3V

RoHS
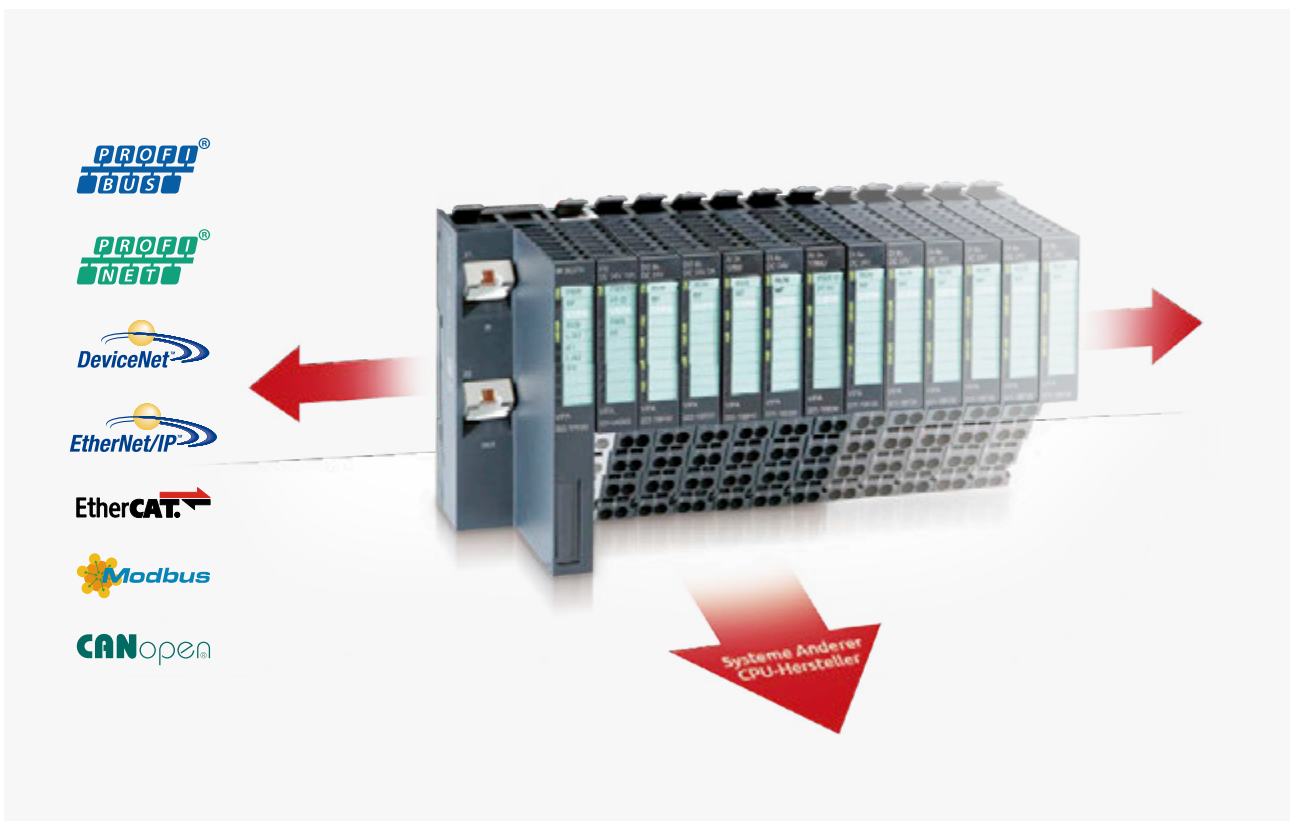- Compliance with RoHS

OS Support
- Windows 7 32bits

Environment
- Operating Temperature:
  Ambient with air flow: 0°C ~ 60°C
- Storage Temperature: 20°C ~ 85°C
- Operating Humidity: 5% to 95% (Non-Condensing)

Ordering Information

- **NISKLPT LPC to LPT DB25_Module**

  (P/N: 10JK00LPT00X0)

Fieldbus I/O Solution

Product Overview

NEXCOM's I/O solution allies VIPA SLIO series. VIPA is the expertise in PLC technology. Their I/O modules are very popular in industrial automation market. VIPA SLIO is the micro form factory with high speed bus responding time. And it supports all of the Fieldbus communication. By equipping different coupler, it can be the remote IO for various Fieldbus network. Combining NEXCOM's NIFE PC-based controller and VIPA SLIO series, uses can easily establish the completed PC-based control station.

VIPA SLIO is with VIPA high reliability remote IO technology. The compact size for VIPA SLIO can save the installation space. The docking station modularized design is for easy maintenance. Users don't have to remove the wiring to change the I/O module. The fully option for the I/O modules can satisfy the requirement for any automation application.

Features

Compact and Space-Saving Design
- Conceptual separation of electronic and installation layer
- Space-saving, thin design
- Innovative staircase-shaped wiring layer
- Simple "Two components set-up"

Clever Labeling and Diagnostic Concept
- Clear allocation and readability of channel states
- Simple, time-saving installation and maintenance by means of the connector pin assignment provided on the module
- Clear, definite labeling of channels
- Reference designator label remains on the exchange of a module

Installation and Maintainability
- "Permanent Wiring" enables the exchanging without the disconnection of the wiring
- Intelligent slide and plug mechanism for a simple handling
- Electronic is protected against reverse polarity
- Encoding of the electronic modules prevents from incorrect plugging

High Performanc
- Quick backplane bus concept of 48MBit/s
- With ETS modules it is possible to switch exactly up to +-1us independent of fieldbus

Ordering Information

Order No.	Description
Clamp Modules	
001-1BA00	CM 001 - Potential distributor module8xDC 24V clamps
001-1BA10	CM 001 - Potential distributor module8xDC 0V clamps
001-1BA20	CM 001 - Potential distributor module4xDC 24V, 4xDC 0V clamps
Power Modules	
007-1AB00	PM 007 - Power modulePower supply DC 24V, 10AReverse polarity protectionOvervoltage protection
007-1AB10	PM 007 - Power modulePower supply DC 24V, 4APower supply DC 24V for bus supply 5V, 2AReverse polarity protectionOvervoltage protection
Digital Input Modules	
021-1BB00	SM 021 - Digital input2 inputs
021-1BB10	SM 021 - Digital input2 fast inputsInput filter time delay parameterizable 2µs…4ms
021-1BB50	SM 021 - Digital input2 inputsActive low input
021-1BB70	SM 021 - Digital input2 inputsTime stamp
021-1BD00	SM 021 - Digital input4 inputs
021-1BD10	SM 021 - Digital input4 fast inputsInput filter time delay parameterizable 2µs…4ms
021-1BD40	SM 021 - Digital input4 inputsConnect 2/3 wire

021-1BD50	SM 021 - Digital input4 inputsActive low input
021-1BD70	SM 021 - Digital input4 inputsTime stamp
021-1BF00	SM 021 - Digital input8 inputs
021-1BF50	SM 021 - Digital input8 inputsActive low input
021-1SD00	SM 021 - Digital input4 inputsSafety

Digital Output Modules

022-1BB00	SM 022 - Digital output2 outputsOutput current 0,5 A
022-1BB20	SM 022 - Digital output2 outputsOutput current 2 A
022-1BB50	SM 022 - Digital output2 Low-Side outputsOutput current 0,5 A
022-1BB70	SM 022 - Digital output2 outputsTime stampOutput current 0,5 A
022-1BB90	SM 022 - Digital output2 outputsPWM
022-1BD00	SM 022 - Digital output4 outputsOutput current 0,5 A
022-1BD20	SM 022 - Digital output4 outputsOutput current 2 A
022-1BD50	SM 022 - Digital output4 Low-Side outputsOutput current 0,5 A
022-1BD70	SM 022 - Digital output4 outputsTime stampOutput current 0,5 A
022-1BF00	SM 022 - Digital output8 outputsOutput current 0,5 A
022-1BF50	SM 022 - Digital output8 Low-Side outputsOutput current 0,5 A
022-1HB10	SM 022 - Digital output2 relay outputsDC 30V /AC 230 VOutput current 3 A
022-1SD00	SM 022 - Digital output4 outputsSafetyOutput current 0,5 A

Analog Input Modules

031-1BB10	SM 031 - Analog input2 inputs 12BitCurrent 4...20 mA2 wire
031-1BB30	SM 031 - Analog input2 inputs 12BitVoltage 0...10 V
031-1BB40	SM 031 - Analog input2 inputs 12BitCurrent 0(4)...20mA
031-1BB60	SM 031 - Analog input2 inputs 12BitCurrent 4...20mA2wire
031-1BB70	SM 031 - Analog input2 inputs 12BitVoltage -10 V...+10 V
031-1BB90	SM 031 - Analog input2 inputs 16BitThermocoupleVoltage -80mV...+80mV
031-1BD30	SM 031 - Analog input4 inputs 12BitVoltage 0...10 V
031-1BD40	SM 031 - Analog input4 inputs 12BitCurrent 0(4)...20mA
031-1BD70	SM 031 - Analog input4 inputs 12BitVoltage -10 V...+10 V
031-1BD80	SM 031 - Analog input4 inputs 16Bit0...3000 ohm resistanceResistance measurement with 2-, 3- and 4-wires
031-1CB30	SM 031 - Analog input2 inputs 16BitCurrent 0(4)...10mA
031-1CB40	SM 031 - Analog input2 inputs 16BitCurrent 0(4)...20mA
031-1CB70	SM 031 - Analog input2 inputs 16BitVoltage -10 V...+10 V
031-1CD30	SM 031 - Analog input4 inputs 16BitVoltage 0...10 V
031-1CD40	SM 031 - Analog input4 inputs 16BitCurrent 0(4)...20mA
031-1CD70	SM 031 - Analog input4 inputs 16BitVoltage -10 V...+10 V
031-1LB90	SM 031 - Analog input2 inputs 16BitThermocoupleVoltage -80mV...+80mV
031-1LD80	SM 031 - Analog input4 inputs 16Bit0...3000 ohm resistanceResistance measurement with 2, 3 and 4-wires

Analog Output Modules

032-1BB30	SM 032 - Analog output2 outputs 12BitVoltage 0...10 V
032-1BB40	SM 032 - Analog output2 outputs 12BitCurrent 0(4)...20 mA
032-1BB70	SM 032 - Analog output2 outputs 12BitVoltage -10 V...+10 V
032-1BD30	SM 032 - Analog output4 outputs 12BitVoltage 0...10 V
032-1BD40	SM 032 - Analog output4 outputs 12BitCurrent 0(4)...20mA
032-1BD70	SM 032 - Analog output4 outputs 12BitVoltage -10 V...+10 V
032-1CB30	SM 032 - Analog output2 outputs 16BitVoltage 0...10 V

032-1CB70	SM 032 - Analog output2 outputs 16BitVoltage -10 V...+10 V
032-1CD30	SM 032 - Analog output4 outputs 16BitVoltage 0...10 V
032-1CD70	SM 032 - Analog output4 outputs 16BitVoltage -10 V...+10 V

RS232/422/485 - and Other CPs

040-1BA00	CP 040 - Communication processorRS232 interface
040-1CA00	CP 040 - Communication processorRS422/485 interface

Counter Modules

050-1BA00	FM 050 - Counter module1 Counter 32 Bit (AB)DC 24 V
050-1BA10	FM 050 - Counter module1 Counter 32 Bit (AB)DC 5 V
050-1BB00	FM 050 - Counter module2 Counter 32 Bit (AB)DC 24V
050-1BB30	FM 050 - Counter module2 Counter 32 Bit (AB)DC 24 V
050-1BB40	FM 050 - Counter module2 Channels 24 Bit (AB)DC 24 V

SSI Modules

050-1BS00	FM 050S - SSI moduleSSI EncoderMaster or slave modeEncoder frequency 125 kHz...2 MHzµs time stamp for encoder value

Fieldbus Slave Modules without I/Os

053-1CA00	IM 053CAN - CANopen slaveCANopen slave16Rx and 16 Tx PDOs2SDOsPDO-LinkingPDO-Mapping: fixMax. 64 peripheral modules
053-1DN00	IM 053DN - DeviceNet slaveDeviceNet slaveGroup 2 only DevicePoll only DeviceBaud rate: 125, 250 and 500kbit/sMax. 64 peripheral modules
053-1DP00	IM 053DP - Profibus-DP slavePROFIBUS-DP slave (DP-V0, DP-V1)244 Byte input and 244 Byte output dataMax. 64 peripheral modules
053-1EC00	IM 053EC - EtherCAT slaveEtherCAT slaveRJ45 jack 100BaseTXMax. 64 peripheral modules
053-1IP00	IM 053IP - EtherNet/IP slaveEtherNet/IP slaveCIPMax. 64 peripheral modules
053-1MT00	IM 053MT - Modbus/TCP slaveModbus/TCP slaveI/O configuration via fieldbusAdjustable I/O cycle (0,5...4 ms) Max. 64 peripheral modules
053-1PN00	IM 053PN - PROFINET-IO-SlavePROFINET-IO slaveTransfer rate 100Mbit/sMax. 64 peripheral modules

SLIO StarterKIT

800-1DK10	SLIO Starter-Kit 1 - IM053DPconsisting of: 1 x IM 053DP - PROFIBUS-DP slave, 1 x CM 001 clamps module (4 x DC 24V, 4 x DC 0V clamps), 1 x SM 021 digital input (DI 8xDC 24V), 1 x SM 021 digital input (DI 4xDC 24V), 1 xSM 022 digital output (DO 4xDC 24V, 0,5A), 1 x SM 031 analog input (AI 2x12Bit, U), 1 x SM 032 analog output (AO 2x12Bit, U)1 x ready to fit profibus cable incl. 2 x PB connector (972-0DP01+972-0DP10), 1 x profile rail, 1 x SLIO USB-Stick (GSD-files, manuals, catalogue (German/English), example program), 1 x transport case

35 mm Profile Rail

290-1AF00	35 mm profile railLength 2000 mm
290-1AF30	35 mm profile railLength 530 mm

Miscellaneous

000-0AA00	SLIO bus cover1 piece
000-0AB00	SLIO shield bus carrier10 pieces
000-0AC00	SLIO coding keys100 pieces
000-0DN00	SLIO DeviceNet jack for IMDeviceNet jack for IM053-1DN00Contact surface: gold Pole number: 5 Contact termination: spring force connection

IEC61131-3 SoftLogic

Integrate Control Programming Tool & Fieldbus I/O Configurator Together
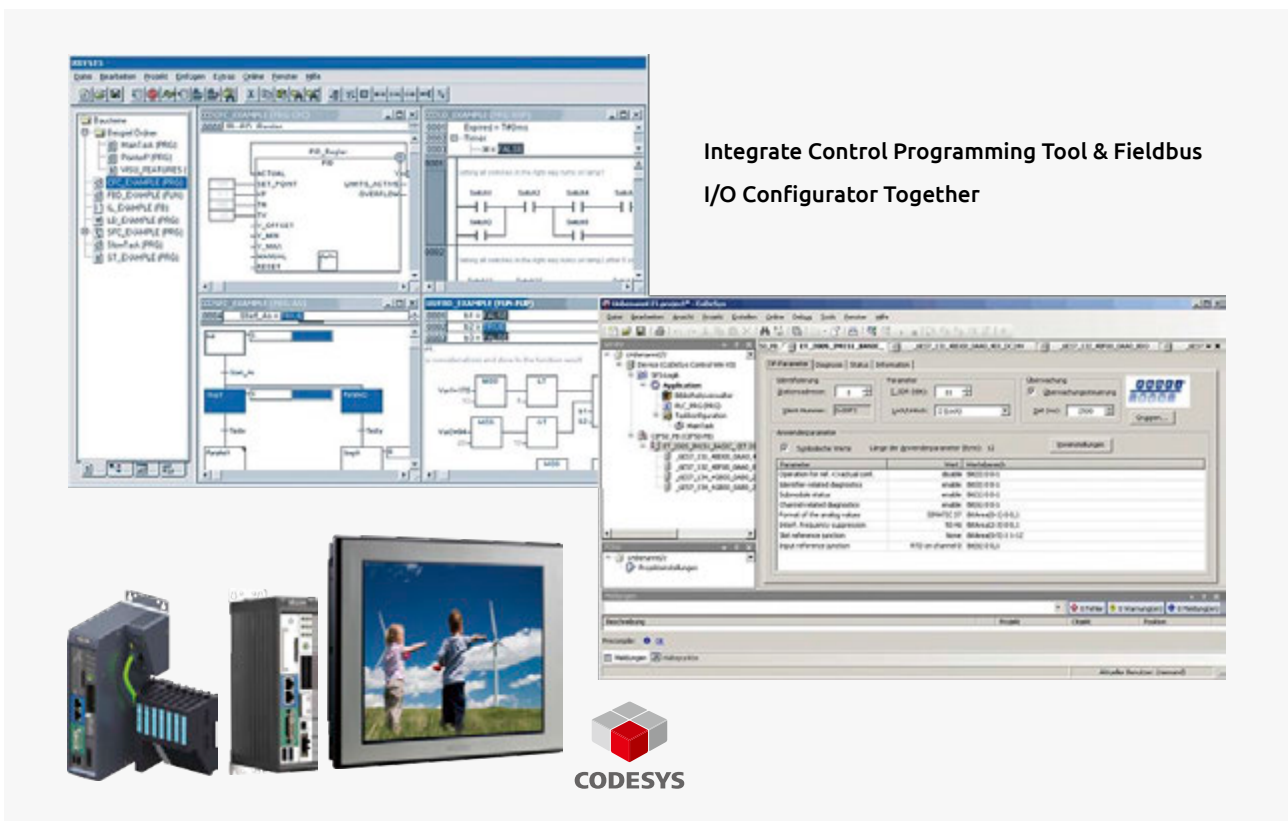
Product Overview

IEC61131-3 is the most popular standard for control programming language for automation application. It defines the easy to use and easy to maintain program language standard for automation users. NEXCOM implement the CODESYS SoftLogic as control kernel for NIFE PC-based controller. CODESYS is developed by 3S-Smart Software Solution GmbH. It is well known by its high reliability, high integration with Fieldbus communication and user friendly interface.

3S is the alliance partner of Hilscher for Fieldbus technology. CODESYS integrated the Hilscher interface and driver to drive the Fieldbus device and remote I/O. It merges the Hilscher Fieldbus Configurator tool and SoftLogic programmer together. So users can just use CODESYS software to configure the Fieldbus and program the control algorism. It is 100% the same as typical PLC controller software tool. NIFE PC-based controller is also with this feature.

CODESYS is also implemented as control kernel for some product lines by Schneider, ABB, BECKHOFF, B&R and so on. In these product lines, Hilscher Fieldbus technology is also built-in as the communication interface. It means NEXCOM NIFE PC-based controller is the same level as these trusted brands. Users won't have only choice for high price European PC-based control systems, they can use the reasonable cost to have the high quality, high reliability PC-based control solution.

The version of CODESYS that NEXCOM implemented is CODESYS RTE runtime. It is with real time engine for runtime kernel to guarantee the control performance. The supported OS covers Windows XP/7/embedded and Linux. Users can choose the OS depends their requirement. We also provide the option for bundling the TagetVisu software module. It can provide the SoftLogic and HMI bundle solution.

NEXCOM offer the package for CODESYS runtime includes the below listed versions.
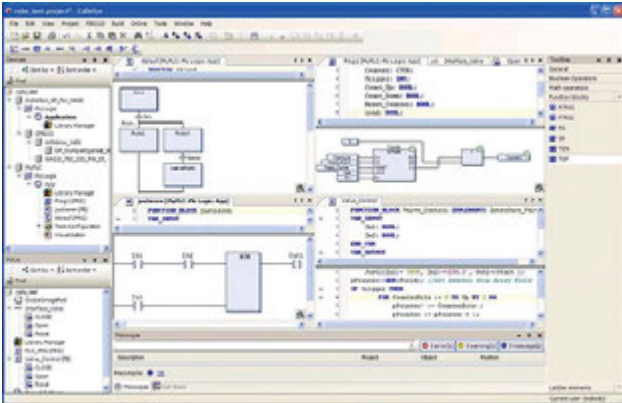
For Windows XP/7 (X86 Platform)
- CODESYS SoftLogic RTE Runtime
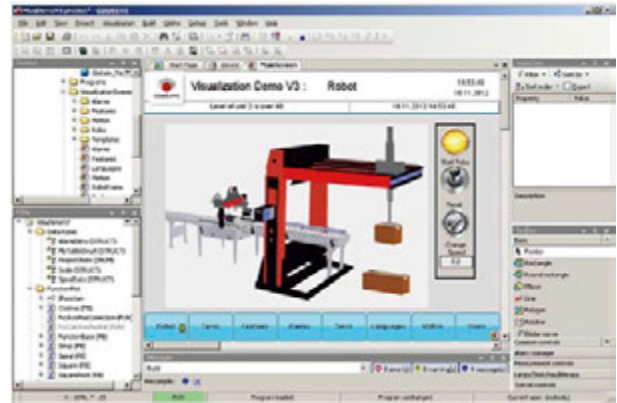- CODESYS SoftMotion Runtime

For Linux (X86 Platform)
- CODESYS SoftLogic RTE Runtime
- CODESYS SoftLogic+TargetVisu Runtime
- CODESYS SoftMotion CNC Runtime
- CODESYS SoftMotion CNC+TargetVisu Runtime

CODESYS SoftLogic


CODESYS SoftMotion CNC+TargetVisu

The PC-based controller is not only with the benefit of high computing capability but also is with rich communication interfaces. It is different from the typical controller like PLC can only use unique protocol to communicate with the slave device. It can control the slave devices crossover the different protocols. By using this feature for multiple Fieldbus control, it can easily integrate the different scopes as one control station.

For example, the factory is with power system and factory automation system. The most popular power system is provided by Schneider or ABB but the factory automation system is something like Siemens or Rockwell. The popular network protocol for power system is MODBUS but the factory side is using the PROFIBUS/PROFINET or Ethernet/IP and DeviceNet. The power system is very important for factory side and these two portions shall be linked the control activity together. So far we can only link these two sides in SCADA system. It costs high and the reliability is not good. But the PC-based control solution can use on controller for both of two networks. It can reduce the control devices to low down the risk and enhance the performance. It is also cost effective comparing to tradition system.
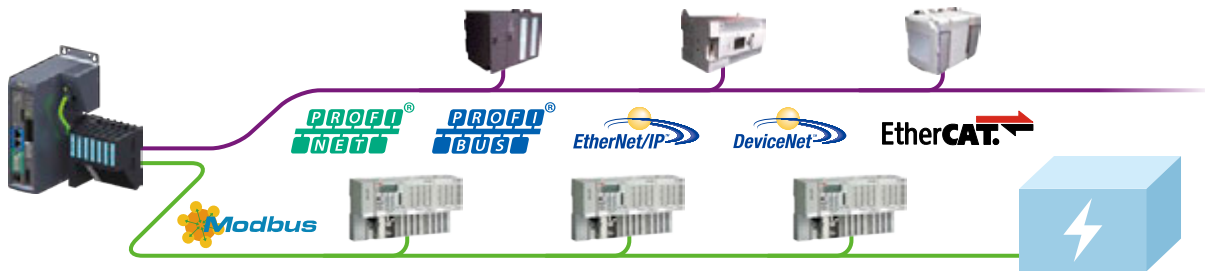
The same concept can be implemented in machine automation. The machine may be with EtherCAT network internally for its control system. But it is better to have another interface to be compatible with factory automation system. If so, the main factory automation system can easily integrate the machinery into the factory network. It can alliance the production line and machinery to enhance the factory performance. And it can also concentrate the monitoring/management work in SCADA station.
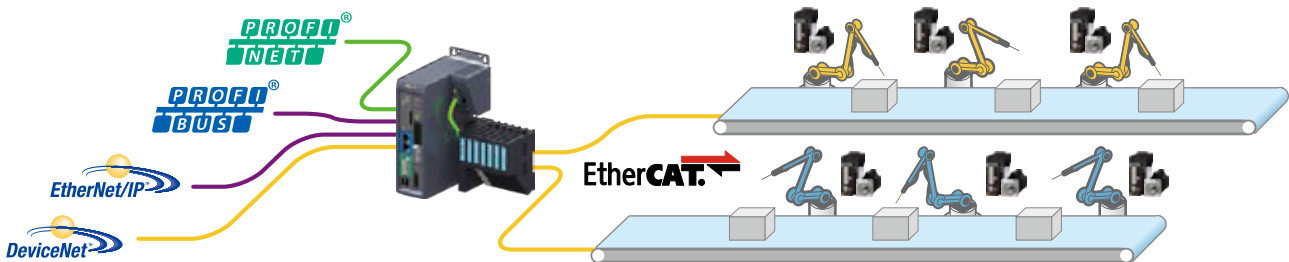
By using this idea, it can also support the machine automation system combining the low cost I/O and EtherCAT based device to achieve the cost effective EtherCAT based control system.

SCADA Software

PLC Controller

APPC/IPPC + CITECT
(Built-in Fieldbus Drivers)

Central SCADA/HMI Station

NEXCOM PC-based Controller

NIFE+CoDesys SoftLogic
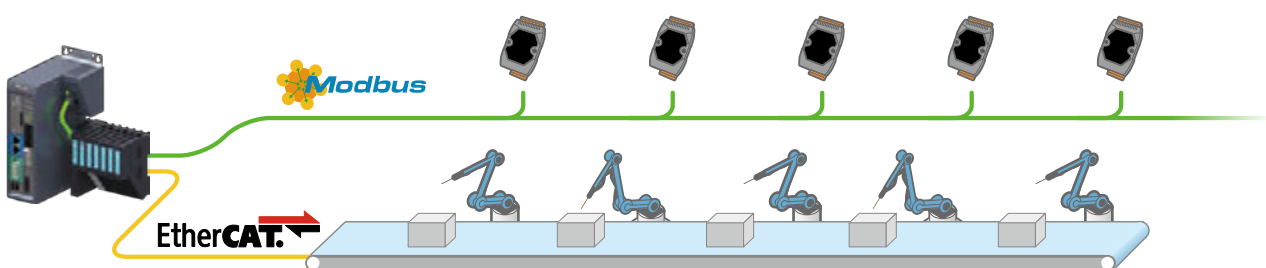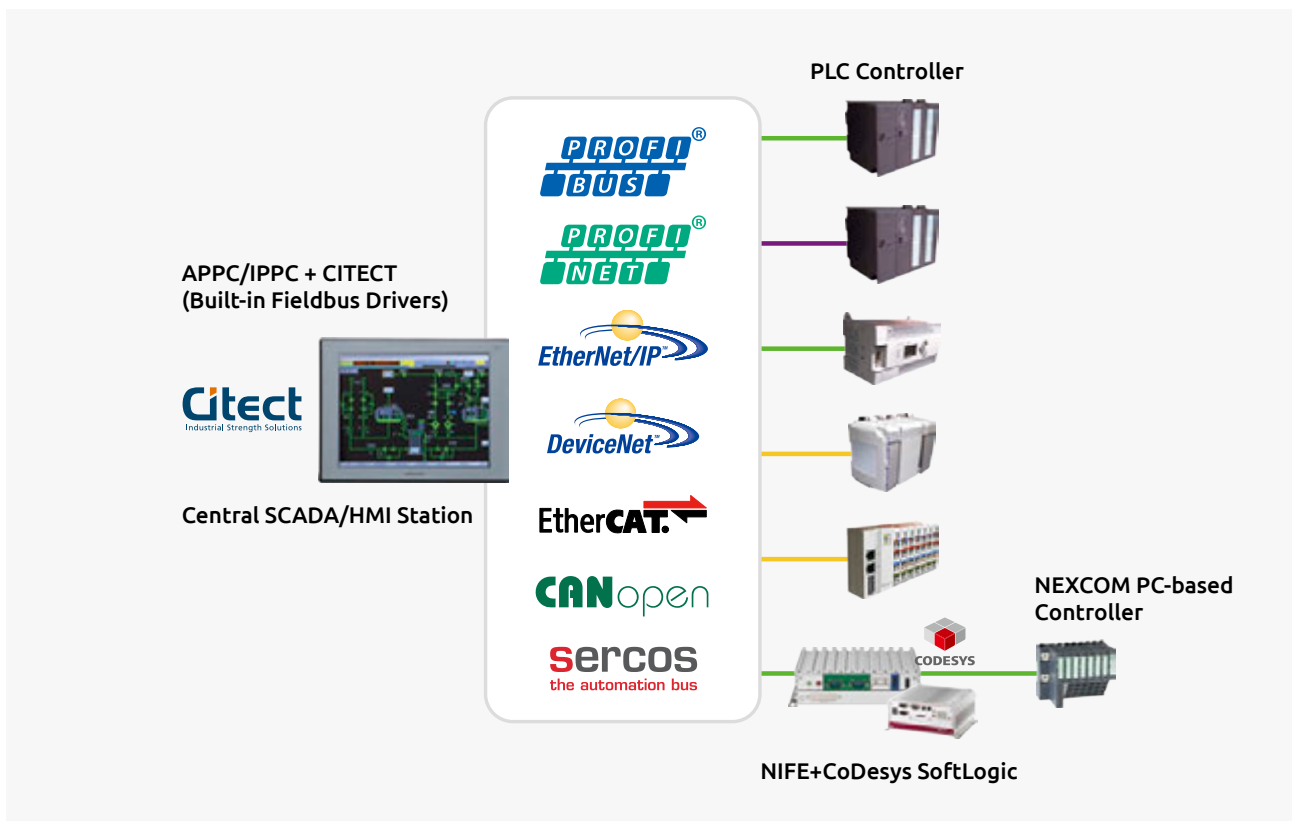
Product Overview

SCADA station is monitoring and management center for factory. It needs the high compatibility for Fieldbus communication and powerful data processing capability. NEXCOM's SCADA solution allies Schneider Vijeo CITECT and NEXCOM's fanless Control Panel PC. Vijeo CITECT is with well brand awareness and is full certified by the automation users in worldwide. It is built-in rich Fieldbus protocol drivers. NEXCOM's Control Panel PC is designed with NEXCOM excellent fanless PC technology. It is with high reliability and long life cycle. NEXCOM provide the Panel PC bundle with Vijeo CITECT software as SCADA station application. User can have the reliable hardware with trusted software from NEXCOM.

Vijeo Citect is the operating and monitoring component of Schneider Electric's PlantStruxure.

With its powerful display capabilities and its operational features, it delivers actionable insight faster, enabling operators to respond quickly to process disturbances, thereby increasing their efficiency. With its easy-to-use configuration tools and powerful features you can quickly develop and implement solutions for any size application.

Vijeo Citect offers all the functions of a modern supervisor. Its distributed clientserver architecture is applicable to a multitude of applications in the following markets:

- Oil & Gas
- Mining, Minerals, Metals
- Water & Wastewater
- Power
- Food and beverage

Its flexibility also makes it suitable for numerous other application areas, such as infrastructures.

Vijeo Citect offers total redundancy for all the components of the system. The redundancy functions are fully integrated in the system, providing exceptional performance and intuitive configuration.

Ordering Information

Part No.	Descriptions	Spec.
7B00000004X00	(N)VIJEO CITECT SCADA Software SCHNEIDER:VJCNS101110	VJC Full Server, 75 points
7B00000005X00	(N)VIJEO CITECT SCADA Software SCHNEIDER:VJCNS101111	VJC Full Server, 150 points
7B00000006X00	(N)VIJEO CITECT SCADA Software SCHNEIDER:VJCNS101112	VJC Full Server, 500 points
7B00000007X00	(N)VIJEO CITECT SCADA Software SCHNEIDER:VJCNS101113	VJC Full Server, 1500 points
7B00000008X00	(N)VIJEO CITECT SCADA Software SCHNEIDER:VJCNS101114	VJC Full Server, 5000 points
7B00000009X00	(N)VIJEO CITECT SCADA Software SCHNEIDER:VJCNS101115	VJC Full Server, 15000 points
7B00000010X00	(N)VIJEO CITECT SCADA Software SCHNEIDER:VJCNS101199	VJC Full Server, unlimited points

CODESYS SoftLogic

SCADA	Schneider Electric	Citect Industrial Strength Solutions

NEXCOM Factory Automation Solution

APPC/IPPC		NIFE	

IEC61131-3 SoftPLC	**CODESYS**	

PROFI BUS®	PROFI NET®	EtherNet/IP	DeviceNet	EtherCAT.

PLC & Remote I/O

SIEMENS, Allen-Bradley BECKHOFF, ABB   Schneider Electric   VIPA A YASKAWA COMPANY

NexROBO 6R Edu Package

Contents

- Articulated Robot Body
- Servo Motors and Wiring Circuit
- Control Cabinet
- Open Robot Controller

Product Overview

EtherCAT-based NexROBO Edu package provides an open programming environment for users to develop their own robot control. It consists of a six-joint articulated robot and a robot controller in the control cabinet. Motor drives, I/O signals and related circuits are all integrated based on EtherCAT control network. Single-axis movement for every axis can be easily operated by provided examples. This package is suitable for academy study and R&D research of basic robotic control.

Specifications

Robot

- Degree of freedon: 6
- Nominal load capacity: 5kg
- Motion Range
  Maximum reach radius: 710mm (Point P)
  J1: ±165°
  J2: +85°~-125°
  J3: +185°~-55°
  J4: ±190°
  J5: ±115°
  J6: ±360°
- Position repeatability: ±0.02 mm
- Cycle time: 0.5 s
- Weight: 40 kg
- Installation: Floor, ceiling, wall-mounting

Controller

- Intel® Core™ i5-3610ME processor pre-installed
- 2 x 2GB DDR3 SDRAM, pre-installed
- 500GB HDD
- 1 x EtherCAT port (Intel® 82574L)
- 1 x Intel® GbE LAN port
- 2 x Display Ports and 1 x VGA or 2 x Display Ports and 1 x DVI-D
- 4 x USB 3.0 & 2 x USB 2.0 ports
- 1 x CFast socket
- 5 x RS232 & 1 x RS232/422/485 with Auto Flow Control

Programming

- Language: Visual C/C++
- Command Set: Positon Command, Velocity Command, Torque Command
- Parameters: position, velocity, torque
- RT Example (RTX project)
- User API Example (win32 dll project)
- GUI Example (C# project)

Ordering Information

Robot Package

- **NexROBO 6R Edu Package (P/N: 7900000115X00)**

Optional

- **Robot Stand (P/N: 7900000160X00)**

- **Teach Pendant (P/N: TBC)**

Robot Operating Space

Software Architecture

NexROBO miniDelta Edu Package
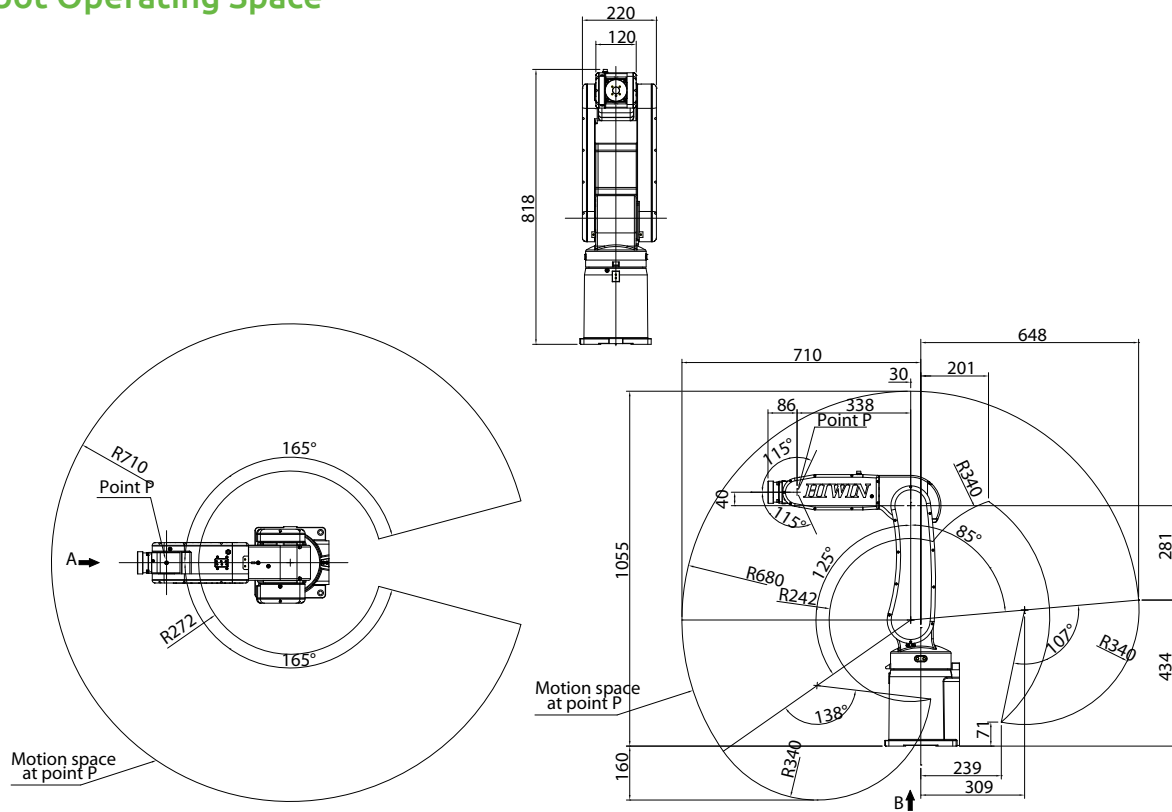
Open Robot Package
For Delta Robot
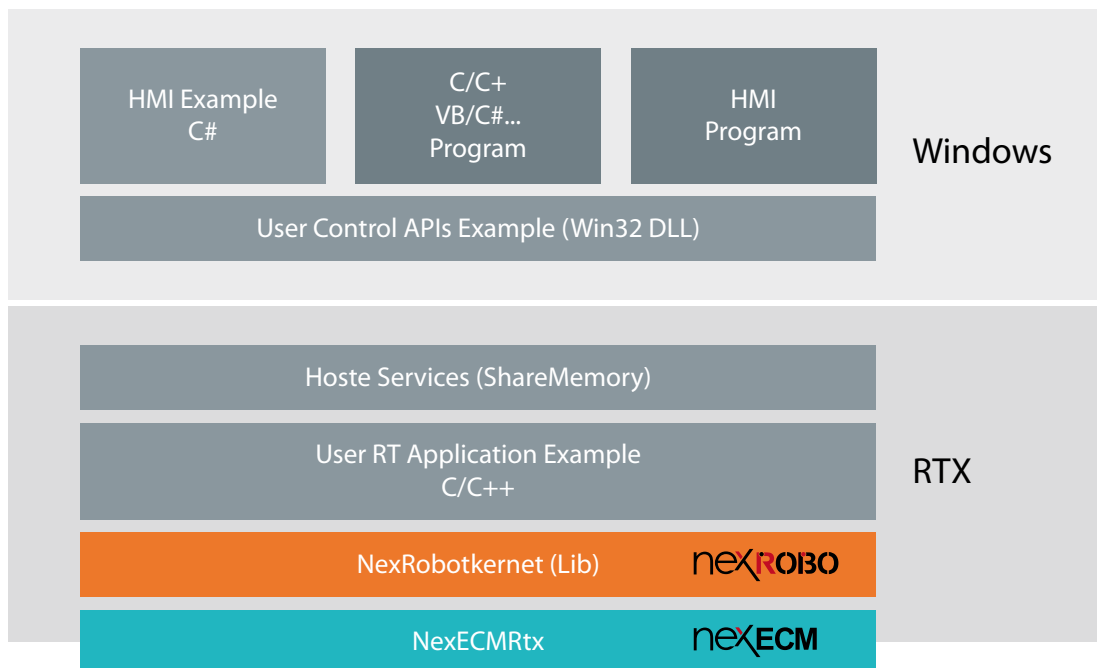
Main Features

- Delta Robot Body Mounted in a Cupboard
- Servo Motors and Wiring Circuit
- Open Robot Controller

Product Overview

EtherCAT-based NexROBO Edu package provides an open programming environment for users to develop their own robot control. A three-joint delta is mounted in the cupboard along with robot controller. Motor drives, I/O signals and related circuits are all integrated based on EtherCAT control network. Point-to-point movement can be easily operated by provided examples. This package is suitable for academy study and R&D research of basic robotic control.

Specifications

Robot

- Degree of freedon: 3
- Nominal load capacity: 0.5kg
- Motion Range
  Horizontal stroke: 250mm
  Vertical stroke:100mm
- Position repeatability: ±0.02 mm
- Operation Speed: 2m/s (unloaded)

Controller

- Intel® Atom™ processor E3826 Dual Core 1.46 GHz processor pre-installed
- 4GB DDR3 SDRAM, pre-installed
- 128GB SSD
- 1 x EtherCAT port
- 1 x Intel® GbE LAN port
- 1 x DVI display output
- 1 x VGA display output (converted from DVI-I to VGA adapter)
- 1 x USB 3.0 & 1 x USB 2.0 ports
- 1 x CFast socket
- 1 x SIM card holder
- 2 x RS232/422/485 with 2.5KV isolation protection, support auto flow control

Programming

- Language: Visual C/C++
- Command Set: Positon Command, Velocity Command, Torque Command
- Parameters: position, velocity, torque
- RT Example (RTX project)
- User API Example (win32 dll project)
- GUI Example (C# project)

Ordering Information

Robot Package

- **NexROBO miniDelta Edu Package (P/N: TBC)**

Optional

- **Conveyor System (P/N: TBC)**
- **Vision Inspection System (P/N: TBC)**
- **Teach Pendant (P/N: TBC)**

Software Architecture

HMI Example C#	C/C+ VB/C#... Program	HMI Program	Windows
User Control APIs Example (Win32 DLL)			
Hoste Services (ShareMemory)			
User RT Application Example C/C++			RTX
NexRobotkernet (Lib) nexROBO			
NexECMRtx nexECM			

NexROBO SCARA Edu Package
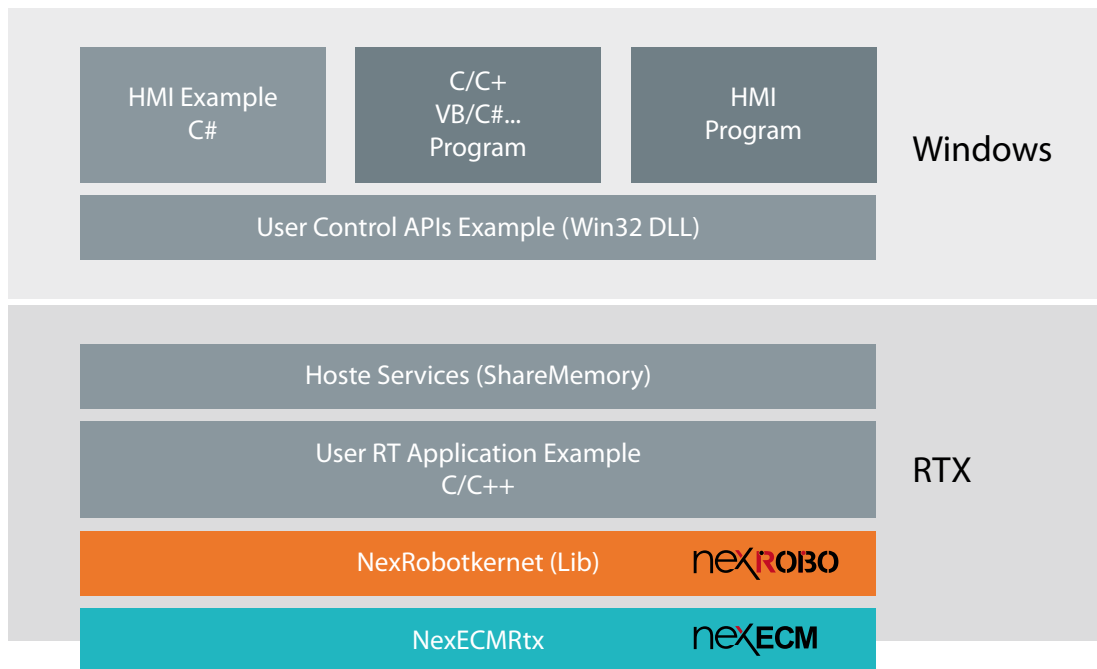
Main Features

- SCARA Robot Body
- Servo Motors and Wiring Circuit
- Control Cabinet
- Open Robot Controller

Product Overview

EtherCAT-based NexROBO Edu package provides an open programming environment for users to develop their own robot control. It consists of a 4-axis SCARA robot and a robot controller in the control cabinet. Motor drives, I/O signals and related circuits are all integrated based on EtherCAT control network. Single-axis movement for every axis can be easily operated by provided examples. This package is suitable for academy study and R&D research of basic robotic control.

Specifications

Robot

- Degree of freedon: 4
- Nominal load capacity: 6kg
- Motion Range
  Maximum reach radius: 600mm
  J1: ±130°
  J2: ±150°
  J3: 200mm
  J4: ±360°
- Position repeatability
  J1+J2: ±0.02 mm
  J3: ±0.01 mm
  J4: ±0.01 mm
- Cycle time: 0.5 s
- Weight: 20 kg
- J3 (Z-axis) Push Force: 100N
- Installation: Floor, wall-mounting

Controller

- Intel® Core™ i5-520M processor pre-installed
- 2 x 2GB DDR3 SDRAM, pre-installed
- 500GB HDD
- 1 x EtherCAT port
- 1 x Intel® GbE LAN port
- Dual VGA or VGA/DVI Independent Display
- 6 x USB 2.0 ports
- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 1 x PCI expansion (10W max./ per slot, 169mm max. length)

Programming

- Language: Visual C/C++
- Command Set: Positon Command, Velocity Command, Torque Command
- Parameters: position, velocity, torque
- RT Example (RTX project)
- User API Example (win32 dll project)

Ordering Information

Robot Package

- NexROBO SCARA Edu Package (P/N: TBC)

Optional

- Robot Stand (P/N: TBC)
- Teach Pendant (P/N: TBC)
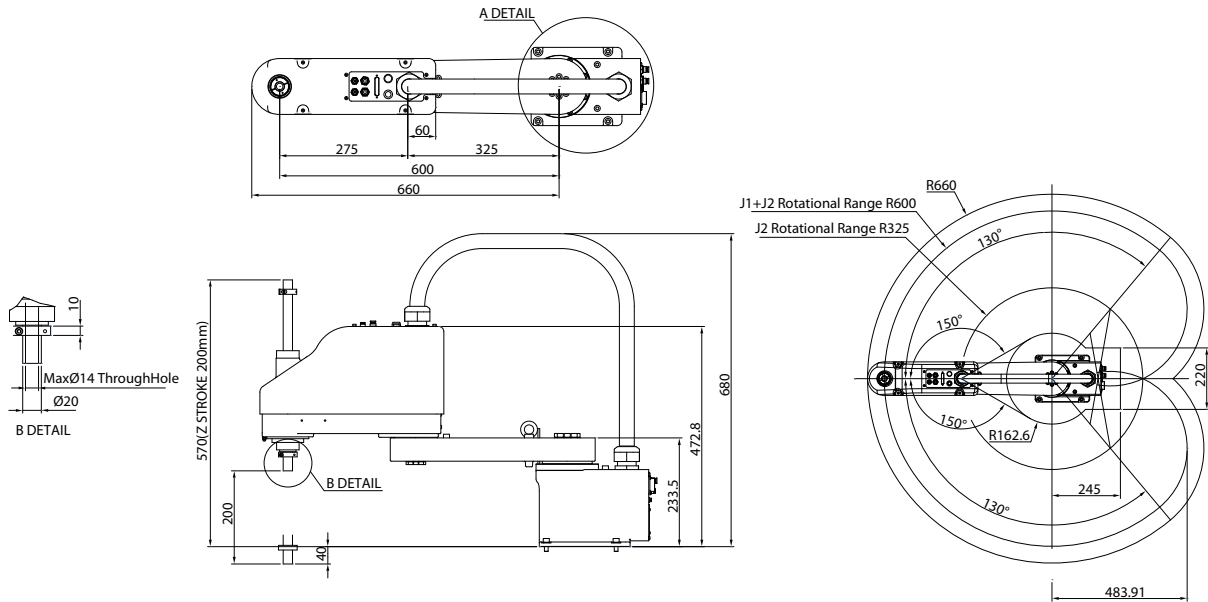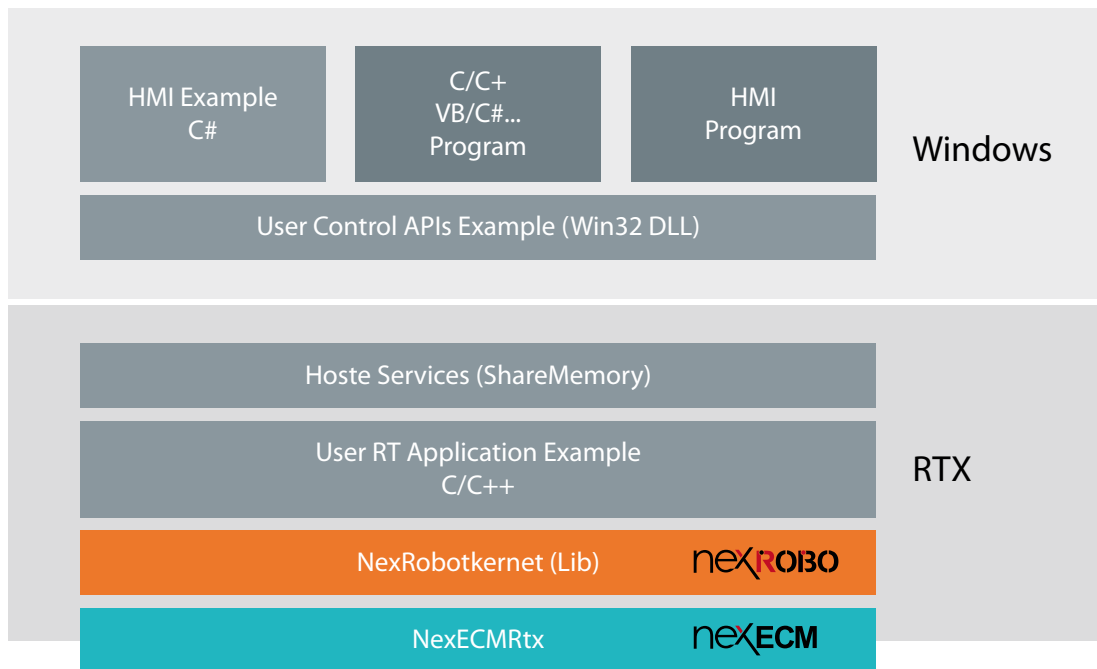
Robot Operating Space

Software Architecture

NET101-ECM

Main Features

- EtherCAT technology with NexECM, Class B EtherCAT Master
- EtherCAT communication cycle up to 250 μs
- Support high-level API for CiA 402 profile
- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
- 1 x DVI display output or 1x VGA converted from DVI-I

- 1 x USB 2.0 & 1 x USB 3.0
- 2 x RS232/422/485 with 2.5KV isolation protection
- 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus module
- Support -20 ~ 70 °C extended operating temperature

Product Overview

Powered by Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NET101-ECM presents intelligent PC-based EtherCAT controller for machine automation. It integrates NEXCOM's EtherCAT master, NexECM, to perform real-time communication with cycle time up to 250 μs. NET101-ECM also provides API for CiA 402 profile and built-in EtherCAT configuration tool to speed up development time for automation users.

Beside EtherCAT communication, NET101-ECM has high integration ability with optional Mini-PCIe module and 2 x COM ports with Isolation 2.5kv protect, which makes it a flexible controller to connect with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module. NET101-ECM is a compact yet powerful controller for your EtherCAT control system.

Specifications

EtherCAT Master
- Slave module no.: up to 64
- Cycle time: up to 250μs
- Synchronization Error: +/-50ns
- Support CiA 402 standard protocol

CPU Support
- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz

Main Memory
- 1 x DDR3L 4GB RAM

Display Option
- 1 x DVI display output
- 1 x VGA display output (converted from DVI-I to VGA adapter)

I/O Interface-Front
- ATX power on/off switch
- LEDs for power status, HDD access, battery Low, 2 x programing LEDs, 4x Tx/Rx LEDs
- 1 x External CFast socket
- 1 x SIM card holder
- 1 x EtherCAT port, 1 x Intel® I210IT GbE LAN port
- 1 x DVI-I display output
- 1 x USB 3.0 (900mA per each)
- 1 x USB 2.0 (500mA per each)

- 2 x RS232/422/485 with 2.5KV isolation protection, support auto flow control
  - Jumper-free setting on RS232/422/485
  - Support RI function on COM2
- 1 x 2-pin remote power On/Off switch
- 1 x 3-pic DC input, Typical 24V DC input with +/-20% range

Storage Device
- 1 x CFast (SATA 2.0)
- 1 x 2.5" SSD (SATA 2.0)

Expansion Slot
- 1 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE

Power Requirement
- Typical 24V DC input with +/-20% range
- 1 x optional 24V, 60W power adapter

Dimensions
- 58mm (W) x 135.5mm (D) x 192.5mm (H)

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -20°C to 70°C with industrial grade device

Dimension Drawing
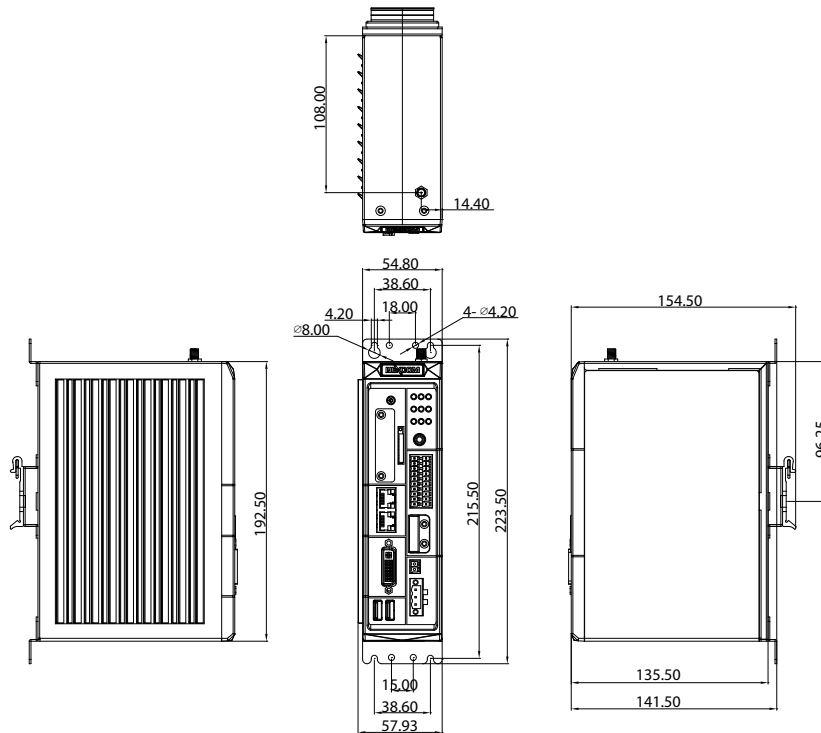
(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -30°C to 85°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class A

Operating System
- Windows Embedded Standard 7, 32-bit, with RTX2012

Ordering Information

- **NET101-ECM (P/N: 10J10010100X0)**
  Front-access Compact EtherCAT Controller

- **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

Optional WiFi/GSM module

88J70010100X0	NIFE101 3.5G Module Kit SIERRA: MC8705	-
88J70010101X0	NIFE101 Wifi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010102X0	NIFE101 Wifi Module Kit INTEL: 7260.HMWBNWB.R	WLAN+ BLUETOOTH COMBO MODULE

Optional Din Rail Kit

88J70010000X0	NIFE100/101 Series Din Rail kit	@Shock 20G

NET104-ECM

Main Features

- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz
- EtherCAT technology with NexECM, Class B EtherCAT Master, and RTX2012
- EtherCAT communication cycle up to 250 μs
- Support CoE protocol
- Support high-level API for CiA 402 profile

- Build-in full function EtherCAT application configurator, NexCAT
- 2 x RS232/422/485 and 2 x RS232
- 6 x USB 2.0
- 1 x external CFast socket
- 1 x Mini-PCIe with two antenna holes

Product Overview

Powered by Intel® Atom™ Dual Core D2550 1.86GHz and NM10 PCH, NET104-ECM has higher graphic and computing performance, but less power consumption! With performance enhance, NET104-ECM is an ideal compact EtherCAT controller with fanless and cables-less concept housed in a compact chassis, 185mm (W) x 131mm (D) x 54mm (H). The NET104-ECM offers dual independent display capability through DVI-I and HDMI connectors, Dual Intel® GbE LAN ports, 6 x USB 2.0, 2 x RS232, 2 x RS232/422/485, CFast socket and Mini-PCIe socket for optional wireless module connection, either Wi-Fi or 3.5G module.

NET104-ECM's support for +10 to 28VDC input enhances its reliability in different power condition in factory automation or machinery automation. NET104-ECM offers comprehensive and easy-to-use application configurator, NexCAT, for system development and debugging to speed up development period.

Specifications

CPU Support
- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz,
- 1M L2 cache
- Intel® NM10 Express chipset

Main Memory
- 1 x DDR3 SO-DIMM sockets, support up to 4G DDR3 800/1066
- SDRAM, un-buffered and non-ECC

I/O Interface-Front
- ATX power on/off switch
- HDD access/power status LEDs
- 4 x COM ports (COM2& 3: RS232/422/485)
- 2 x USB 2.0 port
- Audio jack (Line-out and Mic-in)
- 2 x antenna holes

I/O Interface-Rear
- Dual Intel® 82574L GbE LAN ports; Support WoL, teaming and PXE
- 4 x USB 2.0 port
- 1 x HDMI
- 1 x DVI-I (support VGA & DVI-D display via cable)
- 1 x 2-pin DC input, Support +10 to 28VDC input
- 1 x external screwed type CFast socket

Device
- 1 x 2.5" HDD driver bay
- 1 x External CFast Socket
- 1 x Mini-PCIe socket (support optional Wi-Fi or 3.5G module)

Pre-installed Software Package
- Operating System: Windows Embedded Standard 7
- Windows Extension: RTX 2012
- EtherCAT Master: NexECM
- EtherCAT Configurator: NexCAT

Dimensions
- 185mm (W) x 131mm (D) x 54mm (H) (7.28" x 5.2" x 2.13")

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-Condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Dimension Drawing
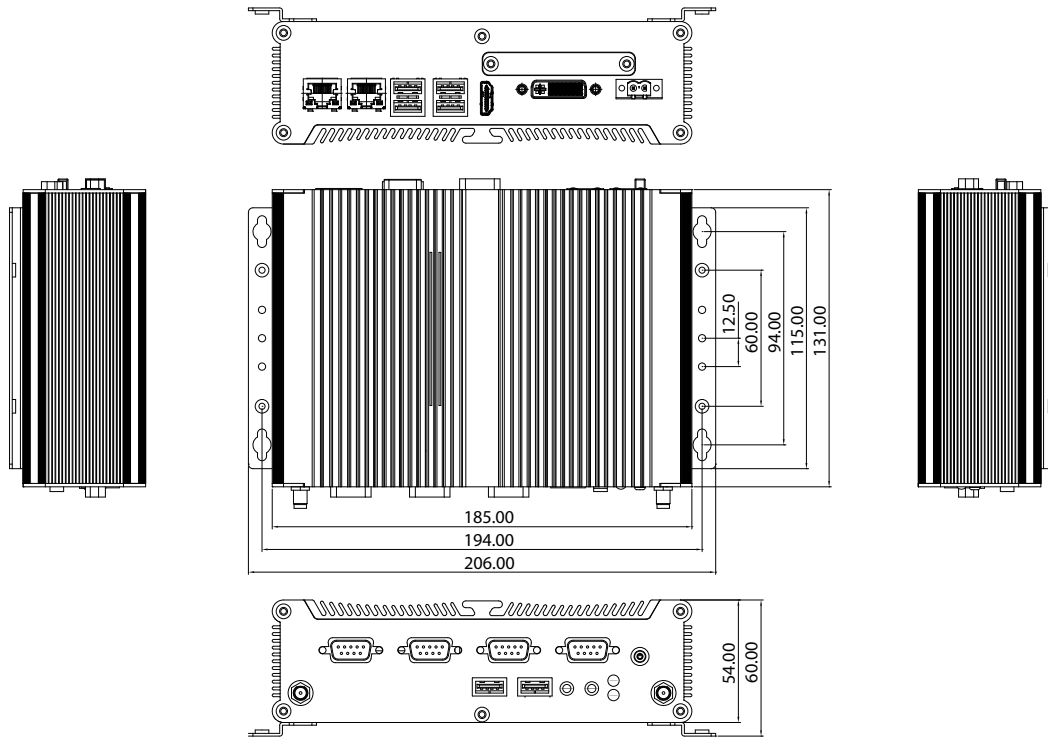
Certifications

- CE approval
- FCC Class A
- UL

Ordering Information

EtherCAT Controller

- **NET104-ECM (P/N: 10J10010400X0)**
  Compact EtherCAT controller

- **12V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060018X00)

Remote I/O

- **AXE-9200 (P/N: 10J40920000X0)**
  Remote I/O module with 16-CH digital input and 16-CH digital output

EtherCAT Support Table

Feature Name	Short Description	NexECMRtx
Basic Features		
Service Commands	Support of all commands	V
IRQ field in datagram	Use IRQ information from Slave in datagram header	V
Slaves with Device Emulation	Support Slaves with and without application controller	V
EtherCAT State Machine	Support of ESM special behavior	V
Error Handling	Checking of network or slave errors, e.g. Working Counter	V
Process Data Exchange		
Cyclic PDO	Cyclic process data exchange	V
Network Configuration		
Reading ENI	Network Configuration taken from ENI file	V
Compare Network configuration	Compare configured and existing network configuration during boot-up	V
Explicit Device Identification	Identification used for Hot Connect and prevention against cable swapping	V
Station Alias Addressing	Support configured station alias in slave, i.e. enable 2nd Address and use it	V
Access to EEPROM	Support routines to access EEPROM via ESC register	V
Mailbox Support		
Support Mailbox	Main functionality for mailbox transfer	V
Mailbox polling	Polling Mailbox state in slaves	V
CAN application layer over EtherCAT (CoE)		
SDO Up/ Download	Normal and expedited transfer	V
Complete Access	Transfer the entire object (with all sub-indices) at Once	V
Distributed Clocks		
DC	Support of Distributed Clock	V

NET200-ECM

Main Features

- EtherCAT technology with NexECM, Class B EtherCAT Master
- EtherCAT communication cycle up to 250 μs
- Support high-level API for CiA 402 profile
- Onboard Intel® Celeron® processor J1900 Quad Cord 2.0GHz
- Dual independent display from DP and DVI-I

- 3 x USB 2.0 & 1 x USB 3.0
- 2 x RS232/422/485
- 2 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules
- Support -5 ~ 55 °C operating temperature

Product Overview

Powered by Intel® Celeron® processor J1900 (formerly codenamed "Bay Trail-D"), NET200-ECM presents intelligent PC-based EtherCAT controller for machine automation. It integrates NEXCOM's EtherCAT master, NexECM, to perform real-time communication with cycle time up to 250 μs. NET200-ECM also provides API for CiA 402 profile and built-in EtherCAT configuration tool to speed up development time for automation users.

Beside EtherCAT communication, NET200-ECM has high integration ability with two optional Mini-PCIe modules and two COM ports, which makes it a flexible controller to connect with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module or other dieldbus devices. With the provided features, NET200-ECM is an ideal controller for your EtherCAT control system.

Specifications

EtherCAT Master
- Slave module no.: up to 64
- Cycle time: up to 250μs
- Synchronization Error: +/-50ns
- Support CiA 402 standard protocol

CPU Support
- Onboard Intel® Celeron® processor J1900 Quad Cord 2.0GHz

Main Memory
- 4GB RAM (2 x DDR3L)

Display Option
- Dual independent display
  - DVI-I and DP

I/O Interface-Front
- ATX power on/off switch
- LEDs for HDD LED, Batty LEDs, Power LED, COM port TX/RX, 5x programmable GPO LEDs
- 1 x External SD Card
- 1 x SIM card holder
- 1 x EtherCAT port, 1 x Intel® I210IT GbE LAN port
- 1 x DP display output
- 1 x DVI-I display output
- 1 x USB 3.0 (900mA per each)

- 3 x USB 2.0 (500mA per each)
- 2 x RS232/422/485 support auto flow control
  - Jumper-free setting on RS232/422/485
  - Support 2.5KV isolation protection on COM1
- 1 x 3-pic DC input, Typical 24V DC input with +/-20% range

Storage Device
- 1 x 2.5" SSD/HDD(SATA 2.0) --front accessible
- 1 x SD card (Data storage only)
- 1 x mSATA

Expansion Slot
- 2 x Mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power Requirement
- Typical 24V DC input with +/-20% range
- 1 x optional 24V, 60W power adapter

Dimensions
- 85mm (W) x 157mm (D) x 214mm (H)

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C

Dimension Drawing
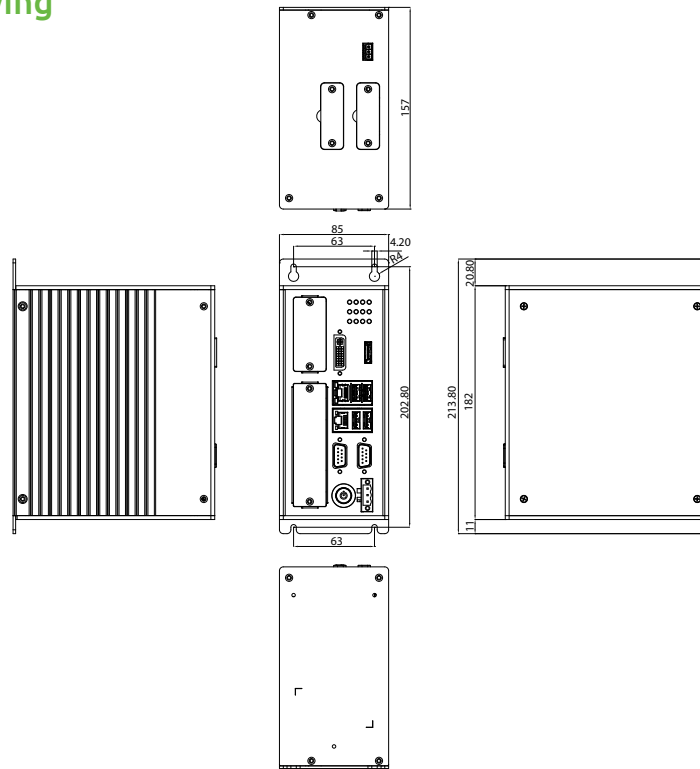
(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
  - Random: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-6

Certifications
- CE
- FCC Class B

Support OS
- Windows Embedded Standard 7, 32-bit, with RTX2012

Ordering Information

- **NET200-ECM (P/N: TBC)**
  Front-access EtherCAT Controller

- **24V, 60W AC/DC power adapter w/ o power cord**

  (P/N: 7400060024X00)

NET3140P2E-ECM

EtherCAT Controller with PCI and PCIe Expansion Slots

Main Features

- Support Intel® Core™ 2 Duo/Celeron® processor
- EtherCAT technology with NexECM, Class B EtherCAT Master, and RTX2012
- EtherCAT communication cycle up to 250 µs
- Support CoE protocol
- Support high-level API for CiA 402 profile

- Build-in full function EtherCAT application configurator, NexCAT
- Dual VGA or VGA/DVI Independent Display
- 3 x RS232 and 1 x RS232/422/485 with Auto Direction Control
- One external locked CF socket
- OnBoard DC to DC power design to support +16 to 30VDC power input

Product Overview

Utilizing the Intel® GM45 chipsets, NET3140P2E-ECM is highly scalable supporting a wide variety of Intel® Core™ 2 Duo and Celeron® processors. With pre-installed NexECM EtherCAT master software, NET3140P2E-ECM delivers exceptional performance with notable stability. NET3140P2E-ECM supports dual independent displays through 2 x VGA, DVI or LVDS outputs. Housed in a robust aluminum chassis, its fanless design offers noise-free, ultra reliable operating in the demanding industrial environment. NET3140P2E-ECM offers comprehensive and easy-to-use application configurator, NexCAT, for system development and debugging to speed up development period.

Specifications

Main Board
- NISB 3140
- Support Intel® Core™ 2 Duo Processor P8400 (3M Cache, 2.26GHz, 1066MHz FSB)
- Support Intel® Celeron® Processor 575 (1M Cache, 2.00GHz, 667MHz FSB)

Main Memory
- 2 x 240-pin DIMM, up to 4GB DDR3 800/1066MHz SDRAM, un-buffered and non-ECC

Chipset
- Intel® GM45 Graphics and Memory Controller Hub
- Featuring the Mobile Intel® Graphics Media Accelerator 4500MHD
- Intel® 82801IBM (ICH9M) I/O Controller Hub

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- 1 x Front Access CF Card Socket
- 2 x USB 2.0 ports

I/O Interface-Rear
- 2-pin Remote Power on/off switch
- +16 to 30VDC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB25 Parallel Port (Optional GPIO or LVDS interface)
- 1 x DB44 Serial Port for 4 x RS232

(COM2: RS232/422/485 with Auto Flow Control)
- 2 x GbE LAN ports (support WoL & LAN teaming)
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I Port (DVI-D + VGA)
- 1 x Line-out and 1 x Mic-in

Device
- 1 x 2.5" SATA HDD drive bay
- 1 x external locked CF card socket
- Optional power adapter

Pre-installed Software Package
- Operating System: Windows Embedded Standard 7
- Windows Extension: RTX 2012
- EtherCAT Master: NexECM
- EtherCAT Configurator: NexCAT

Expansion
- Add-on card length support:
- Max. 169mm x1 and 240mm x1 (with 2.5" HDD installed)
- Max. 240mm x2 (without 2.5" HDD installed)

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from +16 to 30VDC

Dimensions
- 195mm (W) x 268mm (D) x 101mm (H) (7.7" x 10.5" x 3.98")

Dimension Drawing
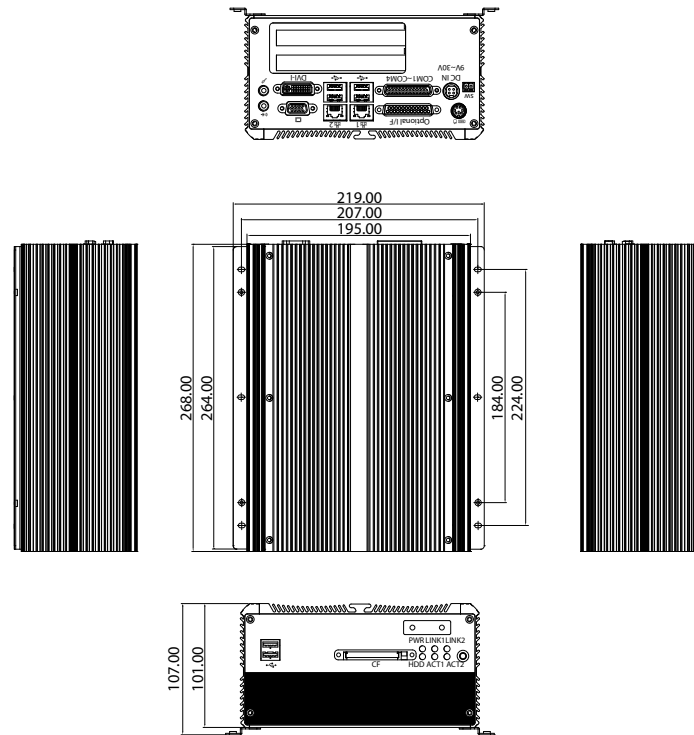
Environment

- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - CF: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500Hz according to IEC60068-2-6

Certifications

- CE approval
- FCC Class B

Ordering Information

EtherCAT Controller

- **NET3140P2E-ECM (P/N: 10J10314000X0)**
  EtherCAT Controller with PCI and PCIe Expansion Slots

- **19V, 120W AC/DC power adapter w/ o power cord (P/N: 7410120002X00)**

Remote I/O

- **AXE-9200 (P/N: 10J40920000X0)**
  Remote I/O module with 16-CH digital input and 16-CH digital output

EtherCAT Support Table

Feature Name	Short Description	NexECMRtx
Basic Features		
Service Commands	Support of all commands	V
IRQ field in datagram	Use IRQ information from Slave in datagram header	V
Slaves with Device Emulation	Support Slaves with and without application controller	V
EtherCAT State Machine	Support of ESM special behavior	V
Error Handling	Checking of network or slave errors, e.g. Working Counter	V
Process Data Exchange		
Cyclic PDO	Cyclic process data exchange	V
Network Configuration		
Reading ENI	Network Configuration taken from ENI file	V
Compare Network configuration	Compare configured and existing network configuration during boot-up	V
Explicit Device Identification	Identification used for Hot Connect and prevention against cable swapping	V
Station Alias Addressing	Support configured station alias in slave, i.e. enable 2nd Address and use it	V
Access to EEPROM	Support routines to access EEPROM via ESC register	V
Mailbox Support		
Support Mailbox	Main functionality for mailbox transfer	V
Mailbox polling	Polling Mailbox state in slaves	V
CAN application layer over EtherCAT (CoE)		
SDO Up/ Download	Normal and expedited transfer	V
Complete Access	Transfer the entire object (with all sub-indices) at Once	V
Distributed Clocks		
DC	Support of Distributed Clock	V

NET3500-ECM

Main Features

- Support Intel® Core™ i7/i5 socket processor
- EtherCAT technology with NexECM, Class B EtherCAT Master, and RTX2012
- EtherCAT communication cycle up to 250 μs
- Support CoE protocol
- Support high-level API for CiA 402 profile

- Build-in full function EtherCAT application configurator, NexCAT
- Dual VGA or VGA/DVI Independent Display
- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 5th RS232 (option: 4 x digital input, 4 x digital output)
- Support +9 to 30VDC power input; Support ATX power mode

Product Overview

Utilizing 32nm Intel® Core™ i7/i5 processor, NET3500-ECM features Intel® Turbo Boost and Intel® Hyper-Threading technologies (2 cores, 4 threads), as well as on-processor graphics and two DDRIII 800/1066 memory modules up to 4GB. In addition, NET3500-ECM provides a wide variety of display I/O configurations and rich I/O interfaces including two Intel® GbE Ethernet ports, 5 x COM ports, 6 x USB, 8 x GPIO, 2 x SATAII, 2 x eSATA, audio interfaces. NET3500-ECM is designed for a broad range of applications which demand an EtherCAT controller to handle advanced motion & I/O control.

Specifications

Main Board
- NISB 3500
- OnBoard Mobile Intel® QM57 Platform Controller Hub
- Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
- Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
- Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)

Main Memory
- 2 x 240-pin memory DIMM, up to 4GB DDR3 800/1066MHz SDRAM, un-buffered and non-ECC

I/O Interface-Front
- ATX power on/off switch
- HDD Access/Power status LEDs
- 2 x USB 2.0 ports
- 2 x eSATA ports

I/O Interface-Rear
- 2-pin Remote Power on/ff switch
- +9 to 30VDC input
- 1 x PS/2 for Keyboard/Mouse
- 1 x DB9 for COM5, RS232 (option: 4 x GPI and 4 x GPO)
- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with auto flow control)
- 2 x GbE LAN ports; Support WoL and PXE
- 4 x USB 2.0 ports
- 1 x DB15 VGA port
- 1 x DVI-I port

- 1 x Line-out and 1 x Mic-in

Pre-installed Software Package
- Operating System: Windows Embedded Standard 7
- Windows Extension: RTX 2012
- EtherCAT Master: NexECM
- EtherCAT Configurator: NexCAT

Device
- 1 x 2.5" HDD driver bay

Expansion
- 1 x PCI expansion (10W max./per slot)
- Add-on card length: 169mm max.

Power Requirements
- ATX power mode
- OnBoard DC to DC power support from +9 to 30VDC
- Optional power adapter

Dimensions
- 195mm (W) x 268mm (D) x 80mm (H) (7.7" x 10.5" x 3.1")

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:

Dimension Drawing
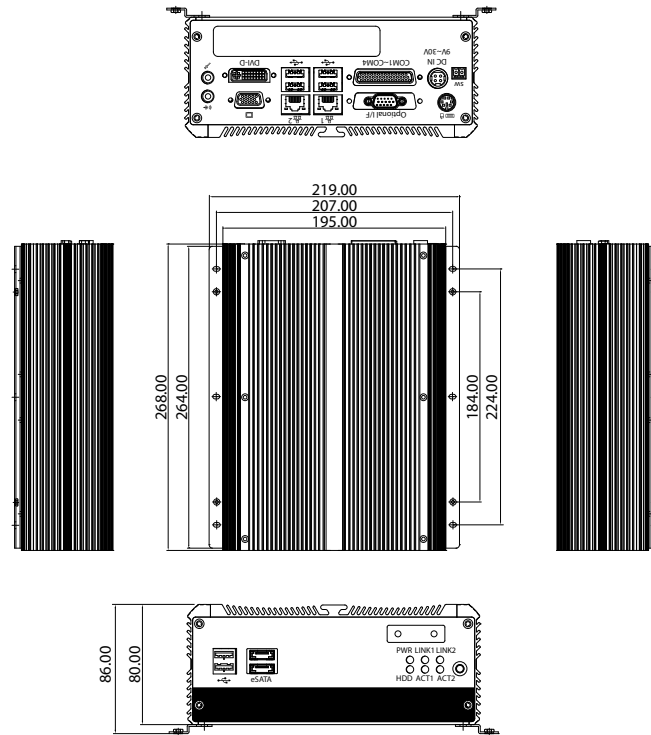
HDD: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection:
  - Random: 0.5Grms @ 5 ~ 500 Hz according to IEC68-2-64
  - Sinusoidal: 0.5 Grms @ 5 ~ 500 Hz according to IEC68-2-6

Certifications
- CE approval
- FCC Class B
- UL/cUL
- e13

Ordering Information

EtherCAT Controller

- **NET3500-ECM (P/N: 10J10350000X0)**
  EtherCAT Controller with one PCI Expansion Slot

- **19V, 120W AC/DC Power Adapter w/ o power core**

  (P/N: 7410120002X00)

Remote I/O

- **AXE-9200 (P/N: 10J40920000X0)**
  Remote I/O module with 16-CH digital input and 16-CH digital output

EtherCAT Support Table

Feature Name	Short Description	NexECMRtx
Basic Features		
Service Commands	Support of all commands	V
IRQ field in datagram	Use IRQ information from Slave in datagram header	V
Slaves with Device Emulation	Support Slaves with and without application controller	V
EtherCAT State Machine	Support of ESM special behavior	V
Error Handling	Checking of network or slave errors, e.g. Working Counter	V
Process Data Exchange		
Cyclic PDO	Cyclic process data exchange	V
Network Configuration		
Reading ENI	Network Configuration taken from ENI file	V
Compare Network configuration	Compare configured and existing network configuration during boot-up	V
Explicit Device Identification	Identification used for Hot Connect and prevention against cable swapping	V
Station Alias Addressing	Support configured station alias in slave, i.e. enable 2nd Address and use it	V
Access to EEPROM	Support routines to access EEPROM via ESC register	V
Mailbox Support		
Support Mailbox	Main functionality for mailbox transfer	V
Mailbox polling	Polling Mailbox state in slaves	V
CAN application layer over EtherCAT (CoE)		
SDO Up/ Download	Normal and expedited transfer	V
Complete Access	Transfer the entire object (with all sub-indices) at Once	V
Distributed Clocks		
DC	Support of Distributed Clock	V

NET3600E-ECM

Main Features

- Support 3rd generation Intel® Core™ i5-3610 processor with Intel® QM77 PCH
- EtherCAT technology with NexECM, Class B EtherCAT Master, and RTX2012
- EtherCAT communication cycle up to 250 μs
- Support CoE protocol

- Support high-level API for CiA 402 profile
- Support DC (Distributed Clocks) technology
- Build-in full function EtherCAT application configurator, NexCAT
- Management of real time task SDK
- I/O access API for Windows user mode and RTX subsystem

Product Overview

NET3600E-ECM is an open real-time EtherCAT controller over Windows real-time extension, RTX, allowing integrating users' algorithm and I/O control with communication cycle up to 250 μs. Not only does NET3600E-ECM support CoE protocol, but provide advanced API for CiA 402 profile, enabling seamless integration with servo drivers. Distributed Clocks function support allows synchronization of all slave modules. In addition, NET3600E-ECM offers comprehensive and easy-to-use application configurator, NexCAT, for system development and debugging to speed up development period.

Specifications

System
- Intel® Core™ i5-3610ME processor pre-installed
- 1 x 4GB DDR3 SDRAM, pre-installed
- 160GB or above HDD pre-installed
- 1 x EtherCAT port (Intel® 82574L)
- 1 x Intel® GbE LAN port
- 2 x Display Ports and 1 x VGA or 2 x Display Ports and 1 x DVI-D
- 4 x USB 3.0 & 2 x USB 2.0 ports
- 1 x CFast socket
- 5 x RS232 & 1 x RS232/422/485 with Auto Flow Control
- One PCIe x4 slot (10W max. per slot)
  - 169mm max. with HDD installed
  - 240mm max. without HDD installed

Pre-installed Software Package
- Operating System: Windows Embedded Standard 7
- Windows Extension: RTX 2012
- EtherCAT Master: NexECM
- EtherCAT Configurator: NexCAT

Power Requirements
- DC input range: +9 to 30VDC input

Dimensions
- 216mm (W) x 270mm (D) x 93mm (H)

Environment
- Operating temperature:

Ambient with air flow: -5°C to 55°C
(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection:
  Random: 0.5Grms @ 5 ~ 500 Hz according to IEC68-2-64
  Sinusoidal: 0.5 Grms @ 5 ~ 500 Hz according to IEC68-2-6

Certifications
- CE
- FCC Class A

EtherCAT Support Table

Feature Name	Short Description	NexECMRtx
Basic Features		
Service Commands	Support of all commands	V
IRQ field in datagram	Use IRQ information from Slave in datagram header	V
Slaves with Device Emulation	Support Slaves with and without application controller	V
EtherCAT State Machine	Support of ESM special behavior	V
Error Handling	Checking of network or slave errors, e.g. Working Counter	V
Process Data Exchange		
Cyclic PDO	Cyclic process data exchange	V

Dimension Drawing

Network Configuration		
Reading ENI	Network Configuration taken from ENI file	V
Compare Network configuration	Compare configured and existing network configuration during boot-up	V
Explicit Device Identification	Identification used for Hot Connect and prevention against cable swapping	V
Station Alias Addressing	Support configured station alias in slave, i.e. enable 2nd Address and use it	V
Access to EEPROM	Support routines to access EEPROM via ESC register	V
Mailbox Support		
Support Mailbox	Main functionality for mailbox transfer	V
Mailbox polling	Polling Mailbox state in slaves	V
CAN application layer over EtherCAT (CoE)		
SDO Up/ Download	Normal and expedited transfer	V
Complete Access	Transfer the entire object (with all sub-indices) at Once	V
Distributed Clocks		
DC	Support of Distributed Clock	V

Ordering Information

EtherCAT Controller

◆ **NET3600E-ECM (P/N: 10J10360002X0)**
High performance EtherCAT controller with NexECM and RTX

Consistancy

◆ **AXE-9200 (P/N: 10J40920000X0)**
Remote I/O module with 16-CH digital input and 16-CH digital output

NEIO B1101/B1102

32ch Digital Input EtherCAT Slave Module

Main Features

- High density I/O chennels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Blank nameplate for channel labelling

- Detachable screw terminals
- Compact design, vibration resistance
- DIN-rail mounting
- Configuration free

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial application. Each module is equipped with high density I/O (up to 32 points) and powerful features in a compact size. DIN-rail design and daisy-chain wiring powered by EtherCAT technology make it easy to install NEIO modules in the field. NEIO provides wide variety of I/O combinations with standard ESI file so that users can always find suitable I/O modules for their high-speed EtherCAT-based applications.

Specifications

Digital Input
- Number of channels: 32
- Input Type:
  NEIO B1101: 24VDC, Sinking
  NEIO B1102: 24VDC, Souring
- "0" voltage: 0-5VDC
- "1" voltage: 15-30VDC
- Input current: 3mA
- Input filter: 3ms

Communication
- Protocol: EtherCAT
- Bus interface: 2 x RJ-45 (Daisy-chain)
- Media: Ethernet cable (min. CAT 5), shielded
- Distance between stations: Maximum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements
- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection

Common Section
- Electrical Isolation: 0.5 kV (power contact/supply voltage)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Enclosure type rating: IP20
- Mounting type: DIN-rail
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Dimension (mm): 155(W) × 105(H) × 55(D)

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

EtherCAT Slave Module

- **NEIO B1101 (P/N: TBC)**
  32ch Digital Input (Sinking) EtherCAT Slave Module

- **NEIO B1102 (P/N: TBC)**
  32ch Digital Input (Souring) EtherCAT Slave Module

Accessory

- **AC TO DC DIN RAIL POWER SUPPLY (P/N: 7440060001X00)**
  60W 24V/2.5A FOR NISE

NEIO B1201/B1202

32ch Digital Output EtherCAT Slave Module

Main Features

- High density I/O chennels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Blank nameplate for channel labelling

- Detachable screw terminals
- Compact design, vibration resistance
- DIN-rail mounting
- Configuration free

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial application. Each module is equipped with high density I/O (up to 32 points) and powerful features in a compact size. DIN-rail design and daisy-chain wiring powered by EtherCAT technology make it easy to install NEIO modules in the field. NEIO provides wide variety of I/O combinations with standard ESI file so that users can always find suitable I/O modules for their high-speed EtherCAT-based applications.

Specifications

Digital Output
- Number of channels: 32
- Output Type:
  NEIO B1201: 24VDC, Sinking
  NEIO B1202: 24VDC, Souring
- On-state current: 500mA/ch
- On-state voltage drop: Maximum 0.2VDC
- Output signal delay:
  Off to on: 60µs
  On to off: 300µs

Communication
- Protocol: EtherCAT
- Bus interface: 2 x RJ-45 (Daisy-chain)
- Media: Ethernet cable (min. CAT 5), shielded
- Distance between stations: Maximum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements
- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection

Common Section
- Electrical Isolation: 0.5 kV (power contact/supply voltage)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Enclosure type rating: IP20
- Mounting type: DIN-rail
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Dimension (mm): 155(W) × 105(H) × 55(D)

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

EtherCAT Slave Module

- **NEIO B1201 (P/N: TBC)**
  32ch Digital Output (Sinking) EtherCAT Slave Module

- **NEIO B1202 (P/N: TBC)**
  32ch Digital Output (Souring) EtherCAT Slave Module

Accessory

- **AC TO DC DIN RAIL POWER SUPPLY (P/N: 7440060001X00)**
  60W 24V/2.5A FOR NISE

NEIO B1831

8ch Analog Input and 2ch Analog Output EtherCAT Slave Module

Main Features

- High density I/O chennels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Blank nameplate for channel labelling
- Detachable screw terminals
- Compact design, vibration resistance
- DIN-rail mounting
- Configuration free

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial application. Each module is equipped with high density I/O (up to 32 points) and powerful features in a compact size. DIN-rail design and daisy-chain wiring powered by EtherCAT technology make it easy to install NEIO modules in the field. NEIO provides wide variety of I/O combinations with standard ESI file so that users can always find suitable I/O modules for their high-speed EtherCAT-based applications.

Specifications

Analog Input
- Number of channels: 8
- Input Range: ±10V
- Resolution: 16-bit
- Accuracy: ±0.5%
- Input Impedance: >10MΩ

Analog Output
- Number of channels: 2
- Output Range: 0~10V
- Resolution: 12-bit

Communication
- Protocol: EtherCAT
- Bus interface: 2 x RJ-45 (Daisy-chain)
- Media: Ethernet cable (min. CAT 5), shielded
- Distance between stations: Maximum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements
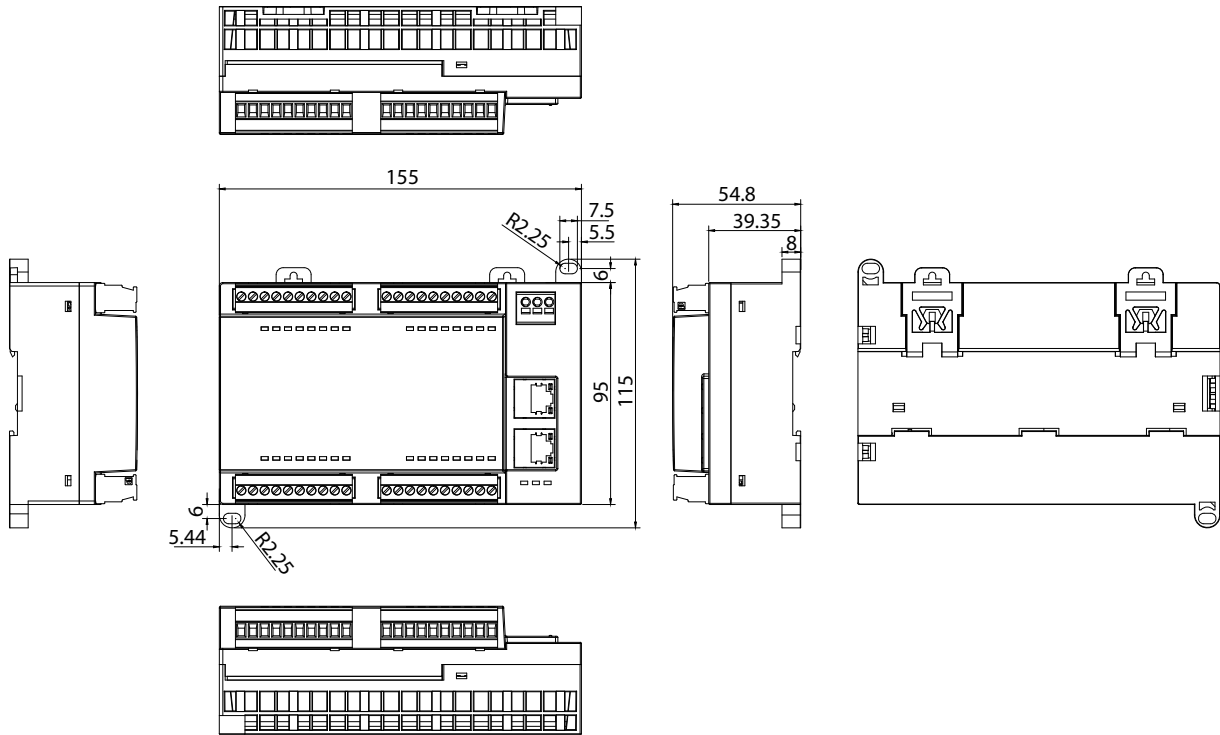- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection

Common Section
- Electrical Isolation: 0.5 kV (power contact/supply voltage)
- Operating temperature: 0℃ to 55℃
- Storage temperature: -40℃ to 85℃
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Enclosure type rating: IP20
- Mounting type: DIN-rail
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Dimension (mm): 155(W) × 105(H) × 55(D)

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

EtherCAT Slave Module

- **NEIO B1831 (P/N: TBC)**
  8ch Analog Input 2ch Analog Output EtherCAT Slave Module

Accessory

- **AC TO DC DIN RAIL POWER SUPPLY (P/N: 7440060001X00)**
  60W 24V/2.5A FOR NISE

NEIO B1106

Main Features

- High density I/O chennels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Blank nameplate for channel labelling

- Spring terminals, reliable connection
- Compact design, vibration resistance
- DIN-rail mounting
- Configuration free

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial application. Each module is equipped with high density I/O (up to 32 points) and powerful features in a compact size. DIN-rail design and daisy-chain wiring powered by EtherCAT technology make it easy to install NEIO modules in the field. NEIO provides wide variety of I/O combinations with standard ESI file so that users can always find suitable I/O modules for their high-speed EtherCAT-based applications.

Specifications

Digital Input
- Number of channels: 32
- Input type: 24VDC, Sinking
- "0" voltage: 0-5VDC
- "1" voltage: 15-30VDC
- Input current: 7mA
- Input filter: 0.5ms

Communication
- Protocol: EtherCAT
- Bus interface: 2 x RJ-45 (Daisy-chain)
- Media: Ethernet cable (min. CAT 5), shielded
- Distance between stations: Maximum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements
- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection
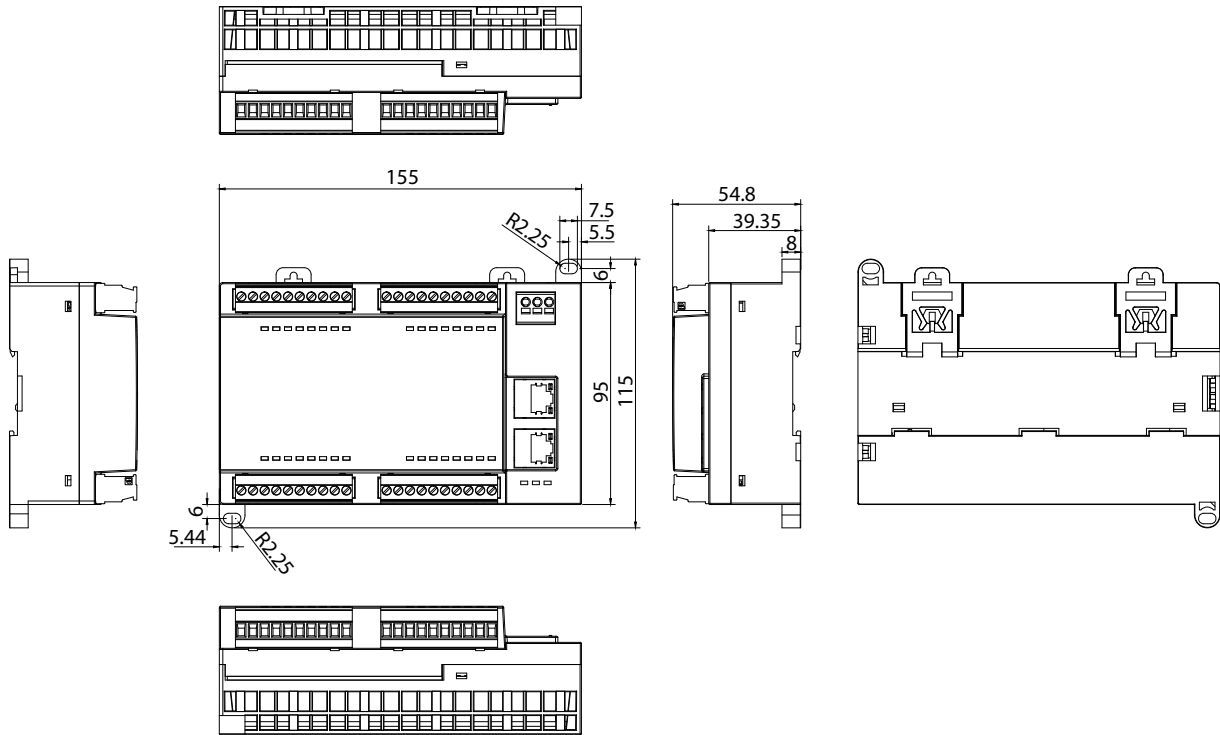
Common Section
- Electrical Isolation: 0.5 kV (power contact/supply voltage)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Enclosure type rating: IP20
- Mounting type: DIN-rail
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Dimension (mm): 155(W) × 105(H) × 55(D)

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

EtherCAT Slave Module

- **NEIO B1106 (P/N: TBC)**
  32ch Digital Input (Sinking) EtherCAT Slave Module

Accessory

- **AC TO DC DIN RAIL POWER SUPPLY (P/N: 7440060001X00)**
  60W 24V/2.5A FOR NISE

NEIO B1206

Main Features

- High density I/O chennels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Blank nameplate for channel labelling

- Detachable screw terminals
- Spring terminals, reliable connection
- DIN-rail mounting
- Configuration free

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial application. Each module is equipped with high density I/O (up to 32 points) and powerful features in a compact size. DIN-rail design and daisy-chain wiring powered by EtherCAT technology make it easy to install NEIO modules in the field. NEIO provides wide variety of I/O combinations with standard ESI file so that users can always find suitable I/O modules for their high-speed EtherCAT-based applications.

Specifications

Digital Output
- Number of channels: 32
- Output Type: 24VDC, Sinking
- On-state current: 500mA/ch
- On-state voltage drop: Maximum 0.2VDC
- Overvoltage and overcurrent protection

Communication
- Protocol: EtherCAT
- Bus interface: 2 x RJ-45 (Daisy-chain)
- Media: Ethernet cable (min. CAT 5), shielded
- Distance between stations: Maximum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements
- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection
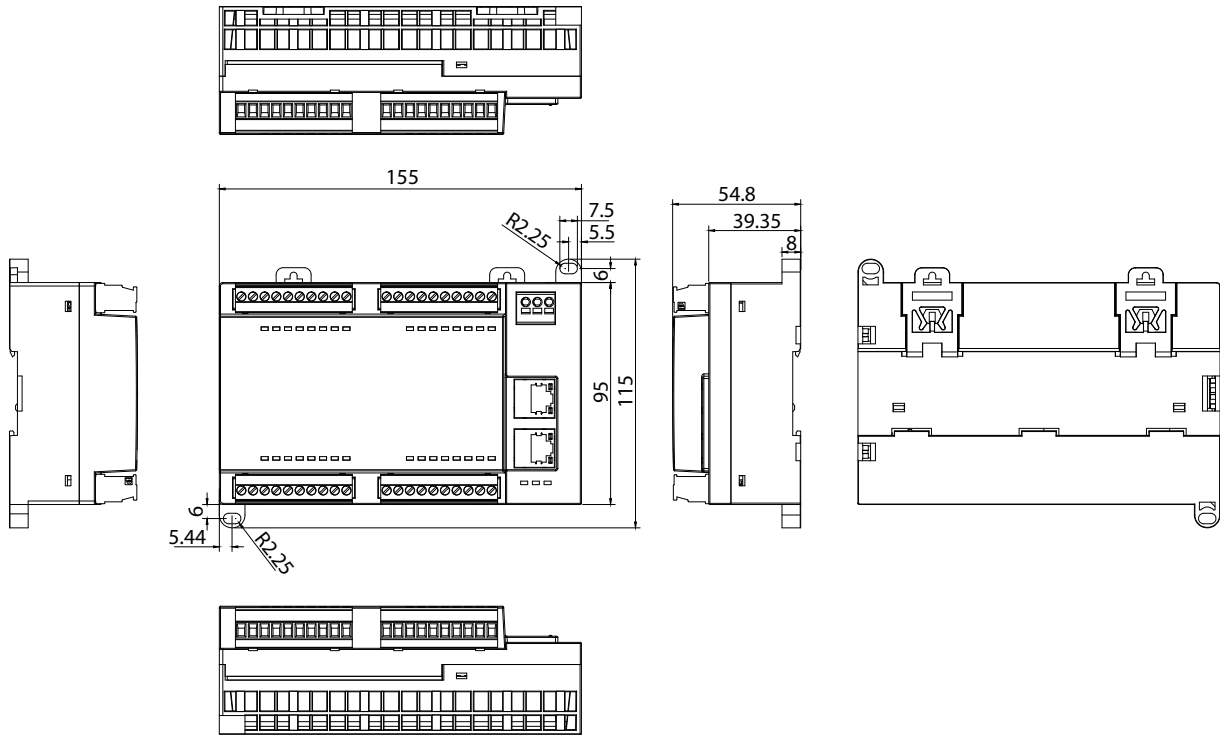
Common Section
- Electrical Isolation: 0.5 kV (power contact/supply voltage)
- Operating temperature: 0℃ to 55℃
- Storage temperature: -40℃ to 85℃
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Enclosure type rating: IP20
- Mounting type: DIN-rail
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Dimension (mm): 155(W) × 105(H) × 55(D)

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

EtherCAT Slave Module

- **NEIO B1206 (P/N: TBC)**
  32ch Digital Output (Sinking) EtherCAT Slave Module

Accessory

- **AC TO DC DIN RAIL POWER SUPPLY (P/N: 7440060001X00)**
  60W 24V/2.5A FOR NISE

NEIO B1816/B1817

Main Features

- High density I/O chennels
- Onboard I/O status LED for direct diagnosis
- High-performance EtherCAT communication
- Blank nameplate for channel labelling
- Spring terminals, reliable connection
- Compact design, vibration resistance
- DIN-rail mounting
- Configuration free

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial application. Each module is equipped with high density I/O (up to 32 points) and powerful features in a compact size. DIN-rail design and daisy-chain wiring powered by EtherCAT technology make it easy to install NEIO modules in the field. NEIO provides wide variety of I/O combinations with standard ESI file so that users can always find suitable I/O modules for their high-speed EtherCAT-based applications.

Specifications

Digital Input
- Number of channels: 16
- Input type: 24VDC, Sinking
- "0" voltage: 0-5VDC
- "1" voltage: 15-30VDC
- Input current: 7mA
- Input filter: 0.5ms

Digital Output (NEIO B1816 Only)
- Number of channels: 16
- Output type: 24VDC, Sinking
- On-state current: 500mA/ch
- On-state voltage drop: Maximum 0.2VDC
- Overvoltage and overcurrent protection

Relay Output (NEIO B1817 Only)
- Number of channels: 16
- Relay rating: 30 V DC/250V AC
- Maximum output current: 1A
- '0' voltage: Dry contact open circuit
- '1' voltage: Dry contact short circuit

Communication
- Protocol: EtherCAT
- Bus interface: 2 x RJ-45 (Daisy-chain)
- Media: Ethernet cable (min. CAT 5), shielded
- Distance between stations: Maximum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements
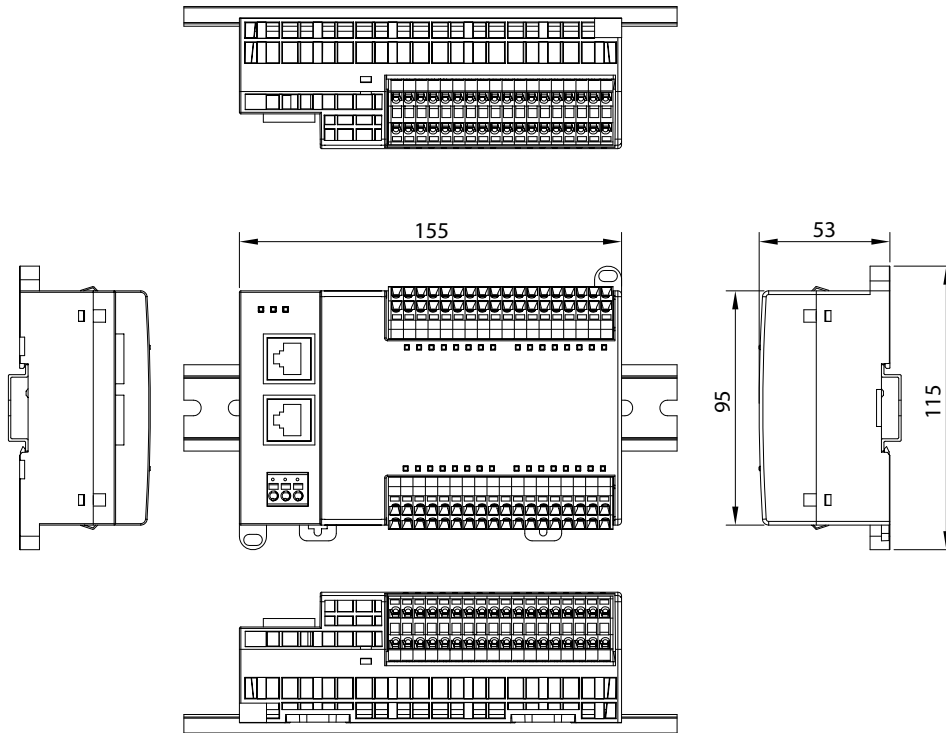- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection

Common Section
- Electrical Isolation: 0.5 kV (power contact/supply voltage)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Enclosure type rating: IP20
- Mounting type: DIN-rail
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Dimension (mm): 155(W) × 105(H) × 55(D)

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

EtherCAT Slave Module

- **NEIO B1816 (P/N: TBC)**
  16ch Digital Input and 16ch Digital Output EtherCAT Slave Module

- **NEIO B1817 (P/N: TBC)**
  16ch Digital Input and 16ch Relay EtherCAT Slave Module

Accessory

- **AC TO DC DIN RAIL POWER SUPPLY (P/N: 7440060001X00)**
  60W 24V/2.5A FOR NISE

AXE-5904

Main Features

- 4-axis independent control and pulse output up to 8Mpps
- Pulse output options: CW/ CCW, OUT/DIR
- 4x differential encoder interface, ABZ phase

- EtherCAT slave protocol communication
- Support CiA 402 device profile
- General purpose I/O: 12 DI and 3 DO

Product Overview

AXE-5904 is a 4-axis pulse type point-to-point motion EtherCAT slave module, featuring real-time EtherCAT communication and CiA 402 device profile for machine automation applications requiring high-speed and point-to-points function. With pulse type commands, AXE-5904 supports pulse output rate up to 4MHz and encoder input up to 8MHz in 4 xAB phase mode and build-in dedicated I/O points for servo control and mechanism to facilitate building up whole machines.

Specifications

Pulse Type Motion Control
- Number of axes: 4
- Pulse output rate: up to 8pps
- Pulse command output: CW/ CCW, OUT/DIR, ABZ Phase
- Committed I/O Signal: ±LIM/±CMP/ORG/SVON/RDY/INP/ALM/ALMCLR/DCLR for each axis

Encoder Input
- Encoder input type: Incremental, 32-bit
- Encoder signal: CW/ CCW, AB/Z
- Positioning Range: -2,147,483,648 through 2,147,483,647 pulse (32-bit)
- Max. input frequency: 4MHz

General I/O
- General-purpose input: 3 channel per axis
- Input type: photo-coupler input (corresponding to current sink output)
- Response time of DI (Max.): 100 µsec
- General-purpose output: 2 channel per axis
- Response time of DO (Max.): 100 µsec

Power Requirements
- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection

Common Section
- Data transfer medium: Ethernet cable (min CAT 5), shield
- Bus interface: 2x RJ-45
- Data transfer rate: 100M baud
- Protocol: EtherCAT
- Device profile: CiA 402
- Operating temperature: 0°C to 50°C
- Relative humidity:
- 35~85%, non-condensation, operating
- 10~90%, non-condensation, non-operating
- Shock: IEC 60068 2-27
- Vibration: IEC 60068 2-64
- Enclosure type rating: IP00
- Mounting type: DIN-rail
- Dimension (mm): 120.1(W) x 188(L) x 55.6(H)

Certifications
- CE
- FCC Class A

Dimension Drawing

188

120.10

55.60
43.47

52.25
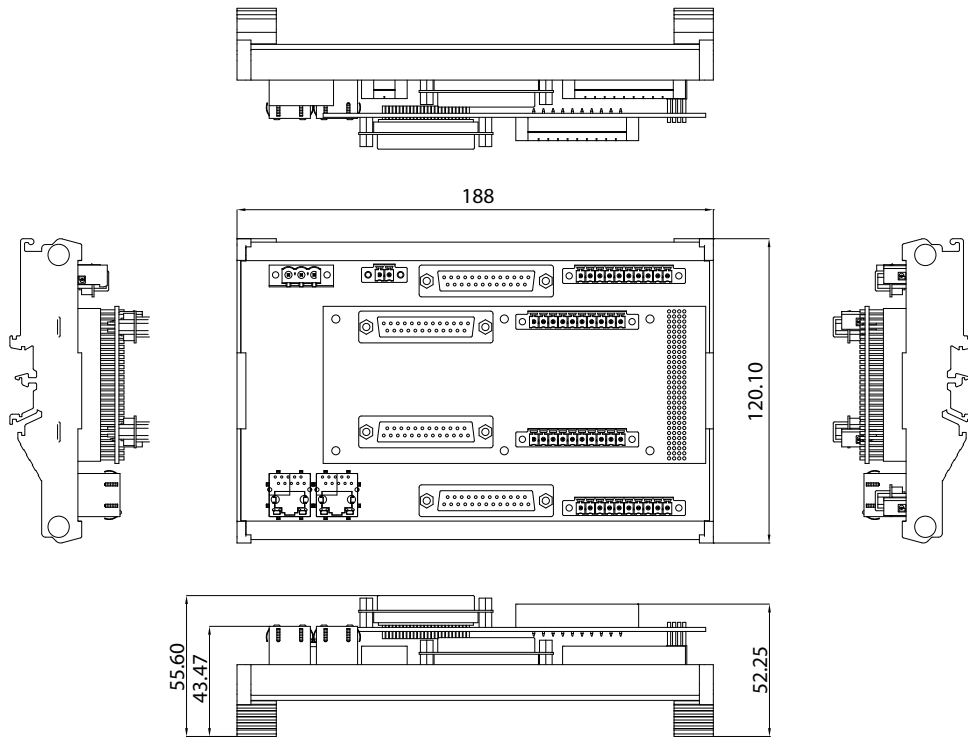
Ordering Information

Motion Controller

⬩ **AXE-5904 (P/N: TBD)**
  Point-to-point 4-axis pulse type motion EtherCAT Slave Module
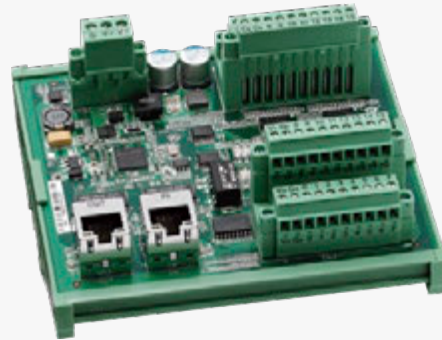
AXE-9200

Main Features

- High density I/O module
- Multi-functional digital input/output
- High-performance EtherCAT communication
- Support bipolar (sinking and sourcing) input
- Quick and easy installation
- Configuration free

Product Overview

AXE-9200 is a 16ch Digital Input a 16ch Digital Output Module with EtherCAT Protocol for distributed industrial application. Multi-functional I/O, daisy chain cabling, configuration free make the users easy to install and maintain. Base on the EtherCAT technology, it enhances the performance for machinery and factory applications.

Specifications

Digital Input (Bold type)
- Number of channels: 16
- Input type: 24VDC, bipolar photo coupler (sinking/sourcing), 1-wire
- "0" voltage: 0-5VDC
- "1" voltage: 15-30VDC
- Input current: 3mA
- Input filter: 3ms

Digital Output
- Number of channels: 16
- Output type: 24VDC, Sinking, 1-wire
- On-state current: 200mA/ch
- On-state voltage drop: Maximum 0.2VDC
- Output signal delay:
- Off to on: 50μsec
- On to off: 200μsec

Power Requirements
- DC input range: DC 24V ±10% with over-voltage and reversed-voltage protection

Common Section
- Data transfer medium: Ethernet cable (min CAT 5), shield
- Bus interface: 2x RJ-45
- Data transfer rate: 100M baud
- Protocol: EtherCAT
- Operating temperature: 0°C to 55°C
- Relative humidity: 10~90%, non-condensation, non-operating
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Enclosure type rating: IP00
- Mounting type: DIN-rail
- Shock: IEC 68 2-27
- Vibration: IEC 68 2-64
- Dimension (mm): 123(W) x 120.1(L) x 48.4(H)

Certifications
- CE
- FCC Class A

Dimension Drawing

123

120.10

43,47

48,35
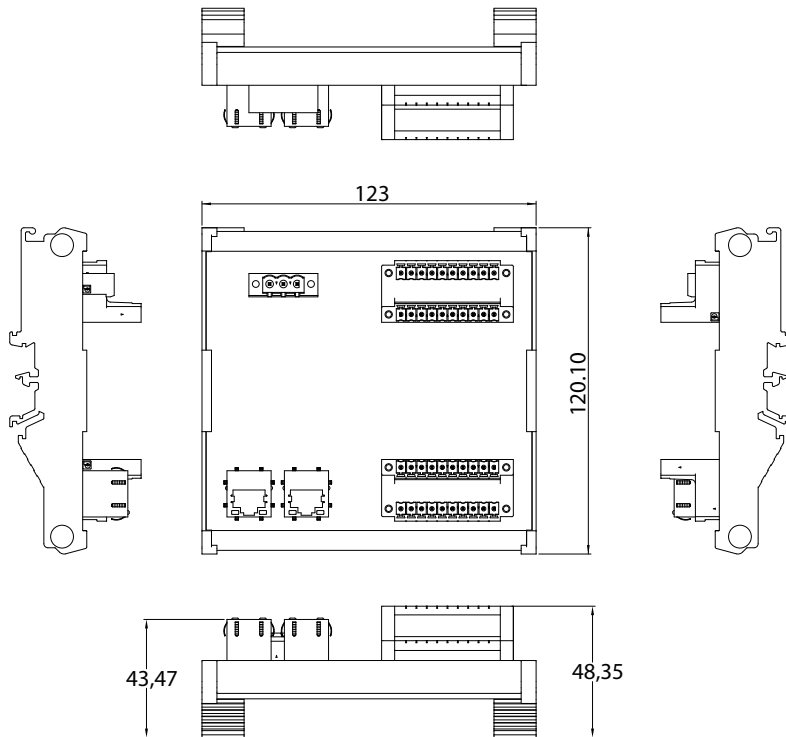
Ordering Information

Motion Controller

* **AXE-9200 (P/N: 10J40920000X0   )**
  16ch Digital Input and 16ch Digital Output EtherCAT Slave Module

NControl Series

Main Features

- Support 2D½ & 3D CNC machining
- Support EtherCAT and MechatrolinkIII protocols
- G/M Code supported
- Tool Center Point (TCP) Support
- Look ahead speed planning (up to 1024 blocks)

- High speed machining with polynomial interpolation
- TCP with high speed machining
- Multiple CNC channels supported
- Up to 24 channels can be customized

Product Overview

NControl series provides a comprehensive CNC solution to 2D and 3D machining. Providing high level CNC functionalities, such as TCP for 5-axis machining and high speed machining with look ahead and polynomial, NControl series ensures high machining precision with high speed. Derived from NexMotion cloud and open feature, NControl series can upgrade its function without changing any hardware and can easily integrate with 3rd party hardware and software.

Specifications

System
- Intel® Core™ 2 Duo P8400 processor pre-installed
- 2GB DDR3 SDRAM, pre-installed
- 32GB SSD pre-installed
- Windows CE 6.0 pre-installed
- VGA/DVI-I independent display
- 2 x Intel® GbE LAN ports (support WoL & LAN teaming)
- 1 x DB44 Serial Port for 4 x RS232
  (COM2: RS232/422/485 with Auto Flow Control)
- 6 x USB 2.0 ports
- 1 x PS2 Connector supporting KB/MS
- Fast I/O: 4 digital in/4 digital out
- Analog I/O: 1 in (16-bit)/1 out (16-bit)
- Encoder: 1 in (A/B/Z phase)

CNC Control
- Axes Management
  - Circular 3D interpolation
  - Rollover Axes
  - Gantry Axes
  - Dynamic follower axes
- Canned Cycles
  - Spot-facing (G82)
  - Deep drilling with chip take out (G83)
  - Tapping (G84)
  - Reaming or tapping by Tapmatic (G85)
  - Boring with spot facing (G89)
- Motion control types

- G code ISO 6983 programming
- M, S, T functions programming
- Look Ahead (up to 1024 blocks)
- Velocity Feed Forward (VFF)
- Tool Centre Point (TCP)
  - TCP for Double Twist and Prismatic Heads with 2 or 3 rotary axes
  - TCP for non-standard kinematics
- Special Feature
  - Bidirectional pitch compensation

Optional Remote I/O
- Modular type
  - Coupler: C-101
  - Digital I/O module: E-101/E-201/E-202
  - Analog I/O module: E-501
- Terminal type
  - Digital I/O module: AXE-9200

Power Requirements
- DC input range: +16 to 30VDC input ATX Power mode
  (Optional AC/DC 120W power adapter)

Environment
- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (Non-Condensing)
- Shock protection:

Dimension Drawing
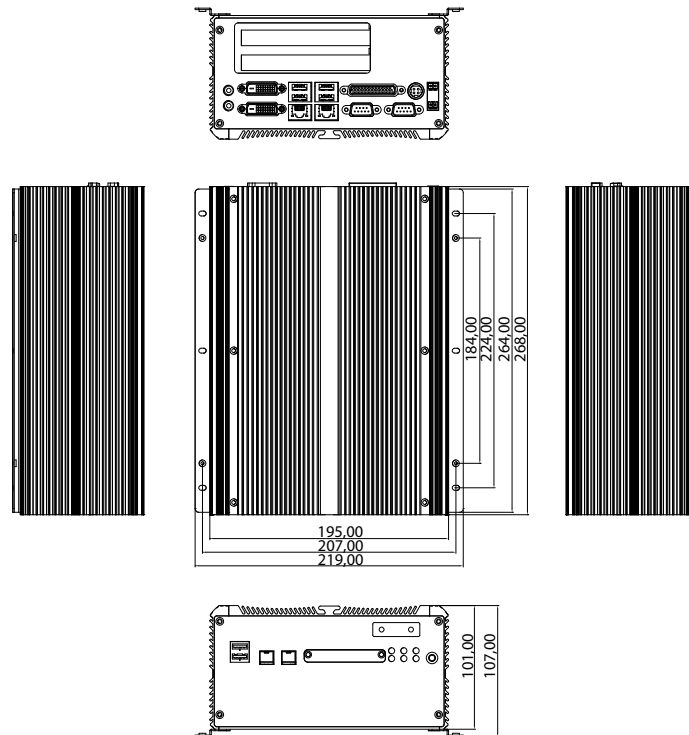
- HDD: 20G, half sine, 11ms, IEC60068-2-27
- CF: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
  - Random: 0.5Grms @ 5 ~ 500 Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5 ~ 500 Hz according to IEC60068-2-6

Certifications
- CE
- FCC Class A

Ordering Information

CNC Controller

- **NControl20**
  2D½ CNC Controller for Machining and Turning Center with Win CE 6.0

- **NControl20D**
  2D½ CNC Controller for Machining and Turning Center with Win CE 6.0 and WE2009

- **NControl30**
  3D CNC Controller for Machining and Turning Center with Win CE 6.0

- **NControl30D**
  3D CNC Controller for Machining and Turning Center with Win CE 6.0 and WE2009

Optional Accessories

- **C-101 Coupler**
  OPENrio EtherCAT Bus-coupler

- **E-101 Module**
  OPENrio 16 Digital Input block

- **E-201 Module**
  OPENrio 16 Digital Output block

- **E-202 Module**
  OPENrio 4 x 2A Digital Output block

- **E-501 Module**
  OPENrio 2 Analog Input and 2 Analog Output block

FPPC 1220

Main Features

- 4:3 12.1" Fanless Panel Computer
- Intel® Atom™ D425, Low-Power Consumption CPU
- DDR3 1GB/3 x GbE/2nd display-VGA/Line-out/MIC-in/PS2 KB/MS
- USB x 2/1 x PCI slot/1 x CF/2 x RS232/1 x RS232/422/485
- IP65 Compliant Front Panel
- Mounting Support: Panel/Wall/Stand/VESA 75mm x 75mm, 100mm x 100mm

Product Overview

Incorporated a 12.1" 4:3 LCD panel with resolutions up to 800 x 600 (SVGA) and 370 nits brightness, industrial motherboard for diverse industrial applications, the factory automation fanless Panel PC FPPC 1220 utilizes Atom™ D425 processor. The IP65 compliant front panel can be offered for automation machine applications.

The FPPC 1220 Panel PC has 3 GbE LAN, 3 x COMs, 2 x USB, PS2 KB/MS, and Line-out/MIC-in. With a VGA port, FPPC series can hook 2nd display delivering different content.

Specifications

Panel
- LCD Size: 12.1", 4:3
- Resolution: SVGA 800x600
- Luminance: 370cd/m²
- Contrast ratio: 450
- Viewing angle: 50(U), 60(D), 70(L), 70(R)
- Backlight: CCFL

System
- CPU: Intel® Atom™ D425, 1.8GHz
- BIOS: AMI BIOS
- System chipset: Intel® ICH8M
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 1G DDR3 (Default)
- Support up to 2GB DDR3 800, non-ECC and un-buffered
- SSD: one external locked CF socket by IDE support Type I/II compact Flash card
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25℃)
- H/W status monitor: monitoring system temperature and voltage
- Expansion: 1 x PCI slot
- NEXCOM Xcare™ platform system management supported

Rear I/O
- COM #1: RS232
- COM #2: RS232
- COM #3: RS232/422/485
- Ethernet: 3 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line out; 1 x MIC-in
- USB: 2 x USB 2.0
- PS2 keyboard/mouse

Audio
- AC97 codec: Realtek ALC888
- Audio interface: Line out/MIC-in Audio Jack

Ethernet
- LAN chip: 3 x Realtek 8111L Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 75mm x 75mm; 100mm x 100mm
- Power input: 24VDC
- Vibration:
  IEC 68 2-64 (w/HDD)
  0.5Grms @sine, 5~500Hz, 1hr/axis (HDD operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  IEC 68 2-27
- HDD: 20G@wall mount, half sine, 11ms

Dimension Drawing
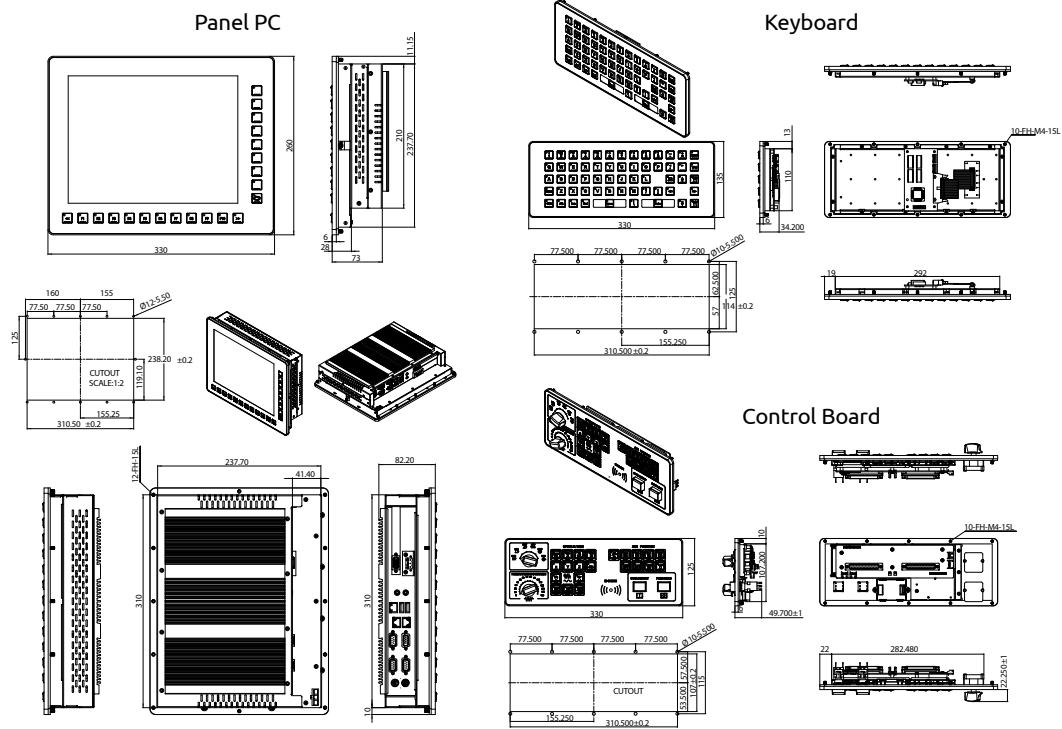
Panel PC

Keyboard

Control Board

- Operating temperature: -5°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10% to 90% relative humidity, non-condensing

Ordering Information

Barebone

- **FPPC 1220 (P/N: TBD)**
  12.1" TFT Panel PC with Intel® Atom™ D425 1.8 GHz, 1GB DDR3, COM #1/#2/#3

MAC 4000P4E-GTS

Main Features

- Dedicated motion control DI/O for every single axis
- 32 channels digital inputs and 32 channels digital outputs
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks
- 2 x USB 3.0 & 2 x USB 2.0
- 4 x Intel® GbE LAN Ports

- 1 x CFast socket
- Triple individual display
- Support +24VDC power input
- 2 x RS232/422/485 with Auto Flow Control
- One PCIex4, two PCI expansion slots (MAC4000P4E-GTP only)

Product Overview

MAC4000P4E-GTS series is a coordinated motion controller, featuring T/S-Curve, PT (Position-Time profiling), E-Gear and E-CAM functions for machine automation applications requiring more accuracy and excellent performance. Equipped with uncommitted DI/O up to 32 channels DI and 32 channels DO in total, MAC4000P4E-GTS series reduces the number of add-on cards and thus reduces the controller size. When working on machine vision applications, data from industrial cameras can be transmitted via GbE LAN ports, USB 3.0 ports or add-on cards depending on the interfaces of the camera. MAC4000P4E- series is designed for modern machine automation applications and ensures the shortest integration and development period.

Specifications

System
- CPU:
  - Support 3rd generation Intel® Core™ i5-3610ME (2.7 GHz, 3M Cache)
  - Support 3rd generation Intel® Core™ i3-3120ME (2.4 GHz, 3M Cache)
- Up to 8GB DDR3 1333 un-buffered and non-ECC SDRAM
- 4 x Intel® GbE LAN ports
- 2 x USB 2.0 ports & 2 x USB 3.0 ports
- 2 x RS232/422/485 with Auto Flow Control
- 1 x VGA & 1 x DVI-I, triple independent display supported
- 1 x PS/2 connector
- 1 x Speaker-out and 1 x Mic-in
- ATX power on/off switch & remote power on/off switch

Motion Control
- ±10V 16-bit control output with 4 x AB phase encoder input
- Dedicated HOME, LIMITs and ALARM for every single axis
- Dedicated SVON and Clear for every single axis
- Intelligent look-ahead trajectory planning
- Support PID plus feed forward gain control (PID+Vff+Aff)
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks

General I/O
- System: Uncommitted DI/O up to 16-channel DI and 16-channel DO
- Terminal board: Uncommitted DI/O up to 16-channel DI and 16-channel DO
- Optional remote I/O
  - Digital I/O modules: AXE-9200

Power Requirements
- DC input range: +24VDC input

Environment
- Operating temperature:
  Ambient with air flow: 0°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection
- Random: 0.5Grms @ 5 ~ 500 Hz according to IEC68-2-64
- Sinusoidal: 0.5 Grms @ 5 ~ 500 Hz according to IEC68-2-6

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

Motion Controller

- **MAC4000P4E-GTS (P/N:10J30400003X0)**
  Expandable 4-axis motion controller for coordinated application, with 3rd generation Intel® Core™ processor family, Please note that 1 PCI slot is occupied by the motion controller

- **MAC4000P4E-GTS8 (P/N:10J30400004X0)**
  Expandable 8-axis motion controller for coordinated application, with 3rd generation Intel® Core™ processor family, Please note that 2 PCI slots are occupied by the motion controller

Optional Accessory

- **AXE-9200 (P/N: 60177B0275X00)**
  16ch Digital Input and 16ch Digital Output EtherCAT Slave Module

MAC 4000P4E-GTP

Main Features

- Dedicated motion control DI/O for every single axis
- 32 channels digital inputs and 32 channels digital outputs
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks
- 2 x USB3.0 & 2 x USB2.0
- 4 x Intel® GbE LAN Ports

- 1 x CFast socket
- Triple individual display
- Support +24VDC power input
- 2 x RS232/422/485 with Auto Flow Control
- One PCIex4, two PCI expansion slots (MAC4000P4E-GTP only)

Product Overview

MAC4000P4E-GTP series is a coordinated motion controller, featuring T/S-Curve, PT (Position-Time profiling), E-Gear and E-CAM functions for machine automation applications requiring more accuracy and excellent performance. Equipped with uncommitted DI/O up to 32 channels DI and 32 channels DO in total, MAC4000P4E-GTP series reduces the number of add-on cards and thus reduces the controller size. When working on machine vision applications, data from industrial cameras can be transmitted via GbE LAN ports, USB 3.0 ports or add-on cards depending on the interfaces of the camera. MAC4000P4E-GTP series is designed for modern machine automation applications and ensures the shortest integration and development period.

Specifications

System
- CPU:
  - Support 3rd generation Intel® Core™ i5-3610ME (2.7 GHz, 3M Cache)
  - Support 3rd generation Intel® Core™ i3-3120ME (2.4 GHz, 3M Cache)
- Up to 8GB DDR3 1333 un-buffered and non-ECC SDRAM
- 4 x Intel® GbE LAN ports
- 2 x USB2.0 ports & 2 x USB3.0 ports
- 2 x RS232/422/485 with Auto Flow Control
- 1 x VGA & 1 x DVI-I, triple independent display supported
- 1 x PS/2 connector
- 1 x Speaker-out and 1 x Mic-in
- ATX power on/off switch & remote power on/off switch

Motion Control
- ±10V 16-bit control output with 4 x AB phase encoder input
- Dedicated HOME, LIMITs and ALARM for every single axis
- Dedicated SVON and Clear for every single axis
- Intelligent look-ahead trajectory planning
- Support PID plus feed forward gain control (PID+Vff+Aff)
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks

General I/O
- System: Uncommitted DI/O up to 16-channel DI and 16-channel DO
- Terminal board: Uncommitted DI/O up to 16-channel DI and 16-channel DO
- Optional remote I/O
  - Digital I/O modules: AXE-9200

Power Requirements
- DC input range: +24VDC input

Environment
- Operating temperature:
  Ambient with air flow: 0°C to 55°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection
- Random: 0.5Grms @ 5 ~ 500 Hz according to IEC68-2-64
- Sinusoidal: 0.5 Grms @ 5~500 Hz according to IEC68-2-6

Certifications
- CE
- FCC Class A

Dimension Drawing

Ordering Information

Motion Controller

⬦ **MAC4000P4E-GTP (P/N:10J30400003X0)**
Expandable 4-axis motion controller for coordinated application, with 3rd generation Intel® Core™ processor family, Please note that 1 PCI slot is occupied by the motion controller

⬦ **MAC4000P4E-GTP8 (P/N:10J30400004X0)**
Expandable 8-axis motion controller for coordinated application, with 3rd generation Intel® Core™ processor family, Please note that 2 PCI slots are occupied by the motion controller

Optional Accessory

⬦ **AXE-9200 (P/N: 60177B0275X00)**
16ch Digital Input and 16ch Digital Output EtherCAT Slave Module

MAC 3500P-GTS

Main Features

- Full-closed loop motion control by 32-bit dedicated processor
- Dedicated motion control DI/O for every single axis
- 16 channels digital inputs and 16 channels digital outputs
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks

- 6 x USB 2.0 ports
- +9 to 30VDC power input
- 3 x RS232 and 1 x RS-232/422/485 with Auto Flow Control
- 2 x Intel® GbE LAN Ports
- 1 x DB15 VGA & 1 x DVI-I

Product Overview

MAC3500P-GTS series is a specialized controller for machine automation applications. Being capable of full-closed loop controlling up to 4/8 axes, MAC3500P-GTS series shows excellent performance in not only point-to-point movement but also multi-axis coordinated motion and irregular velocity profiles. Besides the outstanding motion control capability, MAC3500P-GTS series also equips with uncommitted DI/O up to 16 channels DI and 16 channels DO, and no extra add-on cards are needed. MAC3500P-GTS series is the best platform of a compact and stable machine automation controller.

Specifications

System

- CPU:
  - Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
  - Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
  - Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)
  * OnBoard Mobile Intel® QM57 Platform Controller Hub
- Up to 4GB DDR3 800/1066 SDRAM, un-buffered and non-ECC
- ATX power on/off switch & remote power on/off switch
- 2 x Intel® GbE LAN ports
- 6 x USB 2.0 ports
- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 1 x DB15 VGA & 1 x DVI-I, dual independent display supported
- 1 x PS/2 connector
- 1 x Speaker-out and 1 x Mic-in

Motion Control

- Full-closed loop servo motors control up to 4/8 axes
- ±10V 16-bit control output with 4 x AB phase encoder input
- Dedicated HOME, LIMITs and ALARM for every single axis
- Dedicated SVON and Clear for every single axis
- Intelligent look-ahead trajectory planning
- Support PID plus feedforward gain control (PID+Vff+Aff)
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks

General I/O

- Terminal board: uncommitted DI/O up to 16-channel DI and 16-channel DO
- Optional remote I/O
  - Digital I/O modules: AXE-9200

Power Requirements

- DC input range: +9 to 30VDC input

Dimensions

- System: 195mm (W) x 268mm (D) x 101mm (H)

Environment
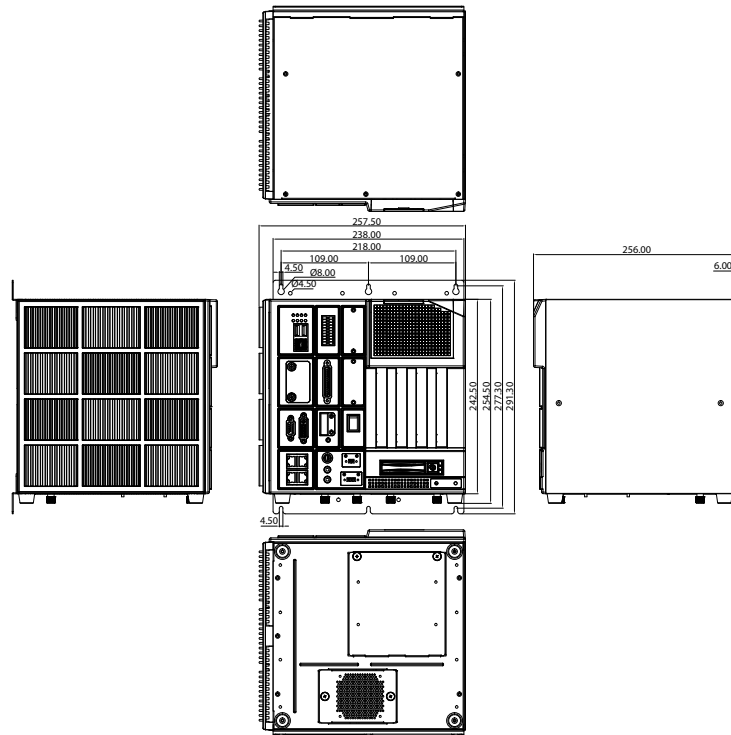
- Operating temperature:
  Ambient with air flow: 0°C to 55°C
  (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection
  - Random: 0.5Grms @ 5 ~ 500 Hz according to IEC68-2-64
  - Sinusoidal: 0.5 Grms @ 5 ~ 500 Hz according to IEC68-2-6

Certifications

- CE
- FCC Class A

Dimension Drawing

Ordering Information

Motion Controller

- **MAC3500P-GTS (P/N:10J30350003X0)**
  Compact 4-axis motion controller for contouring application. Please note that 1 PCI slot is occupied by the motion controller

- **MAC3500P-GTS8 (P/N:10J30350004X0)**
  Compact 8-axis motion controller for contouring application. Please note that 2 PCI slots are occupied by the motion controller

Optional Accessory

- **AXE-9200 (P/N: 60177B0275X00)**
  16ch Digital Input and 16ch Digital Output EtherCAT Slave Module

MAC 3500P2-GTP

Main Features

- Dedicated motion control DI/O for every single axis
- 16 channels digital inputs and 16 channels digital outputs
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks
- 6 x USB2.0 ports

- +9 to 30VDC power input
- 3 x RS232 and 1 x RS-232/422/485 with Auto Flow Control
- 2 x Intel® GbE LAN Ports
- 1 x DB15 VGA & 1 x DVI-I

Product Overview

MAC3500P2-GTP series is a coordinated motion controller, featuring T/S-Curve, PT (Position-Time profiling), E-Gear and E-CAM functions for machine automation applications requiring more accuracy and excellent performance. Besides the outstanding motion control capability, MAC3500P2-GTP series also equips with uncommitted DI/O up to 16 channels DI and 16 channels DO, and no extra addon cards are needed. MAC3500P2-GTP series is the best platform of a compact and stable machine automation controller.

Specifications

System

- CPU:
  - Support Intel® Core™ i7-620M PGA Processor (2.66GHz, 4M Cache)
  - Support Intel® Core™ i5-520M PGA Processor (2.4GHz, 3M Cache)
  - Support Intel® P4500 PGA Processor (1.86GHz, 2M Cache)
  * OnBoard Mobile Intel® QM57 Platform Controller Hub
- Up to 4 GB DDR3 800/1066 SDRAM, un-buffered and non-ECC
- ATX power on/off switch & remote power on/off switch
- 2 x Intel® GbE LAN ports
- 6 x USB2.0 ports
- 3 x RS232 and 1 x RS232/422/485 with Auto Flow Control
- 1 x DB15 VGA & 1 x DVI-I, dual independent display supported
- 1 x PS/2 connector
- 1 x Speaker-out and 1 x Mic-in

Motion Control

- ±10V 16-bit control output with 4 x AB phase encoder input
- Dedicated HOME, LIMITs and ALARM for every single axis
- Dedicated SVON and Clear for every single axis
- Intelligent look-ahead trajectory planning
- Support PID plus feedforward gain control (PID+Vff+Aff)
- Support E-CAM, E-Gear, PT and PVT control
- Support Standalone Procedure Access up to 32 tasks

General I/O

- Terminal board: uncommitted DI/O up to 16-channel DI and 16-channel DO
- Optional remote I/O
  - Digital I/O modules: AXE-9200

Power Requirements

- DC input range: +9 to 30VDC input

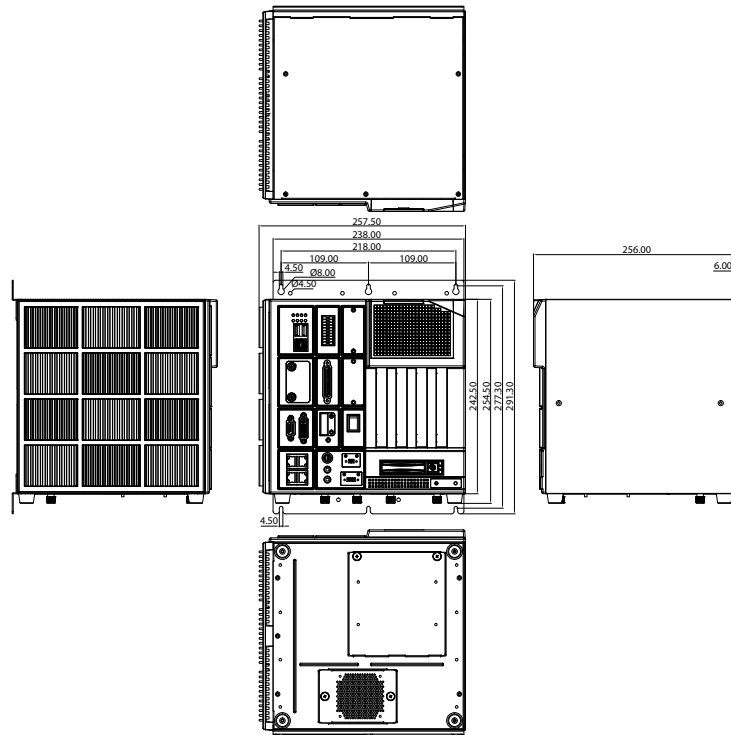### Dimensions

- System: 195mm (W) x 268mm (D) x 101mm (H)

Environment

- Operating temperature:
  Ambient with air flow: 0°C to 55°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection: 20G, half sine, 11ms, IEC60068-2-27
- Vibration protection
  - Random: 0.5Grms @ 5~500 Hz according to IEC68-2-64
  - Sinusoidal: 0.5 Grms @ 5~500 Hz according to IEC68-2-6

Certifications

- CE
- FCC Class A

Dimension Drawing

Ordering Information

- **MAC3500P2-GTP (P/N:10J30350001X0)**
  Compact 4-axis motion controller for coordinated application, Please note that 1 PCI slot is occupied by the motion controller

- **MAC3500P2-GTP8 (P/N:10J30350002X0)**
  Compact 8-axis motion controller for coordinated application, Please note that 2 PCI slots are occupied by the motion controller

Optional Accessory

- **AXE-9200 (P/N: 10J40920000X0)**
  Remote I/O module with 16-CH digital input and 16-CH digital output

IWF 3320X

Main Features

- Concurrent IEEE 802.11 a/b/g/n for transmission rate up to 2 x 300Mbps
- Redundant power input supporting 802.3af PoE and +9 to 36VDC Input
- Industrial grade conformal coating for harsh environment
- Rugged Die-casting housing with -30 to + 80°C wide-temperature

- The layer-2 Wireless Firewall gives protection from wireless attacks
- Press-n-Connect to enable auto WDS/mesh network
- Comprehensive WLAN security encryption with WEP, WPA/WPA2, IEEE 802.1X or PSK
- Multiple-SSID Virtual APs for grouping policy management
- Tunnel-based AP management by backend AP controller

Product Overview

Design for industrial application in critical environment like factory, automation field, IWF 3320X Access Point embedded with 802.11a/b/g/n up to 300Mbps concurrently dual-band , dual RF solution inside an industrial grade metal chassis that support operating at -30 to +80°C wide temperature.

To meet the expectation of high reliable communication in diversify application, IWF 3320X series provides robust redundant mechanism to ensure the trusted operation. The dual power input of both PoE 802.3af & wide voltage +9 to 36VDC ensures power connected all the time. The Dual RF can automatically backup the data transmission each other while any RF disconnect accidently that also can establish mesh network. Dual band radio of 2.4GHz and 5GHz can be separated into different path for application or management need, for instance, the 5GHz radio can be used for central backend communication while 2.4GHz radio is used for front end device communication.

The fast roaming capability within 20ms supports the on-the-move wireless communication without any concern in connectivity.

Managed by backend AP controller, IWF 3320X supports CAPWAP thru private tunnel for security & users behavior control cross subnets. This will help IT manager in HQ easily maintain the access points located in local and\or remote sites, ex: oversea factory, branch office for unified management, and flexible grouping control.
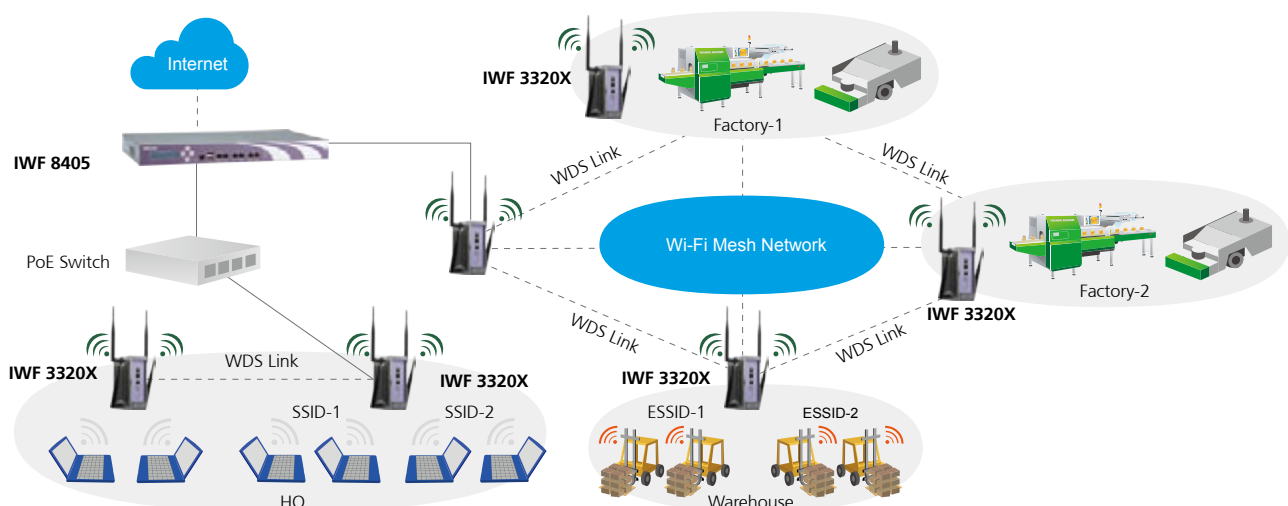
Specifications

Wireless Radio
* Wireless Interface: Dual RF IEEE 802.11 a/b/g/n
* Frequency band: Dual 2.4 GHz and 5 GHz
* Wireless architecture:
  (1) AP mode
  (2) WDS mode (Repeater/Bridge)
  (3) Mesh Network
* Channels:
  (1) USA (Channel 1 ~ 11)
  (2) Europe (Channel 1 ~ 13)
  (3) Japan (Channel 1 ~ 13)
* Data rate with auto fallback:
  (1) 802.11a: 6 ~ 54 Mbps
  (2) 802.11b: 1 ~ 11 Mbps
  (3) 802.11g: 6 ~ 54 Mbps
  (4) 802.11n: 6.5 ~ 300Mbps
* Transmit Power:
  (1) 802.11a: Up to 22dBm
  (2) 802.11b: Up to 22dBm
  (3) 802.11g: Up to 24dBm
  (4) 802.11an: Up to 22dBm
  (5) 802.11gn: Up to 22dBm
* Receiver Sensitivity:
  (1) 802.11a: -95dBm@6Mbps
  (2) 802.11b: -95dBm@1Mbps
  (3) 802.11g: -95dBm@6Mbps
  (4) 802.11n: 802.11an HT20: -95dBm@MCS0
  (5) 802.11an HT40: -91dBm@MCS0
  (6) 802.11gn HT20: -95dBm@MCS0
  (7) 802.11gn HT20: -90dBm@MCS0

Protocol & QoS support
* IGMP Snooping
* Proxy ARP
* SNMP v1/v2c
* CAWAP
* DHCP client
* SYSLOG client
* RADIUS client
* IPv6
* DiffServ/TOS
* IEEE 802.1p/COS
* IEEE 802.1Q Tag VLAN priority control
* IEEE 802.11e WMM
* IEEE 802.1D Spanning Tree Protocol

Handover & Roaming
* IEEE 802.11i pre-auth (PMKSA cache)
* IEEE 802.11f IAPP fast roaming with adjacent AP

Security
* WEP (64/128/152 bits)
* EAP-TLS + Dynamic WEP
* EAP-TTLS + Dynamic WEP
* PEAP/MS-PEAP + Dynamic WEP
* WPA (PSK + TKIP)
* WPA (802.1X certification + TKIP)
* 802.11i WPA2 (PSK + CCMP/AES)
* 802.11i WPA2 (802.1X certification + CCMP/AES)
* Hidden ESSID support
* MAC Address filtering (MAC ACL)
* MAC authentication with RADIUS servers

System Administration
* Web-based adMinistration
* Provides Event Log

* SYSLOG information support
* Statistics
* Configuration backup and restore
* One-button-click to restore factory default setting
* Firmware upgrade
* Capable of performing RADIUS Accounting and Accounting Update
* Press-n-Connect to enable auto WDS/mesh network
* Ethernet LAN Port Mapping (with a NEXCOM controller)

Wireless Signal Management
* Number of ESSIDs (Virtual APs): 16
* Number of associated clients: 256

Hardware Specifications
* Antenna: 4 x omni-directional 2/3dBi (2.4/5GHz) enclosed
* Uplink Port: 1 × GbE LAN with IEEE 802.3af PoE
* LAN Port: 2 × GbE LAN
* Push buttons: 1 x Reset, 2 x WES (Pess-n-Connect)
* Console Port: 1 x DB9M
* LED Indicators: 1 x Power, 1 x Status, 2 x WLAN, 2 x WES
* Power Source: +9 to 36 VDC & PoE
* IP30 Dust proof metal case
* Industrial grade conformal coating for anti-erosion and anti-moisture
* Form factor: Industrial DIN Rail
* Dimensions (W x D x H): 58.8 x 139.6 x 167mm w/ o antennas
* Weight: 3.81 lbs (1.73kg)

Environment Protection
* Operation Temperature: -40 to +80℃ (-22 to 158℉)
* Storage Temperature: -40 to +85℃ (-40 to 185℉)
* Operation Humidity: 0% to 95% (Non-condensing)
* Vibration: Random 0.3g

Certifications
* FCC, CE
* RoHS compliant

Package Contents
* NEXCOM IWF 3320X x 1
* CD-ROM (User's Manual and QIG) x 1
* Detachable Dual-Band Antenna x4 2/3dBi (2.4/5GHz)
* Ethernet Cable x 1
* Wall mount kit x 1
  * Specifications subject to change without notice

Ordering Information
* **IWF 3320X-US (P/N: 10T00332000x0)**
* **IWF 3320X-EU (P/N: 10T00332001x0)**
* **IWF 3320X-JP (P/N: 10T00332002x0)**

IWF 300

Main Features

- Dual radios and compliant with 1x 802.11an+1x 802.11 b/g/n 2x2 MIMO
- 1+4 port GbE RJ45 ports
- Up to 27dBm High RF power
- Multiple function: AP/Client/WDS/EZ MESH
- Support 12V DC input
- Support -40 ~ 80°C extended operating temperature

Product Overview

IWF 300 is QCA9344-based industrial-grade AP/Router/EZ MESH AP designed with IEEE 802.11 b/g/n 2x2 MIMO and IEEE 802.11an 2x2 MIMO technology. IWF 300 can deliver data rate up to 300mbps/ each radio In addition, the Radio power can be up to 27dBm for wide range coverage and service. IWF 300 also functions as EZ MESH network Wi-Fi access with cost-effective option.

Specifications

Wireless Radio
- 1x IEEE 802.11an 2x2 MIMO
- 1x IEEE 802.11 b/g/n 2x2 MIMO

Frequency Ranges
- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.5 ~ 5.7 GHz, 5.725 ~ 5.825 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~5.85 GHz

RF Output Power: IEEE 802.11an (±2dBm)
- IEEE802.11a
  - 12dBm@54M
- IEEE802.11an HT20
  - 12dBm@MCS7
- IEEE802.11an HT40
  - 11dBm@MCS7

RF Output Power: IEEE 802.11 b/g/n (±2dBm)
- IEEE802.11b
  - 27dBm@1M
  - 24dBm@11M
- IEEE802.11g
  - 27dBm@6M
  - 24dBm@54M
- IEEE802.11g/n HT20
  - 23dBm@MCS0/8
  - 19dBm@MCS7/15
- IEEE802.11g/n HT40
  - 22dBm@MCS0/8

  - 18dBm@MCS7/15

Receive Sensitivity: IEEE 802.11an
- IEEE802.11a
  - -76 dBm@54M
- IEEE802.11a/n HT20
  - -74dBm@MCS7
- IEEE802.11a/n HT40
  - -71dBm@MCS7

Receive Sensitivity: IEEE 802.11a/b/g/n 2Rx
- IEEE802.11b
  - -93dBm@1M
  - -91dBm@11M
- IEEE802.11g
  - -94dBm@6M
  - -80dBm@54M
- IEEE802.11g/n HT20
  - -94dBm@MCS0/8
  - -77dBm@MCS7/15
- IEEE802.11g/n HT40
  - -89dBm@MCS0/8
  - -73dBm@MCS7/15

Hardware
- WAN: 10/100/1000 Base-TX MDI/MDIX RJ-45 x 1
- LAN: 10/100/1000 Base-TX MDI/MDIX RJ-45 x 4
- Compliant with :
  - IEEE802.3/802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation

- Push buttons: 1x Reset; 1x WES
- LED: 1 x power& status; 5 x RJ45; 1 x WES
- Dual band antenna: 2x with RP-SMA connectors

Operating Mode
- AP
- AP router
- Client router
- EZ mesh (at 802.11ac, 5GHz)

Security
- WEP(64/128)
- WAP/WPA2 Mixed
- WPA2-personal (PSK+CCMP/AES)
- WPA2- enterprise (802.1X certification)
- Hidden ESSID support
- MAC address filtering (MAC ACL)
- Station isolation

System Management
- Web-based administration
- SNMP V1/V2c
- SYSLOG information support
- Statistics
- Configuration backup and restore
- One-button-click to restore factory default setting
- Firmware upgrade
- WES

Built-in Servers & Client Interfaces to Other Services
- DHCP client
- SNMP v1/v2 client (coming soon)

Physical and Power
- 12VDC power input
- Wall mountable
- Dimension: 205 x 105 x 25 mm
- Weight: 640g

Environment Protection
- Operating temperature: -40~80℃
- Storage temperature: -45~85℃
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF300 unit x 1
- Dual band antenna x 2
- Ethernet cable x 1
- Wall-mount kit x 1
- AC-DC power adaptor x 1

> * Note:
> The available RF output power will be given by certified power in different region

Ordering Information

- **IWF 300-EU (P/N: 10T00030000X0)**

- **IWF 300-US (P/N: 10T00030001X0)**

IWF 310

Main Features

- Dual radios and compliant with 1x 802.11an+1x 802.11 b/g/n 2x2 MIMO
- 1+4 port GbE RJ45 ports
- Up to 27dBm High RF power

- Multiple functions: AP/Router/EZ MESH
- Support 12V DC input
- Support -40 ~ 80°C extended operating temperature

Product Overview

IWF 310 is QCA9344-based rugged industrial-grade AP/Router/EZ MESH AP designed with Aluminum and Metal Chassis, and IEEE802.11b/g/n 2x2 MIMO and IEEE802.11an/a 2x2 MIMO technology. IWF 310 can deliver data rate up to 300Mbps/each radio. In addition, the Radio power can be up to 27dBm for wide range coverage and service. IWF 310 also functions as EZ MESH network Wi-Fi access with cost-effective option.

Specifications

Wireless Radio
- 1x IEEE 802.11an 2x2 MIMO
- 1x IEEE 802.11 b/g/n 2x2 MIMO

Frequency Ranges
- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.5 ~ 5.7 GHz, 5.725 ~ 5.825 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~5.85 GHz

RF Output Power : IEEE 802.11an(±2dBm)
- IEEE802.11a
  - 12dBm@54M
- IEEE802.11a/n HT20
  - 12dBm@MCS7
- IEEE802.11a/n HT40
  - 11dBm@MCS7

RF Output Power : IEEE 802.11 b/g/n(±2dBm)
- IEEE802.11b
  - 27dBm@1M
  - 24dBm@11M
- IEEE802.11g
  - 27dBm@6M
  - 24dBm@54M
- IEEE802.11g/n HT20
  - 23dBm@MCS0/8
  - 19dBm@MCS7/15
- IEEE802.11g/n HT40

  - 22dBm@MCS0/8
  - 18dBm@MCS7/15

Receive Sensitivity : IEEE 802.11an
- IEEE802.11a
  - -76dBm@54M
- IEEE802.11a/n HT20
  - -74dBm@MCS7
- IEEE802.11a/n HT40
  - -71dBm@MCS7

Receive Sensitivity : IEEE 802.11 b/g/n
- IEEE802.11b
  - -93dBm@1M
  - -91dBm@11M
- IEEE802.11g
  - -94dBm@6M
  - -80dBm@54M
- IEEE802.11g/n HT20
  - -94dBm@MCS0/8
  - -77dBm@MCS7/15
- IEEE802.11g/n HT40
  - -89dBm@MCS0/8
  - -73dBm@MCS7/15

Hardware
- WAN: 10/100/1000 Base-TX MDI/MDIX RJ-45 x 1
- LAN: 10/100/1000 Base-TX MDI/MDIX RJ-45 x 4
- Compliant with :

- IEEE802.3 / 802.3u
- Hardware based 10/100/1000, full/half, flow control auto negotiation
- Push buttons: 1x Reset
- LED: 1x power& status; 5x Ethernet
- Antenna connectors: 2x with RP-SMA

Operating Mode
- AP
- AP router
- Client router
- EZ mesh

Security
- WEP(64/128)
- WPA/WPA2 Mixed
- WPA2-personal (PSK+CCMP/AES)
- Hidden ESSID support
- MAC address filtering (MAC ACL)

System Management
- Web-based administration
- SNMP V1/V2c (Coming Soon)
- SYSLOG information support
- Statistics
- Configuration backup and restore
- One-button-click to restore factory default setting
- Firmware upgrade

Built-in Servers & Client Interfaces to Other Services
- DHCP client
- SNMP v1/v2c client(coming soon)

Physical and Power
- 12VDC power input with DC jack
- Wall mountable
- Dimension: 185 x 108 x 43 mm

Environment Protection
- Operating temperature: -40~80℃
- Storage temperature: -45~85℃
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: Random 0.3g

Certification
- FCC
- CE
- RoHS compliant
- EN50155 compliant

Package Contents
- IWF310 unit x1
- Dual band antenna x2
- Ethernet cable x1
- Wall-mount kit x1
- AC-DC power adaptor x1

IWF 312

Main Features

- Dual radios and compliant with 1x 802.11ac+1x 802.11 b/g/n 2x2 MIMO
- 1+1 port GbE with M12 connectors
- Up to 27dBm High RF power

- Multiple functions: AP/Router/Bridge
- Support 24V DC input with M12 connector
- Support -40 ~ 80°C extended operating temperature

Product Overview

IWF312 is QCA9558-based mobile AP/Router designed with Aluminum Chassis and M12 connector, and IEEE802.11b/g/n 2x2 MIMO and IEEE802.11ac 2x2 MIMO technology. IWF312 can deliver data rate up to 300Mbps+867Mbps. In addition, the Radio power can be up to 27dBm for wide range coverage and service. IWF 312 also compliant with EN50155 certification for railway application.

Specifications

Wireless Radio
- 1x IEEE 802.11ac 2x2 MIMO
- 1x IEEE 802.11 b/g/n 2x2 MIMO

Frequency Ranges
- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.5 ~ 5.7 GHz, 5.725 ~ 5.825 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~5.85 GHz

RF Output Power : IEEE 802.11an(±2dBm)
- IEEE802.11a
  - 27dBm@6M
  - 24dBm@54M
- IEEE802.11a/n HT20
  - 27dBm@MCS0
  - 24dBm@MCS7
  - 23dBm@MCS8 in VHT20
- IEEE802.11a/n HT40
  - 26dBm@MCS0
  - 23dBm@MCS7
  - 22dBm@MCS8 in VHT40
- IEEE802.11ac VHT 80Mhz
  - 24dBm@MCS0
  - 22dBm@MCS7
  - 21dBm@MCS8

RF Output Power : IEEE 802.11 b/g/n(±2dBm)
- IEEE802.11b

  - 27dBm@1M
  - 24dBm@11M
- IEEE802.11g
  - 27dBm@6M
  - 24dBm@54M
- IEEE802.11g/n HT20
  - 23dBm@MCS0/8
  - 19dBm@MCS7/15
- IEEE802.11g/n HT40
  - 22dBm@MCS0/8
  - 18dBm@MCS7/15

Receive Sensitivity : IEEE 802.11ac/an/a
- IEEE802.11a
  - -95dBm@6M
  - -80dBm@54M
- IEEE802.11a/n HT20
  - -95dBm@MCS0
  - -76dBm@MCS7
  - -72dBm@MCS8 in VHT20
- IEEE802.11a/n HT40
  - -92dBm@MCS0
  - -75dBm@MCS7
  - -71dBm@MCS8 in VHT40
- IEEE802.11ac VHT 80Mhz
  - -90dBm@MCS0
  - -72dBm@MCS7
  - -68dBm@MCS8

Receive Sensitivity : IEEE 802.11 b/g/n
- IEEE802.11b
  - -93dBm@1M
  - -91dBm@11M
- IEEE802.11g
  - -94dBm@6M
  - -80dBm@54M
- IEEE802.11g/n HT20
  - -94dBm@MCS0/8
  - -77dBm@MCS7/15
- IEEE802.11g/n HT40
  - -89dBm@MCS0/8
  - -73dBm@MCS7/15

Hardware
- WAN: 10/100/1000 Base-TX MDI/MDIX M12 x 1
- LAN: 10/100/1000 Base-TX MDI/MDIX M12 x 1
- Compliant with :
  - IEEE802.3 / 802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation
- Push buttons: 1x Reset
- LED: 1x power& status; 2x Ethernet;2x Wi-Fi
- Antenna connectors: 4x with RP-SMA

Operating mode
- AP
- AP router
- Bridge

Security
- WEP(64/128)
- WPA/WPA2 Mixed
- WPA2-personal (PSK+CCMP/AES)
- Hidden ESSID support
- MAC address filtering (MAC ACL)

System Management
- Web-based administration
- SNMP V1/V2c (coming soon)
- SYSLOG information support
- Statistics
- Configuration backup and restore
- One-button-click to restore factory default setting
- Firmware upgrade

Built-in Servers & Client Interfaces to Other Services
- DHCP client
- SNMP v1/v2c client(coming soon)

Physical and Power
- 24VDC power input with M12 connector
- Wall mountable
- Dimension: 185 x 108 x 43 mm

Environment Protection
- Operating temperature: -40~80℃
- Storage temperature: -45~85℃
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: random 0.3g

Certification
- FCC
- CE
- RoHS compliant
- EN50155 compliant

Package Contents
- IWF312 unit x1
- Dual band antenna x2
- Ethernet cable x1
- Wall-mount kit x1
- M12 connector for Ethernet*2
- M12 connector for DC*1

IWF 5210

Main Features

- IEEE 802.11 a/b/g/n for transmission rate up to 300Mbp
- Multiple operating mode–AP/Repeater/CPE mode
- IP68 rated metal housing with -25 to +70°C operating temperature
- Gigabit Ethernet with uplink port powered with standard IEEE 802.3at PoE
- Venting window with Teflon membrane for balancing air pressure

Comprehensive security encryption with WEP, WPA/WPA2, IEEE 802.1X or PSK
- Layer-2 Wireless Firewall gives protection from wireless attacks
- Multiple Virtual APs for grouping policy management
- Tunnel-based AP management by backend AP controller

Product Overview

The IWF 5210 is a single radio Wi-Fi 802.11a/b/g/n outdoor device with versatile functions which includes AP, Repeater, and CPE mode. Its rugged IP68-rated metal housing is weatherproof, pressure balancing, water-tight and rust-resistant, making it an ideal solution for deployments in harsh conditions, such as outdoor or industrial environments.

When configured in AP mode, IWF 5210 operates as an AP station with wall-penetrating high-power signal and long-range coverage to serve Wi-Fi clients. Furthermore, IWF 5210 with multiple SSIDs is capable of acting as multiple Virtual APs (VAPs). By tagging the traffic from each VAP with a unique VLAN ID, it allows for segmenting a corporate network using VLANs to protect critical resource. In addition, the AP can be set up as a Mesh node by establishing multiple WDS links to bridge neighbor access points together. When operating in CPE (Client) mode, it provides the host device the Wi-Fi connection with roaming capability. CPE mode can also serve as Wi-Fi modem to receive wireless signal over the last-mile internet feed from WISPs. IWF 5210 can be configure to Repeater Mode allows it to help extend the range of your wireless network.

Specifications

Wireless Radio

- Wireless interface: IEEE a/b/g/n selectable dual band radio operating in 2.4GHz or 5GHz frequencies
- Wireless architecture:
  - AP mode
  - WDS mode
  - Repeater mode
  - CPE mode
  - Modulation
  - OFDM (64-QAM, 16-QAM, QPSK, BPSK)
  - DSSS (CCK, DBPSK, DQPSK)
- Channels:
  (1) USA: 1 ~ 11, 36, 40, 44, 48, 52 ~ 64, 100 ~ 136, 149 ~ 165
  (2) Japan: 1 ~ 13, 36, 40, 44, 48, 52 ~ 64, 100 ~ 140
  (3) Europe: 1 ~ 13, 36, 40, 44, 48, 52 ~ 64, 100 ~ 140
- Data rate with auto fallback:
  (1) 802.11a: 6 ~ 54 Mbps
  (2) 802.11b: 1 ~ 11 Mbps
  (3) 802.11g: 6 ~ 54 Mbps
  (4) 802.11n: 6.5 ~ 300Mbps
- Transmit Power: (with one stream)
  (1) 802.11a: 16dBm@54Mbps ±2dB

  (2) 802.11b: 25dBm@11Mbps ±2dB
  (3) 802.11g: 22dBm@54Mbps ±2dB
  (4) 802.11n 5G HT20 & HT40: 15dBm@MCS7 ±2dB
  (5) 802.11n 2.4G HT20 & HT40: 21dBm@MCS7 ±2dB
- Receiver Sensitivity:
  (1) 802.11a: -89dBm@54Mbps ±2dB
  (2) 802.11b: -93dBm@11Mbps ±2dB
  (3) 802.11g: -91dBm@54Mbps ±2dB
  (4) 802.11n 5G HT20: -83dBm@MCS0 ~ -65dBm@MCS7
  (5) 802.11n 5G HT40: -80dBm@MCS0 ~ -62dBm@MCS7
  (6) 802.11n 2.4G HT20: -85dBm@MCS0 ~ -67dBm@MCS7
  (7) 802.11n 2.4G HT40: -82dBm@MCS0 ~ -62dBm@MCS7

Multiple Operating Modes

- AP mode
- WDS mode (WDS bridge): support up to 4 WDS links
- Repeater mode: Acting as AP and STA client simultaneously
- CPE mode (Clint gateway)

Gateway Features in CPE Mode

- IP sharing on the LAN side for multiple users (subscribers) to get access to the Internet by built-in NAT mode
- Built-in DHCP server for issuing local IP address

- Built-in DDNS/DNS client
- Uplink and downlink bandwidth management
- IP/Port forwarding and DMZ

Access Point Features
- Number of ESSIDs (Virtual APs): 8
- Number of associated clients: 128
- Setting for maximum number of associated clients
- Adjustable beacon interval
- Auto fallback data rate
- Support IAPP
- RTS/CTS and fragmentation control
- ACK timeout support
- Adjustable transmission power: 5 steps, 2dbm per step
- Wireless site survey: scanning the surrounding Wi-Fi signals
- Support IEEE 802.11e WMM and QoS

Security
- Data encryption: WEP (64/128/152 bits), WPA/WPA2 with TKIP or AES-CCMP with key's refreshing period setting
- User authentication: WEP, IEEE 802.1z, WPA-Personal, WPA-Enterprise, MAC ACL, MAC authentication using RADIUS with built-in 802.1X Authenticator
- Supports IEEE 802.11 mixed mode; open and shared key authentication
- Hidden ESSID: Enable/Disable broadcasting SSID
- Station Isolation: All associated stations can not communicate with each other when function enabled
- Supports AES data encryption over WDS link
- Built-in Layer 2 firewall, blocking Dynamic ARP inspection & DHCP Snooping

Administration
- Web-based management interface with remote configuration management and firmware upgrade capabilities
- Utilities for system configuration backup and restoration
- SNMP MIB II support (v1/v2c)
- NTP time synchronization
- Watch dog: auto recovery while detecting system fault
- Syslog client
- Support Event Log and Syslog reporting to external server
- Supports Radius accounting and accounting update
- Supports statistic on total transmission encountered and transmitting error occurred

Hardware Specification
- Uplink Port: 1 x 10/100/1000 Base-T Ethernet with IEEE 802.3at PoE (as PD)
- 2 x N-type (female) connector for external antenna
- Protective vent window
- Form factor: wall or Pole mountable
- Metal case: IP68 rating

Physical and Power
- Total power consumption: 12W maximum
- Support IEEE 802.3at PD
- Form factor: wall or pole mount
- Dimension (W x D x H): 182 x 111 x 45mm (not include antenna)
- Weight: 900g (only the IWF 5210)

Environmental Specification
- Humidity 95 % (non-condensing)
- Operating Temperature: -35 to +75° C
- Storage Temperature: -40 to +80° C

Certifications
- FCC, CE
- RoHS compliant

Package Contents
- IWF 5210 x 1
- CD-ROM (with User's Manual and QIG) x 1

- Mounting Kit x 1
- Round cable x 1
- PSE 30W with power cord x 1
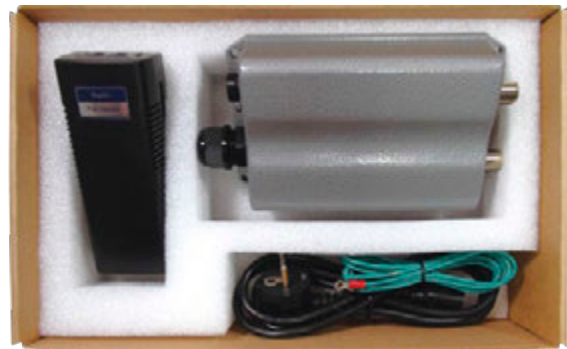
Ordering Information
- **IWF 5210-US (P/N: 10T00521000X0)**
- **IWF 5210-EU (P/N: 10T00521001X0)**
- **IWF 5210-JP (P/N: 10T00521002X0)**

Wireless Accessories
- **Outdoor omni-directional antenna 2.4 ~ 2.5GHz 8dBi (P/N: 603ANT0008X00)**
- **Outdoor directional antenna 5.1-5.9GHz 15dBi (P/N: 603ANT0013X00)**
- **ARRESTER DC-6 GHz N-MALE TO N-FEMALE (P/N: 7A00000066X00)**
- **Low Loss Cable, LC-CFD400L1, Length = 1M (P/N: 6023300106X00)**

IWF 5320

Main Features

- Concurrent IEEE 802.11 a/b/g/n for transmission rate up to 2 x 300Mbp
- Dual Gigabit Ethernet with one standard IEEE 802.3af PoE
- Weatherproof IP68 rated metal housing with -20 to +70°C operating temperature
- Multiple Virtual APs for grouping policy management

- Industrial grade conformal coating for harsh environment
- The layer-2 Wireless Firewall gives protection from wireless attacks
- Comprehensive WLAN security encryption with WEP, WPA/WPA2, IEEE 802.1X or PSK
- Tunnel-based AP management by backend AP controller

Product Overview

The IWF 5320 is a dual radio Wi-Fi 802.11a/b/g/n outdoor device for long range wireless transmission. Its rugged IP68-rated metal housing is weatherproof, watertight and rust-resistant, making it an ideal solution for deployments in harsh conditions, such as outdoor or industrial environments.

When in AP mode, IWF 5320 operates as an AP station with wall-penetrating high-power signal and long-range coverage to better serve Wi-Fi clients. In addition, it can be set up as a WDS-mesh node by establishing multiple WDS links to bridge neighbor access points together.

Coming with business-class security, IWF 5320 in AP mode is also ideal for industrial applications. Furthermore, one IWF 5320 with multiple SSIDs is capable of acting as multiple Virtual APs (VAPs). By tagging the traffic from each VAP with a unique VLAN ID, it allows for segmenting a corporate network using VLANs to protect critical resources.

Being a versatile Wi-Fi device, IWF 5320 does not limit itself to outdoor usage only. When managed by a NEXCOM Controller (such as the IWF 8405), it performs as a Wi-Fi base station in either a public or private wireless access deployment.
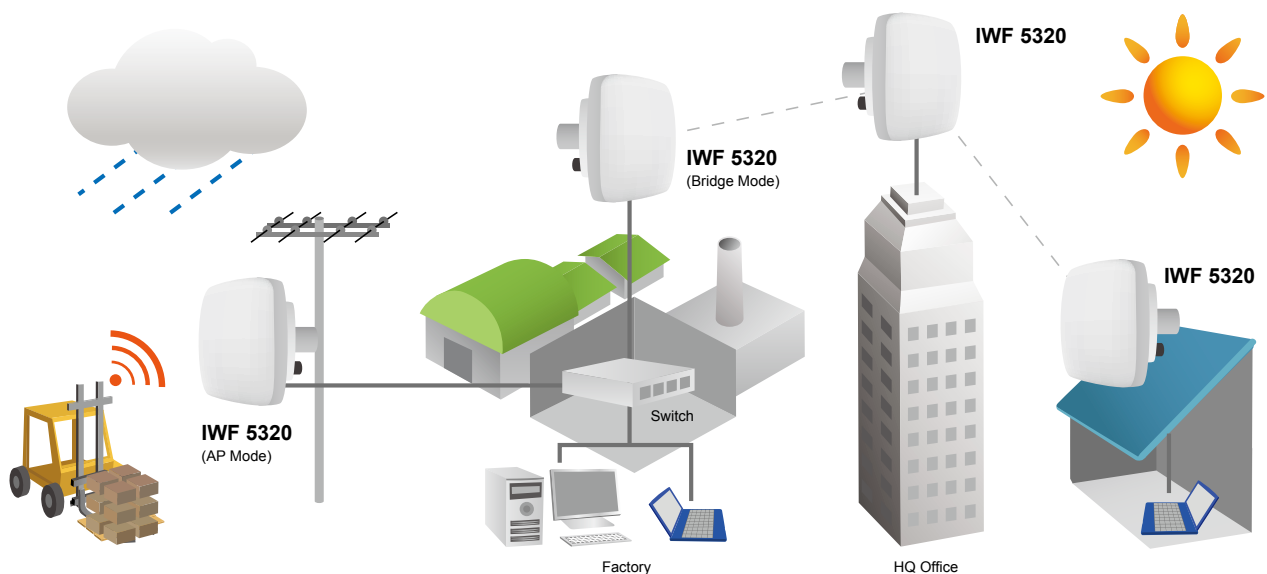
Specifications

Wireless Radio
- Wireless Interface: 2 x IEEE 802.11 a/b/g/n
- Frequency band: 2.4 GHz and 5 GHz
- Wireless architecture:
  (1) AP mode
  (2) WDS mode (Repeater/Bridge)
- Modulation:
  (1) OFDM (64-QAM, 16-QAM, QPSK, BPSK)
  (2) DSSS (CCK, DBPSK, DQPSK)
- Channels:
  (1) USA (Channel 1 ~ 11)
  (2) Europe (Channel 1 ~ 13)
  (3) Japan (Channel 1 ~ 13)
- Data rate with auto fallback:
  (1) 802.11a: 6 ~ 54 Mbps
  (2) 802.11b: 1 ~ 11 Mbps
  (3) 802.11g: 6 ~ 54 Mbps
  (4) 802.11n: 6.5 ~ 300Mbps
- Transmit Power:
  (1) 802.11a: Up to 22dBm
  (2) 802.11b: Up to 22dBm
  (3) 802.11g: Up to 24dBm
  (4) 802.11an: Up to 22dBm
  (5) 802.11gn: Up to 22dBm
- Receiver Sensitivity:
  (1) 802.11a: -95dBm@6Mbps
  (2) 802.11b: -95dBm@1Mbps
  (3) 802.11g: -95dBm@6Mbps
  (4) 802.11an HT20: -95dBm@MCS0
  (5) 802.11an HT40: -91dBm@MCS0
  (6) 802.11gn HT20: -95dBm@MCS0
  (7) 802.11gn HT20: -90dBm@MCS0

Protocol & QoS Support
- IGMP Snooping
- Proxy ARP
- SNMP v1/v2c
- CAWAP
- DHCP client
- SYSLOG client
- RADIUS client
- IPv6
- DiffServ/TOS
- IEEE 802.1p/COS
- IEEE 802.1Q Tag VLAN priority control
- IEEE 802.11e WMM
- IEEE 802.1D Spanning Tree Protocol

Handover & Roaming
- IEEE 802.11i pre-auth (PMKSA cache)

Security
- Supports IEEE 802.11 mixed mode; open and shared key authentication
- Data encryption with WEP (64/128/152-bits)
- User Authentication: WEP, IEEE 802.1X, WPA-PSK, WPA-RADIUS, MAC ACL, MAC authentication using RADIUS with built-in 802.1X Authenticator
- WPA/WPA2 with TKIP or AES-CCMP with key's refreshing period setting
- Hidden ESSID: Broadcast SSID enable/disable
- MAC Address filtering (MAC ACL)
- Maximum number of registered RADIUS servers: 2
- Supports AES data encryption over WDS link
- Station Isolation: All associated stations can not communicate with each other when enabled

- Build-in Layer 2 Firewall, blocking Dynamic ARP Inspection & DHCP Snooping

System Administration
- Web-based adMinistration
- SNMP MIBII support (v1/v2c)
- Provides Event Log
- Supports System Log reporting to external SYSLOG server
- Utilities for system configuration backup and restoration
- Firmware upgrade
- Support Tunneled AP Management with NEXCOM Secure WLAN Controllers

Wireless Signal Management
- Number of ESSIDs (Virtual APs): 16
- Number of associated clients: 256

Hardware Specifications
- IP68 water-proof metal case
- Industrial grade conformal coating for anti-erosion and anti-moisture
- Uplink Port: 1 × 10/100/1000 Base-T Ethernet with IEEE 802.3af PoE
- LAN Port: 1 × 10/100/1000 Base-T Ethernet
- Console Port: 1× RJ45
- Antenna: 4 x N-type (Female) connector

Physical and Power
- Support IEEE 802.3af PoE as a PD
- Form Factor: Pole Mountable
- Dimensions (W x D x H): 240 x 230 x 130mm (9.5" x 9.1" x 5.2")
- Weight: 5.3lbs (2.4 kg)

Environment Protection
- Operation Temperature: -20 to +70℃ (-22 to 158℉)
- Storage Temperature: -40 to +85℃ (-40 to 185℉)
- Operation Humidity: 0% to95% maximum (Non-condensing)
- Vibration: Random 0.3g

Certifications
- FCC, CE
- RoHS compliant

Package Contents
- IWF 5320 x1
- CD-ROM (with User's Manual and QIG) x1
- PSE (POE30G) with power cord x1
- Mounting Kits x1

Ordering Information

- **IWF 5320-US (P/N: 10T00532000x0)**
- **IWF 5320-EU (P/N: 10T00532001x0)**
- **IWF 5320-JP (P/N: 10T00532002x0)**

Wireless Accessories

- **Outdoor omni-directional antenna 2.4 ~ 2.5GHz 8dBi (P/N: 603ANT0008X00)**
- **Outdoor directional antenna 5.1-5.9GHz 15dBi (P/N: 603ANT0013X00)**
- **Arrester DC-6 GHz N-MALE TO N-FEMALE (P/N: 7A00000066X00)**
- **Low Loss Cable, LC-CFD400L1, Length = 1M (P/N: 6023300106X00)**

IWF 600

IP67 Outdoor Access Point
Dual RF, Dual Band, 802.11 ac/an+802.11 b/g/n

Main Features

- Multiple functions AP/CPE mode support
- Concurrent IEEE 802.11ac + b/g/n 2x2 MIMO, up to 867+300 Mbps data rate
- Redundant power input supporting 802.3at PoE input and 24VDC input
- 1 WAN+1 LAN Ports GbE
- IP67 waterproof
- Operating temperature range from -40 to 80°C

Product Overview

IWF600 is an IP67 outdoor access point with dual concurrent 11ac+b/g/n 2x2 MIMO technology. With IEEE802.11ac MIMO technology, IWF600 supports high throughput rate and high density Wi-Fi coverage to fulfill strong market demand for various high throughput rate applications and service more clients.

Specifications

Wireless Radio
- 1x IEEE 802.11ac/an/a 2x2 MIMO
- 1x IEEE 802.11 b/g/n 2x2 MIMO

Frequency Ranges
- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.5 ~ 5.7 GHz, 5.725 ~ 5.825 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~5.85 GHz

RF Output Power: IEEE 802.11ac/an/a(±2dBm)
- IEEE802.11a
  - 27dBm@6M
  - 25dBm@54M
- IEEE802.11ac/n HT20
  - 25dBm@MCS0
  - 23dBm@MCS9
- IEEE802.11ac/n HT40
  - 25dBm@MCS0
  - 23dBm@MCS9
- IEEE802.11ac VHT 80Mhz
  - 25dBm@MCS0
  - 23dBm@MCS9

RF Output Power: IEEE 802.11 b/g/n(±2dBm)
- IEEE802.11a
  - 24dBm@6M
  - 21dBm@54M
- IEEE802.11b
  - 27dBm@1M
  - 24dBm@11M
- IEEE802.11g
  - 27dBm@6M
  - 24dBm@54M
- IEEE802.11g/n HT20
  - 23dBm@MCS0/8
  - 19dBm@MCS7/15
- IEEE802.11g/n HT40
  - 22dBm@MCS0/8
  - 18dBm@MCS7/15

Receive Sensitivity: IEEE 802.11ac/an/a
- IEEE802.11a
  - -95dBm@6M
  - -77dBm@54M
- IEEE802.11a/n HT20
  - -82dBm@MCS0
  - -71dBm@MCS7
  - -70dBm@MCS8
- IEEE802.11a/n HT40
  - -92dBm@MCS0
  - -72dBm@MCS7
  - -66dBm@MCS9
- IEEE802.11ac VHT 80Mhz
  - -88dBm@MCS0
  - -68dBm@MCS7
  - -62dBm@MCS9

NEXCOM

Receive Sensitivity: IEEE 802.11 b/g/n

* IEEE802.11a
  - -94dBm@6M
  - -77dBm@54M
* IEEE802.11b
  - -93dBm@1M
  - -91dBm@11M
* IEEE802.11g
  - -94dBm@6M
  - -80dBm@54M
* IEEE802.11a/n HT20
  - -93dBm@MCS0/8
  - -74dBm@MCS7/15
* IEEE802.11a/n HT40
  - -90dBm@MCS0/8
  - -72dBm@MCS7/15
* IEEE802.11g/n HT20
  - -94dBm@MCS0/8
  - -77dBm@MCS7/15
* IEEE802.11g/n HT40
  - -89dBm@MCS0/8
  - -73dBm@MCS7/15

Hardware

* WAN: 10/100/1000 base-TX MDI/MDIX RJ-45 x 1
* LAN: 10/100/1000 base-TX MDI/MDIX RJ-45 x 1
* Compliant with:
  - IEEE802.3 / 802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation
* LED: 1x power & status; 1 x WAN; 1x Wi-Fi
* SMA: 4 x N type connectors

Operating Mode

* AP
* Router
* WDS

Security

* WEP(64/128/152)
* WAP/WPA2 Mixed
* WPA2-personal (PSK+CCMP/AES)
* WPA2- enterprise (802.1X certification)
* Hidden ESSID support
* MAC address filtering (MAC ACL)
* Station isolation

System Management

* Web-based administration
* SNMP V1/V2c (Coming soon)
* Provides event log
* SYSLOG information support
* Statistics
* Configuration backup and restore
* Firmware upgrade

Built-in Servers & Client Interfaces to Other Services

* DHCP client
* SNMP v1/v2c client

Physical and Power

* IEEE 802.3at PoE
* Wall/Pole mountable
* Dimension: 240x135x58 mm
* Weight: TBD

Environment Protection

* Operating temperature: -40~80°C
* Storage temperature: -45~85°C
* Humidity: 0% to 95% maximum (Non-condensing)
* Vibration: random 0.3g

Certification

* FCC
* CE
* RoHS compliant

Package Contents

* IWF600 unit x1
* 48V PoE injector
* Mounting kit
* Waterproof connectors

* Note:
  The available RF output power will be given by certified power in different region

Ordering Information

* **IWF 600 (P/N: TBD)**

IWF 8405

Main Features

- Centralized AP management and multi-level connections up to 150 manageable access points
- Virtual service zone management by user group, security profile and etc.
- Authentication, Authorization, Accounting (AAA) support

- Dual-WAN Load Balance and Failover
- Data tunnel security by Intranet local IPSec VPN, Internet Remote Client PPTP VPN, Site-to-Site VPN
- QoS and WMM Traffic Types support for Voice, Video, Best Effort and Background

Product Overview

The IWF 8405 industrial Secure WLAN Controller is an ideal security solution for medium-scale industrial WLAN deployments. The IWF 8405 integrates "secure access control", "user account provisioning", "centralized WLAN management" , even "flexible accounting and billing" into one box to provide simplified manageability and instant mobility. With more powerful hardware, IWF 8405 is capable of centrally managing 150 access points to cover a wider service area in a medium network.

Secure Networking under Central Management

IWF 8405 is suitable for industry in managing their wired and wireless network access uniformly. The network access of users from different departments and the access of guests can be segregated in different Service Zones. When needed, IWF 8405's Local, Site-to-Site and Remote VPN tunnels can be used to further secure the information flows for business.

For multi-site Manufacturing facilities, Network deployment and management is always challenge to IT manger, IWF 8405 makes it easy to quickly deploy and offer wireless Internet service. IT manager can centrally manage all the access points connected to the IWF 8405. Also, remote firmware upgrade can be done through IWF 8405. Security policy and user groups can be pre-defined in Virtual AP profile and applied to the access points through IWF 8405.
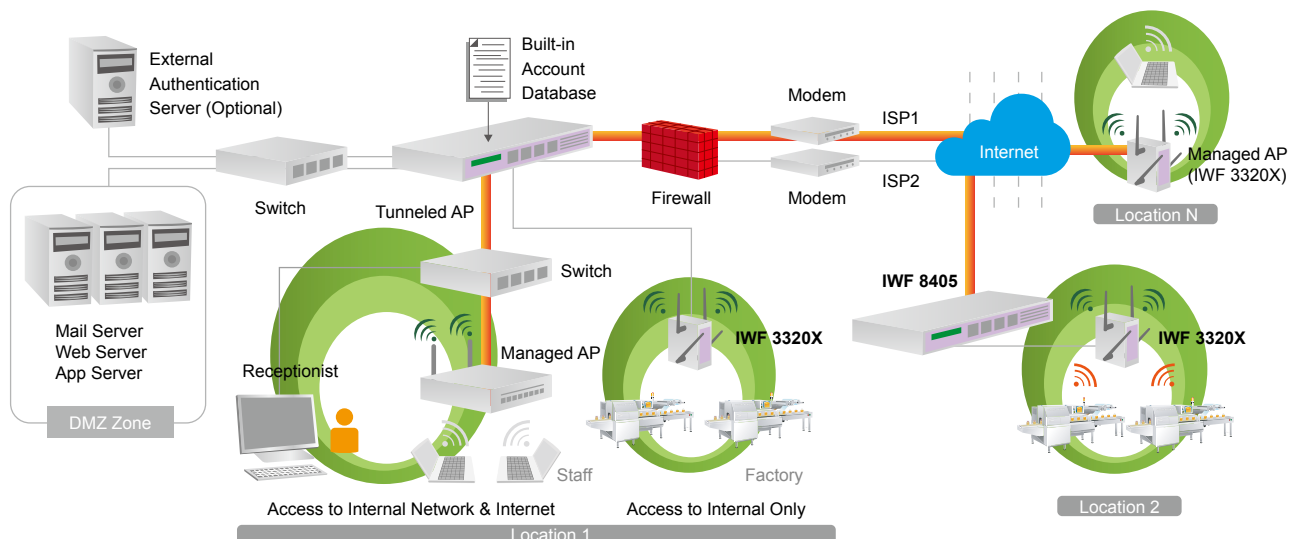
Specifications

Networking
- Support NAT or Router mode
- Support Static IP, DHCP, PPPoE mode on WAN interfaces and PPTP (WAN 1 only)
- Choose freely which LAN is authentication-enabled LAN
- Support NAT: (1) IP/Port destination redirection (2) DMZ server mapping (3) Virtual server mapping (4) H.323 pass-through
- Supports email service via designated email server
- Built-in with DHCP Server and support DHCP relay
- Support walled garden (free surfing zone)
- Walled Garden Ad List that enables advertisement website links on user login portal page
- Support MAC-address and IP-address pass-through
- Support HTTP Proxy
- Support IP Plug and Play (IP PnP)
- Support configurable static routes
- Support dual uplinks, outbound load balancing and failover for more reliable Internet connection
- Support SIP pass-through NAT
- Support Ethernet connection to external terminal servers
- Port location mapping features for working with DSLAM and VLAN switches
- Dynamic Routing Protocol: RIP, OSPF, IS-IS
- Seamless L2/L3 Roaming

System Administration
- Support web-based management user interface
- Provide customizable login and logout portal page
- SSH remote management
- Remote firmware upgrade
- NTP time synchronization
- Menu driven console management interface
- Utilities to backup and restore the system configuration
- Built-in root CA and centralized certificate management

Monitoring and Reporting
- Status monitoring of on-line users
- IP-based monitoring of network devices
- Uplink (WAN) connection failure alert
- Support Syslog for diagnosis and troubleshooting
- User traffic history logging
- Traffic history report via email to adMinistrator
- Users' session log can be sent to FTP or Syslog server
- Graphical system report

User Management and Access Control
- Support 6,000 local accounts and 6,000 on-demand accounts
- Provide on-demand accounts for visitors
- Support Local user account roaming
- Authentication methods supported: Local and On-demand accounts, POP3, LDAP, RADIUS, Windows Domain, and SIP authentication
- Single-Sign-On for Windows Domain
- Allow MAC address and user identity binding for local user authentication
- Support MAC Access Control List
- Support auto-expired guest accounts
- Users can be divided into user groups, each user group has its own network properties, including bandwidth, QoS, accessible service zones, and other privileges
- Support QoS and WMM traffic types: Voice, Video, Best Effort and Background
- Each group (role) may get different network policies in different service zones
- Max concurrent user session (TCP/UDP) limit
- A setting for user-idle-timeout
- Configurable user Black List
- Export/Import local users list to/from a text file

Security
- Support local IPSec VPN tunnels
- Support PPTP VPN tunnels
- Support site-to-site VPN tunnels
- Support VPN pass-through (IPSec and PPTP)
- Built-in DoS attack protection

Service Zones
- The network is divided into maximum 9 Service Zones, each defined by a pair of VLAN tag and ESSID
- Each service zone has its own (1) login portal page (2) authentication options (3) LAN interface IP address (4) DHCP address range
- Each service zone allows access to the selected groups
- Each service zone assigns a network policy to each user group
- WISPr support per service zone

AP Management
- Manage up to 150 x NEXCOM AP in both Local and Wide Areas AP management totally
- Monitor 3rd party non-integrated AP: up to 200
- Centralized remote management via HTTP/SNMP interface
- Auto discovery for managed APs
- Enable or disable APs easily via user interface
- Templates for managed APs
- Monitoring managed AP for its status, the number of associated clients, and RF information
- Upgrade managed APs centrally, including bulk upgrade
- Rogue AP detection and AP load balancing
- Tunneled AP management over internet for NEXCOM Wi-Fi AP Family
- Graphical AP statistics display

Accounting and Billing
- Support local on-demand and external RADIUS server
- Contain 10 configurable billing plans for on-demand accounts
- Support credit card billing system by Authorize.net ,PayPal, SecurePay, and WorldPay
- Provide session expiration control for on-demand accounts
- Provide detailed per-user network traffic history for both local and on-demand user accounts
- RADIUS VSA implementation for volume-based session control using RADIUS server
- Support automatic e-mail to report network traffic history
- Support middleware connection to Property Management System (PMS)

Hardware Specifications
- WAN Ports: 2 x 10/100/1000 BASE-T RJ-45
- LAN Ports: 4 x 10/100/1000 BASE-T RJ-45
- Console Port: 1 x RJ-45
- LED Indicators: 1 x Power, 1 x Status, 1 x HDD
- LCD Display

Physical and Power
- Power Adapter: 100 ~ 240 VAC, 50/60 Hz
- Form Factor: 19" 1U Rack Mount
- Dimensions (W x D x H): 426 x 236 x 44mm (16.77" x 9.29" x 1.75")
- Weight: 12.3 lbs (5.6 kg)

Environment Protection
- Operating Temperature: 0 to +40°C
- Storage Temperature: -20 to +75°C
- Operation Humidity: 10% to 90% (Non-condensing)
- Storage Humidity: 10% to 90% (Non-condensing)

Certifications
- CE, FCC
- RoHS compliant

Package Contents
- IWF 8405 x 1
- CD-ROM (User's Manual and QIG) x 1
- RS-232 DB9 to RJ45 Console Cable x 1
- Ethernet Cable x 1
- Power Cord x 1
- Rack Mounting Bracket (with Screws) x 1
  * Specifications subject to change without notice

Ordering Information

- **IWF 8405 (P/N: 10T00840500x0)**

IWF 3320C

Main Features

- Unique dual roles design with controller and AP functions in one box
- Manage up to 8 APs including IWF 2220, IWF 3320X and IWF 5320
- Rugged Die-casting housing with -30°C to +80°C wide-temperature
- Built in 2 x 2 MIMO Field Replaceable Antenna Compatible with 802.11a/b/g/n
- Completely AAA (Authentication, Authorization, Accounting) supporting

- Virtual service zone management by user group, security profile and etc.
- Supports various broadband deployment options (T1, DSL, Cable) via static IP, DHCP, PPPoE, and PPTP
- Integrated Security Features: SSL, IEEE 802.1X, WPA-RADIUS
- Built-in DoS protection prevents malicious hackers from collapsing the network

Product Overview

IWF 3320C is a powerful WLAN controller and access point combo product which is designed to meet the demand of small scale WLAN deployment. The first role as controller, it provides up to 8 NEXCOM management based access points, forming a secured wireless network that guarantees robust user authentication, policy enforcement, AP manageability, and scalable networking applications. With IWF 3320C, small scale WLAN deployment can embrace the benefit of controller without hesitant of high capital expense with large scale controller, which is typically designed for hundreds of AP. Managing multiple AP is no more a time-consuming task. With IWF 3320C's coordination between APs, user enjoys both layer 2 roaming and also layer 3 across subnet roaming. Together with flexible QoS policing and customization grouping options, IWF 3320C makes mobile device users roaming experience effortless and simple.

Besides WLAN controller function, IWF 3320C also plays the role of access point, with dual RF dual band 802.11a/b/g/n 2 x 2 radios deliver up to 300Mbps data rate. The dual band radio architecture is good for RF separation and RF planning. Especially for mission-critical applications such as streaming video, 5GHz band provides more clean and stable traffic. To meet the expectation of high reliable communication in diversify application, IWF 3320C provides robust redundant mechanism to ensure the trusted operation. The dual power inputs of both PoE 802.3af & wide voltage +9 to 36VDC ensures power connected all the time. To protect the AP from environmental stress, IWF 3320C is applied with industrial rank conformal coating and and rugged die-casting housing, all these characteristics make IWF 3320C a perfect AP controller for industrial application.
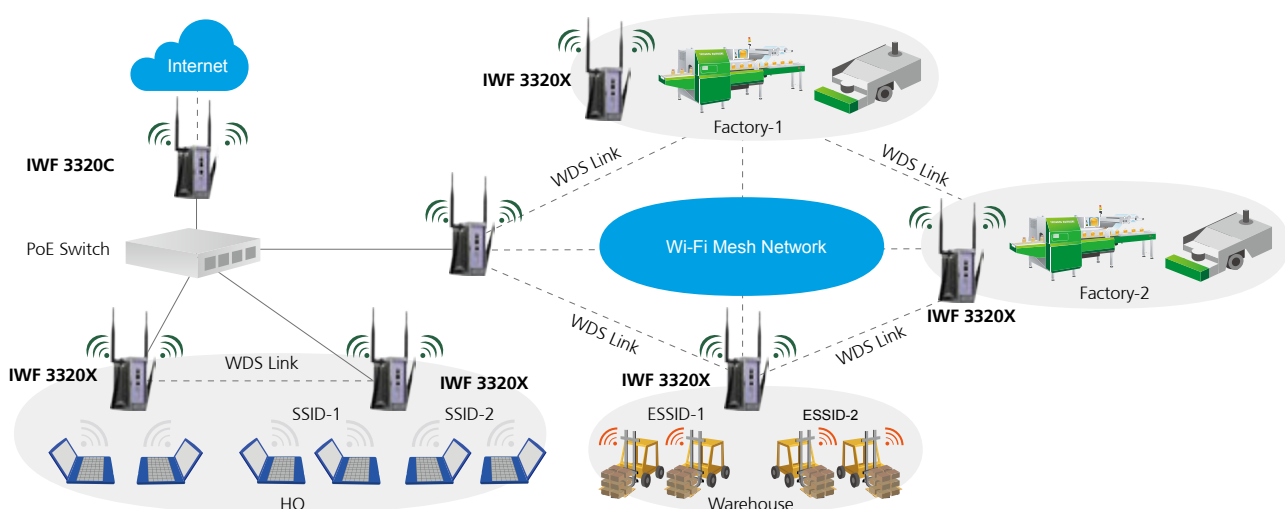
Specifications

Networking
- Supports Router, NAT mode
- Supports static IP, DHCP, PPPoE, and PPTP Dial-up
- Supports IP Plug and Play (IP PnP)
- LAN Port Mapping
- Built-in DHCP Server and support for DHCP relay
- Supports NAT:
  - (1) IP/Port Destination Redirection
  - (2) DMZ Server Mapping
  - (3) Virtual Server Mapping
- Configurable static routes
- Supports Walled Gardens & Walled Garden Ads
- Supports MAC Address Pass-Through
- Supports HTTP Proxy
- Supports Ethernet connection to external terminal server for ticketing
- SIP pass-through under NAT
- IPv6 supporting

Security
- Supports security standards: SSL, IEEE 802.1X and WPA-RADIUS
- Supports VPN Pass-Through (IPSec and PPTP)
- Built-in DoS attack protection
- Layer 2 (Wireless) & Layer 3 firewall
- Supports VPN
- Configurable user Black Lists & Privilege Lists

Service Zones
- Max. 1+ 8 Service Zones
- Each service zone has its own and customizable
  - (1) login portal page
  - (2) authentication options
  - (3) LAN interface IP address
  - (4) DHCP address ranges
- Group & Policy enforcement by Service Zone
- WISPr authentication

User Management
- Supports 2,000 local accounts and 2,000 on-demand accounts
- Simultaneous support for multiple authentication methods (Local and On-demand accounts, POP3, LDAP, RADIUS, NT Domain, and FREE)
- Policy-based access control (per-role assignments based on Firewall Policies, Routing, Login Schedule, Bandwidth, Quota, and Session)
- User Session Management:
  - (1) SSL protected login portal page
  - (2) Supports multiple logins with one single account
  - (3) Session limiting and idle timer
  - (4) Session and account expiration control
  - (5) Supports Single Sign-On for Windows Domain
  - (6) Login time frame control

Access Point Management
- Supports Wide Area AP Management (by CAPWAP)
- Manages up to 8 AP including IWF 2220, IWF 3320X and IWF 5320

Guest Accounting
- Provides 4 types of billing plans for On-demand accounts
- Enables session expiration control for On-demand accounts by time (hour) and data volume (MB)
- Support DM & CoA (Change of Authorization/Disconnect Messages) messages from RAIDUS servers
- Detailed per-user traffic history for both local and On-demand accounts

Wireless Radio Specifications
- Wi-Fi standard: IEEE 802.11a/b/g/n in 2.4GHz and 5GHz frequency band
- Modulation: OFDM, DSSS, CCK
- Wireless Interface: 2 x 802.11 a/b/g/n
- RF output power: up to 300mW per radio
- Number of SSIDs: 16

System Administration
- Web-based management UI
- Customizable login and logout portal page
- Support for SNMP v1, v2c
- SSH remote management
- Remote firmware upgrade
- NTP time synchronization
- Menu driven console management interface
- Utilities to backup and restore the system configuration

Monitoring and Reporting
- Online status monitoring of users
- IP-based monitoring of devices
- Supports external SYSLOG server for diagnosis and troubleshooting
- Supports user traffic history logging
- Supports user traffic session (TCP/UDP) logging
- Http/Session/User/Configuration Change/Traffic/… Logs

Hardware Specifications
- Antenna: 4 x omni-directional 2/3dBi (2.4/5GHz) enclosed
- Uplink Port: 1× GbE LAN with IEEE 802.3af PoE
- LAN Port: 2× GbE LAN
- Push buttons: 1 x Reset
- Console Port: 1 x DB9M
- LED Indicators: 1 x Power, 1 x Status, 2 x WLAN
- Power Source: +9 ~ +36 VDC & PoE
- Form factor: DIN rail mount
- Dimensions (W x D x H): 58.8 x 139.6 x 167 (mm) w/o antennas
- Weight: 1.73Kg

Environment
- Operation Temperature: -40 to +80℃
- Storage Temperature: -40 to +85℃
- Operation Humidity: 0% to 95% (Non-condensing)
- Vibration: Random 0.3g

Certifications
- CE, FCC
- RoHS compliant

Package Contents
- NEXCOM IWF 3220C x 1 (with DIN rail mount)
- CD-ROM (User's Manual and QIG) x 1
- Detachable Dual-Band Antenna x 4 2/3dBi (2.4/5GHz)
- Ethernet Cable x 1
- Wall mount kit x 1

Ordering Information

- **IWF 3320C-EU (P/N: 10T00332003X0)**
- **IWF 3320C-US (P/N: 10T00332006X0)**

HWF 1310

Main Features

- IEEE 802.11b/g/n sigle RF 2.4GHz 2 x 2 MIMO AP
- Access management by flexible Accounting and Billing
- Standard-based data encryption and user authentication: WEP, WPA, etc.
- Secure guest and administrator access using web-based login and

administration over SSL
- Easy operation design: WES, TAS and Quick print
- Support various broadband connection deployment options (T1, DSL, Cable) via static IP, DHCP, PPPoE, or PPTP
- Daily, weekly, and monthly billing reports

Product Overview

Wireless internet access is already a part of hospitality service in public locations, such as coffee shops, restaurants, hotel lobbies, convention centers or airport terminal. NEXCOM offers the ready-to-go Hotspot Wi-Fi solution covering access management AP and ticket generating.

The HWF 1310 Wireless Hotspot Gateway is intentionally design for stores without any IT background to setup wireless internet services. This solution does not require complicated equipment, nor does it requires difficult IT knowledge during the deployment. The access management function includes multiple fare, guest policy and roaming across different sites. User account is another challenge in hotspot management. The system is capable to maintain 2000 on-demand accounts and 500 local accounts.

In setup and maintenance perspective, the system provides rich helpful functions. A special function called 'press-n-connect' feature that you can setup a mesh network within 30 seconds simply by press a WES (Wireless Easy Setup) button. This function helps you expand the AP to where Ethernet cabling is not an option. A similar handy design is the TAS (Terminal Auto Setup) that automatically connects to the policy generator to hotspot gateway simply by press a button. To help owner checking the operation status, the system also provide log for system activities, report for account's details with flexible options, and daily/weekly/monthly billing report.

NEXCOM's hotspot turnkey solution includes hotspot AP HWF 1310, and accessories with HWF-S200 the generator for multiple fare access policy, and HWF-P200 thermal printer, together with a completed access management. In a multiple service store, the access fare can be different from free to multi-level fare. NEXCOM's solution provides different levels of access management function such as user grouping, multiple access zone including public zone and private zone. User account is another challenge.

Specifications

Networking
- Support IPv4/IPv6 dual stack
- Support Router, NAT mode
- Support static IP, DHCP, PPPoE , and PPTP on WAN
- Support IP Plug and Play (IP PnP)
- Built-in DHCP Server and support DHCP Relay
- Support NAT:
  (1) DMZ Server Mapping
  (2) Public Accessible Server
  (3) Port and IP Redirect
- Configurable static route
- Support email service via designated email server
- Support Walled Garden/Walled Garden Ad List to post advertisement website links on user login portal page
- Support MAC Address Pass-Through
- Support account roaming
- IGMP Snooping

Security
- Support security standards: WEP (64/128/152 bits) and WPA-PSK TKIP & AES Cipher auto negotiation
- Support VPN Pass-Through (PPTP)
- Support Layer 2 isolation
- Layer 2/3 Firewall (incl. DoS Protection)
- IP/MAC/IPv6 privilege list
- Configurable user Black List (5 sets by 20 MAC address)
- LAN port mapping to Private Zone and Public Zone

User Management
- Support 500 local accounts
- Support 2000 on-demand accounts for visitors

- Support multi-level administrative management
- Simultaneous support for multiple authentication methods (Local, RADIUS*2, On-demand, and Free/Trial)
- Policy-based access control (per-role assignments based on Schedule Firewall Policies, Routing, Login Schedule, Bandwidth and Session)
- User Session Management:
  (1) SSL protected login portal page
  (2) Session idle timer
  (3) Session and account expiration control
  (4) Login time frame control
  (5) Session limit
- Import/Export local and on-demand accountsSupport VPN Pass-Through (PPTP)

Monitoring and Reporting
- Online status monitoring of users
- Uplink (WAN) connection failure alert
- Support SYSLOG server for diagnosis and troubleshooting
- Support User Logs for traffic recording
- Support user traffic session (TCP/UDP) logging
- Http/Session/User/Configuration Change/Traffic/… Logs

System Administration
- Web-based management UI
- Customizable login and logout portal page
- SSH remote management
- Remote firmware upgrade
- Console management
- NTP time synchronization
- Backup and restore the system configuration
- SNMP v1/v2c
- Press-n-Connect WES (Wireless Easy Setup)

Accounting and Billing
- Provide billing plans for On-demand accounts
- Four On-demand account types: Usage, Duration, Volume, and Hotel Cut-off
- Support ten Wireless Policy generator
- Session expiration control for On-demand accounts
- Detailed per-user traffic history based on time for both local and On-demand accounts
- Traffic history report in an automatic email to administrator
- Support credit card payment via external payment gateway (Authorize.Net, PayPal, SecurePay, WorldPay)
- Support RADIUS accounting
- Support RADIUS VSA for volume-based quota of an external RADIUS server
- On-demand account batch creation
- Report by Send automatic e-mail: User Log, On-demand User Log, On-Demand Billing Log and Monitor IP status respectively

Wireless Radio Specifications
- Wi-Fi standard: IEEE 802.11n/b/g in 2.4GHz frequency band
- Modulation: OFDM, DSSS, CCK
- Wireless Interface: 1 x 802.11 n/b/g (300/11/54 Mbps)
- 2 x 5dBi detachable (RP-SMA Connector) replaceable Antenna
- RF output power: up to 100mW
- Number of multiple SSIDs: 2
- Number of WDS links: 2

Hardware Specifications
- Metal case compliant with IP30 Standard
- WAN Port: 1 × 10/100/1000 Base-T
- LAN Port: 4 × 10/100/1000 Base-T
- Console Port: 1 x DB9M
- USB Port: 1
- Quick Print Button ×1 , WES Button x 1, Reset Button, x 1
- LED Indicators: 1 × Power, 1 × Status, 1 × WLAN, 1 × WAN, 4 × LAN, 1 × WES, 1 × USB

Physical and Power
- Power adaptor (included)

A. AC Input: 100 ~ 240 VAC, 50 ~ 60 Hz DC

B. Output: 5V, 2A
- Form factor: Wall Mountable
- Dimensions (W x D x H): 220 x 130 x 42mm
- Weight: 820g

Environment
- Operation Temperature: 0 to +60℃
- Storage Temperature: -10 to +80℃
- Operation Humidity: 10% to 90% (Non-condensing)
- Storage Humidity: 5% to 90% (Non-condensing)

Certifications
- CE
- RoHS compliant

Package Contents
- HWF 1310 x 1
- CD-ROM (User's Manual and QIG) x 1
- Power Adaptor x 1
- Detachable Antenna x 1
- Console Cable x 1
- Ethernet Cable x 1

HWF-S200 Policy Generator (Optional)
- Number of Ethernet Ports: 1 x RJ-45
- Throughput: 10/100 Mbps
- Wireless Interface: IEEE 802.11 b/g/n (2.4GHz)
- Detachable Antenna: 1 x SMA connector
- Serial Standards: RS-232, DB-9M
- Baud Rate: 9600 bps
- Configuration Option: Web management
- Buttons: TAS, Reset
- Dimension (L x W x H): 165 x 82 x 25mm
- Weight: 0.4kg (0.83lbs)
- Power:
  AC Input: 100 ~ 240 VAC, 50 ~ 60 Hz
  DC Output: 5V, 2A

HWF-P200 2" Thermal Printer (Optional)
- Print Method: Thermal Line Printing
- Print Speed: 52mm/sec
- Print Density: 384 dots/line or 8 dots/mm
- Paper Width: 57.5±0.5mm
- Interface: Serial (RS-232C)
- ASCII code: 12*24 dots
- Graphic font: 24*24 dots
- Power Supply: +8 VDC/3.5A
- Operating Temperature: 0℃ to 50℃
- Storage Temperature: -20℃ to 60℃
- Dimension (L x W x H): 185 x 114 x 90mm
- Weight: 900g

Ordering Information
- **HWF 1310-CE (P/N: 10T00131000X0)**
- **HWF 1310-US (P/N: 10T00131001X0)**

* Specification is subject to change without notice

IWF 3310XH/XM

Main Features

- Single Radios and compliant with IEEE 802.11a/b/g/n 2x2 MIMO
- Fast roaming (hand-over switch time less than 20 ms)
- Installation Utilities: antenna alignment, distance calculation and site survey tools
- Compliant with IEEE 802.11a/b/g/n 2x2 MIMO
- 300 Mbps data rate
- 2 x 12 ~ 48VDC redundant power

- IEEE 802.3at Power over Ethernet
- Gigabit Ethernet RJ45
- WEP, WPA, WPA2-PSK/EAP (IEEE 802.1X/RADIUS, TKIP and AES)
- Operating temperature range from -40 to 80°C
- FCC/CE certification
- EN50155 compliant

Product Overview

The IWF 3310X series are enterprise and carrier-grade 802.11n Industrial Wireless Access Point which offers customer a robust and high performing solution for PTP/PTMP/Hotzone applications in both license-free 2.4GHz and 5GHz bands.

The IWF 3310X series are the most ideal candidate for Service Providers looking to deliver carrier-grade wireless services to multiple market segments such as Railway train, Bus, MRT fast roaming, campuses Mesh network, hospitality, healthcare, warehousing and wider metropolitan area deployments.

IWF 3310X series Category

Model	Radio Spec.
IWF3310XH	Hopping AP/CPE, IEEE 802.11 a/b/g/n Dual-Band 2x2 MIMO
IWF3310XM	Mesh/Mobility AP/CPE, IEEE 802.11 a/b/g/n Dual-Band 2x2 MIMO

Specifications

Wireless Radio
- Single 2 x 2 MIMO radio

Frequency Ranges
- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.725 ~ 5.825 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~ 5.85 GHz

RF output power : (± 2dBm)
- IEEE 802.11a
  - 21dBm@6M
  - 16dBm@54M
- IEEE 802.11b
  - 21dBm@1M
  - 19dBm@11M
- IEEE 802.11g
  - 23dBm@6M
  - 19dBm@54M
- IEEE 802.11a/n HT20/40
  - 19dBm@MCS0/8

  - 14dBm@MCS7/15
- IEEE 802.11g/n HT20
  - 21dBm@MCS0/8
  - 17dBm@MCS7/15

Receive Sensitivity
- IEEE 802.11a
  - -91dBm@6M
  - -75dBm@54M
- IEEE 802.11b
  - -91dBm@1M
  - -87dBm@11M
- IEEE 802.11g
  - -91dBm@6M
  - -76dBm@54M
- IEEE 802.11a/n HT20/40
  - -95/-91dBm@MCS0/8
  - -77/-73dBm@MCS7/15
- IEEE 802.11g/n HT20/40
  - -95/-91dBm@MCS0/8
  - -79/-75dBm@MCS7/15

Ethernet
- 10/100/1000 Base-TX MDI/MDI-X RJ-45 x 1
- Compliant with:
  - IEEE 802.3/802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation

Bridge Mode
- Layer 2 Switching Learning Technology
- Spanning Tree Protocol -IEEE 802.1d STP/IEEE 802.1w RSTP
- Store-and-Forward
- Static IP
- DHCP server
- IEEE 802.1q Tag VLAN
- IEEE 802.1p VLAN Priority Based QoS

Router Mode
- DHCP Server
- RIP
- IP Filter
- Port Filter
- Port Forward
- DMZ Support
- Static Route

Security
- Hide SSID
- MAC filtering ACL
- WEP 64/128/152 bits
- IEEE 802.1 x EAP-TLS/EAP-TTLS/MSCHAPv2/GTC
- WPA/WPA2 PSK/EAP with TKIP/CCMP AES based Encryption

Management
- HTTP(s) Web GUI
- Telnet
- SSH
- CLI commands
- SNNP v2c and V3 standard (Private MIB)
- Syslog
- Layer management Utility
- Management VLAN Tag
- NTP client
- Firmware upgrade
- Configuration Backup and Restore
- Factory default configuration

Utility
- Ping test
- RSSI and Path loss Calculation
- Wireless Site survey
- Antenna Alignment Tool
- System Status
- Link Information

Advanced Technology
- Multiple Hopping (up to 10 hops with more than 100Mbps throughput)
- Wireless Bandwidth Limitation
- Support MESH/Mobility function in IWF 6330M

Physical and Power
- Support 48Vdc Power over Ethernet
- Form Factor: DIN-rail and Wall-mount
- Dimension: 58.8 x 139.6 x 167 mm
- Weight: 1.73kg
- IP30 rated

Environment Protection
- Operating temperature: -40℃ to 80℃
- Storage temperature: -40℃ to 80℃
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: Random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF 3310X unit x 1
- Terminal block x 1
- Detachable Dual-Band Antenna x 2 4/5dBi (2.4/5GHz)
- Ethernet Cable x 1
- Wall mount kit x 1

Ordering Information
- **IWF 3310XH-US (P/N: 10T00331001X0)**
- **IWF 3310XH-EU (P/N: 10T00331000X0)**
- **IWF 3310XM-US (P/N: 10T00331003X0)**
- **IWF 3310XM-EU (P/N: 10T00331002X0)**

IWF 6320H/M

Main Features

- Dual Radios and compliant with IEEE 802.11a/b/g/n 2 x 2 MIMO
- Fast roaming (hand-over switch time less than 20 ms)
- Smart installation utilities: Distance calculation, Antenna alignment and site survey tools

- 48VDC PoE input
- Gigabit Ethernet Waterproof RJ45
- WEP, WPA, WPA2-PSK/EAP (IEEE 802.1X/RADIUS, TKIP and AES)
- Operating temperature range from -35 to 75°C

Product Overview

The IWF 6320 series are enterprise and carrier-grade 802.11n Dual Radios Outdoor Wireless Access Point which offers customer a robust and high performing solution for PTP/PTMP/Hotzone/Hopping/Mesh/Mobility Wi-Fi applications in both license-free 2.4GHz and 5GHz bands.

The IWF 6320 series are the most ideal candidate for Service Providers looking to deliver carrier-grade wireless services to multiple market segments such as Railway train, Bus, MRT fast roaming, campuses Mesh network, hospitality, healthcare, warehousing and wider metropolitan area deployments.

Designed to meet customer needs in a broad range of industries, the IWF 6320 offer the following benefits :

Flexible wireless backbone deployment options

Multiple radio interfaces were integrated by NEXCOM core data switching technology inside the IWF 6320 series. Each radio interface can be configured independently to meet different wireless connectivity purposes. With the fast data switching between multiple radio interfaces, the backbone throughput will remain in a high level even after several relays between APs.

High-performance wireless backbone

With the next generation 802.11n MIMO technology, the IWF 6320 offer data link rate up to 300Mbps in each single radio interface. Short Guard Interval and Frames Aggregation methodology configurations improve the efficient of backbone usage.

IWF 6320 Series Category

Model	Radio Spec.
IWF 6320H	Hopping AP, Dual Radios, IEEE 802.11 a/b/g/n Dual-Band 2x2 MIMO, High Power
IWF 6320M	Mesh/Mobility AP, Dual Radios, IEEE 802.11 a/b/g/n Dual-Band 2x2 MIMO, High Power

Specifications

Wireless Radio
- Dual 2 x 2 MIMO radios

Frequency Ranges
- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.725 ~ 5.825 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~ 5.85 GHz

RF Output Power: (± 2dBm)
- IEEE 802.11a
  - 24dBm@6M (all)
  - 21dBm@54M (all)
- IEEE 802.11b
  - 24dBm@1M (all)
  - 24dBm@11M (all)
- IEEE 802.11g
  - 25dBm@6M (all)
  - 22dBm@54M (all)
- IEEE 802.11a/n HT20
  - 24dBm@MCS0/8 (all)

- 18dBm@MCS7/15 (5180MHz)
  17dBm@MCS7/15 (5825MHz)
- IEEE 802.11a/n HT40
  - 22dBm@MCS0/8 (all)
  - 17dBm@MCS7/15 (5190MHz)
    16dBm@MCS7/15(5795MHz)
- IEEE 802.11g/n HT20
  - 25dBm@MCS0/8 (all)
  - 21dBm@MCS7/15 (all)
- IEEE 802.11g/n HT40
  - 24dBm@MCS0/8 (all)
  - 20dBm@MCS7/15 (all)

Receive Sensitivity
- IEEE 802.11a
  - -82dBm@6M, 1Rx
    -95/-91dBm@6M, 2Rx
  - -65dBm@54M, 1Rx
    -79/-75dBm@54M, 2Rx
- IEEE 802.11b
  - -82dBm@1M, 1Rx
    -92/-88dBm@1M, 2Rx
  - -76dBm@11M, 1Rx
    -92/-88dBm@11M, 2Rx
- IEEE 802.11g
  - -82dBm@6M, 1Rx
    -95/-91dBm@6M, 2Rx
  - -65dBm@54M, 1Rx
    -80/-76dBm@54M, 2Rx
- IEEE 802.11a/n HT20
  - -82dBm@MCS0, 1Rx
    -95/-91dBm@MCS0, 2Rx
  - -64dBm@MCS7, 1Rx
    -77/-73dBm@MCS7, 2Rx
- IEEE 802.11a/n HT40
  - -79dBm@MCS0, 1Rx
    -91/-87dBm@MCS0, 2Rx
- -61dBm@MCS7, 1Rx
  -73/-69dBm@MCS7, 2Rx
- IEEE 802.11g/n HT20
  - -82dBm@MCS0, 1Rx
    -95/-91dBm@MCS0, 2Rx
  - -64dBm@MCS7, 1Rx
    -77/-73dBm@MCS7, 2Rx
- IEEE 802.11g/n HT40
  - -79dBm@MCS0, 1Rx
    -92/-88dBm@MCS0, 2Rx
  - -61dBm@MCS7, 1Rx
    -74/-70dBm@MCS7, 2Rx

Ethernet
- 10/100/1000 Base-TX MDI/MDI-X RJ-45 x 1
- Compliant with :
  - IEEE 802.3/802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation

Bridge Mode
- Layer 2 Switching Learning Technology
- Spanning Tree Protocol -IEEE 802.1d STP/IEEE 802.1w RSTP
- Store-and-Forward
- Static IP
- DHCP server
- IEEE 802.1q Tag VLAN
- IEEE 802.1p VLAN Priority Based QoS

Router Mode
- DHCP Server
- RIP
- IP Filter
- Port Filter
- Port Forward
- DMZ Support
- Static Route

Security
- Hide SSID

- MAC filtering ACL
- WEP 64/128/152 bits
- IEEE 802.1x EAP-TLS/EAP-TTLS/MSCHAPv2/GTC
- WPA/WPA2 PSK/EAP with TKIP/CCMP AES based Encryption

Management
- HTTP(s) Web GUI
- Telnet
- SSH
- CLI commands
- SNNP v2c and V3 standard.(Private MIB)
- Syslog
- Layer management Utility
- Management VLAN Tag
- NTP client
- Firmware upgrade
- Configuration Backup and Restore
- Factory default configuration

Utility
- Ping test
- RSSI and Path loss Calculation
- Wireless Site survey
- Antenna Alignment Tool
- System Status
- Link Information

Advanced Technology
- Multiple Hopping (up to 10 hops with more than 100Mbps throughput)
- Wireless Bandwidth Limitation
- Support MESH/Mobility function in IWF 6320M

Physical and Power
- Support 48Vdc Power over Ethernet
- Form Factor: Pole/Wall mountable
- Dimension: 220 x 220 x 77 mm
- Weight: 2.0kg (3.7kg mount kit included)
- Outdoor IP67 rated

Environment Protection
- Operating temperature: -35°C to 75°C
- Storage temperature: -35°C to 75°C
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: Random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF 6320H(M) unit x 1
- 48Vdc power adaptor x 1
- PoE injector x 1
- Pole/Wall mount kit x 1

Ordering Information
- **IWF 6320H-US (P/N: 10T00632003X0)**
- **IWF 6320H-EU (P/N: 10T00632000X0)**
- **IWF 6320M-US (P/N: 10T00632003X0)**
- **IWF 6320M-EU (P/N:10T00632002X0)**

Wireless Accessories
- **Outdoor omni-directional antenna 2.4 ~ 2.5GHz 8dBi (P/N: 603ANT0008X00)**
- **Outdoor directional antenna 5.1-5.9GHz 15dBi (P/N: 603ANT0013X00)**
- **ARRESTER DC-6 GHz N-MALE TO N-FEMALE (P/N: 7A00000066X00)**
- **Low Loss Cable, LC-CFD400L1, Length = 1M (P/N: 6023300106X00)**

IWF 6330H/M

Industrial IP67 Outdoor Hopping/Mesh/Mobility Access Point

Triple RF, Dual Band, 802.11 a/b/g/n

Main Features

- Triple Radios and compliant with IEEE 802.11a/b/g/n 2x2 MIMO
- Fast roaming (hand-over switch time less than 20 ms)
- Smart installation utilities: Distance calculation, Antenna alignment and site survey tools

- 48VDC PoE input
- Gigabit Ethernet Waterproof RJ45
- WEP, WPA, WPA2-PSK/EAP (IEEE 802.1X/RADIUS, TKIP and AES)
- Operating temperature range from -35 to 75°C

Product Overview

The IWF 6330 series are enterprise and carrier-grade 802.11n Triple Radios Outdoor Wireless Access Point which offers customer a robust and high performing solution for PTP/PTMP/Hotzone/Hopping/Mesh/Mobility Wi-Fi applications in both license-free 2.4GHz and 5GHz bands.

The IWF 6330 series are the most ideal candidate for Service Providers looking to deliver carrier-grade wireless services to multiple market segments such as Railway train, Bus, MRT fast roaming, campuses Mesh network, hospitality, healthcare, warehousing and wider metropolitan area deployments.

Designed to meet customer needs in a broad range of industries, the IWF 6330 offers the following benefits:

Flexible wireless backbone deployment options

Multiple radio interfaces were integrated by NEXCOM core data switching technology inside the IWF6330 series. Each radio interface can be configured independently to meet different wireless connectivity purposes. With the fast data switching between multiple radio interfaces, the backbone throughput will remain in a high level even after several relays between APs.

High-performance wireless backbone

With the next generation 802.11n MIMO technology, the IWF6330 offer data link rate up to 300Mbps in each single radio interface. Short Guard Interval and Frames Aggregation methodology configurations improve the efficient of backbone usage.

IWF 6330 Series Category

Model	Radio Spec.
IWF 6330H	Hopping AP, Triple Radios, IEEE 802.11 a/b/g/n Dual-Band 2 x 2 MIMO, High Power
IWF 6330M	Mesh/Mobility AP, Triple Radios, IEEE 802.11 a/b/g/n Dual-Band 2 x 2 MIMO, High Power

Specifications

Wireless Radio
- Three 2 x 2 MIMO radios

Frequency Ranges
- USA: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.725 ~ 5.825 GHz
- Europe: 2.400 ~ 2.483 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 2.400 ~ 2.497 GHz, 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 2.400 ~ 2.483 GHz, 5.725 ~ 5.85 GHz

RF Output Power: (± 2dBm)
- IEEE 802.11a

- 24dBm@6M (all)
- 21dBm@54M (all)
- IEEE 802.11b
  - 24dBm@1M (all)
  - 24dBm@11M (all)
- IEEE 802.11g
  - 25dBm@6M (all)
  - 22dBm@54M (all)
- IEEE 802.11a/n HT20
  - 24dBm@MCS0/8 (all)

- 18dBm@MCS7/15 (5180MHz)
- 17dBm@MCS7/15 (5825MHz)
- IEEE 802.11a/n HT40
  - 22dBm@MCS0/8 (all)
  - 17dBm@MCS7/15 (5190MHz)
  - 16dBm@MCS7/15(5795MHz)
- IEEE 802.11g/n HT20
  - 25dBm@MCS0/8 (all)
  - 21dBm@MCS7/15 (all)
- IEEE 802.11g/n HT40
  - 24dBm@MCS0/8 (all)
  - 20dBm@MCS7/15 (all)

Receive Sensitivity
- IEEE 802.11a
  - -82dBm@6M, 1Rx
    -95/-91dBm@6M, 2Rx
  - -65dBm@54M, 1Rx
    -79/-75dBm@54M, 2Rx
- IEEE 802.11b
  - -82dBm@1M, 1Rx
    -92/-88dBm@1M, 2Rx
  - -76dBm@11M, 1Rx
    -92/-88dBm@11M, 2Rx
- IEEE 802.11g
  - -82dBm@6M, 1Rx
    -95/-91dBm@6M, 2Rx
  - -65dBm@54M, 1Rx
    -80/-76dBm@54M, 2Rx
- IEEE 802.11a/n HT20
  - -82dBm@MCS0, 1Rx
    -95/-91dBm@MCS0, 2Rx
  - -64dBm@MCS7, 1Rx
    -77/-73dBm@MCS7, 2Rx
- IEEE 802.11a/n HT40
  - -79dBm@MCS0, 1Rx
    -91/-87dBm@MCS0, 2Rx
  - -61dBm@MCS7, 1Rx
    -73/-69dBm@MCS7, 2Rx
- IEEE 802.11g/n HT20
  - -82dBm@MCS0, 1Rx
    -95/-91dBm@MCS0, 2Rx
  - -64dBm@MCS7, 1Rx
    -77/-73dBm@MCS7, 2Rx
- IEEE 802.11g/n HT40
  - -79dBm@MCS0, 1Rx
    -92/-88dBm@MCS0, 2Rx
  - -61dBm@MCS7, 1Rx
    -74/-70dBm@MCS7, 2Rx

Ethernet
- 10/100/1000 Base-TX MDI/MDIX RJ-45 x 1
- Compliant with :
  - IEEE 802.3 / 802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation

Bridge Mode
- Layer 2 Switching Learning Technology
- Spanning Tree Protocol -IEEE 802.1d STP / IEEE 802.1w RSTP
- Store-and-Forward
- Static IP
- DHCP server
- IEEE 802.1q Tag VLAN
- IEEE 802.1p VLAN Priority Based QoS

Router Mode
- DHCP Server
- RIP
- IP Filter
- Port Filter
- Port Forward
- DMZ Support
- Static Route

Security
- Hide SSID

- MAC filtering ACL
- WEP 64/128/152 bits
- IEEE 802.1x EAP-TLS/EAP-TTLS/MSCHAPv2/GTC
- WPA/WPA2 PSK/EAP with TKIP/CCMP AES based Encryption

Management
- HTTP(s) Web GUI
- Telnet
- SSH
- CLI commands
- SNNP v2c and V3 standard.(Private MIB)
- Syslog
- Layer management Utility
- Management VLAN Tag
- NTP client
- Firmware upgrade
- Configuration Backup and Restore
- Factory default configuration

Utility
- Ping test
- RSSI and Path loss Calculation
- Wireless Site survey
- Antenna Alignment Tool
- System Status
- Link Information

Advanced Technology
- Multiple Hopping (up to 10 hops with more than 100Mbps throughput)
- Wireless Bandwidth Limitation
- Support MESH/Mobility function in IWF 6330M

Physical and Power
- Support 48VDC Power over Ethernet
- Form Factor: Pole/Wall mountable
- Dimension: 220 x 220 x 77 mm
- Weight: 2.0kg (3.7kg mount kit included)
- Outdoor IP67 rated

Environment Protection
- Operating temperature: -35°C to 75°C
- Storage temperature: -35°C to 75°C
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: Random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF 6330H(M) unit x1
- 48Vdc power adaptor x1
- PoE injector x1
- Pole/Wall mount kit x1

Ordering Information
- **IWF 6330H-US (P/N: 10T00633003X0)**
- **IWF 6330H-EU (P/N: 10T00633002X0)**
- **IWF 6330M-US (P/N: 10T00633001X0)**
- **IWF 6330M-EU (P/N: 10T00633002X0)**

Wireless Accessories

- **Outdoor omni-directional antenna 2.4 ~ 2.5GHz 8dBi (P/N: 603ANT0008X00)**
- **Outdoor directional antenna 5.1-5.9GHz 15dBi (P/N: 603ANT0013X00)**
- **ARRESTER DC-6 GHz N-MALE TO N-FEMALE (P/N: 7A00000066X00)**
- **Low Loss Cable, LC-CFD400L1, Length = 1M (P/N: 6023300106X00)**

IWF 501/501D

IP55 Outdoor AP/CPE Single Radio Single Band, 802.11b/g/n

Main Features

- AP/Client/Bridge/Router mode supported
- Compliant with IEEE 802.11 b/g/n 2x2 MIMO
- 300 Mbps data rate
- 24VDC PoE input

- Fast Ethernet RJ45
- WEP, WPA, WPA2
- Operating temperature range from -35 to 75°C
- FCC/CE certification

Product Overview

IWF 501series are cost effective 802.11b/g/n outdoor AP/CPE operating in 2.4GHz band. It has a build-in dual-polarity antenna or detachable SMA connectors with dual Ethernet ports. The IWF 501 series support passive 24VDC PoE allowing easy installation without any environment limitation.

IWF 501 Series Category

Model	Description	Antenna
IWF 501	Outdoor AP/CPE 2.4GHz 802.11 b/g/n 2x2	12dBi embedded antenna
IWF 501D	Outdoor AP/CPE 2.4GHz 802.11 b/g/n 2x2	2 x SMA connectors

Specifications

Wireless Radio
- 2 x 2 MIMO radios

Frequency Ranges
- USA: 2.412 ~ 2.462 GHz
- Europe: 2.412 ~ 2.472 GHz
- Japan: 2.412 ~ 2.484 GHz
- China: 2.412 ~ 2.472 GHz

RF Output Power: (± 2dBm)
- IEEE 802.11b
  - 27± 2dBm@1M
  - 27±2dBm@11M
- IEEE 802.11g
  - 27± 2dBm@6M
  - 23± 2dBm@54M
- IEEE 802.11g/n HT20
  - 27± 2dBm@MCS0/8
  - 22± 2dBm@MCS7/15
- IEEE 802.11g/n HT40
  - 27± 2dBm@MCS0/8
  - 22± 2dBm@MCS7/15

Receive Sensitivity
- IEEE 802.11b

  - -95dBm@1M
  - -90dBm@11M
- IEEE 802.11g
  - -90 dBm@6M
  - -75 dBm@54M
- IEEE 802.11g/n HT20
  - -91 dBm@MCS0/8
  - -72 dBm@MCS7/15
- IEEE 802.11g/n HT40
  - -88 dBm@MCS0/8
  - -69dBm@MCS7/15

Ethernet
- 10/100Base-TX MDI/MDI-X RJ-45 x 2

Security
- Hide SSID
- MAC filtering ACL
- WEP
- WPA/WPA2

Management
- HTTP(s) Web GUI
- Firmware upgrade
- Configuration Backup and Restore

- Factory default configuration
- SNMP V1/V2c

Utility
- Wireless Site survey
- System Status
- Link Information
- Bandwidth Control
- Distance Adjustment
- Adjustable output power

Physical and Power
- Support 24Vdc Power over Ethernet
- Dimension: 280 x 90 x 47 mm
- Weight: 342g
- Outdoor IP55 rated

Environment Protection
- Operating temperature: -35°C to 75°C
- Storage temperature: -35°C to 75°C
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: Random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF 501 series x 1
- 24VDC PoE injector x 1
- Power cord x 1

Ordering Information

- **IWF 501-US (P/N: 10T00050101X0)**
- **IWF 501D-US (P/N: 10T00050103X0)**
- **IWF 501-EU (P/N: 10T00050100X0)**
- **IWF 501D-EU (P/N: 10T00050102X0)**

Applications

AP Mode

Netbook

Wi-Fi Handy Device

Router Mode

Netbook

Wi-Fi Handy Device

Internet — PPPoE/DHCP

Point to Point/Point to Multi-Point

LAN Bridge

Bridge

LAN

Bridge

LAN

Office

Ethernet Converter

WISP Outdoor AP

DHCP Server: 10.0.0.1

PC

IP: 10.0.0.100

WISP Mode

WISP Outdoor AP

WAN: 10.0.0.1
LAN: 192.168.2.1

PC
IP: 192.168.2.102

NAT

PC
IP: 192.168.2.101

Internet

DHCP Server: 10.0.0.1

WISP Mode

PC
IP: 192.168.2.100

IWF 502/502D
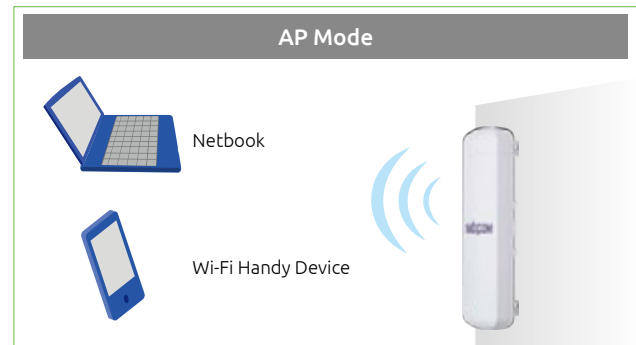
Main Features

- AP/Client/Bridge/Router mode supported
- Compliant with IEEE 802.11 a/n 2x2 MIMO
- 300 Mbps data rate
- 24VDC PoE input

- Fast Ethernet RJ45
- WEP, WPA, WPA2
- Operating temperature range from -35 to 75℃
- FCC/CE certification

Product Overview

IWF 502 series are cost effective 802.11a/n outdoor AP/CPE operating in 5GHz band. It has a build-in dual-polarity antenna or detachable SMA connectors with dual Ethernet ports. The IWF 502 series support passive 24VDC PoE allowing easy installation without any environment limitation.

IWF 502 Series Category

Model	Description	Antenna
IWF 502	Outdoor AP/CPE 5GHz 802.11 a/n 2x2	14dBi embedded antenna
IWF 502D	Outdoor AP/CPE 5GHz 802.11 a/n 2x2	2x SMA connectors

Specifications

Wireless Radio
- 2 x 2 MIMO radios

Frequency Ranges
- USA: 5.15 ~ 5.25 GHz, 5.725 ~ 5.825 GHz
- Europe: 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 5.725 ~ 5.85 GHz

RF Output Power: (± 2dBm)
- IEEE 802.11a
  - 27± 2dBm@6M
  - 22± 2dBm@54M
- IEEE 802.11a/n HT20
  - 27± 2dBm@MCS0/8
  - 21± 2dBm@MCS7/15
- IEEE 802.11a/n HT40
  - 27± 2dBm@MCS0/8
  - 21± 2dBm@MCS7/15

Receive Sensitivity
- IEEE 802.11a
  - -90dBm@6M
  - -73dBm@54M
- IEEE 802.11a/n HT20
  - -94dBm@MCS0/8
  - -72dBm@MCS7/15
- IEEE 802.11a/n HT40
  - -91dBm@MCS0/8
  - -69dBm@MCS7/15

Ethernet
- 10/100Base-TX MDI/MDI-X RJ-45 x 2

Security
- Hide SSID
- MAC filtering ACL
- WEP
- WPA / WPA2

Management
- HTTP(s) Web GUI
- Firmware upgrade
- Configuration Backup and Restore
- Factory default configuration
- SNMP V1/V2c

Utility
- Wireless Site survey
- System Status

- Link Information
- Bandwidth Control
- Distance Adjustment
- Adjustable output power

Physical and Power
- Support 24Vdc Power over Ethernet
- Dimension: 280 x 90 x 47 mm
- Weight: 342g
- Outdoor IP55 rated

Environment Protection
- Operating temperature: -35°C to 75°C
- Storage temperature: -35°C to 75°C
- Humidity: 0% to 95% maximum (Non-condensing)
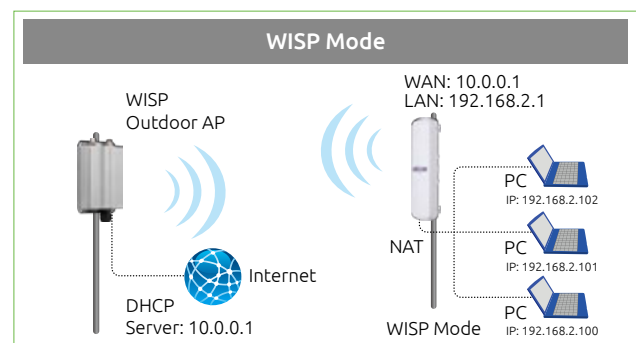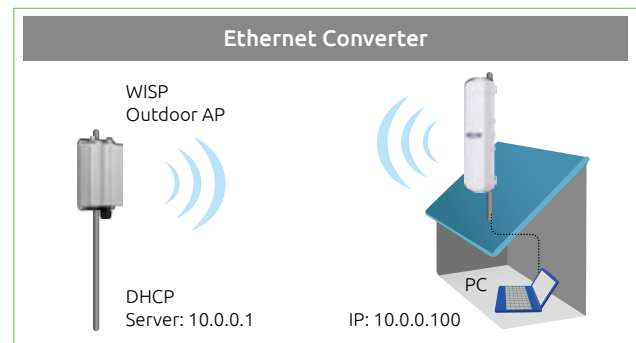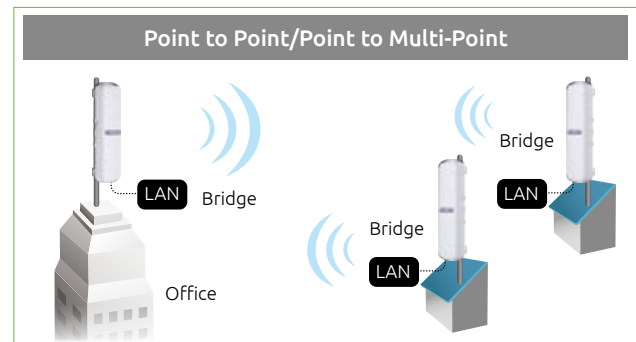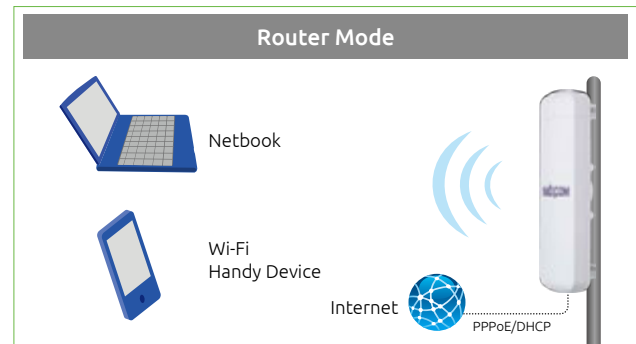- Vibration: Random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF 502 series x 1
- 24VDC PoE injector x 1
- Power cord x 1

Ordering Information

- **IWF 502-US(P/N: 10T00050201X0)**
- **IWF 502D-US(P/N: 10T00050203X0)**
- **IWF 502-EU (P/N: 10T00050200X0)**
- **IWF 502D-EU (P/N: 10T00050202X0)**

Applications

AP Mode

Netbook

Wi-Fi Handy Device

Router Mode

Netbook

Wi-Fi Handy Device

Internet   PPPoE/DHCP

Point to Point/Point to Multi-Point

LAN Bridge

Bridge

Office

Bridge

LAN

LAN

Ethernet Converter

WISP Outdoor AP

DHCP Server: 10.0.0.1

PC

IP: 10.0.0.100

WISP Mode

WISP Outdoor AP

WAN: 10.0.0.1
LAN: 192.168.2.1

Internet

NAT

PC
IP: 192.168.2.102

PC
IP: 192.168.2.101

DHCP Server: 10.0.0.1

WISP Mode

PC
IP: 192.168.2.100

IWF 503 Series

IP55 Outdoor AP/CPE Single Radio Single Band, 802.11 ac/an/a

IWF 503 **IWF 503D**

Main Features

- AP/Client bridge/ AP router/Client router/WDS mode supported
- Compliant with IEEE 802.11 ac/a/n 3x3 MIMO
- 1300 Mbps data rate
- 24Vdc PoE input

- 1 WAN+1 LAN ports GbE Ethernet RJ45
- WEP, WPA, WPA2
- Operating temperature range from -35 to 75°C
- FCC/CE certification

Product Overview

IWF503 is an IP55 outdoor cost effective AP/CPE router. IWF503 is single radio AP/CPE with IEEE802.11ac/an/a 3x3 MIMO with high RF power solution. The maximum data rate up to 1.3Gbps with two SKUs for internal patch antenna (IWF503) and external antenna (IWF503D) by customer selectable for high gain in long distance transmission. IWF503 also design as high power solution, up to 27dBm in 5GHz.

Specifications

Wireless Radio
- 1x IEEE 802.11ac/an/a 3x3 MIMO

Frequency Ranges
- USA: 5.15 ~ 5.35 GHz, 5.5 ~ 5.7 GHz, 5.725 ~ 5.825 GHz
- Europe: 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- Japan: 5.15 ~ 5.35 GHz, 5.47 ~ 5.725 GHz
- China: 5.725 ~5.85 GHz

RF Output Power : IEEE 802.11ac (±2dBm)
- IEEE802.11a
  - 27dBm@6M
  - 25dBm@54M
- IEEE802.11ac/n HT20
  - 25dBm@MCS0
  - 23dBm@MCS9
- IEEE802.11ac/n HT40
  - 25dBm@MCS0
  - 23dBm@MCS9
- IEEE802.11ac/n HT80
  - 25dBm@MCS0
  - 23dBm@MCS9

Receive Sensitivity: IEEE 802.11ac
- IEEE802.11a
  - -95dBm@6M
  - -77dBm@54M
- IEEE802.11ac/n HT20
  - -82dBm@MCS0
  - -71dBm@MCS7

  - -70dBm@MCS8
- IEEE802.11ac/n HT40
  - -92dBm@MCS0
  - -72dBm@MCS7
  - -66dBm@MCS9
- IEEE802.11ac/n HT80
  - -88dBm@MCS0
  - -68dBm@MCS7
  - -62dBm@MCS9

Hardware
- WAN: 10/100/1000 Base-TX MDI/MDIX RJ-45 x 1
- LAN: 10/100/1000 Base-TX MDI/MDIX RJ-45 x 1
- Compliant with :
  - IEEE802.3 / 802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation
- Push buttons: 1x Reset
- LED: 1x Power& Status; 1x WAN; 1x Wi-Fi
- SMA: 3x with RP-SMA connectors

Operating mode
- AP
- Client bridge
- AP router
- Client router
- WDS

Security
- WEP(64/128/152)

- WAP/WPA2 Mixed
- WPA2-personal (PSK+CCMP/AES)
- WPA2- enterprise (802.1X certification)
- Hidden ESSID support
- MAC address filtering (MAC ACL)
- Station isolation

System Management
- Web-based administration
- SNMP V1/V2c
- Provides event log
- SYSLOG information support
- Statistics
- Configuration backup and restore
- One-button-click to restore factory default setting
- Firmware upgrade
- WES

Built-in Servers & Client Interfaces to Other Services
- DHCP client
- SNMP v1/v2c client

Physical and Power
- 24VDC Passive PoE
- Wall/Pole mountable
- Dimension: 240x135x58 mm
- Weight: TBD

Environment Protection
- Operating temperature: -35~75°C
- Storage temperature: -40~80°C
- Humidity: 0% to 95% maximum (Non-condensing)
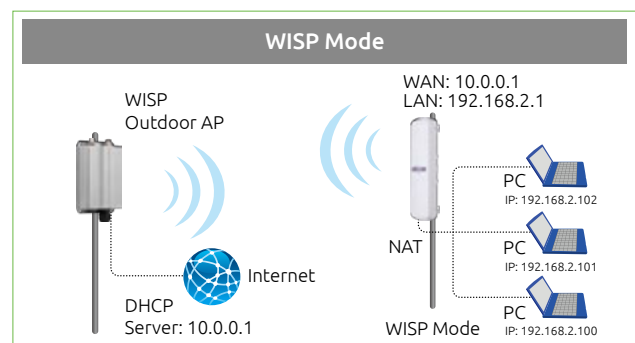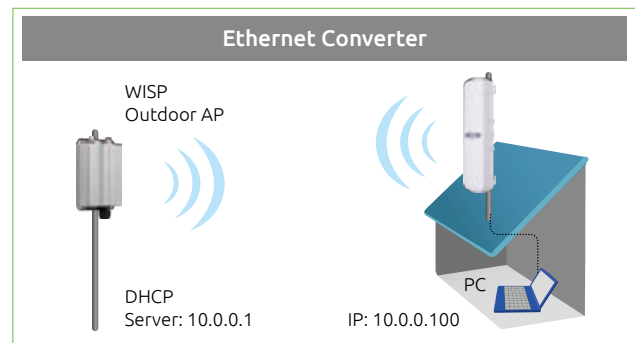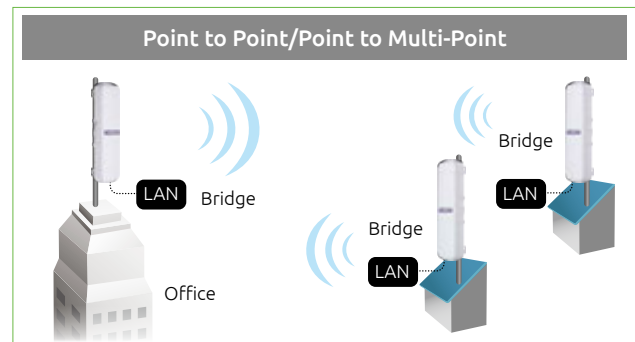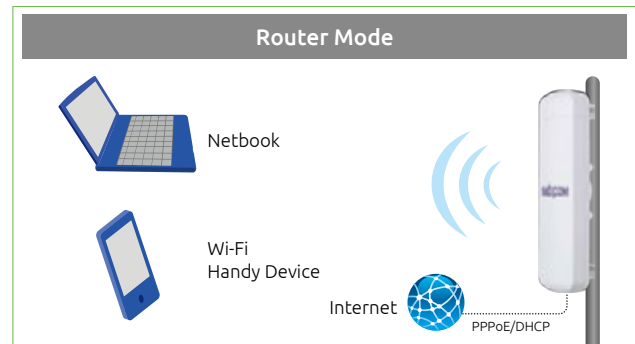- Vibration: random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF503 unit x1
- 24V PoE injector
- Steel clamps*2 for pole mount
- QIG

* Note:
  The available RF output power will be given by certified power in different region

Ordering Information

- **IWF 503-EU (P/N: 10T00050300X0)**

- **IWF 503-US (P/N: 10T00050301X0)**
  IEEE 802.11 ac/an/a with built-in 10dBi directional antennas

- **IWF 503D-EU (P/N: 10T00050302X0)**

- **IWF 503D-US (P/N: 10T00050303X0)**
  IEEE 802.11 ac/an/a with SMA connectors to supports users' choice of external antennas

NIO 50

Main Features

- Support Transparent Modbus TCP & Transparent Modbus RTU
- Web-based configuration
- 9600~115200 bps baudrate for RS-232/422/485 transmissions
- Enhanced surge protection for serial, LAN, and power
- Secure data access with WPA, WPA2
- 1 x 10/100 Fast Ethernet port

- Support 9~36V wide range DC input with 2 pin Phoenix Contact terminal block
- Support -20~70°C extended operating temperature
- LED indicators to display: Power, Serial Status and Wi-Fi RSSI signal strength

Product Overview

NIO 50 industrial wireless Serial/Ethernet IoT Gateway is tailor-made for connecting field devices, such as PLCs, meters, and sensors, to a wireless LAN. The transparent Modbus TCP/RTU transmission capability makes NIO 50 easy to use and reduce lots of deployment effort. NIO 50 perfectly works with NEXCOM EZ Mesh products and share with Mesh backbone everywhere inside field/factory. Communication software is able to access the devices anywhere over a wireless LAN environment, thus NIO 50 is the best cable replacement solution for widely spread Industrial 4.0 applications.

Specifications

CPU Support
- Onboard STM32F407ZE processor

Main Memory
- 512KB (embedded Flash in STM32)

Serial Port
- 1 x RS232/422/485 (software selectable)

Wireless
- Wi-Fi: 802.11 b/g/n 1x1

Ethernet
- 1 x 10/100 Base-TX
- MDI/MDIX Auto cross

Reset
- 1 X Reset/restore to default push button

Physical and Power
- DC 9~36V with 2 pins Phoenix contact terminal block
- Din-Rail(optional)/Wall mountable
- Dimension: 110 mm X 87 mm X 25 mm
- Weight: 600 g

SW Features
- OS: FreeRTOS

Management
- Web GUI for configuration
- Ethernet Firmware upgrade (TFTP)
- SNTP client (real IP, static)
- Factory default/ Reset (3 seconds interval for factory default)

Environment Protection
- Operating temperature: -20°C~70°C
- Storage temperature: -40°C~85°C

Relative Humidity
- Operating: 5%~95%, non-condensing

Certification

- EMI: FCC, CE Class A
- RF:
  - FCC: PART15C
  - CE: EN 300328
- EN60950-1
- EMC: EN 301 489-1/17, FCC Part 15 Subpart B, EN 55022/55024

Dimension Drawing
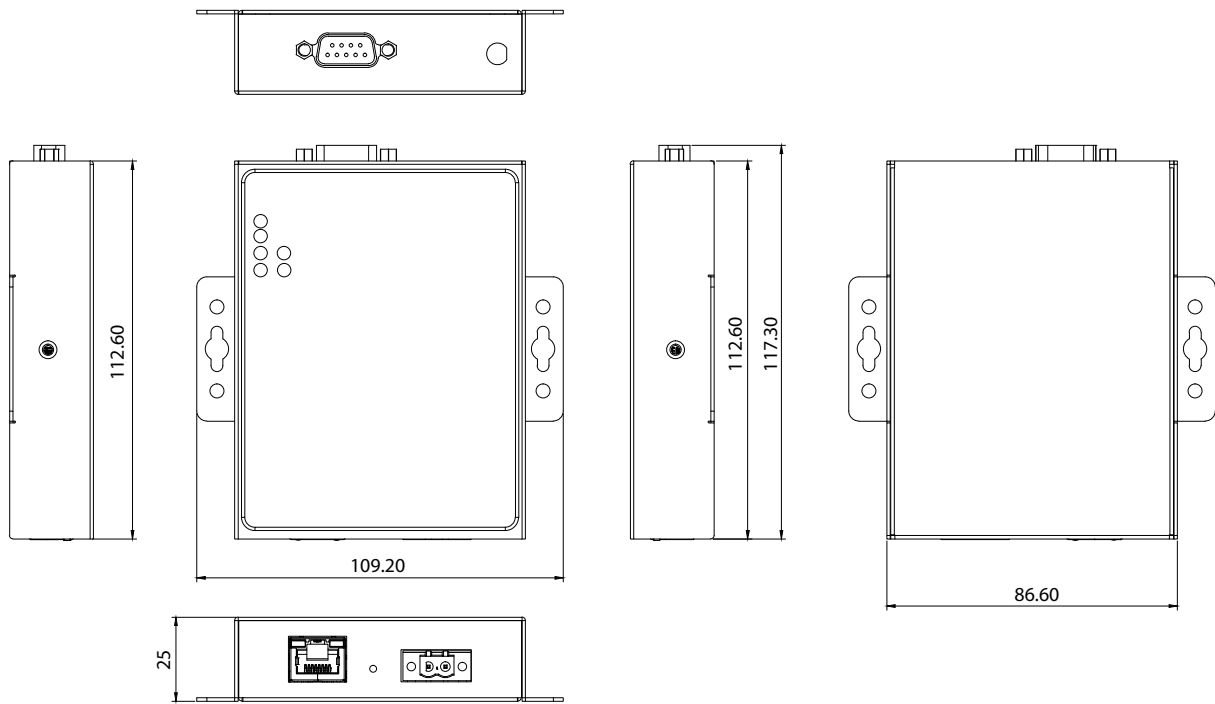
Ordering Information

- **NIO 50 (P/N: 10T00005000X0)**
  Wireless Serial/Ethernet IoT Gateway

NIO 100

Main Features

- Onboard Intel® Quark processor X1021 single core 400MHz
- Wind River® or Yocto (NIO100Y) operating system and McAfee® security software solutions
- Optional Wi-Fi or Wireless module
- 2 x 10/100 Fast Ethernet ports
- 1 x mPCIe slots for Radio module

- 2 x USB 2.0 type A
- 1 x RS232/485 selectable
- DIO 4x4
- Support 9~36V wide range DC input with Phoenix contact x 2 pin terminal block
- Support -20~70℃ extended operating temperature

Product Overview

NIO 100, designed as an IoT(Internet of Thing) gateway for cloud application specifically focused in industrial field, collects sensor data via RS232/485/DIO and transmitting data to cloud by 3G,WiFi or Ethernet. NIO 100 has power 9~36V wide range DC inputs for industrial environment. NIO 100 is an Innovative and compactable new gateway for IoT target market to Industrial 4.0 a good product.

Specifications

CPU Support
- Onboard Intel® Quark SoC processor X1021 Single Core 400MHz

Main Memory
- DDR3 1GB
- eMMC 4GB

Serial Port
- 1 x RS232/485 (software selectable)

DIO
- 4 x 4 DIO supports

USB
- 2 x USB 2.0 Type A

Ethernet
- 2 x 10/100 Base-TX
- MDI/MDIX Auto cross

Reset
- 1x reset button

Expansion Slot
- 1x mPCIe, half/short size for Wi-Fi/3G module (Optional)

Physical and Power
- DC 9~36V with 2 pins Phoenix Contact terminal block
- Din-Rail/Wall mountable
- Dimension:130 x130 x 40 mm
- Weight:700g (w/o bracket)

SW Features
- Moon Island Linux 5.0.1 (NIO100)
- Yocto (NIO100Y)
- Macfee security (Only for NIO100)
- Web GUI management
- Xcare client
- Modbus TCP

Environment Condition
- Operating temperature: -20℃~70℃
- Storage temperature: -30℃~80℃
- Humidity: 0% to 95% maximum (Non-condensing)

Mechanical Draft
- Din-Rail/Wall mountable
- PCB: 110 x 110 x 30 mm

Dimension Drawing
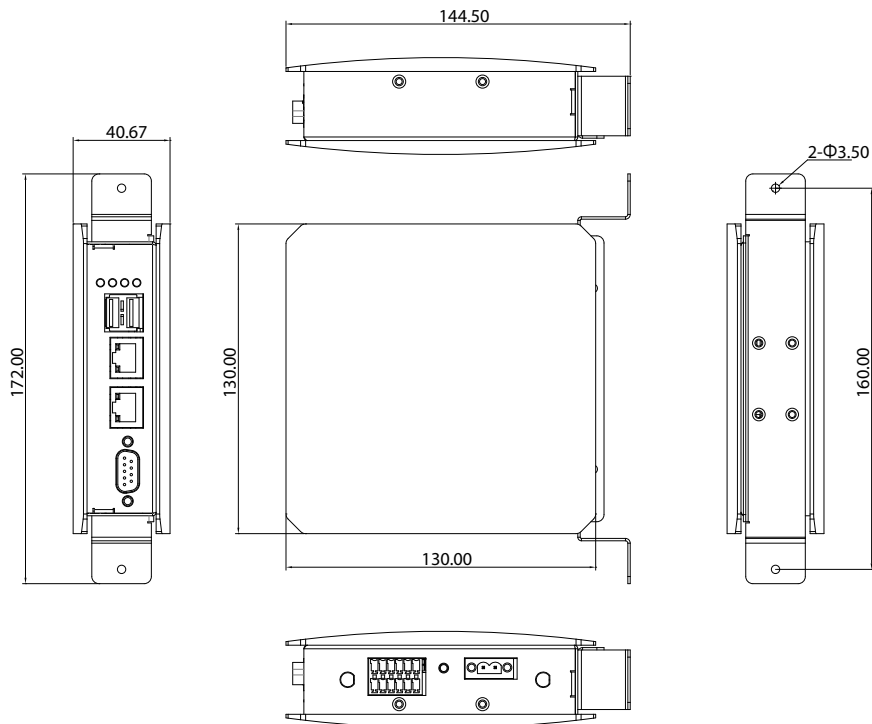
Ordering Information

- **NIO100 (P/N: 10T00010005X0)**
  Quark/Moon Island IOT gateway w/Modbus

- **NIO100Y (P/N: 10T00010006X0)**
  Quark/Yocto IOT gateway w/Modbus

Accessories

- **NIO 100 series WIFI module Kit/AZUREWAVE:**

  AW-NB159H, 0~70 (PN:10T00010003X0)

- **NIO 100 series 3G module Kit HUAWEI:**

  MU609 mini PCIe (PN:10T00010001X0)

- **RF Antenna for WiFi / 3G by customer request**

NIO 101

Main Features

- Onboard Intel® Quark processor X1021 single core 400MHz
- Wind River® or Yocto (only for NIO101Y) operating system and McAfee® (only for NIO101) security software solutions
- Optional Wi-Fi or 3G/LTE module
- 2 x 10/100 Fast Ethernet ports
- 1 x mPCIe slots for Radio module

- 1 x mPCIe slot for FBI module
- 2 x USB 2.0 type A
- 1 x RS232/485 selectable
- DIO 4x4
- Support 9~36V wide range DC input with phoenix 2 pin terminal block
- Support -20~70°C extended operating temperature

Product Overview

NIO 101, designed as an IoT(Internet of Thing) gateway for cloud application specifically focused in industrial field, supports the most popular Fieldbus protocols via various Fieldbus modules provided by NEXCOM. This is the most cost effective Fieldbus solution, especially tailor-made for widely spread Industrial 4.0 applications. In addition to Fieldbus protocol capability, NIO 101 can also collect sensor data via RS232/485/DIO and transmitting data to cloud by 3G, Wi-Fi or Ethernet. NIO 101 has wide range DC inputs 9~36V for industrial environment.

Specifications

CPU Support
- Onboard Intel® Quark SoC processor X1021 Single Core 400MHz

Main Memory
- DDR3 1GB
- eMMC 4GB

Serial Port
- 1 x RS232/485 (software selectable)

DIO
- 4 x 4 DIO supports

USB
- 2 x USB 2.0 Type A

Ethernet
- 2 x 10/100 Base-TX
- MDI/MDIX Auto cross

Reset
- 1x reset button

Expansion Slot
- 2x mPCIe, half/short size for Wi-Fi/3G module (Optional); Field bus interface (Optional)

Physical and Power
- DC 9~36V with 2 pins Phoenix Contact terminal block
- Din-Rail(optional)/Wall mountable

- Dimension: 130 x130 x 40 mm
- Weight: 700g (w/o bracket)

SW Features
- Moon Island Linux 5.0.1 (NIO101)
- Yocto (NIO101Y)
- Macfee security (NIO101 only)
- Web GUI management
- Xcare client
- Modbus TCP

Environment Protection
- Operating temperature: -20°C~70°C
- Storage temperature: -30°C~80°C

Certification

- CE Class A
- FCC Class A

Mechanical Draft

- PCB: 110x110x30 mm
- Operating temperature: -20~70 degree C
- Storage temperature: -30~80 degree C
- Humidity: 0% to 95% maximum (Non-condensing)

Dimension Drawing

66.00

130.00

130.00

129.98
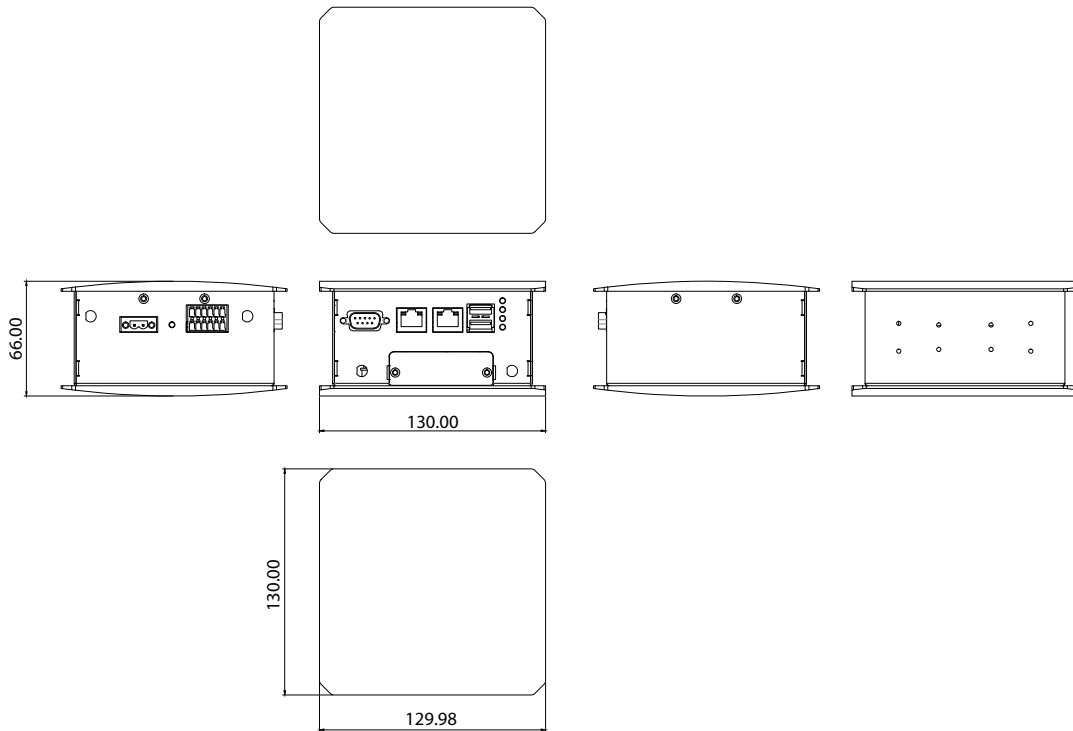
Ordering Information

- **NIO101 (P/N: 10T00010100X0)**
  Quark/Moon Island IOT gateway w/ FBI (Filed Bus Interface)
  suppported

- **NIO101Y (P/N: 10T00010101X0)**
  Quark/Yocto IOT gateway w/ FBI (Filed Bus Interface) suppported

Accessories

- **NIO 100 series WIFI module Kit/AZUREWAVE:**
  AW-NB159H, 0~70 (PN:10T00010003X0)

- **NIO 100 series 3G module Kit HUAWEI:**
  MU609 mini PCIe (PN:10T00010001X0)

- **FBI module:**
  FBI90E-DNM (Device master Interface)
  FBI90E-PBM (Profibus master Interface)
  FBI90E-REM (ProfiNET master Interface)
  FBI-REM (Ethernet/IP master Interface)
  FBI-REM (EtherCAT master Interface)

- **RF Antenna for WiFi / 3G by customer request**

NIO 200 Series

Main Features

- Full Mesh topology: robust wireless connectivity from ISA100.11a/WirelessHART field device coverage to Wi-Fi backbone.
- Perfect triple play infrastructure: video surveillance via high throughput Wi-Fi backbone ensures video transmission without compromising video performance.
- Dual Wi-Fi Mesh path establishes better stability in backbone

- transmission.
- Industrial standard: wide temperature range, Anti-explosive, power redundancy (DC/PoE)
- Distributed network topology provides scalable infrastructure: easy integration and cost saving.

Product Overview

NEXCOM NIO 200 is a powerful distributed network topology ISA100.11a access point integrating 802.11n Mesh technology. With ISA100.11a/WirelessHART technology, NIO 200 can establish fully Mesh network to ensure robust and reliable communication for mission-critical industrial wireless applications. The integration of both 802.11n Mesh & ISA100.11a/WirelessHART technology gives a full Mesh infrastructure from field devices to Wi-Fi backbone, thus a concrete wireless connectivity can be assured. It's designed to meet CID2 and ATEX certified requirement and is perfect solution to critical data monitoring and sensing in oil & gas, chemical plant, food & beverage, etc…

With NEXCOM IoT Studio gateway builder, users can dramatically reduce the project development cycle and fulfill fast time-to-market.

Specifications

Wireless Radio
- IEEE802.11a/n x 2, MIMO 2 x 2
- IEEE802.15.4, 1 Tx, 1 Rx

Wi-Fi Frequency Ranges
- USA: 5.15~5.35 GHz, 5.5~5.7 GHz, 5.725~5.825 GHz
- Europe: 5.15~5.35 GHz, 5.47~5.725 GHz
- Japan: 5.15~ .35 GHz, 5.47~5.725 GHz
- China: 5.725~5.85 GHz

RF Output Power : IEEE 802.11a
- 802.11a
  - 28 dBm with 2 antennas
- 802.11n non-HT duplicate (802.11a duplicate) mode
  - 28 dBm with 2 antennas
- 802.11n (HT20)
  - 27 dBm with 2 antennas
- 802.11n (HT40)
  - 27 dBm with 2 antennas
  - * Note:
    The available RF output power will be given by certified power in different region

ISA100 Backbone Router Capabilities
- IEEE 802.15.4 Compliant with ISA100.11a specifications

Hardware
- WAN: 10/100/1000 Base-TX MDI/MDIX
- LAN: 10/100/1000 Base-TX MDI/MDIX
- Compliant with :
  - IEEE802.3 / 802.3u
  - Hardware based 10/100/1000, full/half, flow control auto negotiation
- Push buttons: 1 x reset/restore to default
- LED:
  - 2 X Ethernet
  - 2 X 11an Radio
  - 1 X IWSN Radio
  - 1 X Power/Status
- N-Type: 5X N-type connector

Compliance
- UL 60950, 2nd Edition
- CAN/CSA-C22.2 No. 60950, 2nd Edition
- IEC 60950, 2nd Edition
- EN 60950, 2nd Edition
- Immunity <= 5 mJ for 6kV/3kA @ 8/20 ms waveform
- ANSI/IEEE C62.41
- EN61000-4-5 Level 4 AC Surge Immunity
- EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity

Wi-Fi Security

- WEP(64/128/152)
- WAP/WPA2 Mixed
- WPA2-personal (PSK+CCMP/AES)
- WPA2- enterprise (802.1X certification)
- Hidden ESSID support
- MAC address filtering (MAC ACL)
- Station isolation

System Management

- Web-based administration
- SNMP V1/V2c
- Event log
- SYSLOG information support
- Configuration backup and restore
- One-button-click to restore factory default setting
- Firmware upgrade

Built-in Servers & Client Interfaces to Other Services

- SNMP v1/v2c client

Physical and Power

- 12~48 VDC
  PoE (Standard PoE 802.3at)
- Wall/Pole mountable
- Dimension: 256mm x 226mm x 91mm
- Weight: TBD

Environment Protection

- Operating temperature: -40~65°C (altitude : up to 3000m)
- Storage temperature: -40~80°C
- Humidity: 0% to 95% maximum (Non-condensing)
- Vibration: random 0.3g

Certification

- UL 60950, 2nd Edition
- CAN/CSA-C22.2 No. 60950, 2nd Edition
- IEC 60950, 2nd Edition
- EN 60950, 2nd Edition
- Immunity <= 5 mJ for 6kV/3kA @ 8/20 ms waveform
  - ANSI/IEEE C62.41
  - EN61000-4-5 Level 4 AC Surge Immunity
  - EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity
  - EN61000-4-2 Level 4 ESD Immunity
  - EN60950 Overvoltage Category IV
- Radio approvals
  - FCC Part 15.247, 15.407
  - RSS-210
  - AS/NZS 4268.2003
  - EN 300 328
  - EN 301 893
- EMI and susceptibility
  - FCC part 15.107, 15.109
  - EN 301 489-1, -17

Anti-explosive certification

- UL: Class I, Division 2, Groups A, B, C and D
- ATEX: Class I, Zone 2; Ex nA II, T5

Ordering Information

- **NIO 210IDG (P/N: 10T0021003X0)**
  ISA100.11a Distributed Gateway

- **NIO 210IAG (P/N: 10T00021002X0)**
  ISA100.11a All-in-One Gateway

- **NIO 200IWR (P/N: 10T00020004X0)**
  ISA100.11a Wi-Fi backbone router

- **NIO 200IER (P/N: 10T00020006X0)**
  ISA100.11a Ethernet backbone router

- **NIO 210HDG (P/N: 10T00021001X0)**
  WirelessHART Distributed Gateway

- **NIO 210HAG (P/N: 10T00021000X0)**
  WirelessHART All-in-One Gateway

- **NIO 200HWR (P/N: 10T00020005X0)**
  WirelessHART Wi-Fi backbone router

- **NIO 200HER (P/N: 10T00020007X0)**
  WirelessHART Ethernet backbone router

eTOP504

ASIA ONLY

Main Features

- 4.3" TFT color display, LED backlight
- 480 x 272 pixel resolution, 64K colors
- Resistive touchscreen
- 2 Ethernet ports with switch function
- USB Host ports

- SD Card Slot
- Multistandard Serial Port
- Connection to fieldbus systems and I/O using optional plug-in modules

Product Overview

As a partner of well-known EXOR International S.p.A., NEXCOM integrates EXOR's HMI solution into eTOP HMI series. The eTOP Series 500 HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for all demanding HMI applications including factory and building automation. The eTOP504 features a bright 4:3" TFT widescreen display with a fully dimmable LED backlight. The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

JMobile runtime included. Full compatibility with JMobile Studio.

- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far East languages are supported. Tools available in JMobile Studio support easy third-party translations and help reducing development and maintenance costs of the application.
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for Factory and Building Automation systems.
- Multiple drivers communication capability
- Remote monitoring and control. Client- Server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile Studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects.
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%.

Specifications

Panel

- LED Size: 4:3"
- Resolution: WQVGA 480 x 272
- Luminance: 150cd/m^2
- LCD color: 64K
- Active display area: 4.3" diagonal (95.4x53.9mm)
- Backlight: LED

System Resources

- Operating System: Microsoft Windows CE6.0
- User Memory: 128MB Flash
- RAM: 256MB DDR

Operator Interface

- Touchscreen: Analog resistive
- LED indicators: 1 (dual color)

NEXCOM

Dimension Drawing
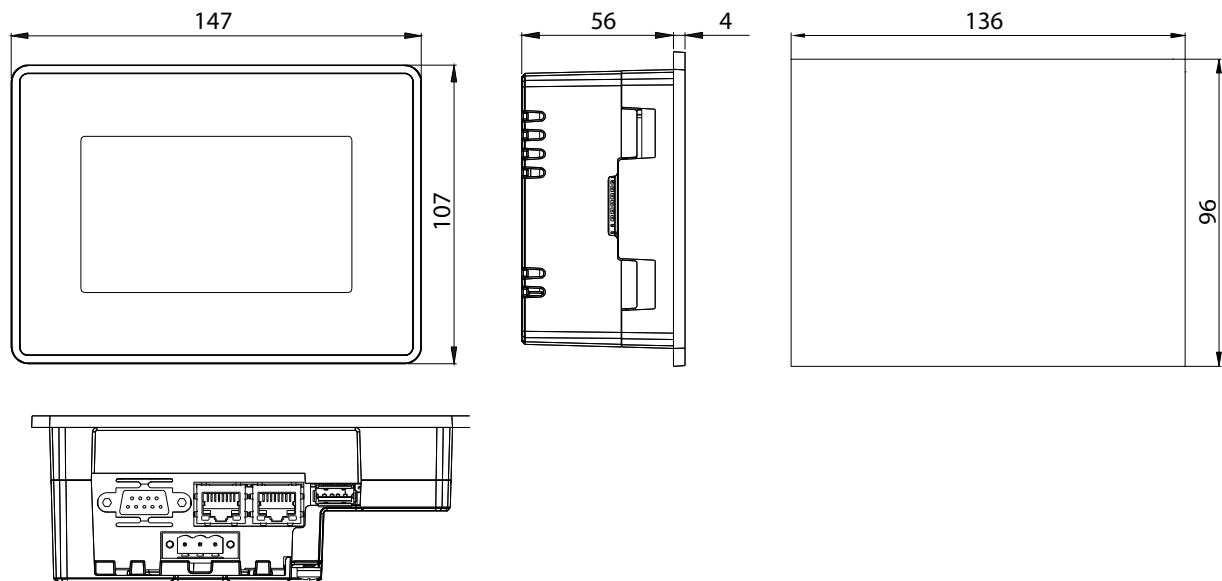
Interface
- Ethernet: 2 10/100Mbit with integrated Switch
- USB: 1 Host Interface
- Serial: RS232/422/485 software configuration
- Expansion Slot: 1 Optional plug-in
- Memory Card: SD Card Slot

Functionality
- Vector Graphic: Yes, includes SVG support
- Object dynamics: Yes, Visibility, opacity, position, size, rotation for most object types
- TrueType Font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, Flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, Flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and Passwords: Yes
- Hardware Real Time Clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings
- Power supply voltage: 24Vdc (10 to 32 Vdc)
- Current consumption: 0.55A at 24Vdc (max.)
- Fuse: Automatic
- Weight: Approx. 1Kg
- Battery: Rechargeable Lithium battery, not user- replaceable

Environmental Conditions
- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 70°C
- Operating and storage humidity: 5% ~ 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions
- Faceplate LxH: 147 x 107mm
- Cutout AxB: 136 x 96mm
- Depth D+T: 56 + 4mm

Certifications
- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments)
- DNV Type Approval Certificate
- cULus (UL508 Listed Haz. Loc. Class I, Division 2, Group A,B,C, and D)
- C-Tick

Ordering Information
- **eTOP504 (P/N: 79IE050401X00) +ETOP504U3P1**
  4.3" widescreen TFT color touchscreen with Ethernet and USB interfaces. JMobile run-time.

* Note:
  This product is only for Taiwan, China, Thailand, Vietnam, Philippines, Korea, UAE and Saudi Arabia

eTOP507

ASIA ONLY

Main Features

- 7" TFT color display, LED backlight
- 800 x 480 pixel (WVGA) resolution, 64K colors
- Resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD Card Slot
- Connection to fieldbus systems and I/O using optional plug-in modules
- Slim design. Mounting depth less than 50mm

Product Overview

As a partner of well-known EXOR International S.p.A., NEXCOM integrates EXOR's HMI solution into eTOP HMI series. The eTOP Series 500 HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for all demanding HMI applications including factory and building automation. The eTOP507 features a bright 7" TFT widescreen (16:9) display with a fully dimmable LED backlight. The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

JMobile runtime included. Full compatibility with JMobile Studio.

- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far East languages are supported. Tools available in JMobile Studio support easy third-party translations and help reducing development and maintenance costs of the application.
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for Factory and Building Automation systems.
- Multiple drivers communication capability
- Remote monitoring and control. Client- Server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile Studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects.
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%.

Specifications

Panel
- LED Size: 7", 16:9
- Resolution: WVGA 800 x 480
- Luminance: 300cd/m^2
- LCD color: 64K
- Active display area: 7" diagonal
- Backlight: LED

System Resources
- Operating System: Microsoft Windows CE6.0
- User Memory: 128MB Flash
- RAM: 256MB DDR

Operator Interface
- Touchscreen: Analog resistive
- LED indicators: 1 (dual color)

Dimension Drawing
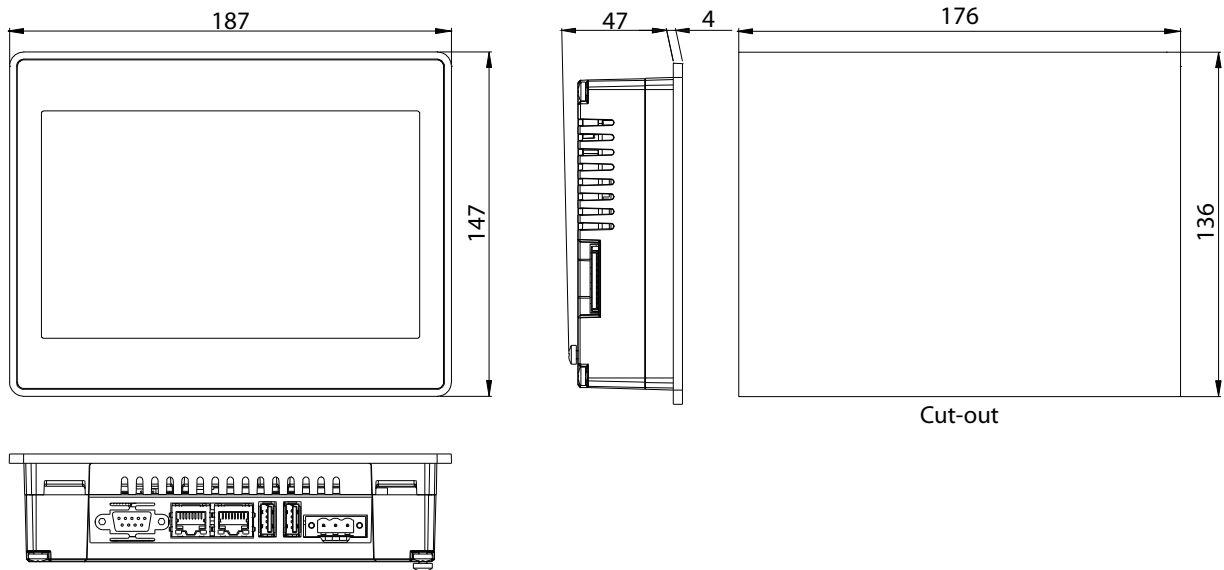
Cut-out

Interface

- Ethernet: 2 10/100Mbit with integrated Switch
- USB: 2 Host Interface (1 version 2.0, 1 version 2.0 and 1.1)
- Serial: RS232/422/485 software configuration
- Expansion Slot: 2 Optional plug-in
- Memory Card: SD Card Slot

Functionality

- Vector Graphic: Yes, includes SVG support
- Object dynamics: Yes, Visibility, opacity, position, size, rotation for most object types
- TrueType Font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and Passwords: Yes
- Hardware Real Time Clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings

- Power supply voltage: 24Vdc (10 to 32 Vdc)
- Current consumption: 0.65A at 24Vdc (max.)
- Fuse: Automatic
- Weight: Approx. 1Kg
- Battery: Rechargeable Lithium battery, not user- replaceable

Environmental Conditions

- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 70°C
- Operating and storage humidity: 5% ~ 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions

- Faceplate LxH: 187 x 147mm
- Cutout AxB: 176 x 136mm
- Depth D+T: 47 + 4mm

Certifications

- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments)
- DNV Type Approval Certificate (eTOP507N is compliance)
- cULus (UL508 Listed Haz. Loc. Class I, Division 2, Group A,B,C, and D) (eTOP507N is compliance)
- C-Tick (eTOP507N is compliance)
- GL (Germanischer Lloyd Type Approval Certificate) (eTOP507N is compliance)

Ordering Information

- **eTOP507 (P/N: 79IE050701X00) +ETOP507U3P3**
  7" widescreen TFT color touchscreen with Ethernet and USB interfaces. JMobile run-time.

- **eTOP507N (P/N: 10IE0050700X1)**
  7" widescreen TFT color touchscreen with Ethernet and USB interfaces. JMobile run-time.

  *   Note:
  This product is only for Taiwan, China, Thailand, Vietnam, Philippines, Korea, UAE and Saudi Arabia

eTOP510

10.4" TFT SVGA HMI Panel PC with Touch Screen

Main Features

- 10.4" TFT color display, LED backlight
- 800 x 600 pixel (SVGA) resolution, 64K colors
- Resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports

- SD Card Slot
- Connection to fieldbus systems and I/O using optional plug-in modules
- Slim design. Mounting depth less than 50mm

Product Overview

As a partner of well-known EXOR International S.p.A., NEXCOM integrates EXOR's HMI solution into eTOP HMI series. The eTOP Series 500 HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for all demanding HMI applications including factory and building automation. The eTOP510 features a bright 10.4" TFT display with a fully dimmable LED backlight. The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

JMobile runtime included. Full compatibility with JMobile Studio.

- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Full object dynamics: control visibility and transparency, move, resize, rotate any object on screen. Change properties of basic and complex objects.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far East languages are supported. Tools available in JMobile Studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus.
- Includes support for a wide range of communication drivers for Factory and Building Automation systems.
- Multiple drivers communication capability.
- Remote monitoring and control. Client- Server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile Studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects.
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%.

Specifications

Panel
- LED Size: 10.4"
- Resolution: SVGA 800 x 600
- Luminance: 300cd/m^2
- LCD color: 64K
- Active display area: 10.4" diagonal
- Backlight: LED

System Resources
- Operating System: Microsoft Windows CE6.0

- User Memory: 256MB Flash
- RAM: 256MB DDR

Operator Interface
- Touchscreen: Analog resistive
- LED indicators: 1 (dual color)

Interface
- Ethernet: 2 10/100Mbit with integrated Switch
- USB: 2 Host Interface (1 version 2.0, 1 version 2.0 and 1.1)

Dimension Drawing

- Serial: RS232/422/485 software configuration
- Expansion Slot: 2 Optional plug-in
- Memory Card: SD Card Slot

Functionality
- Vector Graphic: Yes, includes SVG support
- Object dynamics: Yes, visibility, opacity, position, size, rotation for most object types
- TrueType Font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and Passwords: Yes
- Hardware Real Time Clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings
- Power supply voltage: 24Vdc (10 to 32 Vdc)
- Current consumption: 0.95A at 24Vdc (max.)
- Fuse: Automatic
- Weight: Approx. 2.1Kg
- Battery: Rechargeable Lithium battery, not user- replaceable

Environmental Conditions
- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 70°C
- Operating and storage humidity: 5% ~ 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions
- Faceplate LxH: 287 x 232mm
- Cutout AxB: 276 x 221mm
- Depth D+T: 56 + 4mm

Certifications
- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments)
- DNV Type Approval Certificate
- cULus (UL508 Listed Haz. Loc. Class I, Division 2, Group A,B,C, and D)
- C-Tick

Ordering Information

- **eTOP510 (P/N: 79IE051001X00) +ETOP510U3P1**
  10"4 TFT color touchscreen with Ethernet and USB interfaces. JMobile run-time.

  * Note:
    This product is only for Taiwan, China, Thailand, Vietnam, Philippines, Korea, UAE and Saudi Arabia

eSMART04N

4.3" Widescreen TFT WQVGA HMI Panel PC
with Touch Screen

Main Features

- 4.3" TFT color display, LED backlight
- 480 x 272 pixel (WQVGA) resolution, 16.7M colors
- Resistive touchscreen
- 1 x Ethernet port

- 1 x USB Host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

Product Overview

The eSMART Series HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for adding affordable functionality and control to your system. The eSMART04N features a bright 4.3" TFT widescreen (16:9) display with a fully dimmable LED backlight.The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

Hightlight

- JMobile runtime included. Full compatibility with JMobile Studio
- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far East languages are supported. Tools available in JMobile studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for factory and building automation systems
- Multiple drivers communication capability
- Remote monitoring and control. Client- server functionality. Mobile clients supported
- Remote maintenance and support with VNC-based functionality
- Off-line simulation of the HMI application with JMobile studio
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development
- Rich gallery of symbols and objects
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers
- Display backlight dimmable to 0%

Specifications

Panel
- LED Size: 4", 16:9
- Resolution: WQVGA 480x272
- Luminance: 200cd/m²
- LCD color: 64K
- Backlight: LED

System Resources
- CPU: ARM Coretex-A8 300MHz
- Operating System: Linux 3.12

- Memory: 2G eMMC Flash
- RAM: 256MB DDR
- Application Memory: 60MB
- Real Time Clock: Yes
- RTC Backup: Supercapacitor
- Buzzer: Yes

Operator Interface
- Touchscreen: Analog resistive

Dimension Drawing

CUT OUT SIZE T=6mm (MAX)
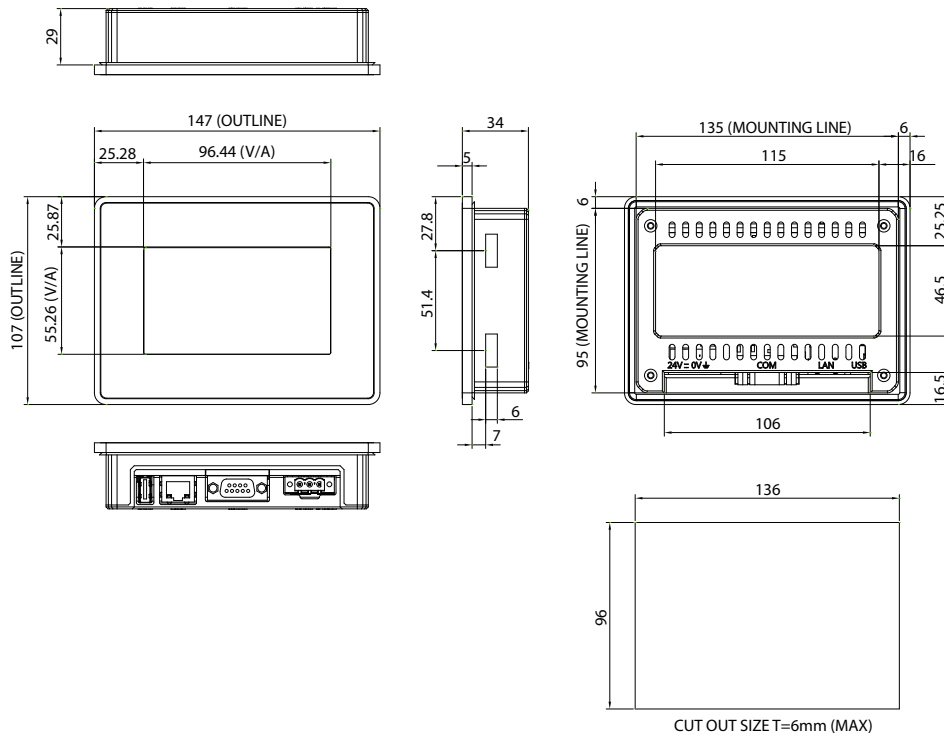
Interface

- Ethernet: 1 x 10/100 Mbit
- USB: 1 x USB2.0 host interface
- Serial: 1 x RS232/422/485 software configuration

Ratings

- Power supply voltage: 24Vdc (18 to 32 Vdc)
- Current consumption: 0.25A at 24Vdc (max.)
- Weight: 0.4kg

Environmental Conditions

- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 70°C
- Operating and storage humidity: 5%~85% relative humidity, non-condensing
- Protection class: IP66/NEMA4X (front), IP20 (rear)

Dimensions

- Faceplate LxH: 147x107 mm
- Cutout AxB: 136x96 mm
- Depth D+T: 29+5 mm

Certifications

- CE (emission EN61000-6-3/4; Immunity EN61000-6-1/2 for installation in industrial environments)
- cULus (UL508 Listed)

Ordering Information

- **eSMART04N (P/N: 10IE0000408X0)**
  4.3" widescreen TFT WQVGA touchscreen with Ethernet and USB interfaces. JMobile run-time

* Note:
  This product is only for Taiwan, China, Thailand, Vietnam, Philippines, Korea, UAE and Saudi Arabia

eSMART07N

ASIA ONLY

Main Features

- 7" TFT color display, LED backlight
- 800 x 480 pixel (WVGA) resolution, 16.7M colors
- Resistive touchscreen
- 1 x Ethernet port

- 1 x USB host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

Product Overview

The eSMART Series HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for adding affordable functionality and control to your system. The eSMART07N features a bright 7" TFT widescreen (16:9) display with a fully dimmable LED backlight. The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

Hightlight

- JMobile runtime included. Full compatibility with JMobile Studio
- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far east languages are supported. Tools available in JMobile studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for factory and building automation systems
- Multiple drivers communication capability
- Remote monitoring and control. Client- Server functionality. Mobile clients supported
- Remote maintenance and support with VNC-based functionality
- Off-line simulation of the HMI application with JMobile studio
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers
- Display backlight dimmable to 0%

Specifications

Panel
- LED Size: 7", 16:9
- Resolution: WVGA 800x480
- Luminance: 200cd/m^2
- LCD color: 64K
- Backlight: LED

System Resources
- CPU: ARM Coretex-A8 300MHz
- Operating system: Linux 3.12

- Memory: 2G eMMC flash
- RAM: 256MB DDR
- Application Memory: 60MB
- Real Time Clock: Yes
- RTC Backup: Supercapacitor
- Buzzer: Yes

Operator Interface
- Touchscreen: analog resistive

Dimension Drawing

CUT OUT SIZE T=6mm (MAX)

Interface
- Ethernet: 1x 10/100 Mbit
- USB: 1x USB2.0 host interface
- Serial: 1x RS232/422/485 software configuration

Ratings
- Power supply voltage: 24Vdc (18 to 32 Vdc)
- Current consumption: 0.3A at 24Vdc (max.)
- Weight: 0.6kg

Environmental Conditions
- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 70°C
- Operating and storage humidity: 5%~85% relative humidity, non-condensing
- Protection class: IP66/NEMA4X (front), IP20 (rear)

Dimensions
- Faceplate LxH: 187x147 mm
- Cutout AxB: 176x136 mm
- Depth D+T: 29+5 mm

Certifications
- CE (emission EN61000-6-3/4; immunity EN61000-6-1/2 for installation in industrial environments)
- cULus (UL508 Listed)

Ordering Information

- **eSMART07N (P/N: 10IE0000708X0)**
  7" widescreen TFT WVGA touchscreen with Ethernet and USB interfaces. JMobile run-time

  * Note:
  This product is only for Taiwan, China, Thailand, Vietnam, Philippines, Korea, UAE and Saudi Arabia

eSMART10N

ASIA ONLY

Main Features

- 10.1"TFT color display, LED backlight
- 1024 x 600 pixel (WSVGA) resolution, 16.7M colors
- Resistive touchscreen
- 1 x Ethernet port

- 1 x USB Host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

Product Overview

The eSMART Series HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for adding affordable functionality and control to your system. The eSMART10N features a bright 10.1" TFT widescreen (16:9) display with a fully dimmable LED backlight. The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

Hightlight

- JMobile runtime included. Full compatibility with JMobile Studio
- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far east languages are supported. Tools available in JMobile studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for factory and building automation systems
- Multiple drivers communication capability
- Remote monitoring and control. Client- Server functionality. Mobile clients supported
- Remote maintenance and support with VNC-based functionality
- Off-line simulation of the HMI application with JMobile studio
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development
- Rich gallery of symbols and objects
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers
- Display backlight dimmable to 0%

Specifications

Panel
- LED Size: 10.1", 16:9
- Resolution: WSVGA 1024x600
- Luminance: 200cd/m^2
- LCD color: 64K
- Backlight: LED

System Resources
- CPU: ARM Coretex-A8 1GHz
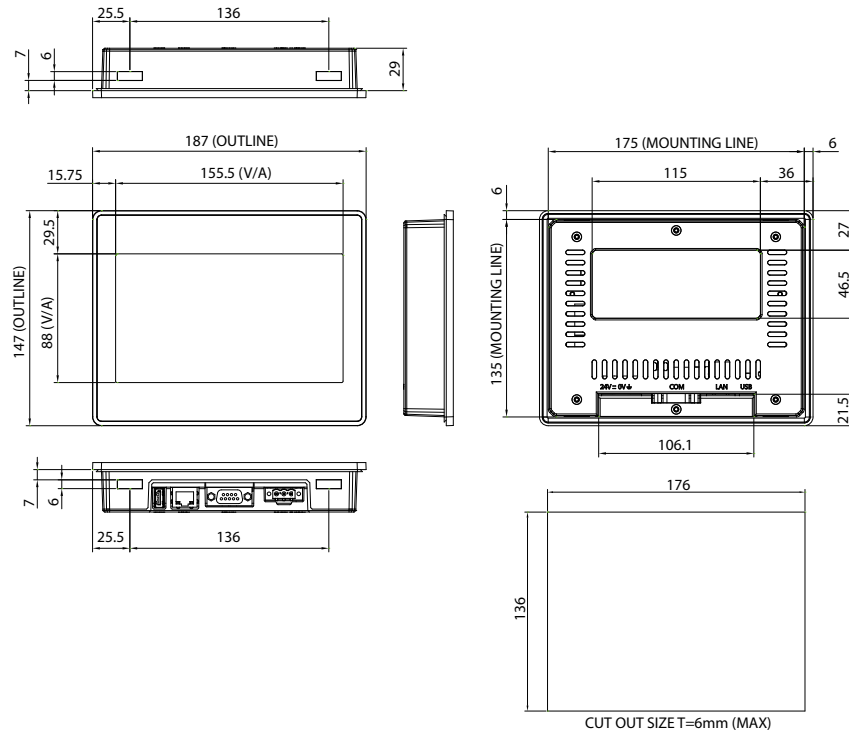- Operating System: Linux 3.12

- Memory: 4G eMMC flash
- RAM: 512MB DDR
- Application Memory: 60MB
- Real Time Clock: Yes
- RTC Backup: Supercapacitor
- Buzzer: Yes

Operator Interface
- Touchscreen: analog resistive

Dimension Drawing

CUT OUT SIZE T=6mm (MAX)
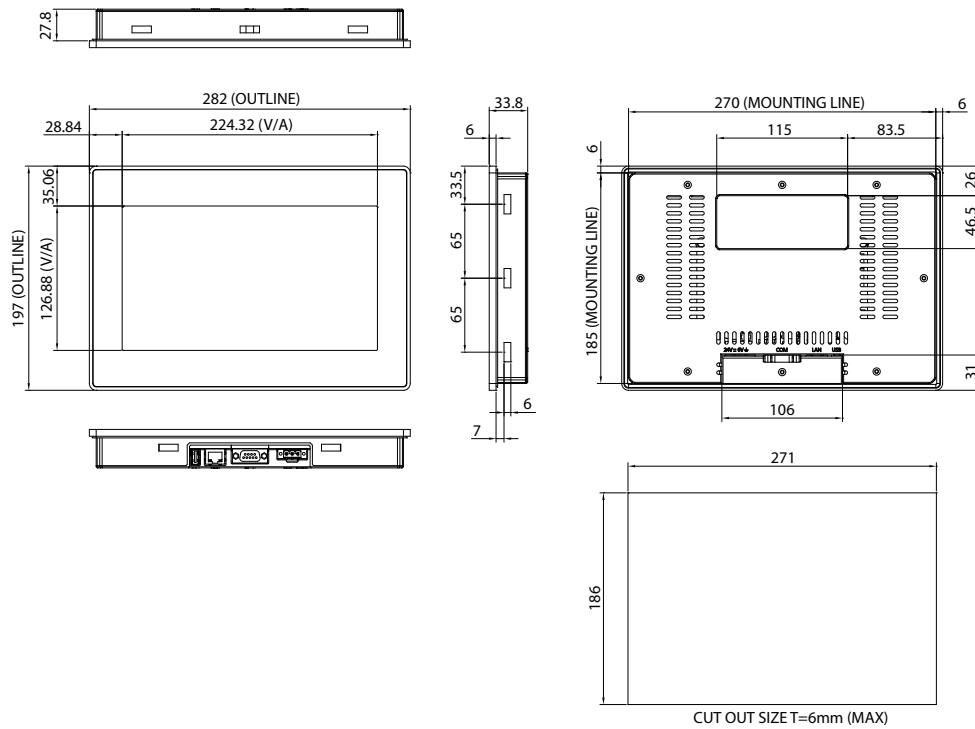
Interface
* Ethernet: 1 x 10/100 Mbit
* USB: 1 x USB2.0 host interface
* Serial: 1 x RS232/422/485 software configuration

Ratings
* Power supply voltage: 24Vdc (18 to 32 Vdc)
* Current consumption: 0.38A at 24Vdc (max.)
* Weight: approx. 1kg

Environmental Conditions
* Operating temperature: 0°C to 50°C (vertical installation)
* Storage temperature: -20°C to 70 °C
* Operating and storage humidity: 5%~85% relative humidity, non-condensing
* Protection class: IP66/NEMA4X (front), IP20 (rear)

Dimensions
* Faceplate LxH: 282x197 mm
* Cutout AxB: 271x186 mm
* Depth D+T: 29+6 mm

Certifications
* CE (emission EN61000-6-3/4; immunity EN61000-6-1/2 for installation in industrial environments)
* cULus (UL508 Listed)

Ordering Information

* **eSMART10N (P/N: 10IE0001005X0)**
  10.1" widescreen TFT WSVGA touchscreen with Ethernet and USB interfaces. JMobile run-time

* Note:
  This product is only for Taiwan, China, Thailand, Vietnam, Philippines, Korea, UAE and Saudi Arabia

APPC 0840T

8" TFT SVGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 4x USB, 2x COM and VGA

Main Features

- 4:3 8" SVGA fanless panel computer
- Intel® Atom™ E3826, Dual Core, low power consumption CPU
- Flush panel by 5-wire touch screen
- Dual GbE/2nd display-VGA/2x RS232/422/485/Line-out
- 3 x USB 2.0/1 x USB 3.0/1 x mini-PCIe socket/1 x CFast
- Remote power switch

- DDR3L 2GB/2.5" HDD bracket
- IP65 compliant front panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting support: Panel/Wall/Stand/VESA 75mm x 75mm
- Wide range power input 12~30VDC

Product Overview

Incorporated a 8" 4:3 touch screen LCD panel with resolutions up to 800 x 600 (SVGA) and 400 nits brightness, the APPC 0840T are fanless Panel PC based on the Atom™ E3826 processor. The industrial motherboard is reengineering to have RAM and Mini-PCIe aligned in the same side of the board with its Intel® Atom™ E3826 CPU. This dedicated motherboard benefits users both in future capability expansion and ease for maintenance. The Panel PC comes with flush panel design and can have IP65 front for industrial applications. The touch screen provides the durable, reliable, and scratchable benefits for easy maintenance in wide applications.

The ultra slim APPC 0840T makes it become industrial slimmest model for space-critical applications, such as, access control, small automation machineries, forklift and truck etc. This APPC 0840T supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, one Mini-PCIe slot and one SIM card holder. With support for wide power input of 12~30VDC, this APPC 0840T can gain a strong foothold in industrial field and machine devices. In addition, this APPC 0840T can hook 2nd display via a VGA port for dual independent display. 0840T has two RS232/422/485 ports, three USB2.0 port, one USB3.0 port and fieldbus port.

Specifications

Panel
- LED size: 8", 4:3
- Resolution: SVGA 800 x 600
- Luminance: 400cd/m2
- Contrast ratio: 500
- LCD color: 262K
- Viewing angle: 50(U), 70(D), 70(L), 70(R)
- Backlight: LED

Touch screen
- 5-wire resistive (flush panel type)
- Touch light transmission: 82%
- Touch interface: USB

System
- CPU: On-board Intel® Atom™ dual core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 1x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (default), support up to 8GB DDR3L-1066/1333, non-ECC and un-buffered
- Storage device:

- 1 x external locked CFast socket
- 1 x hard drive bay: optional 1x 2.5" SATA HDD or 1x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 1x Mini-PCIe socket1 (support optional Wi-Fi, 3.5G module or fieldbus card)

Rear I/O
- Ethernet: 2x RJ45
- 2nd display VGA port: 1x DB15
- Audio port: 1x Line out
- USB: 3 x USB 2.0; 1 x USB 3.0
- Power switch
- Remote power switch
- Reset button
- COM #1: RS232/422/485
- COM #2: RS232/422/485
- Fieldbus: (protocol interface optional)

NEXCOM

Dimension Drawing

CUT OUT SIZE T=6mm (MAX)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET Master	Dual RJ-45
FBI90E-EP	Ethernet/IP Master	
FBI90E-ECM	EtherCAT Master	
FBI90E-PBM	Profibus Master	DB9
FBI90E-DNM	DeviceNet Master	5-pins Phoenix Contact Terminal

Audio
- HD codec: Realtek ALC886-GR
- Audio interface: Line out/ Line in (Optional)/ MIC-in (Optional) audio Jack

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: Pantone Black
- IP protection: IP65 front
- Mounting: panel/ wall/ stand/ VESA 75mm x 75mm
- System with panel mounting kit w/o panel mounting hole
- Power input: 12~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5℃ to 50℃
- Storage temperature: -20℃ to 75℃
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 217.4x176.4x68.9mm
- Weight: 2.3Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC 0840T (P/N: 10IA0840T00X0)**
  8" SVGA LED backlight touch panel PC with Intel® Atom™ E3826 1.46 GHz, touch screen, 2GB DDR3L with 2x RS232/422/485

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060017X00)**
- **PRONET master interface module: FBI90E-PNM for APPC (P/N: 88IA1932T00X0)**
- **EtherNet/IP master interface module: FBI90E-EP for APPC (P/N: 88IA1932T01X0)**
- **EtherCAT master interface module: FBI90E-ECM for APPC (P/N: 88IA1932T02X0)**
- **PROFIBUS master interface module: FBI90E-PBM for APPC (P/N: 8IA1932T03X0)**
- **DeviceNet master interface module: FBI90E-DNM for APPC (P/N: 8IA1932T04X0)**

APPC 1240T

12.1" TFT SVGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port

Main Features

- 4:3 12.1" SVGA Fanless LED Panel Computer
- Intel® Atom™ E3826, Dual Core, Low Consumption CPU
- Flush Panel by 5-wire Touch Screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- DDR3L 2GB/2.5" HDD Bracket

- IP65 Compliant Front Panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting Support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide Range Power Input 12V~30VDC

Product Overview

The 12.1" fanless panel PC APPC 1240T incorporating an industrial motherboard is intended for versatile industrial applications. APPC 1240T has a touch screen LED backlight LCD panel with 800x600 (SVGA) resolution and 450-nit brightness. The front panel which adopts flush design and complies with IP65 standard makes it the perfect fit in industrial applications.

This APPC series supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, this APPC series can gain a strong foothold in industrial field and machine devices. In addition, this APPC series can hook 2nd display via a VGA port for dual independent display. 1240T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel
- LED Size: 12.1", 4:3
- Resolution: SVGA 800x600
- Luminance: 450cd/m²
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 65(U), 75(D), 80(L), 80(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 80%
- Interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by

software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O
- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0, 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
  - 4 x Digital Input (Source type)
  - Input Voltage (Dry Contact): Logic 0: Close to GND
  - Logic 1: Open
  - Input Voltage: Logic 0: 3V max
  - Logic 1: +5V ~ +30V
  - 4 x Digital Output (Sink type)
  - Output Voltage: 3.6V ~ 5V
  - Sink current: 200 mA max. per channel
- COM #1: RS232/422/485 w/ 2.5kv isolated

Dimension Drawing

CUT OUT SIZE T=5MM (MAX)

- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (Protocol interface Optional)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET Master	Dual RJ-45
FBI90E-EP	Ethernet/IP Master	
FBI90E-ECM	EtherCAT Master	
FBI90E-PBM	Profibus Master	DB9
FBI90E-DNM	DeviceNet Master	5-pins Phoenix Contact Terminal

Audio
- HD audio codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in(Optional)/MIC-in(Optional)

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: pantone black\RAL 15 00 front bezel w/ Pantone 400C\RAL 090 80 10 metal style membrane
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~ 30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast Operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
- Dimension: 317 x 243 x 65.89mm
- Weight: 4 Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC1240T (P/N: 10IA1240T00X0)**
  12.1" SVGA LED Backlight Touch Panel PC, Intel® Atom™ E3826 1.46GHz, touch screen, 2GB DDR3L, 2 xRS232/422/485, Brightness adjustment buttons

- **ProfiNET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**

- **Ethernet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**

- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**

- **Profibus Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**

- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**

APPC 1245T

12.1" TFT XGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port

Main Features

- 4:3 12.1" XGA Fanless LED Panel Computer
- Intel® Atom™ E3826, Dual Core, Low Consumption CPU
- Flush Panel by 5-wire Touch Screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- DDR3L 2GB/2.5" HDD Bracket

- IP65 Compliant Front Panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting Support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide Range Power Input 12V~30VDC

Product Overview

The 12.1" XGA fanless panel PC APPC 1245T incorporating an industrial motherboard is intended for versatile industrial applications. APPC 1245T supports 1024 x 768 (XGA) resolution and 500-nit brightness. The front panel which adopts flush design and complies with IP65 standard makes it the perfect fit in industrial applications.

This APPC series supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, this APPC series can gain a strong foothold in industrial field and machine devices. In addition, this APPC series can hook 2nd display via a VGA port for dual independent display. APPC 1245T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel
- LED Size: 12.1", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 500cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 80(U), 80(D), 80(L), 80(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 80%
- Interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by

software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25℃)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O
- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0 + 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
  - 4 x Digital Input (Source type)
  - Input Voltage (Dry Contact): Logic 0: Close to GND
  - Logic 1: Open
  - Input Voltage: Logic 0: 3V max
  - Logic 1: +5V ~ +30V
  - 4 x Digital Output (Sink type)
  - Output Voltage: 3.6V ~ 5V
  - Sink current: 200 mA max. per channel
- COM #1: RS232/422/485 w/ 2.5kv isolated

Dimension Drawing

- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (Protocol interface Optional)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET Master	Dual RJ-45
FBI90E-EP	Ethernet/IP Master	
FBI90E-ECM	EtherCAT Master	
FBI90E-PBM	Profibus Master	DB9
FBI90E-DNM	DeviceNet Master	5-pins Phoenix Contact Terminal

Audio
- HD audio codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in(Optional)/MIC-in(Optional)

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: pantone black\RAL 15 00 front bezel w/ Pantone 400C\RAL 090 80 10 metal style membrane
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast Operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
- Dimension: 317 x 243 x 65.89mm
- Weight: 4 Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC 1245T (P/N: 10IA1245T00X0)**
  12.1" XGA LED Backlight Touch Panel PC, Intel® Atom™ E3826 1.46GHz, touch screen, 2GB DDR3L, 2 x RS232/422/485, Brightness adjustment buttons

- **ProfiNET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**

- **Ethernet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**

- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**

- **Profibus Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**

- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**

APPC 1540T

15" TFT XGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port

Main Features

- 4:3 15" XGA Fanless LED Panel Computer
- Intel® Atom™ E3826, Dual Core, Low Consumption CPU
- Flush Panel by 5-wire Touch Screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- DDR3L 2GB/2.5" HDD Bracket

- IP65 Compliant Front Panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting Support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide Range Power Input 12V~30VDC

Product Overview

The 15" fanless panel PC APPC 1540T incorporating an industrial motherboard is intended for versatile industrial applications. The panel PC has a touch screen LED backlight LCD panel with 1024 x 768 (XGA) resolution and 400-nit brightness. The front panel which adopts flush design and complies with IP65 standard makes it the perfect fit in industrial applications.

The APPC 1540T supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, APPC 1540T can gain a strong foothold in industrial field and machine devices. In addition, APPC 1540T can hook 2nd display via a VGA port for dual independent display. APPC 1540T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel
- LED Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 400cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 60 (U), 80(D), 80(L), 80(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 80%
- Interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by

software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O
- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0, 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
  - 4 x Digital Input (Source type)
  - Input Voltage (Dry Contact): Logic 0: Close to GND
  - Logic 1: Open
  - Input Voltage: Logic 0: 3V max
  - Logic 1: +5V ~ +30V
  - 4 x Digital Output (Sink type)
  - Output Voltage: 3.6V ~ 5V
  - Sink current: 200 mA max. per channel
- COM #1: RS232/422/485 w/ 2.5kv isolated

NEXCOM

Dimension Drawing

CUT OUT SIZE T=5MM (MAX)

- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (Protocol interface Optional)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET Master	Dual RJ-45
FBI90E-EP	Ethernet/IP Master	
FBI90E-ECM	EtherCAT Master	
FBI90E-PBM	Profibus Master	DB9
FBI90E-DNM	DeviceNet Master	5-pins Phoenix Contact Terminal

Audio
- HD audio codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in(Optional)/MIC-in(Optional)

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: pantone black\RAL 15 00 front bezel w/ Pantone 400C\RAL 090 80 10 metal style membrane
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast Operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
- Dimension: 384.37 x 309.95 x 63.2 mm
- Weight: 5.1 Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC 1540T (P/N: 10IA1540T00X0)**
  15" XGA LED Backlight Touch Panel PC, Intel® Atom™ E3826 1.46GHz, touch screen, 2GB DDR3L, 2 x RS232/422/485, Brightness adjustment buttons

- **ProfiNET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**

- **Ethernet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**

- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**

- **Profibus Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**

- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**

APPC 1740T

17" TFT SXGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port

Main Features

- 4:3 17" SXGA Fanless Panel Computer
- Intel® Atom™ E3826, Dual Core, Low Consumption CPU
- Flush Panel by 5-wire Touch Screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- DDR3L 2GB/2.5" HDD Bracket

- IP65 Compliant Front Panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting Support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide Range Power Input 12V~30VDC

Product Overview

The 17" fanless panel PC APPC 1740T incorporating an industrial motherboard is intended for versatile industrial applications. The panel PC has a touch screen LCD panel with 1280 x 1024 (SXGA) resolution and 350-nit brightness. The front panel which adopts flush design and complies with IP65 standard makes it the perfect fit in industrial applications.

The APPC 1740T supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, APPC 1740T can gain a strong foothold in industrial field and machine devices. In addition, APPC 1740T can hook 2nd display via a VGA port for dual independent display. APPC 1740T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel
- LED Size: 17", 4:3
- Resolution: SXGA 1280x1024
- Luminance: 350cd/m²
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing Angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by

software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O
- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0, 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
  - 4 x Digital Input (Source type)
  - Input Voltage (Dry Contact): Logic 0: Close to GND
  - Logic 1: Open
  - Input Voltage: Logic 0: 3V max
  - Logic 1: +5V ~ +30V
  - 4 x Digital Output (Sink type)
  - Output Voltage: 3.6V ~ 5V
  - Sink current: 200 mA max. per channel
- COM #1: RS232/422/485 w/ 2.5kv isolated

Dimension Drawing

CUT OUT SIZE T=12MM (MAX)

- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (Protocol interface Optional)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET Master	Dual RJ-45
FBI90E-EP	Ethernet/IP Master	
FBI90E-ECM	EtherCAT Master	
FBI90E-PBM	Profibus Master	DB9
FBI90E-DNM	DeviceNet Master	5-pins Phoenix Contact Terminal

Audio
- HD audio codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in(Optional)/MIC-in(Optional)

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: pantone black\RAL 15 00 front bezel w/ Pantone 400C\RAL 090 80 10 metal style membrane
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast Operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
- Dimension: 410.4 x 340.4 x 65.9mm
- Weight: 6.7 Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC 1740T (P/N: 10IA1740T00X0)**
  17" SXGA LED Backlight Touch Panel PC, Intel® Atom™ E3826 1.46GHz, touch screen, 2GB DDR3L, 2 x RS232/422/485, Brightness adjustment buttons

- **ProfiNET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**

- **Ethernet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**

- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**

- **Profibus Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**

- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**

APPC 1940T

19" TFT SXGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus port

Main Features

- 4:3 19" SXGA Fanless LED Panel Computer
- Intel® Atom™ E3826, Dual Core, Low Consumption CPU
- Flush Panel by 5-wire Touch Screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- DDR3L 2GB/2.5" HDD Bracket

- IP65 Compliant Front Panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting Support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide Range Power Input 12V~ 30VDC

Product Overview

The 19" fanless panel PC APPC 1940T incorporating an industrial motherboard is intended for versatile industrial applications. The panel PC has a touch screen LED backlight LCD panel with 1280 x 1024 (SXGA) resolution. The front panel which adopts flush design and complies with IP65 standard makes it the perfect fit in industrial applications.

The APPC 1940T supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, APPC 1940T can gain a strong foothold in industrial field and machine devices. In addition, APPC 1940T can hook 2nd display via a VGA port for dual independent display. APPC 1940T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel
- LED Size: 19", 4:3
- Resolution: SXGA 1280x1024
- Luminance: 350cd/m²
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing Angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O
- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB2.0, 1 x USB3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
  - 4 x Digital Input (Source type)
  - Input Voltage (Dry Contact): Logic 0: Close to GND
  - Logic 1: Open
  - Input Voltage: Logic 0: 3V max
  - Logic 1: +5V ~ +30V
  - 4 x Digital Output (Sink type)
  - Output Voltage: 3.6V ~ 5V
  - Sink current: 200 mA max. per channel
- COM #1: RS232/422/485 w/ 2.5kv isolated

Dimension Drawing

CUT OUT SIZE T=3MM (MAX)

- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (Protocol interface Optional)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET Master	
FBI90E-EP	Ethernet/IP Master	Dual RJ-45
FBI90E-ECM	EtherCAT Master	
FBI90E-PBM	Profibus Master	DB9
FBI90E-DNM	DeviceNet Master	5-pins Phoenix Contact Terminal

Audio
- HD audio codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in(Optional)/MIC-in(Optional)

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: pantone black\RAL 15 00 front bezel w/ Pantone 400C\RAL 090 80 10 metal style membrane
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast Operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
- Dimension: 457.64 x 379.24 x 61.25 mm
- Weight: 6.7 Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC1940T (P/N: 10IA1940T00X0)**
  19" SXGA LED Backlight Touch Panel PC, Intel® Atom™ E3826 1.46GHz, touch screen, 2GB DDR3L, 2 x RS232/422/485, Brightness adjustment buttons

- **ProfiNET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**

- **Ethernet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**

- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**

- **Profibus Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**

- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**

APPD 1200T

12.1" IP65 Industrial 4:3 SVGA LCD Flush Touch Monitor

Main Features

- IP65 compliant plastic front bezel with flush panel by 5-wire touch screen
- Dual display input interface: analog VGA and DVI-D
- Shares identical appearance with APPC series
- Dual touch screen interface: RS232 and USB
- Ultra slim in depth
- OSD Multilanguage function

Product Overview

12.1" 4:3 LCD display APPD 1200T is based on a 5-wire resistive touch screen. It has 450 nits brightness and can support resolutions up to 800 x 600. APPD 1200T is ideal for space-critical environments where systems and displays are kept apart. In addition, APPD 1200T adopts a flush panel design and has IP65 front panel. APPD 1200T provides prevailing video interfaces: VGA and DVI, supporting both digital and analog signals; touch screen can be connected with RS232 or USB ports. Moreover, APPD 1200T supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. APPD 1200T is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC panel PC when a second display is required.

Specifications

Panel
- LED Size: 12.1", 4:3
- Resolution: SVGA 800 x 600
- Luminance: 450cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 65(U), 75(D), 80(L), 80(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 80%
- Interface: USB and RS232

Rear I/O
- Touch screen interface port: RS-232 (1 x DB9)/USB Type A
- Video port: VGA (1 x DB15)/DVI-D (1 x DVI-I connector)
- DC power input connector: 3-Pin Phoenix terminal Blocks

OSD Function
- OSD keypad
- Multilanguage OSD

Mechanical & Environment
- Color: pantone black
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  IEC 68 2-64
  2Grms @ sine, 5~500Hz, 1hr/axis (Operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  IEC 68 2-27
  20G@wall mount, half sine, 11ms
  Operating temperature: -5°C to 50°C
  Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 317 x 243 x 53.5mm
- Weight: 2.9Kg

Certifications
- CE approval
- FCC Class B

NEXCOM

Dimension Drawing

264

317

53.50
10.50

243

175.70

304.5

230

5

CUT OUT SIZE T=5MM(MAX)

Ordering Information

- **APPD 1200T (P/N: 10IAD120000X0)**
  12.1" SVGA industrial 4:3 LED Backlight flush touch monitor with
  VGA and DVI-D input, 12~24VDC input, RS-232 and USB touch screen
  interfaces

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060019X00)

- **1.8m DVI-D male to DVI-D male Cable**

  (P/N: 60233DVI28X00)

APPD 1205T

Main Features

- IP65 compliant plastic front bezel with flush panel by 5-wire touch screen
- Dual display input interface: analog VGA and DVI-D
- Shares identical appearance with APPC series
- Dual touch screen interface: RS232 and USB
- Ultra slim in depth
- OSD Multilanguage function

Product Overview

12.1" 4:3 LCD display APPD 1205T is based on a 5-wire resistive touch screen. It has 500 nits brightness and can support resolutions up to 1024 x 768. APPD 1205T is ideal for space-critical environments where systems and displays are kept apart. In addition, APPD 1205T adopts a flush panel design and has IP65 front panel. APPD 1205T provides prevailing video interfaces: VGA and DVI, supporting both digital and analog signals; touch screen can be connected with RS232 or USB ports. Moreover, APPD 1205T supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. APPD 1205T is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC panel PC when a second display is required.

Specifications

Panel
- LED Size: 12.1", 4:3
- Resolution: XGA, 1024 x 768
- Luminance: 500cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 80(U), 80(D), 80(L), 80(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 80%
- Interface: USB and RS232

Rear I/O
- Touch screen interface port: RS-232 (1 x DB9)/USB Type A
- Video port: VGA (1 x DB15)/DVI-D (1 x DVI-I connector)
- DC power input connector: 3-Pin Phoenix terminal Blocks

OSD Function
- OSD keypad
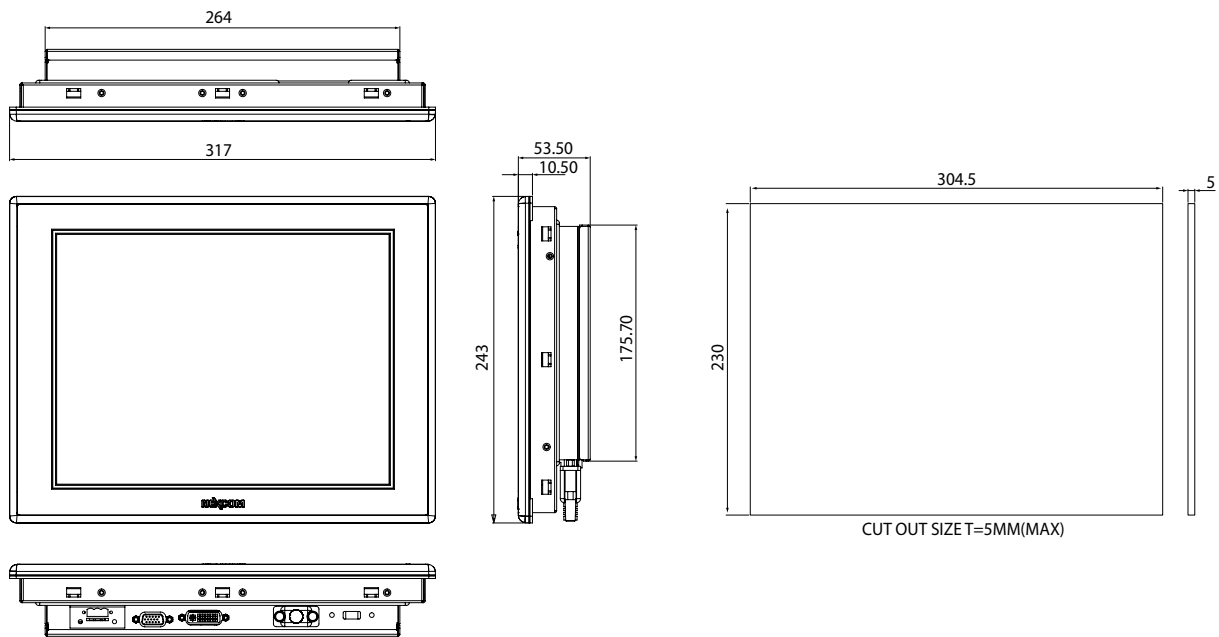- Multilanguage OSD

Mechanical & Environment
- Color: pantone black
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  IEC 68 2-64
  2Grms @ sine, 5~500Hz, 1hr/axis (Operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  IEC 68 2-27
  20G@wall mount, half sine, 11ms
  Operating temperature: -5°C to 50°C
  Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 317 x 243 x 53.5mm
- Weight: 2.9Kg

Certifications
- CE approval
- FCC Class B

Dimension Drawing

264

317

53.50

10.50

243

175.70

304.5

5

230

CUT OUT SIZE T=5MM(MAX)

Ordering Information

- **APPD 1205T (P/N: 10IAD120500X0)**
  12.1" XGA industrial 4:3 TFT LED Backlight flush touch monitor with VGA and DVI-D input, 12~24VDC input, RS-232 and USB touch screen interfaces

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060019X00)

- **1.8m DVI-D male to DVI-D male Cable**

  (P/N: 60233DVI28X00)

APPD 1500T

Main Features

- IP65 compliant plastic front bezel with flush panel by 5-wire touch screen
- Dual display input interface: analog VGA and DVI-D
- Shares identical appearance with APPC series
- Dual touch screen interface: RS232 and USB
- Ultra slim in depth
- OSD Multilanguage function

Product Overview

15" 4:3 LCD display APPD 1500T is based on a 5-wire resistive touch screen. It has 400 nits brightness and can support resolutions up to 1024 x 768. APPD 1500T is ideal for space-critical environments where systems and displays are kept apart. In addition, APPD 1500T adopts a flush panel design and has IP65 front panel. APPD 1500T provides prevailing video interfaces: VGA and DVI, supporting both digital and analog signals; touch screen can be connected with RS-232 or USB ports. Moreover, APPD 1500T supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. APPD 1500T is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC panel PC when a second display is required.

Specifications

Panel
- LED Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 400cd/m²
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 60 (U), 80(D), 80(L), 80(R)
- Backlight: LED

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 80%
- Interface: USB and RS232

Rear I/O
- Touch screen interface port: RS-232 (1 x DB9)/USB Type A
- Video port: VGA (1 x DB15)/DVI-D (1 x DVI-I connector)
- DC power input connector: 3-Pin Phoenix terminal Blocks

OSD Function
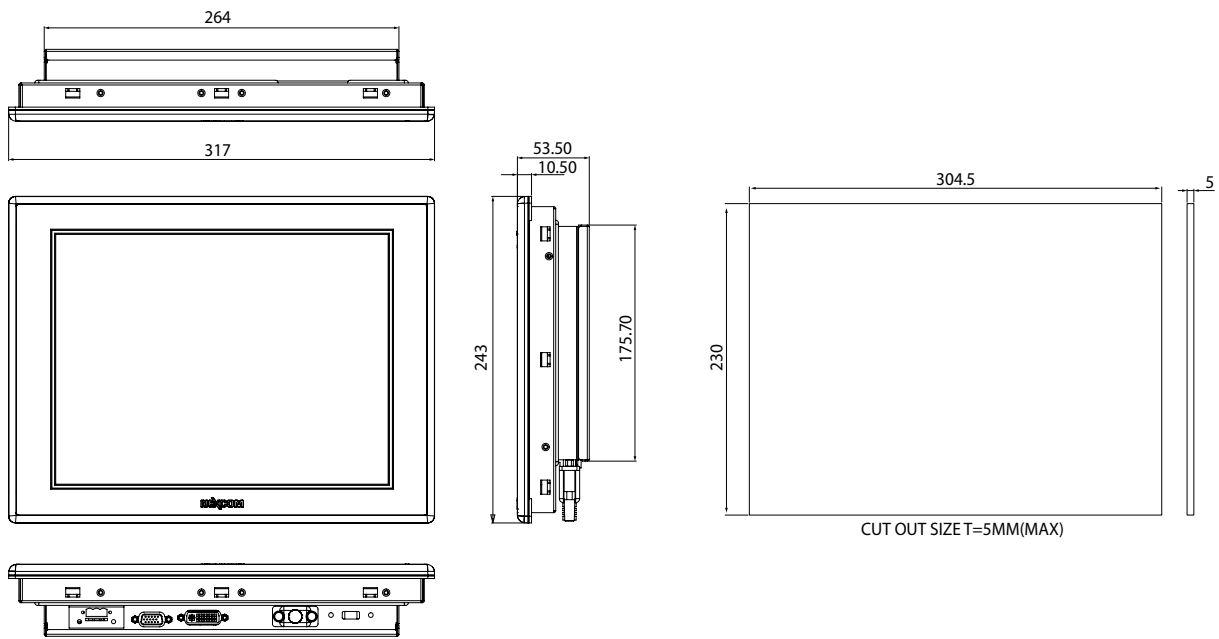- OSD keypad
- Multilanguage OSD

Mechanical & Environment
- Color: pantone black
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  IEC 68 2-64
  2Grms @ sine, 5~500Hz, 1hr/axis (Operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  IEC 68 2-27
  20G@wall mount, half sine, 11ms
  Operating temperature: -5°C to 50°C
  Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 384.37 x 309.95 x 51.2mm
- Weight: 3.98Kg

Certifications
- CE approval
- FCC Class B

Dimension Drawing

264

384.37

51.20

309.95

371

297

5

CUT OUT SIZE T=5MM(MAX)
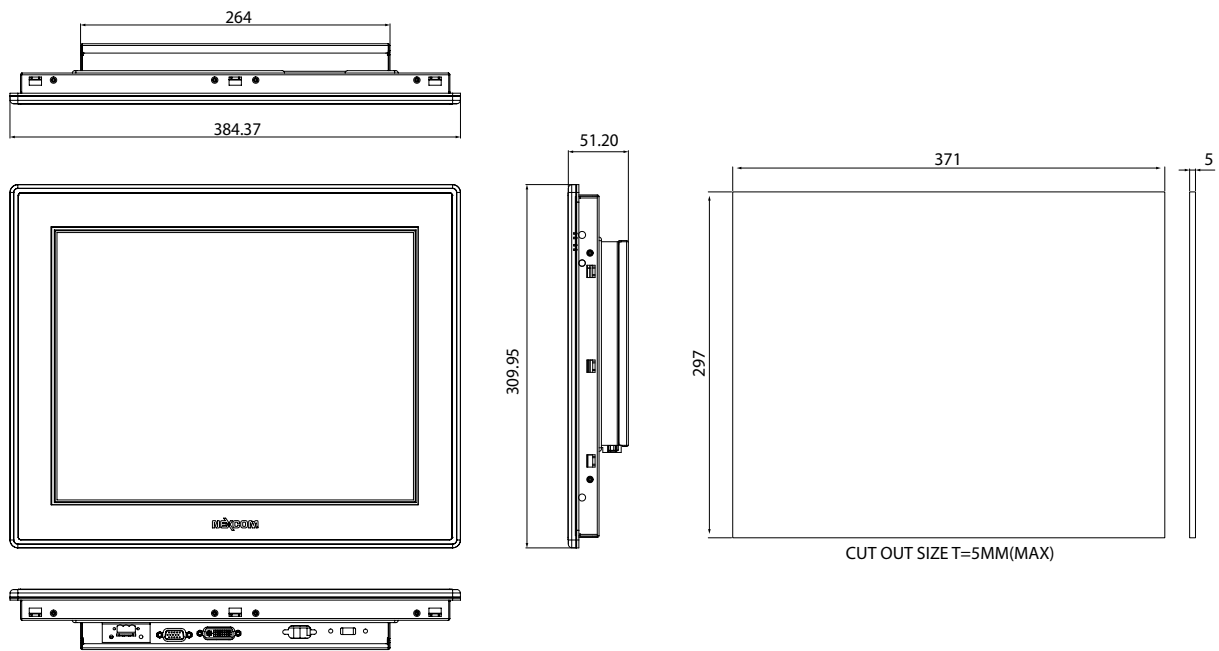
Ordering Information

- **APPD 1500T (P/N: 10IAD150000X0)**
  15" XGA industrial 4:3 LED Backlight flush touch monitor with VGA and DVI-D input, 12~24VDC input, RS232 and USB touch screen Interfaces

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060019X00)

- **1.8m DVI-D male to DVI-D male Cable**

  (P/N: 60233DVI28X00)

APPD 1700T

17" IP65 Industrial 4:3 SXGA LCD Flush Touch Monitor

Main Features

- IP65 compliant plastic front bezel with flush panel by 5-wire touch screen
- Dual display input interface: analog VGA and DVI-D
- Shares identical appearance with APPC series
- Dual touch screen interface: RS232 and USB
- Ultra slim in depth
- OSD Multilanguage function

Product Overview

17" 4:3 LCD display APPD 1700T is based on a 5-wire resistive touch screen. It has 380 nits brightness and can support resolutions up to 1280 x 1024. APPD 1700T is ideal for space-critical environments where systems and displays are kept apart. In addition, APPD 1700T adopts a flush panel design and has IP65 front panel. APPD 1700T provides prevailing video interfaces: VGA and DVI, supporting both digital and analog signals; touch screen can be connected with RS232 or USB ports. Moreover, APPD 1700T supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. APPD 1700T is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC panel PC when a second display is required.

Specifications

Panel
- LED Size: 17", 4:3
- Resolution: SXGA 1280 x 1024
- Luminance: 380cd/m²
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing Angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: CCFL

Touch Screen
- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB and RS232

Rear I/O
- Touch interface port: RS232 (1 x DB9)/USB Type A
- Video port: VGA (1 x DB15)/DVI-D (1 x DVI-I connector)
- DC power input connector: 3-Pin Phoenix terminal Blocks

OSD Function
- OSD keypad
- Multilanguage OSD

Mechanical & Environment
- Color: pantone black
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  IEC 68 2-64
  2Grms @ sine, 5~500Hz, 1hr/axis (Operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  IEC 68 2-27
  20G@wall mount, half sine, 11ms
  Operating temperature: -5℃ to 50℃
  Storage temperature: -20℃ to 75℃
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 410.4 x 340.4 x 43.7mm
- Weight: 5.3 Kg

Certifications
- CE approval
- FCC Class B

NEXCOM

Dimension Drawing

410.31
22.02
17.80
22.02
17.80
43.70
17.80
33.39
340.20
100.00
100.00
RS-232 DVI-D VGA + - GND
DCIN 12-24V
399.00
10.00
329.00
CUT OUT SIZE T=10(MAX)

Ordering Information

⬥ **APPD 1700T (P/N: 10IAD170000X0)**
17" SXGA industrial 4:3 LCD flush touch monitor with VGA and DVI-D
input, 12~24VDC input, RS-232 and USB touch screen

Options

⬥ **1.8m DVI-D male to DVI-D male Cable**

   (P/N: 60233DVI28X00)

⬥ **12V, 60W AC/DC power adapter w/o power cord**

   (P/N: 7400060019X00)

APPD 1900T

Main Features

- IP65 compliant plastic front bezel with flush panel by 5-wire touch screen
- Dual display input interface: analog VGA and DVI-D
- Shares identical appearance with APPC series
- Dual touch screen interface: RS232 and USB
- Ultra slim in depth
- OSD Multilanguage function

Product Overview

19" 4:3 LCD display APPD 1900T is based on a 5-wire resistive touch screen. It has 350 nits brightness and can support resolutions up to 1280 x 1024. APPD 1900T is ideal for space-critical environments where systems and displays are kept apart. In addition, APPD 1900T adopts a flush panel design and has IP65 front panel. APPD 1900T provides prevailing video interfaces: VGA and DVI, supporting both digital and analog signals; touch screen can be connected with RS232 or USB ports. Moreover, APPD 1900T supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. APPD 1900T is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC panel PC when a second display is required.

Specifications

Panel

- LED Size: 19", 4:3
- Resolution: SXGA 1280 x 1024
- Luminance: 350cd/m²
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing Angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch Screen

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB and RS232

Rear I/O

- Touch interface port: RS-232 (1 x DB9)/USB Type A
- Video port: VGA (1 x DB15)/DVI-D (1 x DVI-I connector)
- DC power input connector: 3-Pin Phoenix terminal Blocks

OSD Function
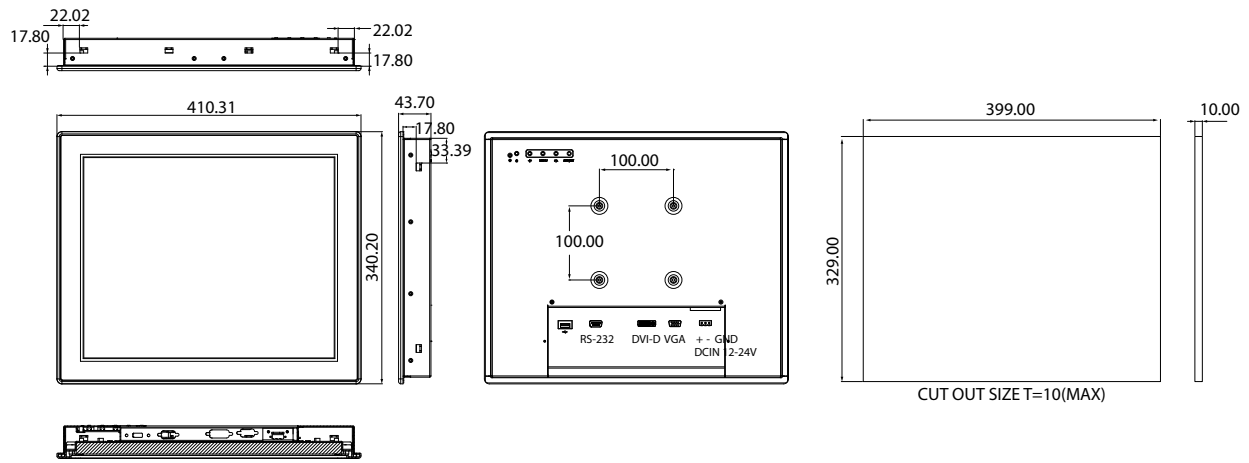
- OSD keypad
- Multilanguage OSD

Mechanical & Environment

- Color: pantone black
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12V~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  IEC 68 2-64
  2Grms @ sine, 5~500Hz, 1hr/axis (Operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  IEC 68 2-27
  20G@wall mount, half sine, 11ms
  Operating temperature: -5℃ to 50℃
  Storage temperature: -20℃ to 75℃
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 457.64 x 379.24 x 49.25mm
- Weight: 5.4 Kg

Certifications

- CE approval
- FCC Class B

Dimension Drawing

264

457.64

379.24

49.25

175.70

436

366

3

CUT OUT SIZE T=3MM(MAX)
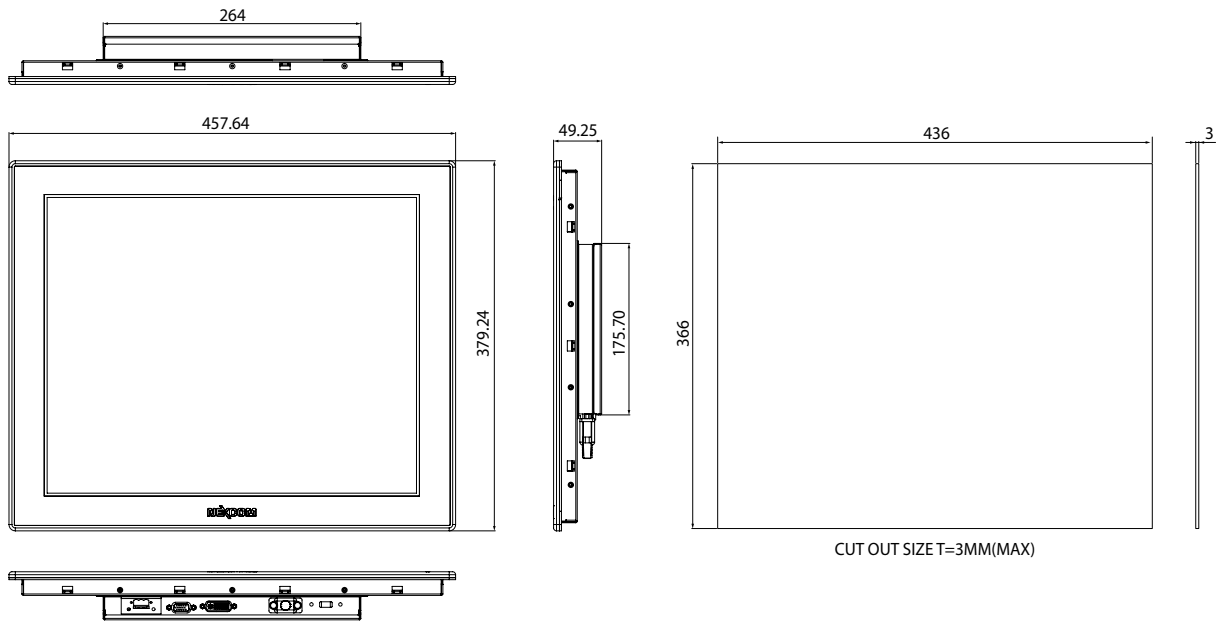
Ordering Information

- **APPD 1900T (P/N: 10IAD190000X0)**
  19" SXGA industrial 4:3 LED Backlight flush touch monitor with VGA
  and DVI-D input, 12~24VDC input, RS232 and USB touch screen
  interfaces

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060019X00)

- **1.8m DVI-D male to DVI-D male Cable**

  (P/N: 60233DVI28X00)

IPPC 1560TP2E Series

15" TFT XGA 4:3 Heavy Industrial Panel PC with
3rd Generation Intel® Core™ i5, 2.7GHz

IPPC 1560TP2E-AC

IPPC 1560TP2E-DC

Main Features

- 4:3 15" XGA Fanless Panel Computer
- Powerful 2nd/3rd generation Intel® Core™ processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x COM/GPIO/DIO/ Dimming Control Button
- Front accessible USB2.0 for easy of field maintenance

- Metal housing with robust aluminum front bezel for harsh environment
- IP65 compliant front panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Optional: wide range DC power input model/isolation protection DC power input model

Product Overview

IPPC 1560TP2E Series is a heavy industrial panel PC equipped with powerful 2nd/3rd generation Intel® Core™ processor, TFT LCD panel with LED backlight and user-friendly touch screen. It provides two expansion slots to support PROFINET, PROFIBUS, DeviceNet, EtherNet/IP and EtherCAT protocols. The IP65 rated heavy-duty aluminum front bezel and the vibration-resistant rugged chassis are specifically designed for outdoor and harsh industrial environments. IPPC 1560TP2E Series is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

System
- CPU: Support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
  - Intel® Core™ i7-3540M (2 x 3GHz, 4M cache, Max. TDP 35W)
  - Intel® Core™ i5-3610ME (2 x 2.7GHz, 3M cache, Max. TDP 35W) (Default)
  - Intel® Core™ i3-3120ME (2 x 2.4GHz, 3M cache, Max. TDP 35W)
  - Intel® Celeron® B810 (2 x 1.6GHz, 2M cache, Max. TDP 35W)
- BIOS: AMI BIOS
- System chipset: Intel® HM76 Express chipset
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 4G DDR3 (Default), support up to 8GB DDR3-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 2 x hard drive bay: optional 2 x 2.5" SATA HDD
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion:
  2 x Mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
  2 x expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIex4 slots (Default)
  - 2 x PCIex4 slots
  - 2 x PCI slots
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off (for IPPC 1560TP2E-AC only)

Rear I/O
- 2 x PS2 keyboard/mouse

- 2nd display VGA port: 1 x DB15
- Ethernet: 2 x RJ45

For IPPC 1560TP2E-DC only
- USB: 5 x USB2.0 (1 in front)
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
- COM #1: RS232/422/485 w/ RI or 5V or 12V selection
- COM #2: RS232/422/485 w/ RI or 5V or 12V selection
- COM #3: RS232 w/ RI or 5V or 12V selection
- ATX power switch
- Reset button

For IPPC 1560TP2E-AC only
- USB: 5 x USB2.0 (1 in front)
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
- COM #1: RS232/422/485 w/ 2.5kv isolated protection
- COM #2: RS232/422/485 w/ 2.5kv isolated protection
- COM #3: RS232 w/ RI or 5V or 12V selection
- COM #4: RS232 w/ RI or 5V or 12V selection
- COM #5: RS232
- COM #6: RS232
- DIO w/ 2.5kv isolated protection:
  - 4 x Digital Input (Source type)
  - 4 x Digital Output (Sink type)
- GPIO: 4 x digital in/4 x digital out
- LPT: Parallel port
- AC Power switch
- Reset button

Audio
- HD Codec: Realtek ALC886-GR

Dimension Drawing
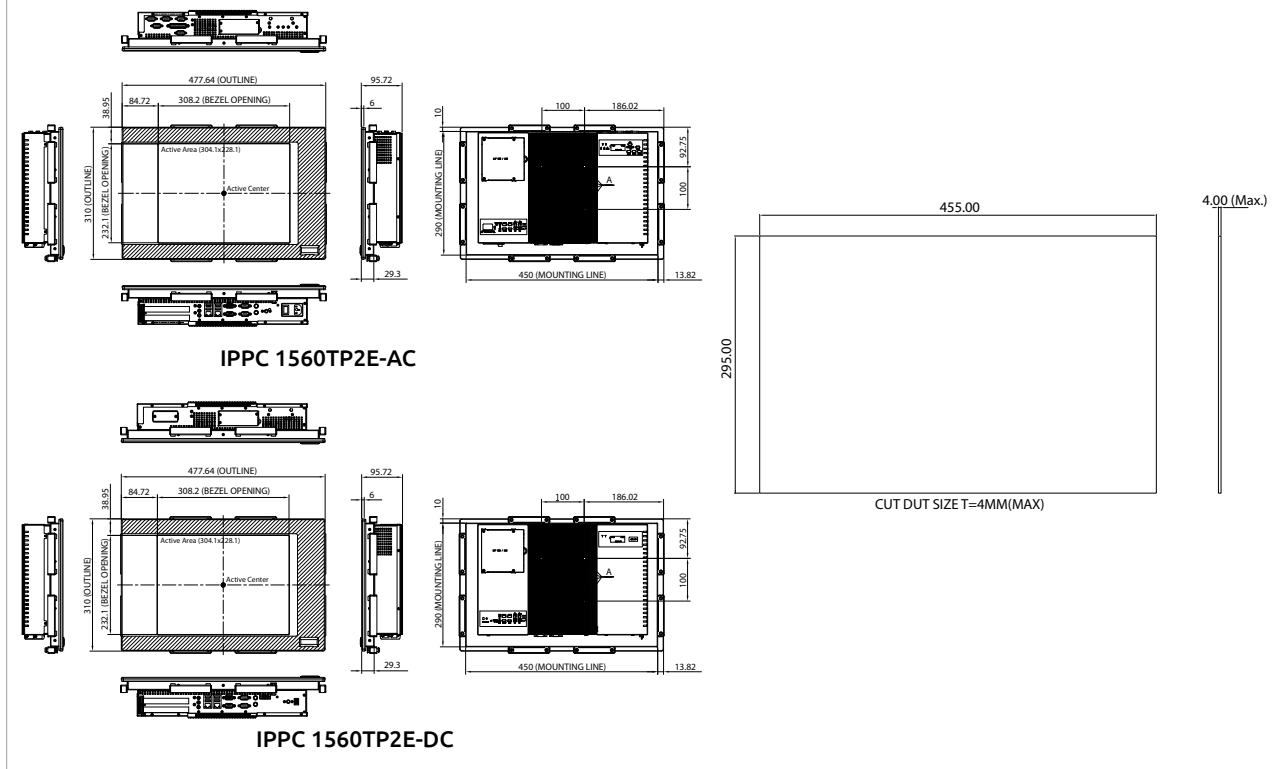
IPPC 1560TP2E-AC

IPPC 1560TP2E-DC

CUT DUT SIZE T=4MM(MAX)

- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet
- LAN chip: dual Intel® 82574L Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Fieldbus
- IPPC 1560TP2E-DC: support up to two fieldbus module(1 universal kit and 1 special kit)
- IPPC 1560TP2E-AC: support one special fieldbus module kit

Mechanical & Environment
- Color: pantone 432C\ RAL 70 24 front bezel
- Enclosure: aluminum front bezel with SPPC nickel plated housing
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power

  For IPPC 1560TP2E-DC
    - Power Input: 12~30VDC
    - Power Adapter: optional AC to DC DIN rail power adapter (+24V, 120W)

  For IPPC 1560TP2E-AC
    - Power input: 100-240V~, 1.5A, 50-60Hz; fuse: 250VAC/3A
    - Power connector: AC inlet (IEC60320 C14)
    - Power supply: 120W
- Vibration:
    - IEC 68 2-64 (w/ HDD)
    - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
    - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
    - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
    - IEC 68 2-27
    - HDD: 20G @ wall mount, half sine, 11ms
- Operating temperature: -10°C to 50°C
    * Intel® Core™ i7/Intel® Celeron® B810: -10°C to 40°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
- Dimension: 477.64 x 310 x 95.72mm
- Weight:
    - IPPC 1560TP2E-DC: 9.34Kg
    - IPPC 1560TP2E-AC: 9.75Kg

Certifications
- CE (including EN61000-6-2/EN61000-6-4)
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0
- Windows XP 32bit

Ordering Information

System
- **IPPC 1560TP2E-DC (P/N: 10II1560T00X0)**
  15" XGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 3 x COM, DC power input

- **IPPC 1560TP2E-AC (P/N: 10II1560T01X0)**
  15" XGA LED backlight fanless Touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 6 x COM, 4 x 4GPIO, 4 x 4DIO with isolated protection, AC power input

Optional
- **24V/5A, 120W AC to DC DIN rail power adapter w/ o power cord (P/N: 7440120001X00) (for IPPC 1560TP2E-DC and IPPC 1560TE)**
- **Riser card 2 x PCI slots (P/N: 20JK036P200X0)**
- **Riser card 2 x PCIex4 slots (P/N: 20JK036E200X2)**
- **Fieldbus module universal kit (for IPPC 1560TP2E-DC)**

88J50090E00X0	FBI 90E-PNM kit (w/ 25 cm cable)	PROFINET master
88J50090E01X0	FBI 90E-EP kit (w/ 25 cm cable)	EtherNet/IP master
88J50090E02X0	FBI 90E-ECM kit (w/ 25 cm cable)	EtherCAT master
88J50090E03X0	FBI 90E-PBM kit (w/ 25 cm cable)	PROFIBUS master
88J50090E04X0	FBI 90E-DNM kit (w/ 25 cm cable)	DeviceNET master

IPPC 1560TE

Main Features

- 4:3 15" XGA Fanless Panel Computer
- Powerful 2nd/3rd generation Intel® Core™ processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x COM/GPIO/DIO/ Dimming Control Button
- Metal housing with robust aluminum front bezel for harsh

environment
- IP65 compliant front panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- For Class I, Division 2 Hazardous Locations

Product Overview

IPPC 1560TE is a heavy industrial panel PC equipped with powerful 2nd/3rd generation Intel® Core™ processor, TFT LCD panel with LED backlight and user-friendly touch screen. It provides two expansion slots to support PROFINET, PROFIBUS, DeviceNet, EtherNet/IP and EtherCAT protocols. The NEMA4/IP66 rated heavy-duty aluminum front bezel and the vibration-resistant rugged chassis are specifically designed for outdoor and harsh industrial environments. IPPC 1560TE is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

System
- CPU: Support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
  - Intel® Core™ i5-3610ME (2 x 2.7GHz, 3M cache, Max. TDP 35W) (Default)
- BIOS: AMI BIOS
- System chipset: Intel® HM76 Express chipset
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 4G DDR3 (Default), support up to 8GB DDR3-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 2 x hard drive bay: optional 2 x 2.5" SATA HDD
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion:
  2 x Mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
  2 x expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIex4 slots (Default)
  - 2 x PCIex4 slots
  - 2 x PCI slots

Rear I/O
- 2nd display VGA port: 1 x DB15
- Ethernet: 2 x RJ45
- USB: 4 x USB2.0 (Hidden)
- COM #1: RS232/422/485 w/ 2.5kv isolated protection
- COM #2: RS232/422/485 w/ 2.5kv isolated protection

- COM #3: RS232 w/ RI or 5V or 12V selection
- ATX Power switch
- Reset button

Audio
- HD Codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet
- LAN chip: dual Intel® 82574L Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Fieldbus
- Support up to two fieldbus module (1 universal kit and 1 special kit)

Mechanical & Environment
- Color: pantone 432C\ RAL 70 24 front bezel
- Enclosure: aluminum front bezel with SPPC nickel plated housing
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power
- For IPPC 1560TE
  - Power input: 24 VDC, 4A, Class 2
  - Power protection: +-20% with 1.5kv isolated protection
  - Fuse: 250V/10A
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)

Dimension Drawing
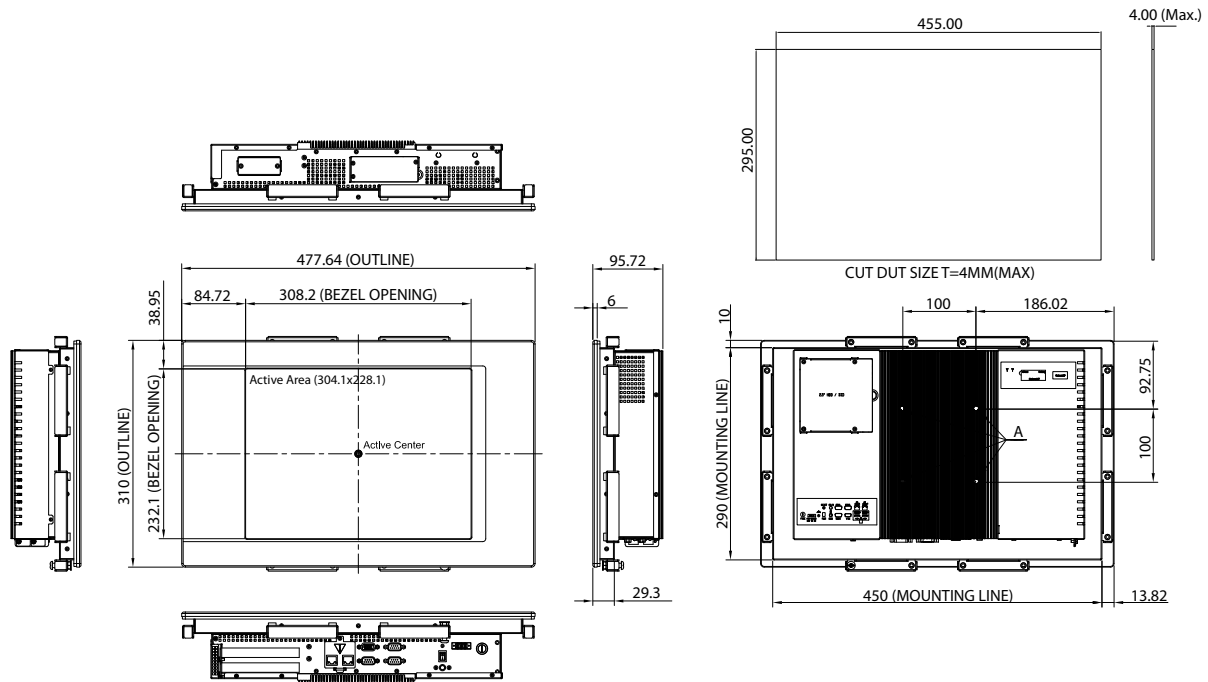
- 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G @ wall mount, half sine, 11ms
- Operating temperature: -10℃ to 50℃
- Storage temperature: -20℃ to 75℃
- Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50℃
- Dimension: 477.64 x 310 x 95.72mm
- Weight: 9.51Kg

Certifications
- CE (including EN61000-6-2/EN61000-6-4)
- FCC Class A
- UL508
- C1D2: USL-ANSI/ISA 12.12.01-2013
         CNL-CSA C22.2 No. 213-M1987

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0
- Windows XP 32bit

Ordering Information

System

- **IPPC 1560TE (P/N: 10II1560T02X0)**
  15" XGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 3 x COM, isolated protection DC Power

Optional

- **24V/5A, 120W AC to DC DIN rail power adapter w/ o power cord (P/N: 7440120001X00)**

- **Riser card 2 x PCI slots (P/N: 20JK036P200X0)**

- **Riser card 2 x PCIex4 slots (P/N: 20JK036E200X2)**

- **Fieldbus module universal kit**

88J50090E00X0	FBI 90E-PNM kit (w/ 25 cm cable)	PROFINET master
88J50090E01X0	FBI 90E-EP kit (w/ 25 cm cable)	EtherNet/IP master
88J50090E02X0	FBI 90E-ECM kit (w/ 25 cm cable)	EtherCAT master
88J50090E03X0	FBI 90E-PBM kit (w/ 25 cm cable)	PROFIBUS master
88J50090E04X0	FBI 90E-DNM kit (w/ 25 cm cable)	DeviceNET master

IPPC 1640P

15.6" TFT WXGA 16:9 Heavy Industrial Panel PC
with Intel® Celeron® Quad Core Processor J1900, up to 2.42GHz,
Multi-Touch Screen, 4GB DDR3L, 3 x USB, 2 x COM and Fieldbus Port

Main Features

- Intel® Celeron® quad core processor J1900, up to 2.42GHz, 2M L2 Cache
- Metal housing with robust aluminum front zero bezel for harsh environment
- 10 points P-Cap multi-touch with zero bezel flush front design
- Dual GbE/2nd display-VGA/ Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCIe sockets/1 x CFast/2 x RS232/422/485

- DDR3L 4GB/2.5" HDD bracket
- IP66 compliant front panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12~30VDC

Product Overview

The 15.6" fanless panel PC IPPC 1640P incorporating an industrial motherboard is intended for versatile industrial applications. The panel PC has a touch screen LED backlight LCD panel with 1366x768 (HD; WXGA) resolution. The front panel which adopts flush design and complies with IP66 standard makes it the perfect fit in industrial applications.

The IPPC 1640P supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, IPPC 1640P can gain a strong foothold in industrial field and machine devices. In addition, IPPC 1640P can hook 2nd display via a VGA port for dual independent display. IPPC 1640P has two isolated RS232/422/485 ports and optional fieldbus ports.

Specifications

Panel
- LED size: 15.6", 16:9
- Resolution: WXGA 1366x768
- Luminance: 300cd/m2
- Contrast ratio: 500
- LCD color: 16.7M
- Viewing angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch
- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

System
- CPU: On-board Intel® Celeron® quad core processor J1900, up to 2.42GHz, 2M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 4GB DDR3L (Default),support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered

Storage Device:
- 1 x external locked CFast socket
- 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/ W status monitor: monitoring system temperature, and voltage
- Expansion: 2x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module or fieldbus card)
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off
- Front logo LED indicator to show operating status

Rear I/O
- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1x Line out
- USB: 2 x USB 2.0, 1 x USB 3.0
- 2-pin Remote Power on/ off switch
- Power switch
- Reset button
- COM #1: RS232/422/485 w/ 2.5kv isolated
- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (protocol interface optional)

Dimension Drawing

CUT OUT SIZE T=12mm (MAX)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET master	Dual RJ-45
FBI90E-EP	Ethernet/IP master	
FBI90E-ECM	EtherCAT master	
FBI90E-PBM	Profibus master	DB9
FBI90E-DNM	DeviceNet master	5-pins Phoenix Contact terminal

Audio
- HD codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in(optional)/Mic-in(optional) audio Jack

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 based-Tx Ethernet compatible

Mechanical & Environment
- Color: Pantone 425C\RAL 70 24 front bezel
- IP protection: IP66 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- System with panel mounting kit w/o panel mounting hole
- Power input: 12~30VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -10°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 417.4 x 312.4 x 63.75mm
- Weight: 6.4Kg

Certifications
- CE (including EN61000-6-2/EN61000-6-4)
- FCC class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **IPPC 1640P (P/N: 10II1640P00X0)**
  15.6" WXGA LED backlight touch panel PC, Intel® Celeron® quad core processor J1900, up to 2.42GHz, touch screen, 4GB DDR3L, 2 x RS232/422/485 and brightness adjustment buttons, optional fieldbus module

Options

- **12V, 60W AC/DC power adapter w/ o power cord (P/N: 7400060019X00)**

- **PROFINET master interface module: FBI90E-PNM for APPC (P/N: 88IA1932T00X0)**

- **EtherNet/IP master interface module: FBI90E-EP for APPC (P/N: 88IA1932T01X0)**

- **EtherCAT master interface module: FBI90E-ECM for APPC (P/N: 88IA1932T02X0)**

- **PROFIBUS master interface module: FBI90E-PBM for APPC (P/N: 88IA1932T03X0)**

- **DeviceNet master interface module: FBI90E-DNM for APPC (P/N: 88IA1932T04X0)**

IPPC 1770T/1770P

Coming Soon

Main Features

- 4:3 17" SXGA Fanless Panel Computer
- Powerful 4th generation Intel® Core™ i processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/2 x COM/GPIO/DIO/ Dimming Control Button
- Front accessible USB2.0 for easy of field maintenance

- Inside USB3.0 type A connector for license key
- Metal housing with robust aluminum IP66 compliant front bezel for harsh environment
- Two FBI ports support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Wide range 12~30VDC power input

Product Overview

IPPC 1770 series is a heavy industrial panel PC equipped with powerful 4th generation Intel® Core™ i processor, TFT LCD panel with LED backlight and user-friendly touch screen. It provides two expansion slots to support PROFINET, PROFIBUS, DeviceNet, EtherNet/IP and EtherCAT protocols. The IP66 rated heavy-duty aluminum front bezel and the vibration-resistant rugged chassis are specifically designed for outdoor and harsh industrial environments. IPPC 1770 series is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

Panel
- LED Size: 17", 4:3
- Resolution: SXGA 1280x1024
- Luminance: 350cd/m2
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch
For IPPC1770T series
- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

For IPPC1770P series
- Ten points P-Cap (Projected Capacitive Touch)
- Light transmission: 87%
- Interface: USB
- Anti-scratch surface: 7H hardness
- Windows 8 compliance

System
- CPU: support 4th gen. Intel® Core™ i processor family, LGA1150 socket type
  - Core™ i7-4770TE, Quad Core, 3.30 GHz, 8M Cache
  - Core™ i5-4590T, Quad Core, 3.0GHz, 6M Cache
  - Core™ i3-4350T, Dual Core, 3.1GHz, 4M Cache
  - Pentium® G3320TE, Dual Core, 2.3GHz, 3M Cache
  - Celeron® G1820TE, Dual Core, 2.2GHz, 2M Cache
- BIOS: AMI BIOS
- System chipset: Intel® Q87 PCH
- System memory: 2 x 204-pin DDR3/DDR3L SO-DIMM socket, 4G

DDR3L (default), Support up to 8GB DDR3-1333/1600, non-ECC and unbuffered
- Storage device:
  - 1 x external locked CFast socket
  - 2 x hard drive bay: optional 2 x 2.5" SATA HDD, support RAID 0,1
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature and voltage
- Expansion:
  - 2 x Mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
  - 2 x expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIex4 slots (default)
  - 2 x PCIex4 slots
  - 2 x PCI slots
  - 1 x PCIex1 slot
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off (For AC model only)

Rear I/O
- 1 x PS2 for keyboard/mouse
- Ethernet: 2x RJ45
- 2nd display
  - DVI-I port: 1x DVI-I
  - DP port: 1x DisplayPort
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
- COM #1: RS232/422/485 w/ RI or 5V or 12V selection
- USB: 4x USB3.0
- 3-pin Remote Power on/ off switch
- ATX power switch (For DC model only)
- AC power switch (For AC model only)
- Reset button

Dimension Drawing

IPPC 1770TFP2E-DC

IPPC 1770TP2E-AC/ IPPC 1770PP2E-AC

IPPC 1770TP2E-DC/ IPPC 1770PP2E-DC

CUT OUT SIZE T=12(MAX.)
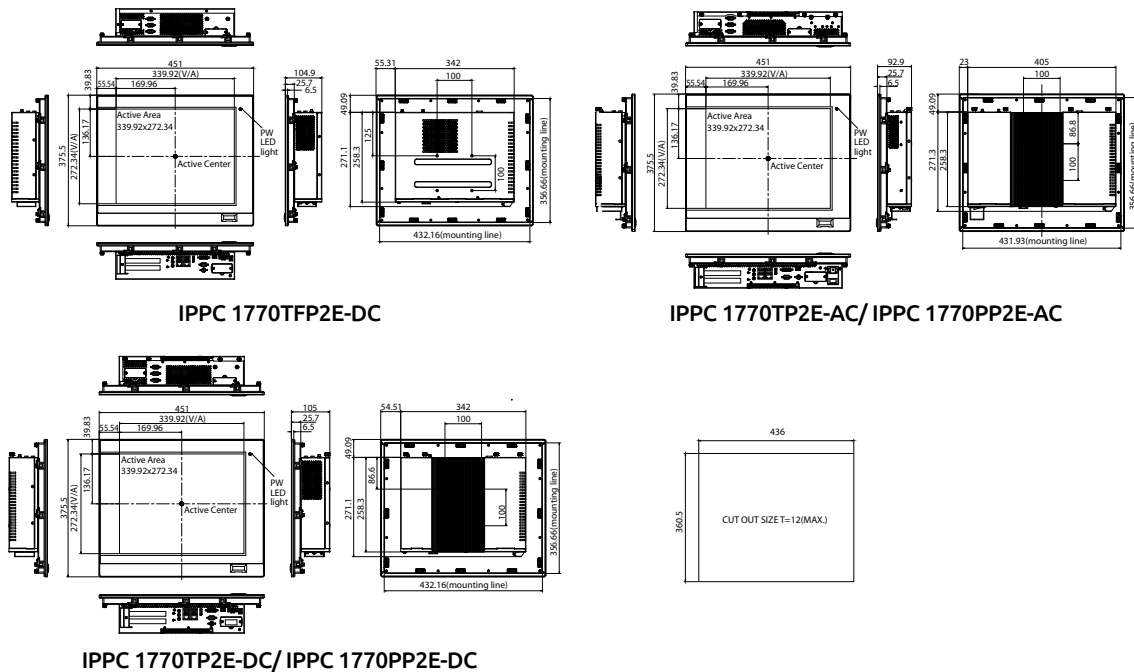
Top I/O
- COM #2: RS232/422/485 w/ RI or 5V or 12V selection
- DIO w/ 2.5kv isolated protection:
  - 4 x digital input (source type)
  - 4 x digital output (sink type)
- GPIO: 4 x Digital In/4 x Digital Out

Audio
- HD Codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Fieldbus
- Support up to two Fieldbus Module

Mechanical & Environment
- Color: pantone 432C\ RAL 70 24 front bezel
- Enclosure: aluminum front bezel with SPPC nickel plated housing
- IP protection: IP66 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power

For IPPC 1770TP2E-DC/ IPPC 1770PP2E-DC/ IPPC 1770TFP2E-DC
  - Power input: 12~30 VDC
  - Power connector: 3-pin phoenix connector

For IPPC 1770TP2E-AC/ IPPC 1770PP2E-AC
  - Power input: 100-240V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
  - Power connector: AC inlet (IEC60320 C14)
  - Power supply: 120W
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G @ wall mount, half sine, 11ms
- Operating temperature: -20°C to 50°C
  * Intel® Core™ i7 should be installed with CPU fan
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing

- Dimension:
  - IPPC 1770TP2E-DC/ IPPC 1770PP2E-DC/ IPPC 1770TFP2E-DC:
    451mm x 379.5mm x 104.9mm
  - IPPC 1770TP2E-AC/ IPPC 1770PP2E-AC:
    451mm x 379.5mm x 92.9mm
- Weight: TBD

Certifications
  - CE (including EN61000-6-1/EN61000-6-2/EN61000-6-3/EN61000-6-4)
  - FCC Class B

OS Support Lists
  - Windows 7 32bits and 64bits
  - Windows 8.1 32 bits and 64 bits

Ordering Information

System
- **IPPC 1770TP2E-DC (P/N: 10II1770T00X0)**
  17" SXGA LED backlight fanless RTP touch panel PC, 4GB DDR3L, 2 x COM, DC power input, and optional fieldbus module
- **IPPC 1770PP2E-DC (P/N: 10II1770P00X0)**
  17" SXGA LED backlight fanless P-CAP touch panel PC, 4GB DDR3L, 2 x COM, DC
- **IPPC 1770TFP2E-DC (P/N: 10II1770T02X0)**
  17" SXGA LED backlight RTP touch panel PC with CPU fan, 4GB DDR3L, 2 x COM, DC power input, and optional fieldbus module
- **IPPC 1770TP2E-AC (P/N: 10II1770T01X0)**
  17" SXGA LED backlight fanless RTP touch panel PC, 4GB DDR3L, 2 x COM, AC power input, and optional fieldbus module
- **IPPC 1770PP2E-AC (P/N: 10II1770P01X0)**
  17" SXGA LED backlight fanless P-CAP touch panel PC, 4GB DDR3L, 2 x COM, AC power input, and optional fieldbus module

IPPC 1840P

18.5" TFT WXGA 16:9 Heavy Industrial Panel PC
with Intel® Celeron® Quad Core Processor J1900, up to 2.42GHz,
Multi-Touch Screen, 4GB DDR3L, 3 x USB, 2 x COM and Fieldbus Port

Main Features

- Intel® Celeron® quad core processor J1900, up to 2.42GHz, 2M L2 Cache
- Metal housing with robust aluminum front zero bezel for harsh environment
- 10 points P-Cap multi-touch with zero bezel flush front design
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCIe sockets/1 x CFast/2 x RS232/422/485

- DDR3L 4GB/2.5" HDD bracket
- IP66 compliant front panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12~30VDC

Product Overview

The 18.5" fanless panel PC IPPC 1840P incorporating an industrial motherboard is intended for versatile industrial applications. The panel PC has a touch screen LED backlight LCD panel with 1366 x 768 (HD; WXGA) resolution. The front panel which adopts flush design and complies with IP66 standard makes it the perfect fit in industrial applications.

The IPPC 1840P supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, IPPC 1840P can gain a strong foothold in industrial field and machine devices. In addition, IPPC 1840P can hook 2nd display via a VGA port for dual independent display. IPPC 1840P has two isolated RS232/422/485 ports and optional fieldbus ports.

Specifications

Panel
- LED size: 18.5", 16:9
- Resolution: WXGA 1366x768
- Luminance: 300cd/m2
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch
- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

System
- CPU: On-board Intel® Celeron® quad core processor J1900, up to 2.42GHz, 2M L2 Cache
- BIOS: AMI BIOS
- System memory: 2x 204-pin DDR3L SO-DIMM socket, 4GB DDR3L (default),support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered

- Storage device:
  - 1x external locked CFast socket
  - 1x hard drive bay: optional 1x 2.5" SATA HDD or 1x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 2 x mini-PCIe sockets (support optional Wi-Fi, 3.5G module or fieldbus card)
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off
- Front logo LED indicator to show operating status

Rear I/O
- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1x Line out
- USB: 2 x USB 2.0, 1 x USB 3.0
- 2-pin Remote Power on/off switch
- Power switch
- Reset button
- COM #1: RS232/422/485 w/ 2.5kv isolated
- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (protocol interface Optional)

NEXCOM

Dimension Drawing

Front view: 490.8 (OUTLINE), 411.6 (V/A), 39.6, 44.2, 320.6 (OUTLINE), 232.2 (V/A), 173.9, 25.65

Top view: 270, 110.4

Side view: 62.65, 9.5, 60.6

Rear view: 100, 195.4, 80.2, 167.5, 167.5, 55, 10.2, 45.7, 103.5, 91.9, 71, 300.2 (MOUNTING LINE)<>, 89.1, 100, A, 470.4 (MOUNTING LINE), 10.2

Cut out: 475.4, 12, 305.2, CUT OUT SIZE T=12mm (MAX)

Model	Protocol	Connector
FBI90E-PNM	ProfiNET master	Dual RJ-45
FBI90E-EP	Ethernet/IP master	
FBI90E-ECM	EtherCAT master	
FBI90E-PBM	Profibus master	DB9
FBI90E-DNM	DeviceNet master	5-pins Phoenix Contact terminal

Audio
* HD codec: Realtek ALC886-GR
* Audio interface: Line-out/Line-in(optional)/Mic-in(optional) audio Jack

Ethernet
* LAN chip: dual Intel® I210AT Gigabit LAN
* Ethernet interface: 10/100/1000 based-Tx Ethernet compatible

Mechanical & Environment
* Color: Pantone 425C\RAL 70 24 front bezel
* IP protection: IP66 front
* Mounting: panel/ wall/ stand/ VESA 100mm x 100mm
* System with panel mounting kit w/o panel mounting hole
* Power input: 12~30VDC
* Power adapter: optional AC to DC power adapter (+12V, 60W)
* Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
* Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
* Operating temperature: -10°C to 60°C
* Storage temperature: -20°C to 75°C
* Operating humidity: 10%~90% relative humidity, non-condensing
* Dimension: 490.8x320.6x62.65mm
* Weight: 8.2Kg

Certifications
* CE (including EN61000-6-2/EN61000-6-4)
* FCC class A

OS Support Lists
* Windows 8 32bit/64bit
* Windows 7 32bit/64bit
* WinCE 7.0

Ordering Information

Barebone

* **IPPC 1840P (P/N: 10II1840P00X0)**
  18.5" WXGA LED backlight touch panel PC, Intel® Celeron® quad core processor J1900, up to 2.42GHz, touch screen, 4GB DDR3L, 2 x RS232/422/485 and brightness adjustment buttons, optional fieldbus module

Options

* **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**
* **PROFINET master interface module: FBI90E-PNM for APPC (P/N: 88IA1932T00X0)**
* **EtherNet/IP master interface module: FBI90E-EP for APPC (P/N: 88IA1932T01X0)**
* **EtherCAT master interface module: FBI90E-ECM for APPC (P/N: 88IA1932T02X0)**
* **PROFIBUS master interface module: FBI90E-PBM for APPC (P/N: 88IA1932T03X0)**
* **DeviceNet master interface module: FBI90E-DNM for APPC (P/N: 88IA1932T04X0)**

IPPC 1960T

19" TFT SXGA 4:3 Heavy Industrial Panel PC with
3rd Generation Intel® Core™ i5, 2.7GHz

IPPC 1960TP2E-AC

IPPC 1960TP2E-DC

Main Features

- 4:3 19" SXGA Fanless Panel Computer
- Powerful 2nd/3rd generation Intel® Core™ processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x COM/GPIO/DIO/ Dimming Control Button
- Front accessible USB2.0 for easy of field maintenance
- Metal housing with robust aluminum front bezel for harsh environment
- IP66 compliant front panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Wide range DC power input model

Product Overview

IPPC 1960T is a heavy industrial panel PC equipped with powerful 2nd/3rd generation Intel® Core™ processor, TFT LCD panel with LED backlight and user-friendly touch screen. It provides two expansion slots to support PROFINET, PROFIBUS, DeviceNet, EtherNet/IP and EtherCAT protocols. The NEMA4/IP66 rated heavy-duty aluminum front bezel and the vibration-resistant rugged chassis are specifically designed for outdoor and harsh industrial environments. IPPC 1960T is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.
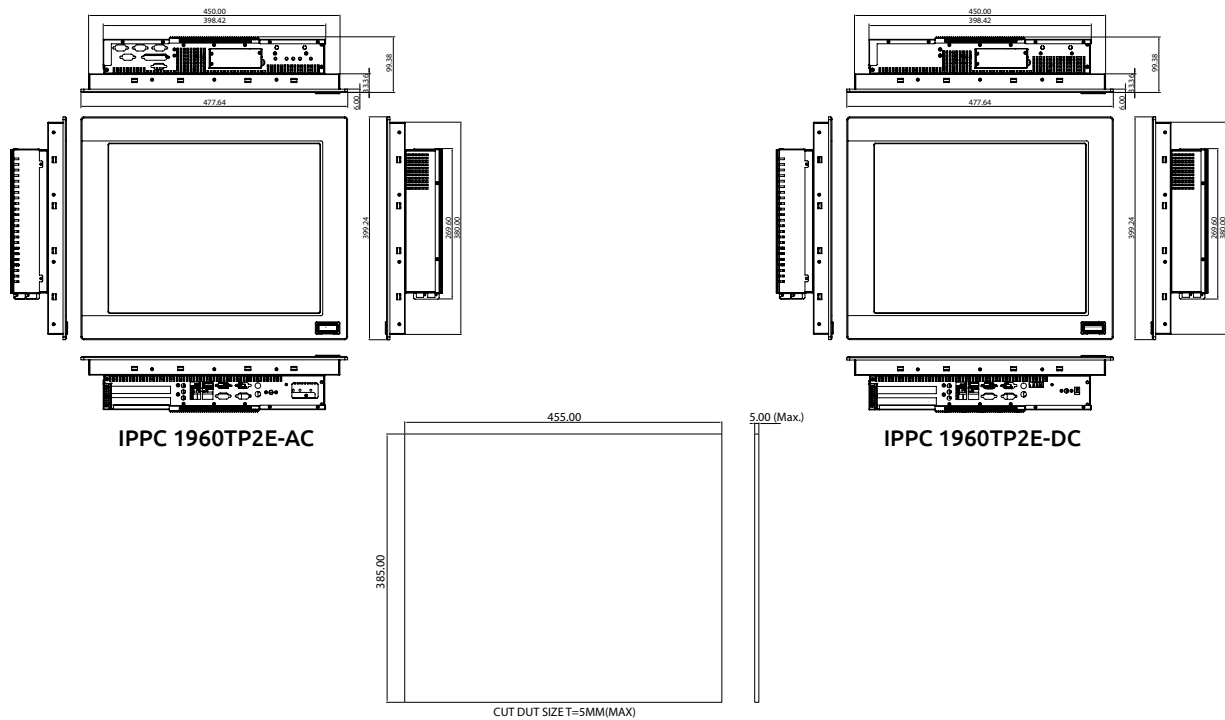
Specifications

System
- CPU: Support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
  - Intel® Core™ i7-3540M (2 x 3GHz, 4M cache, Max. TDP 35W)
  - Intel® Core™ i5-3610ME (2 x 2.7GHz, 3M cache, Max. TDP 35W) (Default)
  - Intel® Core™ i3-3120ME (2 x 2.4GHz, 3M cache, Max. TDP 35W)
  - Intel® Celeron® B810 (2 x 1.6GHz, 2M cache, Max. TDP 35W)
- BIOS: AMI BIOS
- System chipset: Intel® HM76 Express chipset
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 4G DDR3 (Default), support up to 8GB DDR3-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 2 x hard drive bay: optional 2 x 2.5" SATA HDD
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion:
  2 x Mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
  2 x expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIex4 slots (default)
  - 2 x PCIex4 slots
  - 2 x PCI slots
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off (for IPPC 1960TP2E-AC only)

Rear I/O
For All
- 2 x PS2 keyboard/mouse
- 2nd display VGA port: 1 x DB15
- Ethernet: 2 x RJ45
- USB: 5 x USB2.0 (1 in front)
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in

For IPPC 1960TP2E-DC only
- COM #1: RS232/422/485 w/ RI or 5V or 12V selection
- COM #2: RS232/422/485 w/ RI or 5V or 12V selection
- COM #3: RS232 w/ RI or 5V or 12V selection
- ATX power switch
- Reset button

For IPPC 1960TP2E-AC only
- COM #1: RS232/422/485 w/ 2.5kv isolated protection
- COM #2: RS232/422/485 w/ 2.5kv isolated protection
- COM #3: RS232 w/ RI or 5V or 12V selection
- COM #4: RS232 w/ RI or 5V or 12V selection
- COM #5: RS232
- COM #6: RS232
- DIO w/ 2.5kv isolated protection:
  - 4 x digital input (source type)
  - 4 x digital output (sink type)
- GPIO: 4 x Digital In/4 x Digital Out
- LPT: parallel port
- AC power switch
- Reset button

Audio
- HD Codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

NEXCOM

Dimension Drawing

IPPC 1960TP2E-AC

IPPC 1960TP2E-DC

455.00

5.00 (Max.)

385.00

CUT DUT SIZE T=5MM(MAX)

Ethernet
* LAN chip: dual Intel® 82574L Gigabit LAN
* Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Fieldbus
* IPPC 1960TP2E-DC: support up to two Fieldbus Module (1 universal Kit and 1 special kit)
* IPPC 1960TP2E-AC: support one special Fieldbus Module kit

Mechanical & Environment
* Color: pantone 432C\ RAL 70 24 front bezel
* Enclosure: aluminum front bezel with SPPC nickel plated housing
* IP protection: IP66 front
* Mounting: panel/wall/stand/VESA 100mm x 100mm
* Power
  For IPPC 1960TP2E-DC
  - Power input: 12-30 VDC, 7-2.5 A, Class 2
  - Power adapter: optional AC to DC DIN rail power adapter (+24V, 120W)
  For IPPC 1960TP2E-AC
  - Power input: 100-240V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
  - Power connector: AC inlet (IEC60320 C14)
  - Power supply: 120W
* Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
* Shock:
  - IEC 68 2-27
  - HDD: 20G @ wall mount, half sine, 11ms
* Operating temperature: -10°C to 50°C
  * Intel® Core™ i7/Intel® Celeron® B810: -10°C to 40°C
* Storage temperature: -20°C to 75°C
* Operating humidity: 10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
* Dimension: 477.64 x 399.24 x 99.38mm
* Weight: -AC: 11.2Kg
          -DC: 10.6Kg

Certifications
* CE (including EN61000-6-2/EN61000-6-4)
* FCC Class A
* -AC: LVD 60950-1

OS Support Lists
* Windows 8 32bit/64bit
* Windows 7 32bit/64bit
* WinCE 7.0
* Windows XP 32bit

Ordering Information

System

* **IPPC 1960TP2E-DC (P/N: 10II1960T00X0)**
  19" SXGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 3 x COM, DC power input

* **IPPC 1960TP2E-AC (P/N: 10II1960T01X0)**
  19" SXGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 6 x COM, 4 x 4GPIO, 4 x 4DIO with isolated protection, AC power input

Optional

* **24V/5A, 120W AC to DC DIN rail power adapter w/ o power cord (P/N: 7440120001X00) (for IPPC 1960TP2E-DC only)**
* **Riser card 2 x PCI slots (P/N: 20JK036P200X0)**
* **Riser card 2 x PCIex4 slots (P/N: 20JK036E200X2)**
* **Fieldbus module universal kit (for IPPC 1960TP2E-DC only)**

88J50090E00X0	FBI 90E-PNM kit (w/ 25 cm cable)	PROFINET master
88J50090E01X0	FBI 90E-EP kit (w/ 25 cm cable)	EtherNet/IP master
88J50090E02X0	FBI 90E-ECM kit (w/ 25 cm cable)	EtherCAT master
88J50090E03X0	FBI 90E-PBM kit (w/ 25 cm cable)	PROFIBUS master
88J50090E04X0	FBI 90E-DNM kit (w/ 25 cm cable)	DeviceNET master

IPPC 2140P

21.5" TFT WXGA 16:9 Heavy Industrial Panel PC
with Intel® Celeron® quad core processor J1900, up to 2.42GHz,
Multi-Touch Screen, 4GB DDR3L, 3 x USB, 2 x COM and Fieldbus Port

Main Features

- Intel® Celeron® quad core processor J1900, up to 2.42GHz, 2M L2 Cache
- Metal housing with robust aluminum front zero bezel for harsh environment
- 10 points P-Cap multi-touch with zero bezel flush front design
- Dual GbE/2nd display-VGA/ Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCIe sockets/1 x CFast/2 x RS232/422/485

- DDR3L 4GB/2.5" HDD bracket
- IP66 compliant front panel
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12~30VDC

Product Overview

The 21.5" fanless panel PC IPPC 2140P incorporating an industrial motherboard is intended for versatile industrial applications. The panel PC has a touch screen LED backlight LCD panel with 1920 x 1080 (Full HD) resolution. The front panel which adopts flush design and complies with IP66 standard makes it the perfect fit in industrial applications.

The IPPC 2140P supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder. With support for wide power input of 12~30VDC, IPPC2140P can gain a strong foothold in industrial field and machine devices. In addition, IPPC 2140P can hook 2nd display via a VGA port for dual independent display. IPPC 2140P has two isolated RS232/422/485 ports and optional fieldbus ports.

Specifications

Panel

- LED size: 21.5", 16:9
- Resolution: Full HD 1920x1080
- Luminance: 300cd/m2
- Contrast ratio: 5000
- LCD color: 16.7M
- Viewing angle: 89(U), 89(D), 89(L), 89(R)
- Backlight: LED

Touch

- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
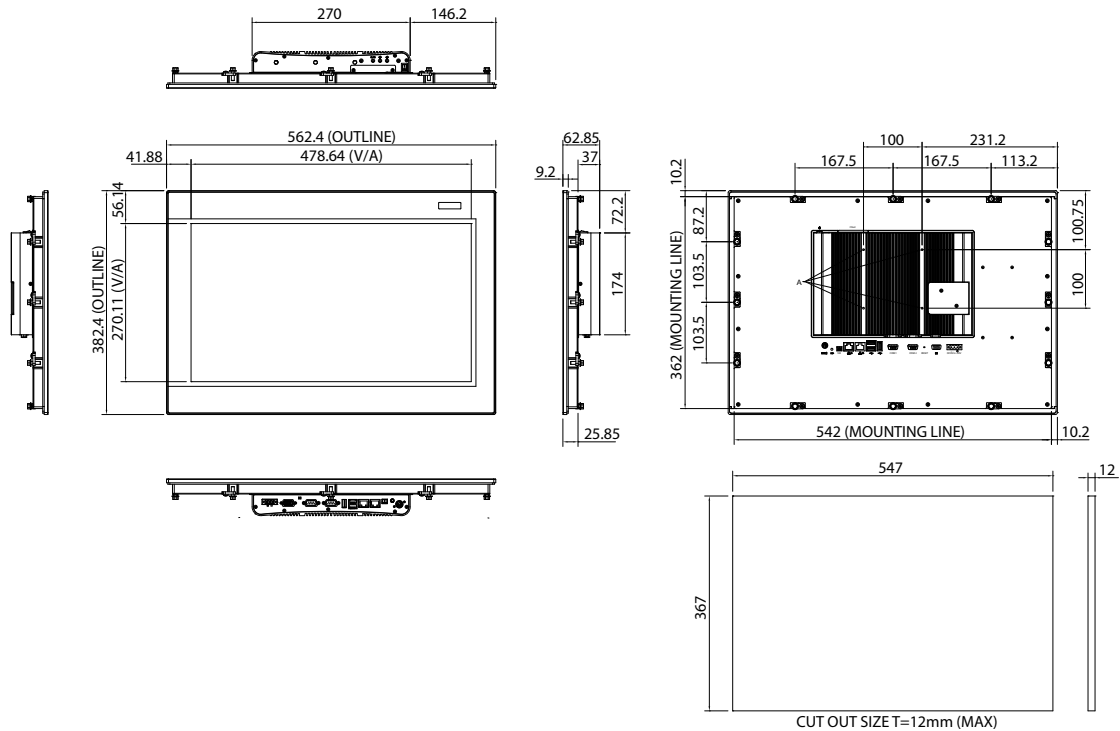- Windows 8 compliance

System

- CPU: On-board Intel® Celeron® quad core processor J1900, up to 2.42GHz, 2M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 4GB DDR3L (default), support up to 4GB DDR3L-1066/1333, non-ECC and un-buffered

- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module or fieldbus card)
- Panel backlight control button: Increase brightness/decrease brightness/ backlight on/off
- Front Logo LED Indicator to show operating status

Rear I/O

- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line out
- USB: 2 x USB 2.0, 1 x USB 3.0
- 2-pin Remote Power on/ off switch
- Power switch
- Reset button
- COM #1: RS232/422/485 w/ 2.5kv isolated
- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (protocol interface optional)

NEXCOM

Dimension Drawing

Model	Protocol	Connector
FBI90E-PNM	PROFINET master	Dual RJ-45
FBI90E-EP	EtherNet/IP master	
FBI90E-ECM	EtherCAT master	
FBI90E-PBM	PROFIT master	DB9
FBI90E-DNM	DeviceNet master	5-pins Phoenix Contact terminal

Audio
- HD codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in(optional)/Mic-in(optional) audio Jack

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: Pantone 425C/RAL 70 24 front bezel
- IP protection: IP66 front
- Mounting: panel/ wall/ stand/ VESA 100mm x 100mm
- System with panel mounting kit w/o panel mounting hole
- Power input: 12~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -10℃ to 60℃
- Storage temperature: -20℃ to 75℃
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 562.4x382.4x62.85mm
- Weight: 9.26Kg

Certifications
- CE (including EN61000-6-2/EN61000-6-4)
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **IPPC 2140P (P/N: 10II2140P00X0)**
  21.5" Full HD LED backlight touch panel PC, Intel® Celeron® quad core processor J1900, up to 2.42GHz, 2M L2 Cache, touch screen, 4GB DDR3L, 2xRS232/422/485 and brightness adjustment buttons, optional fieldbus module

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**
- **PRONET master interface module: FBI90E-PNM for APPC (P/N: 88IA1932T00X0)**
- **EtherNet/IP master interface module: FBI90E-EP for APPC (P/N: 88IA1932T01X0)**
- **EtherCAT master interface module: FBI90E-ECM for APPC (P/N: 88IA1932T02X0)**
- **PROFIBUS master interface module: FBI90E-PBM for APPC (P/N: 8IA1932T03X0)**
- **DeviceNet master interface module: FBI90E-DNM for APPC (P/N: 88IA1932T04X0)**

IPPC 2160P

Main Features

- 16:9 21.5" Full HD fanless LED panel computer
- Powerful 2nd/3rd generation Intel® Core™ processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x COM/GPIO/DIO/ Dimming control button
- 10 points P-Cap multi-touch with zero bezel flush front design

- Metal housing with robust aluminum front bezel for harsh environment
- IP66 compliant front panel
- Anti-scratch surface: 7H hardness
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)
- Optional: AC power input model/DC power input model

Product Overview

IPPC 2160P is a heavy industrial panel PC equipped with powerful 2nd/3rd generation Intel® Core™ processor, TFT LCD panel with LED backlight and user-friendly touch screen. It provides two expansion slots to support PROFINET, PROFIBUS, DeviceNet, EtherNet/IP and EtherCAT protocols. The NEMA4/IP66 rated heavy-duty aluminum front bezel and the vibration-resistant rugged chassis are specifically designed for outdoor and harsh industrial environments. IPPC 2160P is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area. IPPC 2160P has two isolated RS232/422/485 ports and fieldbus ports.

Specifications

Panel
- LED size: 21.5", 16:9
- Resolution: Full HD 1920 x 1080
- Luminance: 300cd/m^2
- Contrast ratio: 5000
- LCD color: 16.7M
- Viewing angle: 89(U), 89(D), 89(L), 89(R)
- Backlight: LED

Touch
- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

System
- CPU: support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
  - Intel® Core™ i7-3540M (2 x 3GHz, 4M cache, Max. TDP 35W)
  - Intel® Core™ i5-3610ME (2 x 2.7GHz, 3M cache, Max. TDP 35W) (default)
  - Celeron® 1020E (2.2GHz, 2M cache, Max. TDP 35W
- BIOS: AMI BIOS
- System chipset: Intel® HM76 Express chipset
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 4G DDR3 (default), Support up to 8GB DDR3-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 2 x hard drive bay: optional 2 x 2.5" SATA HDD
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage

- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
  - 2 x expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIex4 slots (default)
  - 2 x PCIex4 slots
  - 2 x PCI slots
- Panel backlight control button: increase brightness/decrease brightness/backlight on/offAdd (for IPPC 2160PP2E-AC only)

Rear I/O
For All
- 2 x PS2 keyboard/mouse
- 2nd display VGA port: 1 x DB15
- Ethernet: 2 x RJ45
- USB: 4 x USB 2.0
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
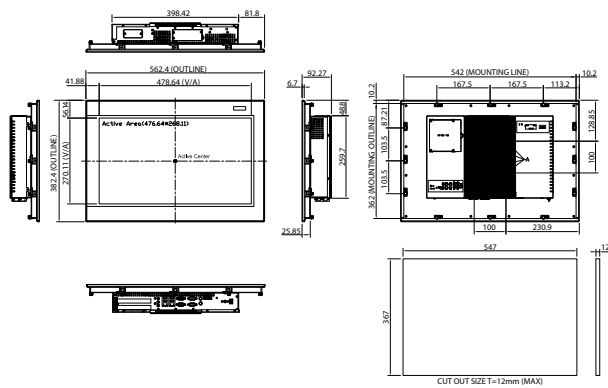
For IPPC 2160PP2E-DC only
- COM #1: RS232/422/485 w/ RI or 5V or 12V selection
- COM #2: RS232/422/485 w/ RI or 5V or 12V selection
- COM #3: RS232 w/ RI or 5V or 12V selection
- ATX power switch
- Reset button
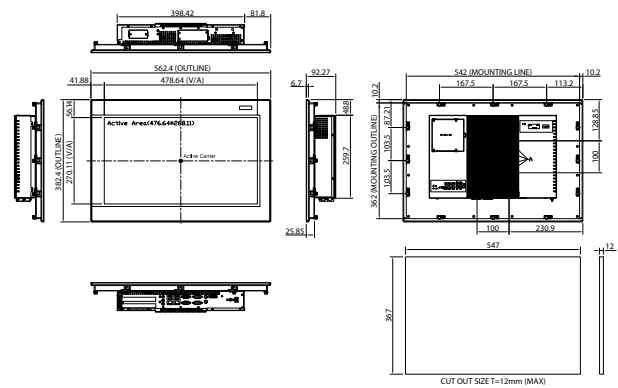
For IPPC 2160PP2E-AC only
- COM #1: RS232/422/485 w/ 2.5kv isolated protection
- COM #2: RS232/422/485 w/ 2.5kv isolated protection
- COM #3: RS232 w/ RI or 5V or 12V selection
- COM #4: RS232 w/ RI or 5V or 12V selection
- COM #5: RS232
- COM #6: RS232
- DIO w/ 2.5kv isolated protection:
  - 4 x digital input (source type)
  - 4 x digital output (sink type)

Dimension Drawing

IPPC 2160PP2E

IPPC 2160PP2E-DC

- GPIO: 4 x Digital In/4 x Digital Out
- LPT: parallel port
- AC power switch
- Reset button

Audio
- HD Codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet
- LAN chip: dual Intel® 82574L Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Fieldbus
- IPPC 2160PP2E-DC: support up to two Fieldbus Module (1 universal Kit and 1 special kit)
- IPPC 2160PP2E-AC: support one special Fieldbus Module kit

Mechanical & Environment
- Color: pantone 432C\ RAL 70 24 front bezel
- Enclosure: aluminum front bezel with SPPC nickel plated housing
- IP protection: IP66 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power
  For IPPC 2160PP2E-DC
  - Power input: 12-30 VDC, 7-2.5 A, Class 2
  - Power adapter: optional AC to DC DIN rail power adapter (+24V, 120W)
  For IPPC 2160PP2E-AC
  - Power input: 100-240V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
  - Power connector: AC inlet (IEC60320 C14)
  - Power supply: 120W
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G @ wall mount, half sine, 11ms
- Operating temperature: -10°C to 50°C
  * Intel® Core™ i7/Intel® Celeron® B810: -10°C to 40°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 562.4mm x 382.4mm x 92.27mm
- Weight: 11.9Kg for IPPC2160PP2E-DC
       12.51Kg for IPPC2160PP2E-AC

Certifications
- CE (including EN61000-6-2/EN61000-6-4)
- FCC Class A
- AC: LVD 60950-1

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0
- Windows XP 32bit

Ordering Information

System

- **IPPC 2160PP2E-DC (P/N: 10II2160P02X0)**
  21.5" Full HD LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 3 x COMs, DC power input

- **IPPC 2160PP2E-AC (P/N: 10II2160P00X0)**
  21.5" Full HD LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, ten points P-Cap touch screen, 4GB DDR3, 6 x COMs, 4 x 4 GPIO, 4 x 4 DI/O with isolated protection, AC power input

Optional

- **24V/5A, 120W AC to DC DIN rail power adapter w/ o power cord (P/N: 7440120001X00) (for IPPC 1960TP2EDC only)**
- **Riser card 2 x PCI slots (P/N: 20JK036P200X0)**
- **Riser card 2 x PCIex4 slots (P/N: 20JK036E200X2)**
- **Fieldbus module universal kit (for IPPC 2160PP2E-DC) only**
- **88J50090E00X0 FBI 90E-PNM kit (w/ 25 cm cable) PROFINET master**
- **88J50090E01X0 FBI 90E-EP kit (w/ 25 cm cable) EtherNet/IP master**
- **88J50090E02X0 FBI 90E-ECM kit (w/ 25 cm cable) EtherCAT master**
- **88J50090E03X0 FBI 90E-PBM kit (w/ 25 cm cable) PROFIBUS master**
- **88J50090E04X0 FBI 90E-DNM kit (w/ 25 cm cable) DeviceNET master**

IPPD 1600P

15.6" IP66 Heavy Industrial 16:9 WXGA Zero Bezel Flush Touch Monitor

Main Features

- IP66 compliant and metal housing with robust aluminum front zero bezel for harsh environment
- 10 points P-Cap multi-touch with zero bezel flush front design
- 3 display input interface: Analog VGA/DVI-D/Display Port
- Shares identical appearance with IPPC series
- Ultra slim in depth
- OSD multilanguage function
- All connectors with lock
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12~24VDC

Product Overview

15.6" 16:9 LCD display IPPD 1600P is based on a ten points P-Cap multi-touch screen with resolution up to 1366 x 768 Panel. IPPD 1600P has system grade grounding protection which means chassis grounding and power grounding design to avoid in-rush current damage monitor. IPPD 1600P is ideal for space-critical environments where systems and displays are kept apart. In addition, IPPD 1600P adopts zero bezel flush panel design and has IP66 front panel. IPPD 1600P provides prevailing video interface: VGA, DVI-D and Display Port, supporting both digital and analog signals. Moreover, IPPD1600P supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. IPPD 1600P is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC/IPPC panel PC when a second display is required.

Specifications

Panel
- LED size: 15.6", 16:9
- Resolution: WXGA 1366 x 768
- Luminance: 300cd/m2
- Contrast ratio: 500
- LCD color: 16.7M
- Viewing angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch
- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

Rear I/O
- Touch interface port: USB with Lock
- Video port: VGA (1xDB15)/DVI-D (1xDVI-D connector)/Display port
- DC power input connector: 3-Pin Phoenix terminal Blocks

OSD Function
- OSD keypad
- Multilanguage OSD

Mechanical & Environment
- Color: Pantone 425C/RAL 70 24 front bezel
- IP protection: IP66 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- System with panel mounting kit w/o panel mounting hole
- Power input: 12~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64
  - 2Grms @ sine, 5~500Hz, 1hr/axis (operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -10°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 417.4 x 312.4 x 51.75mm
- Weight: 5.48Kg

Certifications
- CE (including EN61000-6-1/EN61000-6-2/EN61000-6-3/EN61000-6-4)
- FCC Class B

NEXCOM

Dimension Drawing

CUT OUT SIZE T=12mm (MAX)
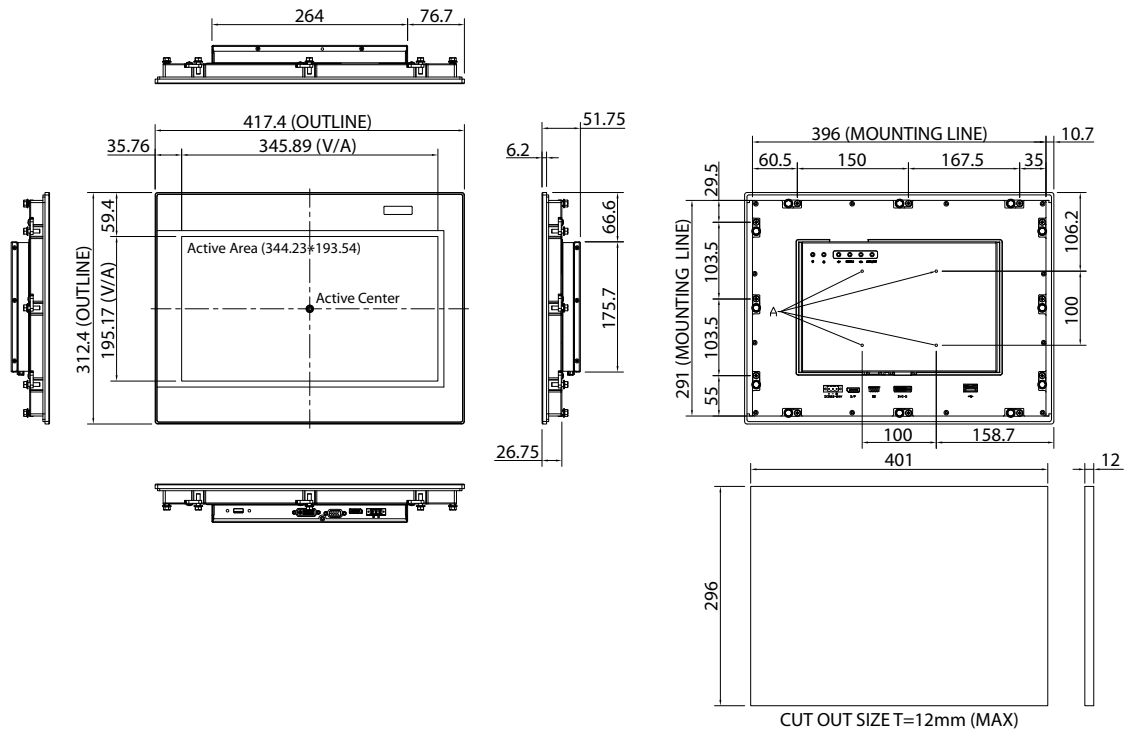
Ordering Information

Barebone

- **IPPD 1600P (P/N: 10II1600P00X0)**
  15.6"WXGA Heavy Industrial 16:9 LED backlight P-Cap touch monitor
  with VGA, DVI-D and Display port input, 12~24VDC input

Option

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060019X00)

- **1.8m DVI-D male to DVI-D male cable**

  (P/N: 60233DVI28X00)

- **1.8m Display port Cable (P/N: 6030000122X00)**

IPPD 1800P

18.5" IP66 Heavy Industrial 16:9 WXGA Zero Bezel Flush Touch Monitor

Main Features

- IP66 compliant and metal housing with robust aluminum front zero bezel for harsh environment
- 10 points P-Cap multi-touch with zero bezel flush front design
- 3 display input interface: Analog VGA/DVI-D/Display Port
- Shares identical appearance with IPPC series
- Ultra slim in depth
- OSD multi-language function
- All connectors with lock
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12~24VDC

Product Overview

18.5" 16:9 LCD display IPPD 1800P is based on a ten points P-Cap multi-touch screen with resolution up to 1366 x 768 Panel. IPPD 1800P has system grade grounding protection which means chassis grounding and power grounding design to avoid in-rush current damage monitor. IPPD 1800P is ideal for space-critical environments where systems and displays are kept apart. In addition, IPPD 1800P adopts zero bezel flush panel design and has IP66 front panel. IPPD 1800P provides prevailing video interface: VGA, DVI-D and Display Port, supporting both digital and analog signals. Moreover, IPPD 1800P supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. IPPD 1800P is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC/IPPC panel PC when a second display is required.

Specifications

Panel
- LED size: 18.5", 16:9
- Resolution: WXGA 1366 x 768
- Luminance: 400cd/m2
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch
- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

Rear I/O
- Touch interface port: USB with Lock
- Video port: VGA (1xDB15)/DVI-D (1xDVI-D connector)/Display port
- DC power input connector: 3-Pin phoenix terminal blocks

OSD Function
- OSD keypad
- Multilanguage OSD

Mechanical & Environment
- Color: pantone 425/RAL 70 24 front bezel
- IP protection: IP66 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- System with panel mounting kit w/ o panel mounting hole
- Power input: 12~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64
  - 2Grms @ sine, 5~500Hz, 1hr/axis (operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -10°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 490.8 x 320.6 x 50.65mm
- Weight: 6.24Kg

Certifications
- CE (including EN61000-6-1/EN61000-6-2/EN61000-6-3/EN61000-6-4)
- FCC Class B

NEXCOM

Dimension Drawing
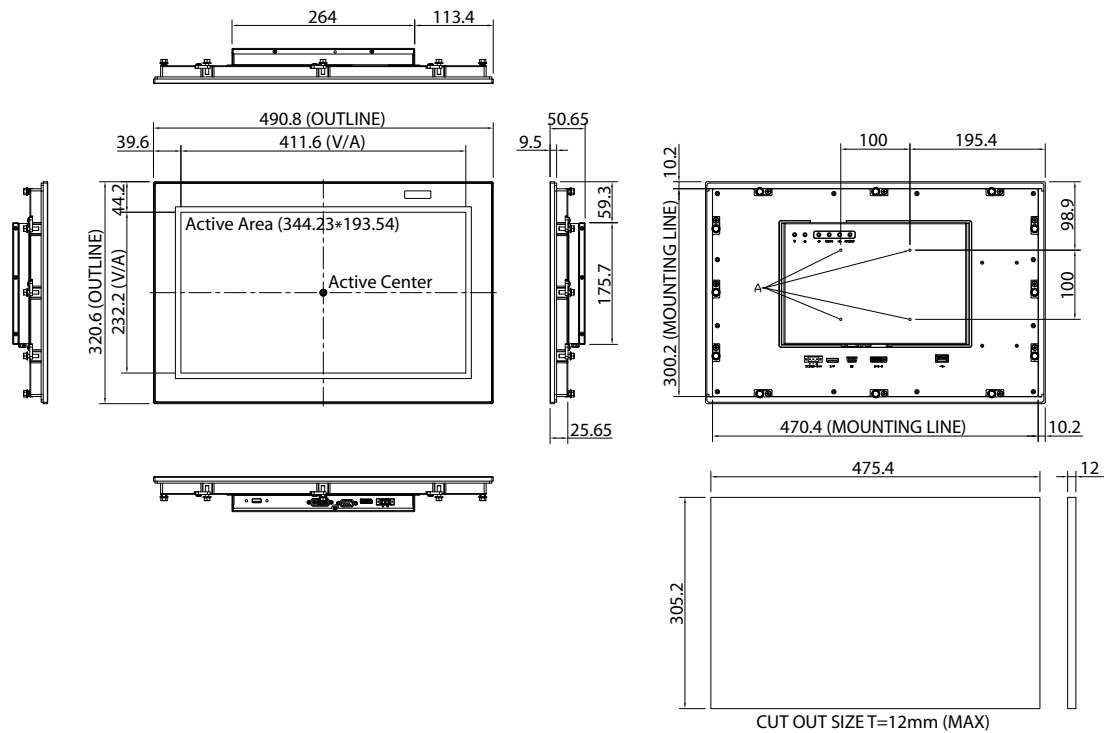
Ordering Information

Barebone

- **IPPC 1800P (P/N: 10II1800P00X0)**
  18.5" WXGA Heavy Industrial 16:9 LED backlight P-Cap touch monitor
  with VGA, DVI-D and Display port input, 12~24VDC input

Option

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060019X00)

- **1.8m DVI-D male to DVI-D male cable**

  (P/N: 60233DVI28X00)

- **1.8m Display port Cable (P/N: 6030000122X00)**

IPPD 2100P

21.5" IP66 Heavy Industrial 16:9 WXGA Zero Bezel Flush Touch Monitor

Main Features

- IP66 compliant and metal housing with robust aluminum front zero bezel for harsh environment
- 10 points P-Cap multi-touch with zero bezel flush front design
- 3 display input interface: Analog VGA/DVI-D/Display Port
- Shares identical appearance with IPPC series
- Ultra slim in depth
- OSD multi-language function
- All connectors with Lock
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12~24VDC

Product Overview

21.5" 16:9 LCD display IPPD 2100P is based on a ten points P-Cap multi-touch screen with resolution up to 1920 x 1080 (Full HD) Panel. IPPD 2100P has system grade grounding protection which means chassis grounding and power grounding design to avoid in-rush current damage monitor. IPPD 2100P is ideal for space-critical environments where systems and displays are kept apart. In addition, IPPD 2100P adopts zero bezel flush panel design and has IP66 front panel. IPPD 2100P provides prevailing video interface: VGA, DVI-D and Display Port, supporting both digital and analog signals. Moreover, IPPD 2100P supports 12~24VDC power input and offers panel mount and VESA mount, allowing users to choose the mounting method that meets their situation. IPPD 2100P is the best solution for NEXCOM NISE fanless computer, NViS security surveillance series and APPC/IPPC panel PC when a second display is required.

Specifications

Panel
- LED size: 21.5", 16:9
- Resolution: Full HD 1920 x 1080
- Luminance: 300cd/m2
- Contrast ratio: 5000
- LCD color: 16.7M
- Viewing angle: 89(U), 89(D), 89(L), 89(R)
- Backlight: LED

Touch
- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

Rear I/O
- Touch interface port: USB with Lock
- Video port: VGA (1xDB15)/DVI-D (1xDVI-D connector)/Display port
- DC power input connector: 3-Pin Phoenix terminal Blocks

### OSD Function
- OSD keypad
- Multilanguage OSD

Mechanical & Environment
- Color: Pantone 425C\RAL 70 24 front bezel
- IP protection: IP66 front
- Mounting: panel/ wall/ stand/ VESA 100mm x 100mm
- System with panel mounting kit w/o panel mounting hole
- Power input: 12~24VDC
- Power adapter: optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64
  - 2Grms @ sine, 5~500Hz, 1hr/axis (operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -10°C to 60°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 562.4x382.4x50.85mm
- Weight: 7.87Kg

Certifications
- CE (including EN61000-6-1/EN61000-6-2/EN61000-6-3/EN61000-6-4)
- FCC Class B

NEXCOM

Dimension Drawing
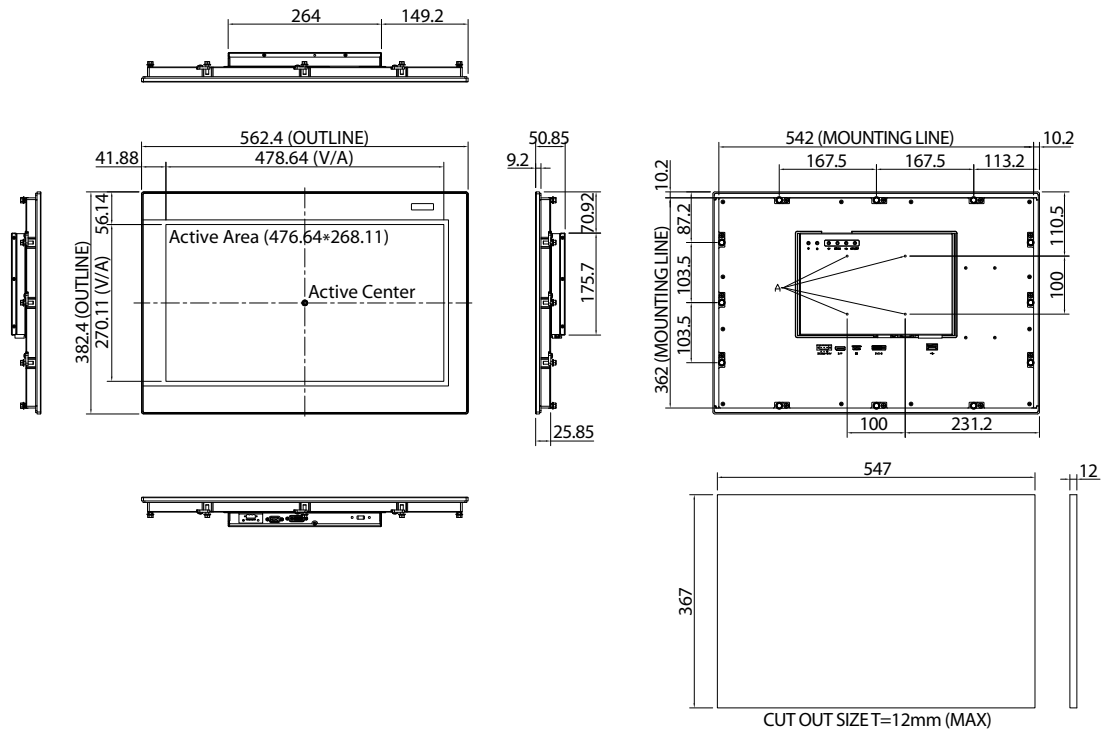
Ordering Information

Barebone

* **IPPC 2100P (P/N: 10II2100P00X0)**
  21.5" Full HD Heavy Industrial 16:9 LED backlight P-Cap touch monitor
  with VGA, DVI-D and Display port input, 12~24VDC input

Option

* **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060019X00)

* **1.8m DVI-D male to DVI-D male cable**

  (P/N: 60233DVI28X00)

* **1.8m Display port Cable (P/N: 6030000122X00)**

KPPC 1552

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" projected capacitive true flat touch screen
- Fanless Kiosk Panel PC
- Intel® Atom™ D525 Dual-Core processor, 1.8GHz
- Support DDR3 SO-DIMM memory

- 2.5" removable SATA HDD
- Powered COM (4), USB (4), printer port (1), VGA (1), GbE LAN (1), cash drawer (1)
- Front bezel complies with IP-65 protection standard
- VESA 100mm x 100mm mounting for wall-mount application

Product Overview

The KPPC 1552 is a multi-functional and rugged Kiosk Panel PC, transcending various markets from Health Care, Gaming and Industrial applications. It has a State of the art 15" touch screen, with cutting edge Projected Capacitive Multi-Touch Technology from Japan. Zero Bezel (True Flat Surface) design and combined with its Solid IP65 Water and Dust proofing, makes it a perfect engine for any Kiosk Applications at any given harsh environment.

Unique Sleek and Noise Free Fanless Design driven by an Intel® Atom™ D525 Dual-Core Processor makes it a cost effective and high value terminal. Scalable M/B platform can be upgraded from Dual Core to Quad Core . Additional features like Removable HDD for COLD SWAPPING makes repair so easy, lowering terminal downtime to almost zero thus saving on maintenance cost.

KPPC 1552 supports 100mm x 100mm VESA Standard for various mounting application from Wall Mount, Panel Mount and Bracket Mount e.g. Nursing/Service cart, Bedside Care, Gaming Kiosk and many more.

Specifications

Panel
- LCD Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m²
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85 (right)
- Backlight: CCFL/LED
- Touch screen: projected capacitive true flat (zero bezel)
- Touch light transmission: 91%
- Touch interface: USB

System
- CPU: Intel® Atom™ D525, 1.8GHz
- BIOS: AMI BIOS
- System chipset: Intel® ICH8M
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 2GB DDR3 (default), optional support up to 4GB DDR3 800, Non-ECC and Un-buffered
- Hard disk drive: one 2.5" 320GB SATA HDD, removable type
- Expansion: 1 x Mini-card socket for Mini-PCIe and USB interface

Rear I/O
- USB: 4 x USB 2.0 port
- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps
- VGA: 1 x DB-15 2nd VGA port
- Cash drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +12VDC input, Mini-DIN 4 pin lock type
- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)

Audio
- High Definition audio codec: Realtek ALC886-GR
- Internal audio: one 3W speaker
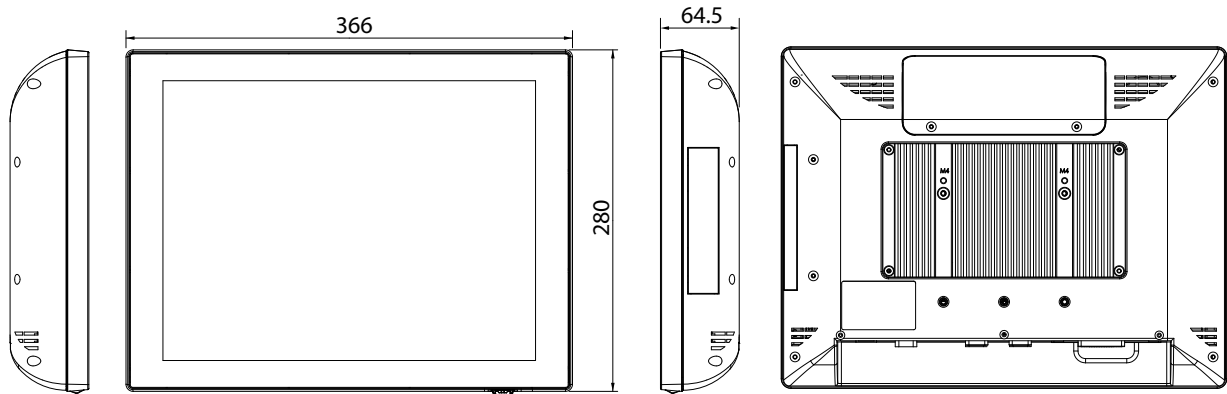- External audio: Line-out audio jack

Ethernet
- LAN chip: Realtek RTL8111C-VC-GR Gigabit LAN
- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: beige/black

Dimension Drawing

366

280

64.5

- Mounting: desktop type, optional VESA 100 x 100mm wall-mount
- IP protection: front bezel complies with IP-65 protection standard
- Power input: +12VDC
- Power adapter: AC to DC power brick (+12VDC/8.33A, 100W)
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20% ~ 80% relative humidity, non-condensing
- Dimension: 366mm (L) x 280mm (W) x 64.5mm (H)
- Weight: 5.0 kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Ordering Information

- **KPPC 1552-036 (P/N: A0YK0155202X0)**
  - Color: black
  - CPU: Intel® Atom™ D525 Dual-Core, 1.8GHz L2 1MB
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED backlight/ projected capacitive true flat touch
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +12VDC/100W power brick

- **Options**
  - 3G module kit (P/N: BW00000023X00)
  - WiFi module kit (P/N: TBD)

KPPC 1812

Main Features

- Quad core Intel® Celeron® processor J1900 2GHz
- 18.5" WXGA (1366 x 768) P-cap zero bezel touch display
- 2MP front webcam with autofocus
- 4GB of DDR3L SO-DIMM memory
- 320GB 5,400rpm 2.5" HDD
- Ultra slim 64.5mm
- VESA mounting (100 x 100mm)
- 24VDC 120W Power brick

Product Overview

NEXCOM has released the Kiosk Panel PC KPPC 1812 to help build a smart future-proof kiosk that can evolve with changing needs of retail and hospitality industries. Based on Intel® Celeron® J1900 processor, the KPPC 1812 can power multimedia contents for advertising and enable multiple ways of user interaction for self-servicing. The KPPC 1812 is designed with expansion flexibility and ease of use and maintenance and can maximize kiosk uptime and lower total cost of ownership (TCO) for users.

Specifications

System Processor
- Motherboard: NP-BYT0-A/NC-DK0-A
- Processor: IIntel® Celeron® J1900 Processor, 4C, 2.0GHz, 2MB Cache
- System Memory:
  - 1 x DDR3L 1333 SO-DIMM
  - Default: 1 x SO-DIMM DDR3L 1333 4GB
  - Optional: 1 x SO-DIMM DDR3L 1333 8GB
- Graphics: Integrated graphics controller, Intel's Gen 7 graphics and media encode/decode engine

LCD Touch Screen
- LCD Size: 18.5" TFT WXGA (1366x768) 250cd/m² LCD panel
- Touch Screen: 18.5" Projected Capacitive Touch Panel

Storage Device
- 1 x 2.5" SATA HDD 320GB 5,400rpm w/ HDD Door

Expansion
- 1 x Full size Mini-Card slot (mini-PCIe/USB/3G SIM slot)
- 1 x Half size Mini-Card slot (mini-PCIe/USB)

Rear I/O
- Serial (4):
  - 2 x RJ-50 Powered RS-232 (COM1, COM2, adjust RI/5V by BIOS setting)
  - 1 x RJ-50 Powered RS-232 (COM3, adjust RI/ 12V by BIOS setting)
  - 1 x RJ-50 Powered RS-232/422/485 (COM4, adjust RI/12V & RS232/422/485 by BIOS setting)
- USB (2/2): 2 x USB 2.0; 2 x USB 3.0
- Parallel: 1 x DB-25 Parallel Port
- LAN: 1 x RJ-45 (10/100/1000Mbps Ethernet)
- VGA: 1 x DB-15 VGA port for 2nd Display
- Cash Drawer Port: 1 x RJ-11, support Two Cash Drawers (24V, Max 1.1A)
- DC-in Jack: 1 x DC-24V Input
- DC-Out Jack: 1 x DC-12V Output for 2nd Display Power (12V, Max 3.0A)
- Line-Oout/Mic: 1 x Line-out for External Audio Speaker & Mic-in

Audio
- 1 x System Buzzer

### System Control
- 1 x Power ON/OFF Switch

Power
- Default: External AC DC 24V/5.0A 120W Power Brick
- Optional: Upgrade to DC-24V 180W Power Brick

Kits/Peripherals
- Web Camera: Default: build-in 2M Auto Focus Web CAM, USB interface
- MSR: Optional: ISO 3 Tracks MSR (USB/RS232 combo interface or PS/2)
- MSR/ Fingerprint Combo: Optional: ISO 3 Tracks MSR (PS/2) & Fingerprint (USB) combo
- RFID/ NFC: Optional: RFID Mifare Read/ Write Module; NFC Contactless Reader Module
- Scanner: Optional: 2D Scanner
- Thermal Printer: Optional: 2"/3" Thermal Printer

NEXCOM

Dimension Drawing

461.60

64.50

309.80
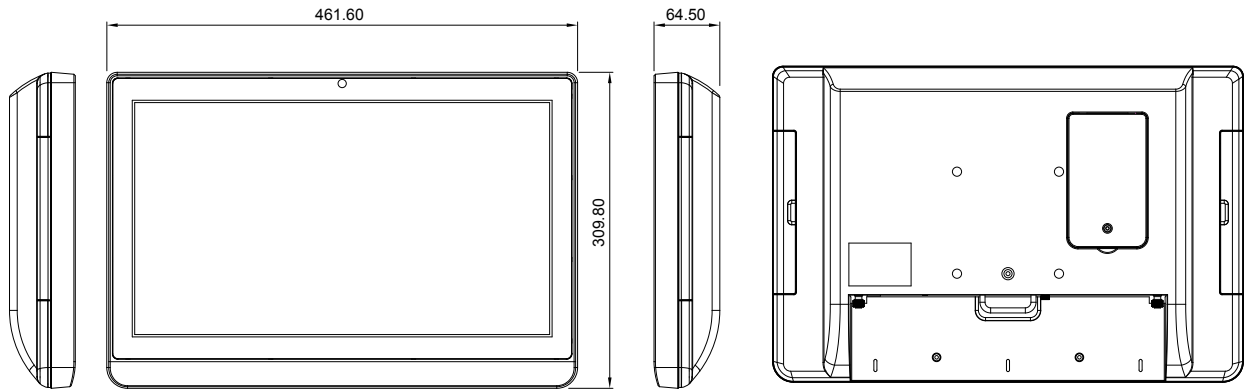
Environment
- Operating Temperature: 0°C to 40°C (32°F ~ 104°F)
- Storage Temperature: -20°C to 60°C (-4°F ~ 140°F)
- Operating Humidity: 20% to 80% RH non-condensing
- Storage Humidity: 20% ~ 85% RH non-condensing

Dimension
- Display Head: 461.6mm (W) x 309.8mm (H) x 64.5mm (D)
- Package Size: 585mm (L) x 235mm (W) x 450mm (H) (No MSR)

Weight
- Net Weight/Gross Weight: 9.0kg (19.8lbs)/10.5kg (23.2lbs)

Operating System
- Windows 8
- WES 8
- POSReady 7
- Win 7 Pro
- WES 7
- Fedora 17
- TIZEN

Certificate
- EMC & Safety
- FCC/CE/LVDS

Ordering Information

- **KPPC-1812-010 (P/N: A0YK0181200X0)**
  - CPU: Intel® Celeron® J1900 Processor, 4C, 2.0 GHz, 2MB Cache
  - LCD/ Touch: 18.5" TFT WXGA (1366x768) 250 cd/m² LCD panel/ Projected Capacitive Zero Bezel Touch
  - Memory: 4GB DDR3L SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: DC-24V/120W Power Brick
  - Color: Black
  - Web Camera: Build-in 2M Auto Focus Web Camera

KPPC 5852

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" projected capacitive true flat touch screen
- 2nd/3rd Generation Intel® Core™ i3/i5/i7 Processor
- Support DDR3 1333 SO-DIMM memory
- 2.5" removable SATA HDD

- Powered COM(4), USB(4), printer port(1), VGA(1), GbE LAN(1), Cash drawer(1)
- Front bezel complies with IP-65 protection standard
- VESA 100mm x 100mm mounting for wall-mount application

Product Overview

The KPPC 5852 is a multi-functional and Powerful Kiosk Panel PC, transcending various market applications from Health Care, Gaming and Industrial. It has a State of the art 15" touch screen with Projected Capacitive Multi-Touch Technology from Japan .Borderless (True Flat Surface) design combined with its Solid IP65 Water and Dust proofing, making it a perfectengine for any Kiosk Applications.

High-end performance 2nd/3rd Generation Intel® Core™ i3/i5/i7 Mobile Processor platform makes sure multi-applications runs smoothly and efficiently.

Removable HDD and Dust Filter design makes repair so easy, lowering terminal downtime to almost zero and thus saving on maintenance cost.

KPPC 5852 supports 100mm x 100mm VESA Standard for various mounting application from Wall Mount, Panel Mount and Bracket Mount e.g. Nursing/Service cart, Bedside Care, Factory Automation and many more.

Specifications

Panel

- LCD Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85 (right)
- Backlight: CCFL
- Touch screen: projected capacitive true flat (zero bezel)
- Touch light transmission: 91%
- Touch interface: USB

System

- CPU: Default: Intel® Pentium® Processor B950, 2C/2T, 2.10 GHz, 2MB Cache
- Upgrade Optional:
  2nd Generation Intel® Core™ Mobile Processor: i7-2710QE, 4C/8T, 2.1GHz, 6MB Cache; i5-2510E, 2C/4T, 2.5GHz, 3MB Cache; i3-2330E, 2C/4T, 2.2GHz, 3MB Cache
  Optional: Intel® Celeron® Processor B810, 2C/2T, 1.60 GHz, 2M Cache
- BIOS: AMI BIOS

- System chipset: Intel® BD82HM65 Platform Controller Hub, BD82HM65, FCBGA 989
- System memory: 1 x 204-pin DDR3 1333 SO-DIMM socket, 2GB DDR3 (default), optional two sockets support up to 8GB DDR3 1333, non-ECC and un-buffered
- Hard disk drive: One 2.5" 320GB SATA HDD, removable type
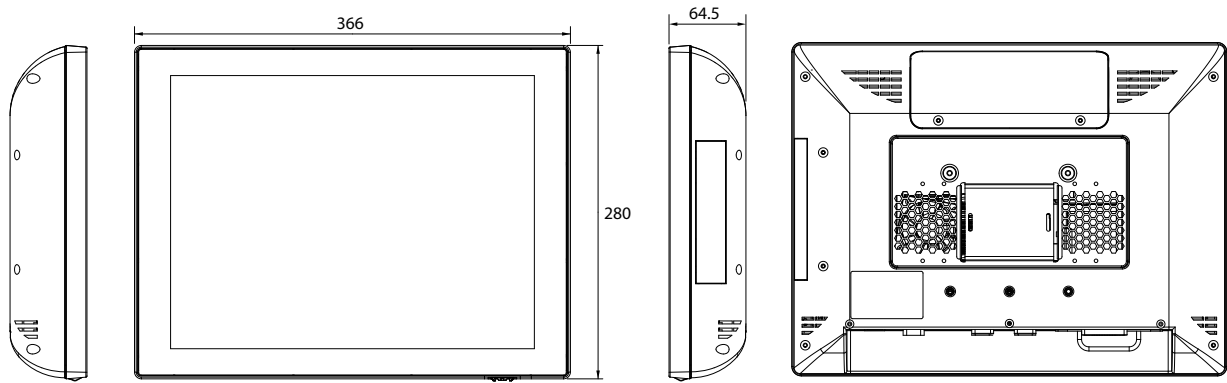- Expansion: 1 x Mini-Card Socket for Mini-PCIe and USB interface

Rear I/O

- USB: 4 x USB 2.0 port
- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps
- VGA: 1 x DB-15 2nd VGA port
- Cash drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +19VDC input, Mini-DIN 4 pin lock type
- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)

Ethernet

- LAN chip: Intel® PHY WG82579LM Gigabit LAN

Dimension Drawing

- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: beige/black
- Mounting: desktop type, optional VESA 100 x 100mm wall-mount
- IP protection: front bezel complies with IP-65 protection standard
- Power input: +19VDC
- Power adapter: AC to DC power brick (+19VDC/6.315A, 120W)
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20% ~ 80% relative humidity, non-condensing
- Dimension:366mm(L) x 280mm(W) x 64.5mm(H)
- Weight: 5.0 kg

Certifications
- CE approval
- FCC Class A

Ordering Information

- **KPPC 5852-036(P/N: A0YK0585202X0)**
  - Color: Black
  - CPU: Intel® Core™ i3/i5/i7 mobile processor, 2C/2T,2.10GHz, 2MB cache
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED backlight/ projected capacitive true flat touch
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5"SATA 5,400rpm
  - Power: +19VDC/120W power brick

- **Options**
  - 3G module kit (P/N: BW00000023X00)
  - WiFi module kit (P/N: TBD)

OPPC 1230T

12.1" TFT SVGA 4:3 Fanless Open Frame PC with Intel® Atom™ D2550, 1.86GHz, Touch Screen, 2GB DDR3, 4 x USB, 2 x COM and VGA

Main Features

- 4:3 12.1" SVGA Fanless LED Panel Computer
- Intel® Atom™ D2550, Dual Core, Low Consumption CPU
- Dual GbE/2nd Display-VGA and HDMI/Line-in/Line-out/MIC-in
- 4 x USB/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- DDR3 2GB/2.5" HDD Bracket
- Optional 3.5G/Wi-Fi Module/2.5" HDD/Panel Mount Kit
- Open Frame and Panel Mount/VESA Mount Compliance
- Wide Range Power Input 12~30VDC

Product Overview

OPPC 1230T fanless Panel PCs are powered by Intel® Atom™ D2550 processor with Intel® NM10 Express chipset and support for DDR3 memory. OPPC 1230T incorporates a 12.1" 4:3 touch screen LCD panel with resolutions up to 800 x 600 (SVGA) and 450 nits brightness. It is specially designed with bezel-less display which allows customers to design front bezel according to their application requirements without any limitation.

OPPC 1230T is designed to meet the requirements of vertical market segments, such as Kiosk, ATMs, and vending machines. Customers also benefit from various mounting options, including open frame mount from both rear and front sides, VESA mount, wall mount and panel mount. This versatility gives users a quick route to market for a customized Panel PC.

Specifications

Panel
- LED Size: 12.1", 4:3
- Resolution: SVGA 800 x 600
- Luminance: 450cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 65(U), 75(D), 80(L), 80(R)
- Backlight: LED

Touch
- 5-wire resistive
- Light transmission: 80%
- Interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor D2550, 1.86GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System chipset: Intel® NM10 Express chipset
- System memory: 2 x 204-pin DDR3 SO-DIMM socket, 2GB DDR3 (Default), Support up to 4GB DDR3-800/1066, Non-ECC and Un-buffered
- Storage Device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by

software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25℃)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi or 3.5G module)

Rear I/O
- COM #1: RS232/422/485 w/ RI or 5V selection
- COM #2: RS232/422/485 w/ RI or 12V selection
- Ethernet: 2 x RJ45
- 2nd display port: VGA (1 x DB15) and HDMI
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
- USB: 4 x USB2.0
- Power switch
- Reset button

Audio
- HD Codec: Realtek ALC886-GR
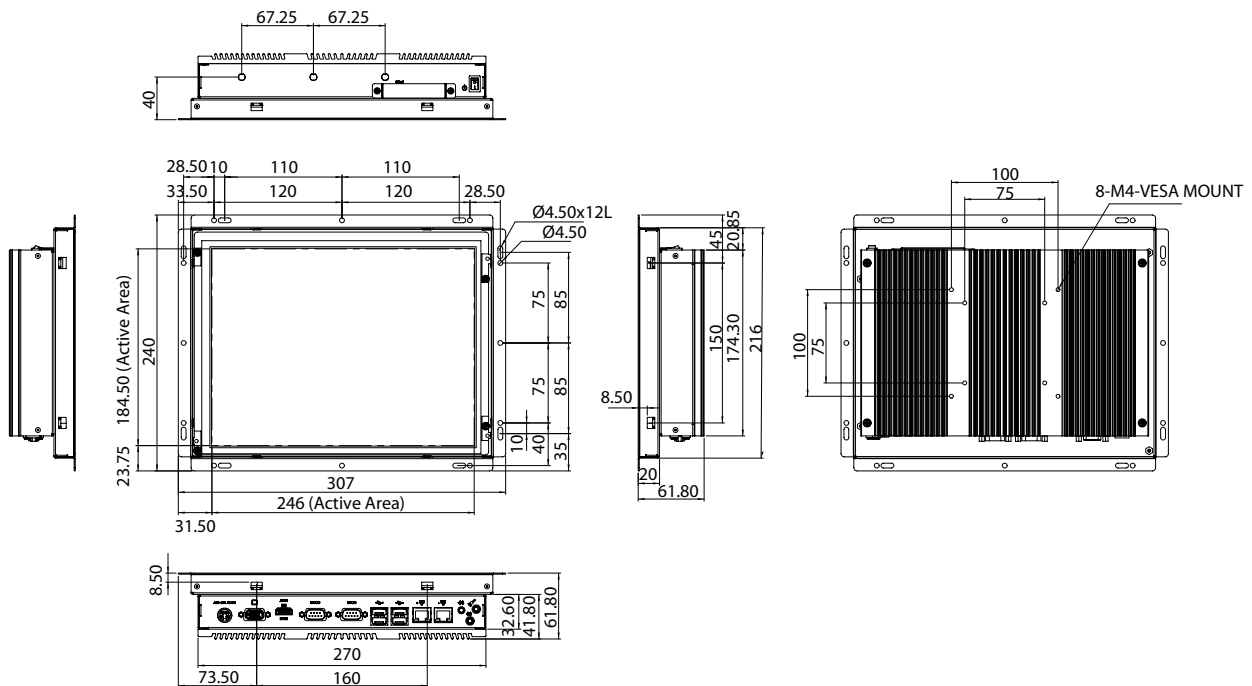- Audio interface: Line-out/Line-in/MIC-in Audio Jack

Ethernet
- LAN chip: dual Intel® 82574L Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Front panel open frame
- Mounting:

Dimension Drawing

Open frame mount
Panel/wall/stand/VESA 75 x 75; 100mm x 100mm
Power input: 12~30VDC
Power adapter: Optional AC to DC power adapter (+12V, 60W)

- Vibration:
  IEC 68 2-64 (w/ HDD)
  0.5Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  IEC 68 2-27
  HDD: 20G@wall mount, half sine, 11ms
  Operating temperature: -5℃ to 50℃
- Storage temperature: -20℃ to 75℃
- Operating humidity:
  20%~80% relative humidity, non-condensing
- Dimension: 307 x 240 x 61.8mm
- Weight: 3.8Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows XP 32bit
- Windows 7 32bit
- WinCE 7.0

Ordering Information

Barebone

- **OPPC 1230T (P/N: 90IQ1230T00X0)**
  12.1" TFT LED Backlight Open Frame PC with Intel® Atom™ D2550
  1.86GHz, touch screen, 2GB DDR3, COM#1/#2

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060017X00)

OPPC 1540T

Main Features

- 4:3 15" XGA Fanless Panel Computer
- Intel® Atom™ E3826, dual core, low power consumption CPU
- PS2 KB/MS/Line-out/Dual GbE/3x USB
- 2 x RS232/422/485/2nd display-VGA/2 x Mini-PCIe sockets/1 x CFast
- Remote power switch

- DDR3L 2GB/2.5" HDD bracket
- Support JMobile HMI and CODESYS SoftLogic (optional)
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12~30VDC

Product Overview

Incorporated a 15" 4:3 touch screen LCD panel with resolutions up to 1024 x 768 (XGA) and 420 nits brightness. It is specially designed with bezel-less display which allows customers to design front bezel according to their application requirements without any limitation. The OPPC1540T are fanless Panel PC based on the Atom™ E3826 processor. The OPPC 1540T supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder.

With support for wide power input of 12~30VDC, OPPC 1540T can gain a strong foothold in industrial field and machine devices. In addition, OPPC 1540T can hook 2nd display via a VGA port for dual independent display. OPPC 1540T has two isolated RS232/422/485 ports.

Specifications

Panel
- LED size: 15", 4:3
- Resolution: XGA 1024x768
- Luminance: 420cd/m²
- Contrast ratio: 800
- LCD color: 262K
- Viewing angle: 80(U), 80(D), 80(L), 80(R)
- Backlight: LED

Touch
- 5-wire resistive
- Touch light transmission: 81%
- Touch interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module)

Rear I/O
- PS2 keyboard/mouse
- Audio port: 1 x Line-out
- Remote power switch
- Ethernet: 2 x RJ45
- USB: 2 x USB2.0; 1 x USB3.0
- COM #1: RS232/422/485
- COM #2: RS232/422/485
- Reset button
- 2nd display VGA port: 1 x DB15
- Power switch

Audio
- HD Codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in (Optional)/MIC-in (Optional) audio Jack
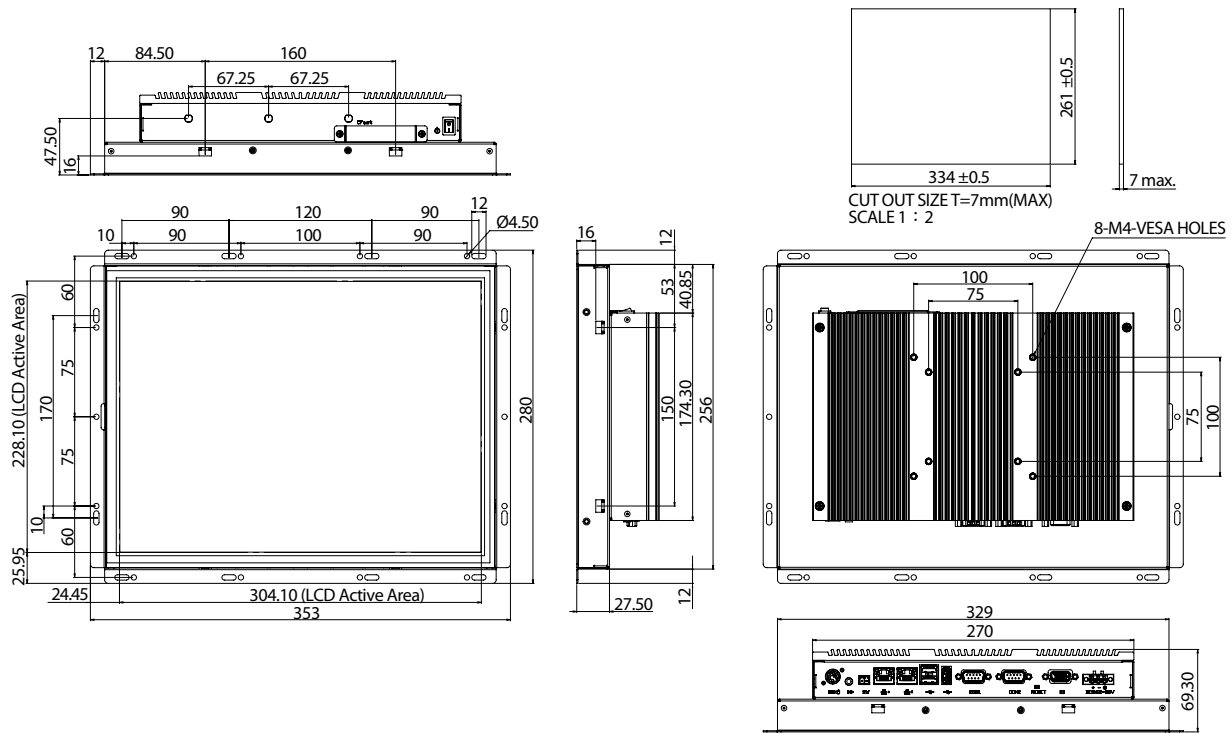
Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power input: 12~30VDC

Dimension Drawing

CUT OUT SIZE T=7mm(MAX)
SCALE 1：2

8-M4-VESA HOLES

- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 329 x 280 x 69.3mm
- Weight: 4Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **OPPC 1540T (P/N: 90IQ1540T00X0)**
  15" XGA LED backlight touch Panel PC with Intel® Atom™ E3826 1.46 GHz, touch screen, 2GB DDR3L with 2x RS232/422/485

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060017X00)

OPPC 1730T

Main Features

- 4:3 17" Fanless Panel Computer
- Intel® Atom™ D2550, Dual Core, Low Consumption CPU
- Dual GbE/2nd Display-VGA and HDMI/Line-in/Line-out/MIC-in
- 4 x USB/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485

- DDR3 2GB/2.5" HDD Bracket
- Optional 3.5G/Wi-Fi Module/2.5" HDD/Panel Mount Kit
- Open Frame and Panel Mount/VESA Mount Compliance
- Wide Range Power Input 12~30VDC

Product Overview

OPPC 1730T fanless Panel PCs are powered by Intel® Atom™ D2550 processor with Intel® NM10 EXpress chipset and support for DDR3 memory. OPPC 1720T incorporates a 17" 4:3 touch screen LCD panel with resolutions up to 1280 x 1024 (SXGA) and 350 nits brightness. It is specially designed with bezel-less display which allows customers to design front bezel according to their application requirements without any limitation.

OPPC 1730T is designed to meet the requirements of vertical market segments, such as Kiosk, ATMs, and vending machines. Customers also benefit from various mounting options, including open frame mount from both rear and front sides, VESA mount, wall mount and panel mount. This versatility gives users a quick route to market for a customized Panel PC.

Specifications

Panel
- LED Size: 17", 4:3
- Resolution: SXGA 1280 x 1024
- Luminance: 350cd/m^2
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing Angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch
- 5-wire resistive
- Light transmission: 80%
- Interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor D2550, 1.86GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System chipset: Intel® NM10 Express chipset
- System memory: 2 x 204-pin DDR3 SO-DIMM socket, 2GB DDR3 (Default), Support up to 4GB DDR3-800/1066, Non-ECC and Un-buffered
- Storage Device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by

software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi or 3.5G module)

Rear I/O
- COM #1: RS232/422/485 w/ RI or 5V selection
- COM #2: RS232/422/485 w/ RI or 12V selection
- Ethernet: 2 x RJ45
- 2nd display port: VGA (1 x DB15) and HDMI
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
- USB: 4 x USB2.0
- Power switch
- Reset button

Audio
- HD Codec: Realtek ALC886-GR
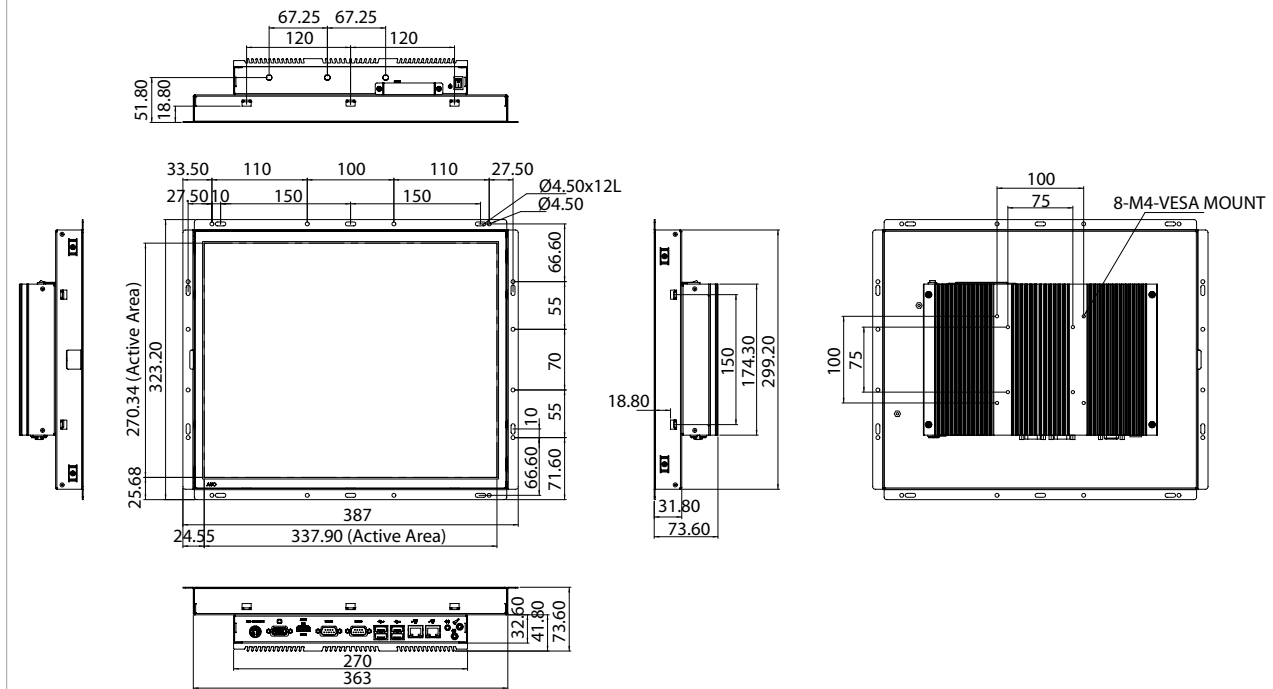- Audio interface: Line-out/Line-in/MIC-in Audio Jack

Ethernet
- LAN chip: dual Intel® 82574L Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Front panel open frame

NEXCOM

Dimension Drawing

- Mounting:
  Open frame mount
  Panel/wall/stand/VESA 75 x 75; 100mm x 100mm
- Power input: 12~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  IEC 68 2-64 (w/ HDD)
  0.5Grms @ sine, 5~500Hz, 1hr/axis (HDD Operating)
  2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (Non-operating)
- Shock:
  IEC 68 2-27
  HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 20%~80% relative humidity, non-condensing
- Dimension: 387 x 323.2 x 73.6mm
- Weight: 5.6 Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows XP 32bit
- Windows 7 32bit
- WinCE 7.0

Ordering Information

Barebone

- **OPPC 1730T (P/N: 90IQ1730T00X0)**
  17" TFT Open Frame PC with Intel® Atom™ D2550 1.86GHz, touch screen, 2GB DDR3, COM#1/#2

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060017X00)

OPPC 1940T

19" TFT SXGA 4:3 Fanless Open Frame PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM and VGA

Main Features

- 4:3 19" SXGA Fanless Panel Computer
- Intel® Atom™ E3826, dual core, low power consumption CPU
- PS2 KB/MS/Line-out/Dual GbE/3x USB
- 2 x RS232/422/485/2nd display-VGA/2 x Mini-PCIe sockets/1 x CFast
- Remote power switch
- DDR3L 2GB/2.5" HDD bracket
- Support JMobile HMI and CODESYS SoftLogic (optional)
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12~30VDC

Product Overview

Incorporated a 19" 4:3 touch screen LCD panel with resolutions up to 1280 x 1024 (SXGA) and 350 nits brightness. It is specially designed with bezel-less display which allows customers to design front bezel according to their application requirements without any limitation. The OPPC1940T are fanless Panel PC based on the Atom™ E3826 processor. The OPPC 1940T supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two Mini-PCIe slots and one SIM card holder.

With support for wide power input of 12~30VDC, OPPC 1940T can gain a strong foothold in industrial field and machine devices. In addition, OPPC 1940T can hook 2nd display via a VGA port for dual independent display. OPPC 1940T has two isolated RS232/422/485 ports.

Specifications

Panel
- LED size: 19", 4:3
- Resolution: S XGA 1280x1024
- Luminance: 350cd/m²
- Contrast ratio: 1000:1
- LCD color: 16.7M
- Viewing angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch
- 5-wire resistive
- Touch light transmission: 80%
- Touch interface: USB

System
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB(4GB+4GB) DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255

minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 2 x Mini-PCIe sockets (support optional Wi-Fi, 3.5G module)

Rear I/O
- PS2 keyboard/mouse
- Audio port: 1 x Line-out
- Remote power switch
- Ethernet: 2 x RJ45
- USB: 2 x USB2.0; 1 x USB3.0
- COM #1: RS232/422/485
- COM #2: RS232/422/485
- Reset button
- 2nd display VGA port: 1 x DB15
- Power switch

Audio
- HD Codec: Realtek ALC886-GR
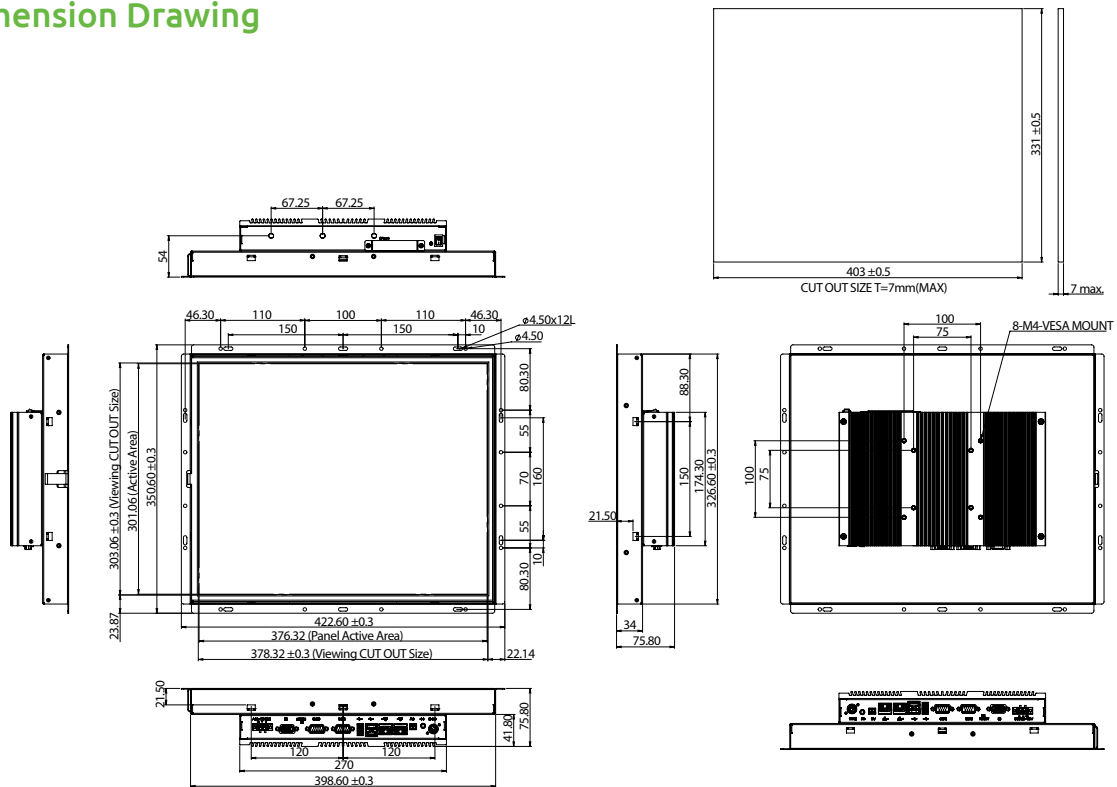- Audio interface: Line-out/Line-in (Optional)/MIC-in (Optional) audio Jack

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Mounting: panel/wall/stand/VESA 100mm x 100mm

NEXCOM

Dimension Drawing

- Power input: 12~30VDC
- Power adapter: Optional AC to DC power adapter (+12V, 60W)
- Vibration:
  - IEC 68 2-64 (w/ HDD)
  - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
  - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
  - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)
- Shock:
  - IEC 68 2-27
  - HDD: 20G@wall mount, half sine, 11ms
- Operating temperature: -5°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
- Dimension: 422.6(W) x 350.6(H) x 73.2(D)mm
- Weight: 6.15Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32bit/64bit
- Windows 7 32bit/64bit
- WinCE 7.0

Ordering Information

Barebone

- **OPPC 1940T (P/N: 90IQ1940T00X0)**
  19" S XGA LED backlight touch Panel PC with Intel® Atom™ E3826 1.46 GHz, touch screen, 2GB DDR3L with 2x RS232/422/485

Options

- **12V, 60W AC/DC power adapter w/o power cord**

  (P/N: 7400060017X00)

NPT 1550

High Value Fanless Point-of-Sales 15" TFT LCD Terminal

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" 5-wire resistive touch screen
- Fanless POS terminal
- Intel® Atom™ D525 Dual-Core processor, 1.8GHz
- Support DDR3 SO-DIMM memory
- 2.5" removable SATA HDD

- Powered COM (4), USB (4), printer port (1), VGA (1), GbE LAN (1), cash drawer (1)
- Front bezel complies with IP-65 protection standard
- Optional kits for MSR/fingerprint/VFD
- Optional VESA 100 x 100mm mounting for wall-mount application

Product Overview

NPT 1550 is a high value Point-of-Sale (POS) hardware solution to fulfill your POS hardware requirement. The fanless design is quiet and offers low power consumption and Minimal maintenance. Removable HDD, MSR, fingerprint and VFD kit design provides an easy maintenance method, which saves your service cost. The +12VDC output provides sufficient power for your 2nd display from POS terminal, and offers better cable routing and high-integration for the 2nd display. Small footprint is ideal for installations where space is compact in stores. The VESA mounting design of Display Head, only 100 x 100mm, provides an option for wall-mounting application when detaching the stand of terminal. The design offers a spill resistant and high integration for POS peripherals, which provides restaurant and retail conditions with continuous operation.

Specifications

Panel
- LCD Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85 (right)
- Backlight: LED
- Touch screen: 5-wire resistive
- Touch light transmission: 80%
- Touch interface: USB

System
- CPU: Intel® Atom™ D525, 1.8GHz
- BIOS: AMI BIOS
- System chipset: Intel® ICH8M
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 2GB DDR3 (default), optional support up to 4GB DDR3 800, non-ECC and un-buffered
- Hard Disk Drive: One 2.5" 320GB SATA HDD, removable type
- Expansion: 1 x Mini-card socket for Mini-PCIe and USB interface

Rear I/O
- USB: 4 x USB 2.0 port
- COM: 4 x DB-9 Powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps

- VGA: 1 x DB-15 2nd VGA port
- Cash Drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +12VDC input, Mini-DIN 4 pin lock type
- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)

Audio
- High Definition audio codec: Realtek ALC886-GR
- Internal audio: one 3W speaker
- External audio: Line-out audio jack

Ethernet
- LAN chip: Realtek® RTL8111C-VC-GR Gigabit LAN
- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: Iron gray/black
- Mounting: desktop type, optional VESA 100 x 100mm wall-mount when detaching stand
- IP protection: front bezel complies with IP-65 protection standard
- Power input: +12VDC
- Power adapter: AC to DC power brick (+12VDC/8.33A, 100W)
- Operating temperature: 0℃ to 40℃
- Storage temperature: -20℃ to 60℃

NEXCOM

Dimension Drawing
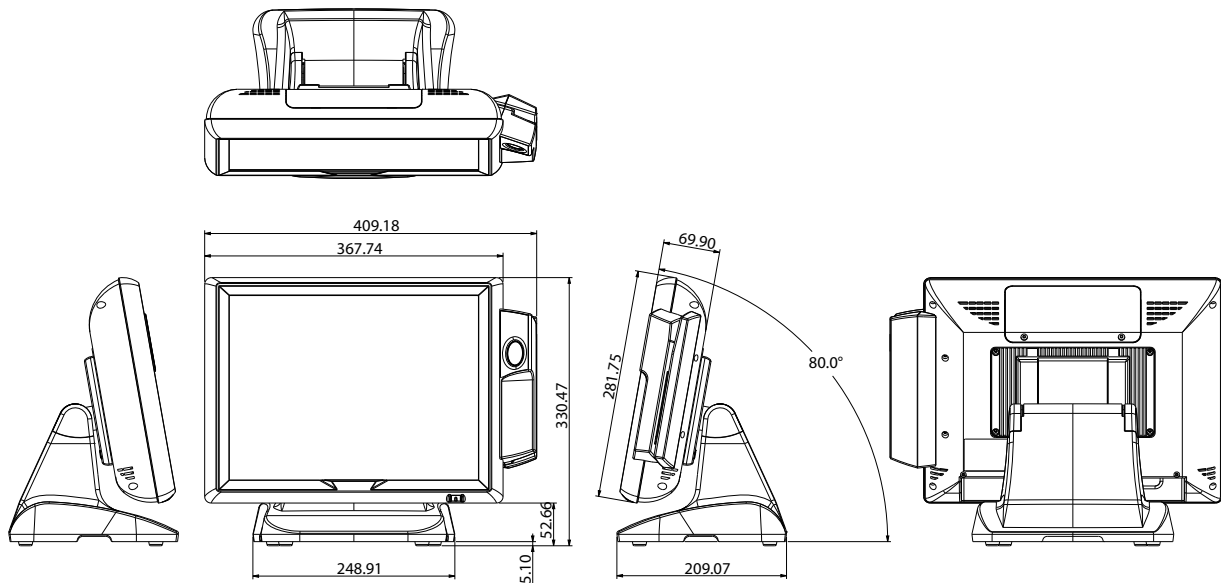
- Operating humidity: 20%~ 80% relative humidity, non-condensing
- Dimension: 368mm (W) x 331mm (H) x 210mm (D) (no MSR),
  410mm (W) x 331mm (H) x 210mm (D) (with MSR)
- Weight: 8.5kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NPT 1550-016 (P/N: A0Y00155016X0)**
  - CPU: Intel® Atom™ D525 Dual-Core, 1.8GHz L2 1MB
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED backlight/5-wire resistive touch
  - Color: Iron Gray
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +12VDC/100W power brick

- **NPT 1550-036 (P/N: A0Y00155019X0)**
  - CPU: Intel® Atom™ D525 Dual-Core, 1.8GHz L2 1MB
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED backlight/5-wire resistive touch
  - Color: Black
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +12VDC/100W power brick

- **Options**
  - 3G module kit (P/N: BW00000023X00)
  - WiFi module kit (P/N: TBD)

NPT 1551

High Value Fanless Point-of-Sales 15" TFT LCD

Resistive True Flat Terminal

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" 5-wire resistive true flat touch screen
- Fanless POS terminal
- Intel® Atom™ D525 Dual-Core processor, 1.8GHz
- Support DDR3 SO-DIMM memory
- 2.5" removable SATA HDD
- Powered COM (4), USB (4), printer port (1), VGA (1), GbE LAN (1), cash drawer(1)
- Front bezel complies with IP-65 protection standard
- Option kits for MSR/Fingerprint/VFD
- Optional VESA 100 x 100mm mounting for wall-mount application

Product Overview

The NPT 1551 is a high value Point-of-Sale (POS) hardware solution to fulfill your POS hardware requirement. The stylish zero bezel design makes it easy for your POS terminal to fit the modern store design.

The fanless design is quiet and offers low power consumption and Minimal maintenance. Removable HDD, MSR, fingerprint and VFD kit design provides an easy maintenance method, which saves your service cost. The +12VDC output provides sufficient power for your 2nd display from POS terminal and offer better cable routing and high-integration for 2nd display. Small footprint is ideal for installations where space is compact in stores. The VESA mounting design of display head, only 100 x 100mm, provides an option for wall-mounting application when detaching the stand of terminal. The design offers a spill resistant and high integration for POS peripherals, which provides restaurant and retail conditions with continuous operation.

Specifications

Panel
- LCD Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85 (right)
- Backlight: LED
- Touch screen: 5-wire true flat (zero bezel) resistive
- Touch light transmission: 80%
- Touch interface: USB

System
- CPU: Intel® Atom™ D525, 1.8GHz
- BIOS: AMI BIOS
- System chipset: Intel® ICH8M
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 2GB DDR3 (default), optional support up to 4GB DDR3 800, non-ECC and un-buffered
- Hard disk drive: one 2.5" 320GB SATA HDD, removable type
- Expansion: 1 x Mini-card socket for Mini-PCIe and USB interface

Rear I/O
- USB: 4 x USB 2.0 port
- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps
- VGA: 1 x DB-15 2nd VGA port
- Cash Drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +12VDC input, Mini-DIN 4 pin lock type
- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)

Audio
- High Definition audio codec: Realtek ALC886-GR
- Internal audio: one 3W speaker
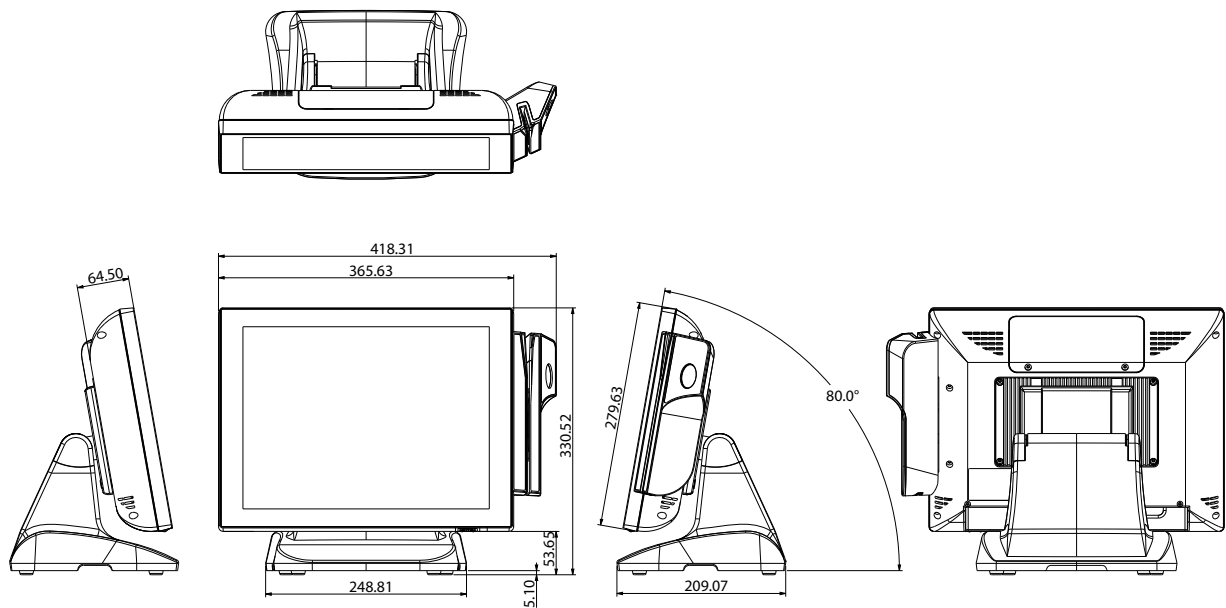- External audio: Line-out audio jack

Ethernet
- LAN chip: Realtek® RTL8111C-VC-GR Gigabit LAN
- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: black
- Mounting: desktop type, optional VESA 100 x 100mm wall-mount when detaching the stand

NEXCOM

Dimension Drawing

- IP protection: front bezel complies with IP-65 protection standard
- Power input: +12VDC
- Power adapter: AC to DC Power Brick (+12VDC/8.33A, 100W)
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20% ~ 80% relative humidity, non-condensing
- Dimension: 366mm (W) x 331(H) x 210mm (D) (no MSR), 419mm (W) x 331mm (H) x 210mm(D) (with MSR)
- Weight: 8.5kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NPT 1551-015 (P/N: A0Y00155114X0)**
  - CPU: Intel® Atom™ D525 Dual-Core, 1.8GHz L2 1MB
  - LCD/touch: 15" XGA 1024 x 768 250nits with LED backlight 5-wire true flat resistive touch
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +12VDC/100W power brick

- **Options**
  - 3G module kit (P/N: BW00000023X00)
  - -WiFi module kit (P/N: TBD)

NPT 1552

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" projected capacitive true flat touch screen
- Fanless POS terminal
- Intel® Atom™ D525 Dual-Core processor, 1.8GHz
- Support DDR3 SO-DIMM memory
- 2.5" removable SATA HDD

- Powered COM(4), USB (4), printer port (1), VGA (1), GbE LAN (1), cash drawer (1)
- Front bezel complies with IP-65 protection standard
- Optional kits for MSR/fingerprint/VFD
- Optional VESA 100 x 100mm mounting for wall-mount application

Product Overview

The NPT 1552 is a high value Point-of-Sale (POS) hardware solution to fulfill your POS hardware requirement. The stylish zero bezel design makes it easy for your POS terminal to fit the modern store design. Projected capacitive touch screen is the best reliable solution, and Minimizes service efforts on touch screen.

The fanless design is noise-free, features low power consumption, and requires Minimal maintenance. Removable HDD, MSR, fingerprint and VFD kit design provides an easy maintenance method, which saves your service cost. The +12VDC output provides sufficient power for your 2nd display from POS terminal, which offers better cable routing and high-integration for 2nd display. Small footprint is ideal for installations where space is compact in stores. The VESA mounting design of display head, 100 x 100mm, provides an option for wall-mounting application when detaching the stand of terminal. The design offers a spill resistant and high integration for POS peripherals, which provides restaurant and retail conditions with continuous operation.

Specifications

Panel
- LCD Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m²
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85 (right)
- Backlight: CCFL/LED
- Touch screen: projected capacitive true flat (zero bezel)
- Touch light transmission: 91%
- Touch interface: USB

System
- CPU: Intel® Atom™ D525, 1.8GHz
- BIOS: AMI BIOS
- System chipset: Intel® ICH8M
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 2GB DDR3 (default), optional support up to 4GB DDR3 800, Non-ECC and Un-buffered
- Hard disk drive: one 2.5" 320GB SATA HDD, removable type
- Expansion: 1 x Mini-card socket for Mini-PCIe and USB interface

Rear I/O
- USB: 4 x USB 2.0 port

- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps
- VGA: 1 x DB-15 2nd VGA port
- Cash drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +12VDC input, Mini-DIN 4 pin lock type
- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)

Audio
- High Definition audio codec: Realtek ALC886-GR
- Internal audio: one 3W speaker
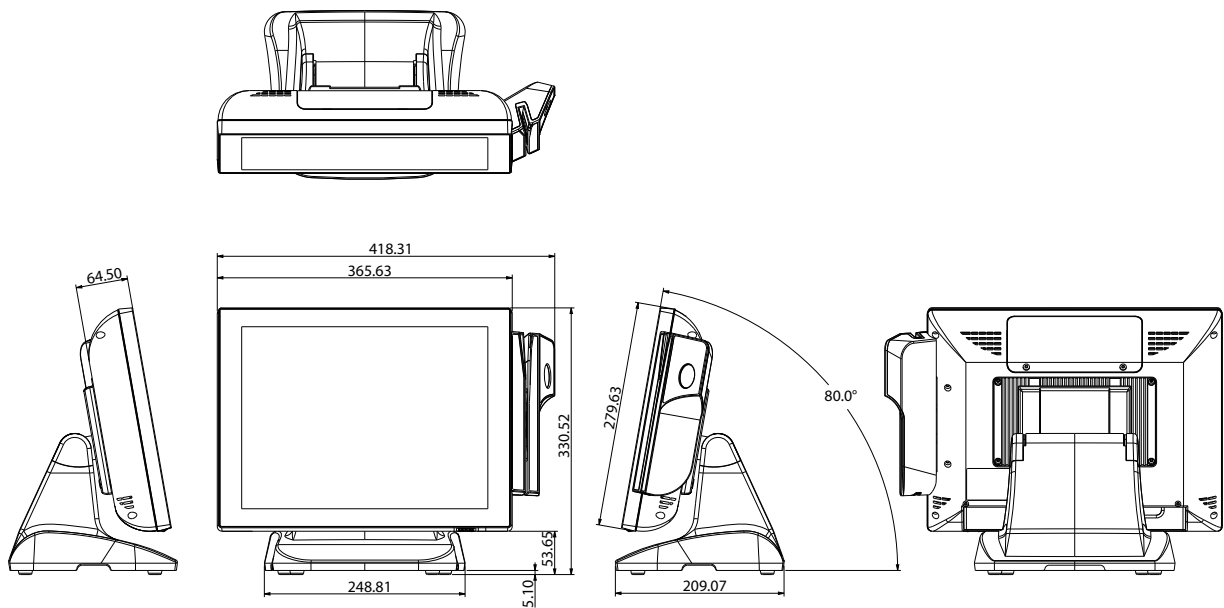- External audio: Line-out audio jack

Ethernet
- LAN chip: Realtek® RTL8111C-VC-GR Gigabit LAN
- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: beige/black
- Mounting: desktop type, optional VESA 100 x 100mm wall-mount when detaching stand
- IP protection: front bezel complies with IP-65 protection standard

Dimension Drawing

- Power input: +12VDC
- Power adapter: AC to DC power brick (+12VDC/8.33A, 100W)
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20% ~ 80% relative humidity, non-condensing
- Dimension: 366mm (W) x 331mm (H) x 210mm (D) (no MSR),
  419mm (W) x 331mm (H) x 210mm (D) (with MSR)
- Weight: 8.5kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NPT 1552-036 (P/N: A0Y00155211X0)**
  - Color: black
  - CPU: Intel® Atom™ D525 Dual-Core, 1.8GHz L2 1MB
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED backlight/
    projected capacitive true flat touch
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +12VDC/100W power brick

- **Options**
  - 3G module kit (P/N: BW00000023X00)
  - WiFi module kit (P/N: TBD)

NPT 1560

High Value Fanless Point-of-Sales 15" TFT LCD Terminal

Main Features

- Quad core Intel® Celeron® processor J1900 2GHz
- 4GB of DDR3L SO-DIMM memory
- 15" 4:3 XGA(1024*768) 5 Wire-Resistive touch display with IP65 rated front panel
- Fanless design

- 320GB 5,400rpm 2.5" HDD
- 2 x Mini-PCIe, 4 x COM, 2 x USB 3.0, 2 x USB 2.0, 1 x VGA, 1 x GbE LAN
- 24VDC 120W Power brick
- Optional peripheral expansion: MSR, fingerprint, VFD, 2nd display, cash drawer, scanner

Product Overview

NEXCOM has released the fanless POS NPT 1560 to help increase checkout speed and sales at checkout counters. Powered by Intel® Celeron® processor J1900, the fanless POS NPT 1560 embodies high responsiveness, dual-display capability and ease of maintenance features, aimed to help kill off long checkout lines and generate more revenue for retailers and restaurants.

Specifications

System Processor
- Motherboard: NP-BYT0-B/C/D
- Processor: Intel® Celeron® processor J1900, 4C, 2.0 GHz, 2MB Cache
- Chipset: Integrated in Intel® Atom™ SoC
- System Memory: 1 x SO-DIMM DDR3L 1333 4GB
- Graphics: Integrated graphics controller, Intel's Gen 7 graphics and media encode/decode engine

LCD Touch Screen
- LCD Size: 15" TFT XGA (1024x768) 250cd/m² LED Panel
- Touch Screen: 15" 5-wire Resistive Touch Panel
- Tilt Angle: 0° ~ 80°

Storage Device
- 1 x 2.5" SATA HDD 320GB 5,400rpm Removable type

Expansion
- 1 x Full size mini-Card slot (mini-PCIe/USB/3G SIM slot)
- 1 x Half size mini-Card slot(mini-PCIe/USB)

Rear I/O
- Serial port: 4 x DB-9 Powered RS-232 (adjust RI/5V/12V by BIOS setting)
- USB port: 2 x USB 3.0, 2 x USB 2.0
- Parallel port: 1 x DB-25 Parallel Optional
- LAN Port: 1 x RJ-45 (10/100/1000Mbps Ethernet)
- VGA: 1 x DB-15 VGA
- Cash Drawer Port: 1 x RJ-11, support Two Cash Drawers (24V, Max 1.1A)
- DC-IN Jack: 1 x DC-24V Input
- DC-OUT Jack: 1 x DC-12V Output for 2nd Display Power (12V, Max 3.0A)

- Line-OUT/MIC: 1 x Line-OUT for External Audio Speaker

Audio
- 1 x System Buzzer

System Control/Indicator
- Power Switch: 1 x Power ON/OFF switch
- Power LED: 1 x Power ON LED (Green)

Power
- External AC DC 24V/5A 120W Power Brick

Peripheral (Optional)
- MSR: ISO 3 Tracks MSR (USB/RS-232 combo interface or PS/2)
- MSR/Fingerprint Combo: ISO 3 Tracks MSR (PS/2) & Fingerprint (USB) combo
- Customer Display: 2 x 20 VFD customer display
- 2nd Display: 15" LCD monitor

Environment
- Operating Temperature: 0°C ~ 40°C (32°F ~ 104°F)
- Storage Temperature: -20°C ~ 60°C (-4°F ~ 140°F)
- Operating Humidity: 20% - 80% RH non-condensing
- Storage Humidity: 20% - 85% RH non-condensing

Dimension
- 80° tilt angle: 368mm (W) x 331mm (H) x 210mm (D) (No MSR)
- 80° tilt angle W/ MSR: 410mm (W) x 331mm (H) x 210mm (D)
- Display Head: 368mm (W) x 282mm (H) x 69.9mm (D)
- Display Head W/ MSR: 410mm (W) x 282mm (H) x 69.9mm (D)

Dimension Drawing
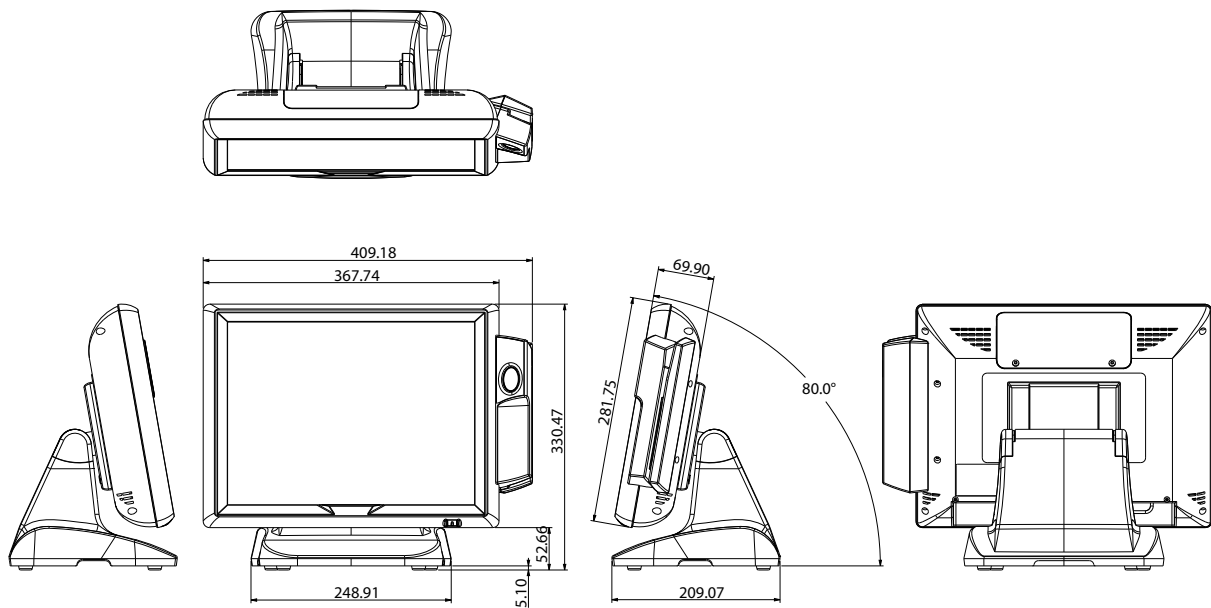
- Footprint: 249mm (W) x 209mm (D)
- Package Size: 490mm (L) x 390mm (W) x 400mm (H) (No MSR)
  560mm (L) x 390mm (W) x 350mm (H) (W/ MSR)

Weight
- Net Weight: 8.0kg (17.6lbs)
- Gross Weight: 9.5kg (20.9lbs)

Operating System
- Windows: Windows 8, WES 8, POS 7, Win 7 Pro, WES 7
- Linux: Fedora 17, TIZEN

Certificate
- FCC/CE/LVD

Ordering Information

- **NPT 1560-036 (P/N: A0Y00156000X0)**
  - CPU: Intel® Celeron® processor J1900 2GHz
  - LCD/Touch:15" XGA 1024 x 768 250nits with LED backlight/5-wire resistive touch display
  - Memory: 4GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: DC-24V/120W Power Brick
  - Color: Black

NPT 1561

Main Features

- Quad core Intel® Celeron® processor J1900 2GHz
- 4GB of DDR3L SO-DIMM memory
- 15" 4:3 XGA(1024x768) 5 Wire-Resistive true flat touch display with IP65 rated front panel
- Fanless design
- 320GB 5,400rpm 2.5" HDD
- 2 x Mini-PCIe, 4 x COM, 2 x USB 3.0, 2 x USB 2.0, 1 x VGA, 1 x GbE LAN
- 24VDC 120W Power brick
- Optional peripheral expansion: MSR, fingerprint, VFD, 2nd display, cash drawer, scanner

Product Overview

NEXCOM has released the fanless POS NPT 1561 to help increase checkout speed and sales at checkout counters. Powered by Intel® Celeron® processor J1900, the fanless POS NPT 1561 embodies high responsiveness, dual-display capability and ease of maintenance features, aimed to help kill off long checkout lines and generate more revenue for retailers and restaurants.

Specifications

System Processor
- Motherboard: NP-BYT0-B/C/D
- Processor: Intel® Celeron® processor J1900, 4C, 2.0 GHz, 2MB Cache
- Chipset: Integrated in Intel® Atom™ SoC
- System Memory: 1 x SO-DIMM DDR3L 1333 4GB
- Graphics: Integrated graphics controller, Intel's Gen 7 graphics and media encode/decode engine

LCD Touch Screen
- LCD Size: 15" TFT XGA (1024x768) 250cd/m² LED Panel
- Touch Screen: 15" 5-wire Resistive Zero Bezel Touch Panel
- Tilt Angle: 0° ~ 80°

Storage Device
- 1 x 2.5" SATA HDD 320GB 5,400rpm Removable type

Expansion
- 1 x Full size mini-Card slot (mini-PCIe/USB/3G SIM slot)
- 1 x Half size mini-Card slot(mini-PCIe/USB)

Rear I/O
- Serial port: 4 x DB-9 Powered RS-232 (adjust RI/5V/12V by BIOS setting)
- USB port: 2 x USB 3.0, 2 x USB 2.0
- Parallel port: 1 x DB-25 Parallel Optional
- LAN Port: 1 x RJ-45 (10/100/1000Mbps Ethernet)
- VGA: 1 x DB-15 VGA
- Cash Drawer Port: 1 x RJ-11, support Two Cash Drawers (24V, Max 1.1A)
- DC-IN Jack: 1 x DC-24V Input
- DC-OUT Jack: 1 x DC-12V Output for 2nd Display Power (12V, Max 3.0A)

- Line-OUT/MIC: 1 x Line-OUT for External Audio Speaker

Audio
- 1 x System Buzzer

System Control/Indicator
- Power Switch: 1 x Power ON/OFF switch
- Power LED: 1 x Power ON LED (Green)

Power
- External AC DC 24V/5A 120W Power Brick

Peripheral (Optional)
- MSR: ISO 3 Tracks MSR (USB/RS-232 combo interface or PS/2)
- MSR/Fingerprint Combo: ISO 3 Tracks MSR (PS/2) & Fingerprint (USB) combo
- Customer Display: 2 x 20 VFD customer display
- 2nd Display: 15" LCD monitor

Environment
- Operating Temperature: 0°C ~ 40°C (32°F ~ 104°F)
- Storage Temperature: -20°C ~ 60°C (-4°F ~ 140°F)
- Operating Humidity: 20% - 80% RH non-condensing
- Storage Humidity: 20% - 85% RH non-condensing

Dimension
- 80° tilt angle: 366mm (W) x 331mm (H) x 210mm (D) (No MSR)
- 80° tilt angle W/ MSR: 419mm (W) x 331mm (H) x 210mm (D)
- Display Head: 366mm (W) x 280mm (H) x 64.5mm (D)
- Display Head W/ MSR: 419mm (W) x 280mm (H) x 64.5mm (D)

Dimension Drawing
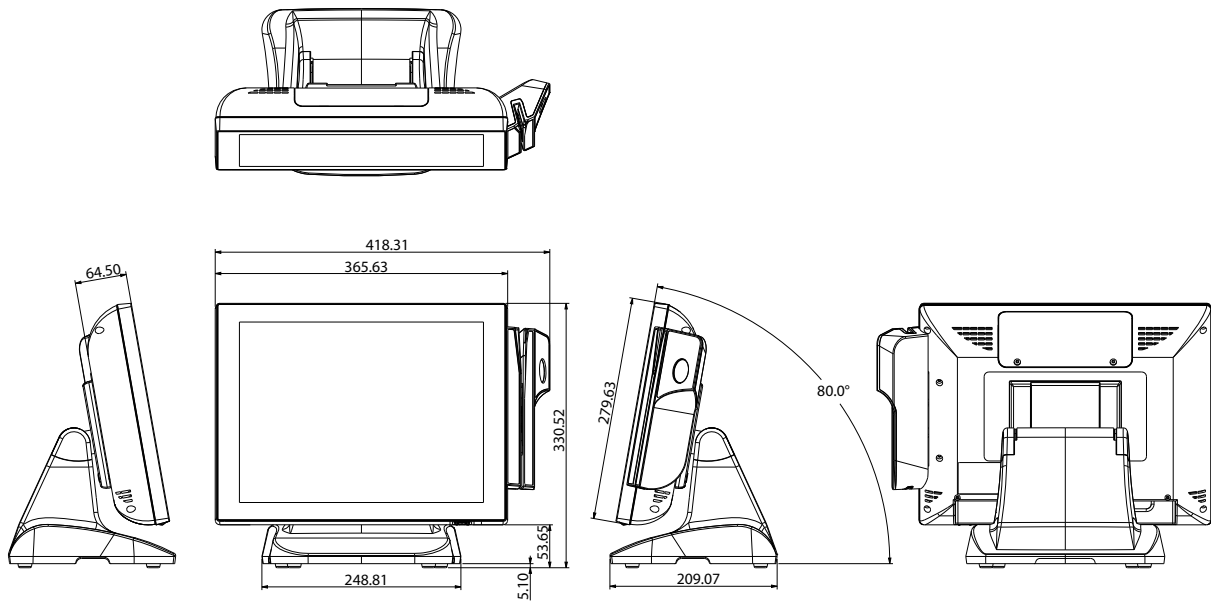
- Footprint: 249mm (W) x 209mm (D)
- Package Size: 490mm (L) x 390mm (W) x 400mm (H) (No MSR)
              560mm (L) x 390mm (W) x 350mm (H) (W/ MSR)

Weight
- Net Weight: 8.0kg (17.6lbs)
- Gross Weight: 9.5kg (20.9lbs)

Operating System
- Windows: Windows 8, WES 8, POS 7, Win 7 Pro, WES 7
- Linux: Fedora 17, TIZEN

Certificate
- FCC/CE/LVD

Ordering Information

- **NPT 1561-015 (P/N: A0Y00156101X0)**
  - CPU: Intel® Celeron® processor J1900 2GHz
  - LCD/Touch:15" XGA 1024 x 768 250nits with LED backlight/5-wire resistive true flat touch display
  - Memory: 4GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: DC-24V/120W Power Brick
  - Color: Black

NPT 1562

Main Features

- Quad core Intel® Celeron® processor J1900 2GHz
- 4GB of DDR3L SO-DIMM memory
- 15" 4:3 XGA (1024x768) P-cap true flat touch display with IP65-rated front panel
- Fanless design

- 320GB 5,400rpm 2.5" HDD
- 2 x Mini-PCIe, 4 x COM, 2 x USB 3.0, 2 x USB 2.0, 1 x VGA, 1 x GbE LAN
- 24VDC 120W Power brick
- Optional peripheral expansion: MSR, fingerprint, VFD, 2nd display, cash drawer, scanner

Product Overview

NEXCOM has released the fanless POS NPT 1562 to help increase checkout speed and sales at checkout counters. Powered by Intel® Celeron® processor J1900, the fanless POS NPT 1562 embodies high responsiveness, dual-display capability and ease of maintenance features, aimed to help kill off long checkout lines and generate more revenue for retailers and restaurants.

Specifications

System Processor
- Motherboard: NP-BYT0-B/C/D
- Processor: Intel® Celeron® processor J1900, 4C, 2.0 GHz, 2MB Cache
- Chipset: Integrated in Intel® Atom™ SoC
- System Memory: 1 x SO-DIMM DDR3L 1333 4GB
- Graphics: Integrated graphics controller, Intel's Gen 7 graphics and media encode/decode engine

LCD Touch Screen
- LCD Size: 15" TFT XGA (1024x768) 250cd/m² LED Panel
- Touch Screen: 15" Zero Bezel Projected Capacitive Touch Panel
- Tilt Angle: 0° ~ 80°

Storage Device
- 1 x 2.5" SATA HDD 320GB 5,400rpm Removable type

Expansion
- 1 x Full size mini-Card slot (mini-PCIe/USB/3G SIM slot)
- 1 x Half size mini-Card slot(mini-PCIe/USB)

Rear I/O
- Serial port: 4 x DB-9 Powered RS-232 (adjust RI/5V/12V by BIOS setting)
- USB port: 2 x USB 3.0, 2 x USB 2.0
- Parallel port: 1 x DB-25 Parallel Optional
- LAN Port: 1 x RJ-45 (10/100/1000Mbps Ethernet)
- VGA: 1 x DB-15 VGA
- Cash Drawer Port: 1 x RJ-11, support Two Cash Drawers (24V, Max 1.1A)
- DC-IN Jack: 1 x DC-24V Input
- DC-OUT Jack: 1 x DC-12V Output for 2nd Display Power (12V, Max 3.0A)

- Line-OUT/MIC: 1 x Line-OUT for External Audio Speaker

Audio
- 1 x System Buzzer

System Control/Indicator
- Power Switch: 1 x Power ON/OFF switch
- Power LED: 1 x Power ON LED (Green)

Power
- External AC DC 24V/5A 120W Power Brick

Peripheral (Optional)
- MSR: ISO 3 Tracks MSR (USB/RS-232 combo interface or PS/2)
- MSR/Fingerprint Combo: ISO 3 Tracks MSR (PS/2) & Fingerprint (USB) combo
- Customer Display: 2 x 20 VFD customer display
- 2nd Display: 15" LCD monitor

Environment
- Operating Temperature: 0°C ~ 40°C (32°F ~ 104°F)
- Storage Temperature: -20°C ~ 60°C (-4°F ~ 140°F)
- Operating Humidity: 20% - 80% RH non-condensing
- Storage Humidity: 20% - 85% RH non-condensing

Dimension
- 80° tilt angle: 366mm (W) x 331mm (H) x 210mm(D) (No MSR)
- 80° tilt angle W/ MSR: 419mm (W) x 331mm (H) x 210mm (D)
- Display Head: 366mm (W) x 280mm (H) x 64.5mm (D)
- Display Head W/ MSR: 419mm (W) x 280mm (H) x 64.5mm (D)
- Footprint: 249mm (W) x 209mm (D)

Dimension Drawing
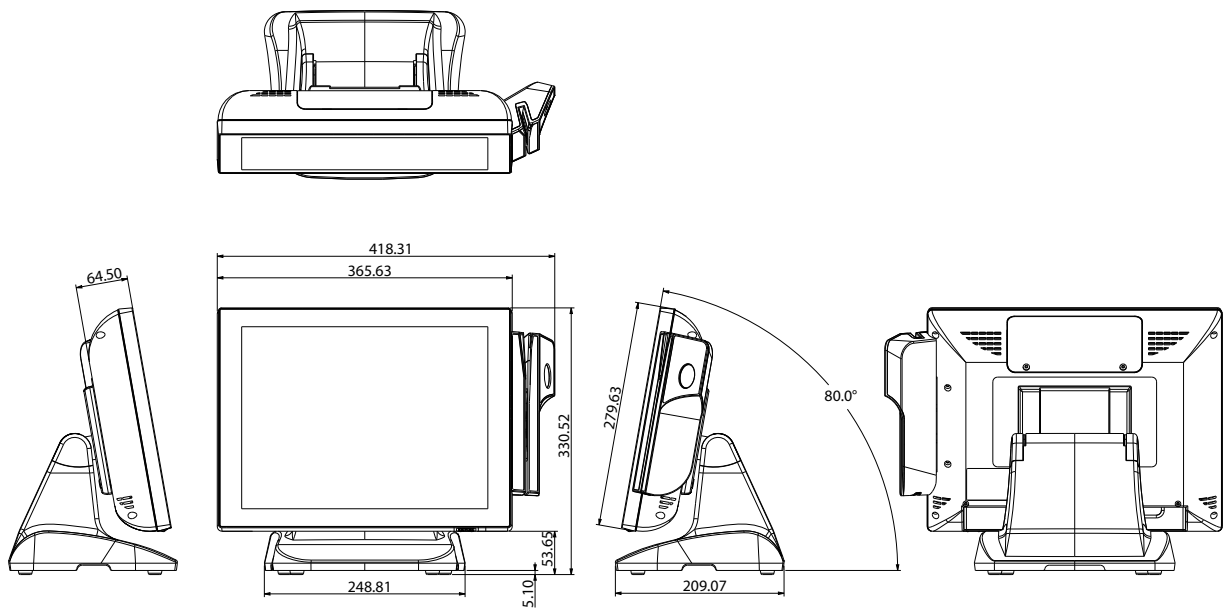
- Package Size: 490mm (L) x 390mm (W) x 400mm (H) (No MSR)
            560mm (L) x 390mm (W) x 350mm (H) (W/ MSR)

Weight
- Net Weight: 8.0kg (17.6lbs)
- Gross Weight: 9.5kg (20.9lbs)

Operating System
- Windows: Windows 8, WES 8, POS 7, Win 7 Pro, WES 7
- Linux: Fedora 17, TIZEN

Certificate
- FCC/CE/LVD

Ordering Information

- **NPT 1562-036 (P/N: A0Y00156200X0)**
  - CPU: Intel® Celeron® processor J1900 2GHz
  - LCD/Touch:15" XGA 1024 x 768 250nits with LED backlight/P-cap true flat touch display
  - Memory: 4GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: DC-24V/120W Power Brick
  - Color: Black

NPT 5850

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" 5-wire resistive touch screen
- 2nd/3rd generation Intel® Core™ i3/i5/i7 processor
- Support DDR3 1333 SO-DIMM memory
- 2.5" removable SATA HDD

- Powered COM (4), USB (4), printer port (1), VGA (1), GbE LAN (1), cash drawer (1)
- Front bezel complies with IP-65 protection standard
- Option kits for MSR/Fingerprint/VFD
- Optional VESA 100 x 100mm mounting for wall-mount application

Product Overview

The NPT 5850 is a high performance Point-of-Sale (POS) hardware solution to fulfill your POS hardware requirement. Removable HDD, MSR, fingerprint and VFD kit design provides an easy maintenance method and saving your service cost. The +12VDC output provides sufficient power for your 2nd display from POS terminal and offers better cable routing and high-integration for the 2nd display. Small footprint is ideal for installations where space is compact in stores. The VESA mounting design of display head, only 100 x 100mm, provides another option for wall-mounting application when detaching the stand of terminal. The design offers a spill resistant and high integration for POS peripherals, which provides restaurant and retail conditions with continuous operation.

Specifications

Panel
- LCD Size: 15" , 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85 (right)
- Backlight: CCFL/LED
- Touch screen: 5-wire Resistive
- Touch light transmission: 80%
- Touch interface: USB

System
- CPU:
  - Default:
    Intel® Pentium® processor B950, 2C/2T, 2.10 GHz, 2MB Cache
  - Upgrade Optional:
    2nd generation Intel® Core™ mobile processor: i7-2710QE, 4C/8T, 2.1GHz, 6MB Cache; i5-2510E, 2C/4T, 2.5GHz, 3MB Cache; i3-2330E, 2C/4T, 2.2GHz, 3MB Cache
  - Optional:
    Intel® Celeron® processor B810, 2C/2T, 1.60 GHz, 2M Cache
- BIOS: AMI BIOS
- System chipset: Intel® HM65
- System memory: 1 x 204-pin DDR3 1333 SO-DIMM socket, 2GB DDR3 (default), optional two sockets support up to 8GB DDR3 1333, non-ECC and un-buffered
- Hard disk drive: One 2.5" 320 GB SATA HDD, removable type
- Expansion: 1 x Mini-card socket for Mini-PCIe and USB interface

Rear I/O
- USB: 4 x USB 2.0 port
- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps
- VGA: 1 x DB-15 2nd VGA port
- Cash drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +19VDC input, Mini-DIN 4Pin lock type
- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)

Audio
- High Definition audio codec: Realtek ALC886-GR
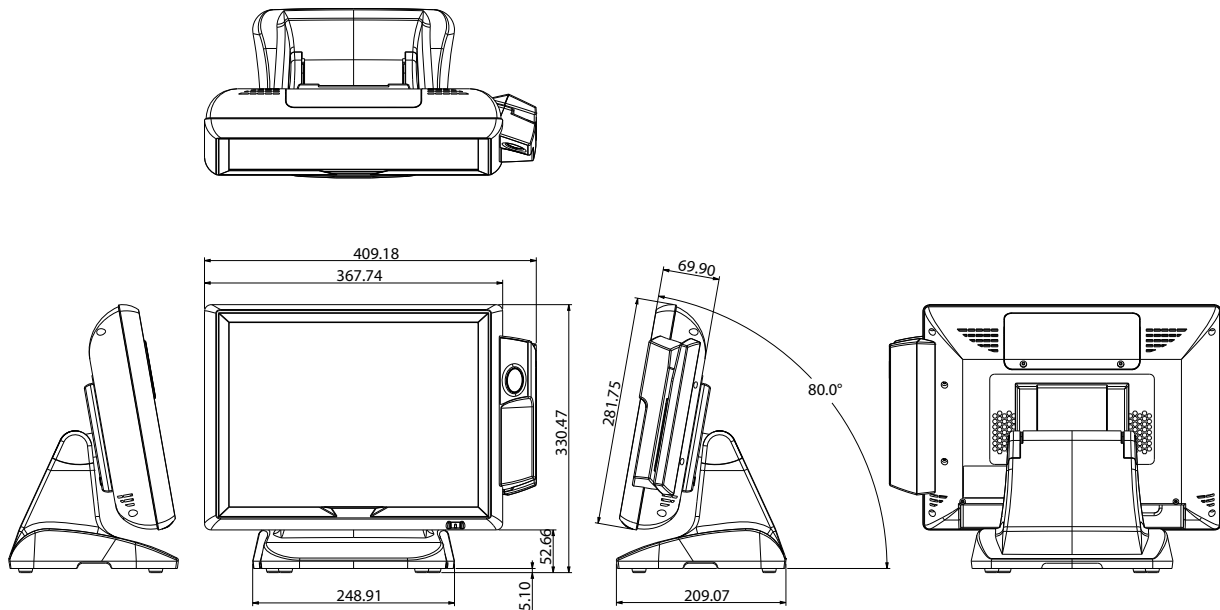- Internal audio: One 3W speaker
- External audio: Line-out audio jack

Ethernet
- LAN chip: Intel® PHY WG82579LM Gigabit LAN
- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: Iron gray/black

NEXCOM

Dimension Drawing

- Mounting: desktop type, optional VESA 100 x 100mm wall-mount when detaching stand
- IP protection: front bezel complies with IP-65 protection standard
- Power input: +19VDC
- Power adapter: AC to DC power brick (+19VDC/6.315A, 120W)
- Operating temperature: 0℃ to 40℃
- Storage temperature: -20℃ to 60℃
- Operating humidity: 20% ~ 80% relative humidity, non-condensing
- Dimension: 368mm (W) x 331mm (H) x 210mm (D) (No MSR), 410mm (W) x 331mm (H) x 210mm (D) (with MSR)
- Weight: 8.5kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NPT 5850-035 (P/N: A0Y00585004X0)**
  - Color :Black
  - CPU: Intel® Core™ i3/i5/i7 mobile processor,2C/2T,2.10GHz, 2MB cache
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED Backlight/ELO 5-wire resistive touch
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +19VDC/120W power brick

- **Options**
  - -3G module kit (P/N: BW00000023X00)
  - WiFi module kit (P/N: TBD)

NPT 5851

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" 5-wire resistive true flat touch screen
- 2nd/3rd generation Intel® Core™ i3/i5/i7 processor
- Support DDR3 1333 SO-DIMM memory
- 2.5" removable SATA HDD

- Powered COM (4), USB (4), printer port (1), VGA (1), GbE LAN (1), cash drawer(1)
- Front bezel complies with IP-65 protection standard
- Option kits for MSR/fingerprint/VFD
- Optional VESA 100 x 100mm mounting for wall-mount application

Product Overview

The NPT 5851 is a high performance Point-of-Sale (POS) hardware solution to fulfill your POS hardware requirement. The stylish zero bezel design makes it easy for your POS Terminal to fit the modern store design.

Removable HDD, MSR, fingerprint and VFD kit design provides an easy maintenance method, which saves your service cost. The +12VDC output provides sufficient power for your 2nd display from POS terminal, and offers better cable routing and high-integration for the 2nd display. Small footprint is ideal for installations where space is compact in stores. The VESA mounting design of display head, only 100 x 100mm, provides another option for wall-mounting application when detaching the stand of terminal. The design offers a spill resistant and high integration for POS peripherals, which provides restaurant and retail conditions with continuous operation.

Specifications

Panel
- LCD Size: 15" , 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m^2
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85 (right)
- Backlight: CCFL/LED
- Touch Screen: 5-wire true flat (zero bezel) resistive
- Touch light transmission: 80%
- Touch interface: USB

System
- CPU:
  - Default:
    Intel® Pentium® processor B950, 2C/2T, 2.10 GHz, 2MB Cache
  - Upgrade optional:
    2nd generation Intel® Core™ mobile processor: i7-2710QE, 4C/8T, 2.1GHz, 6MB Cache; i5-2510E, 2C/4T, 2.5GHz, 3MB Cache; i3-2330E, 2C/4T, 2.2GHz, 3MB Cache
  - Optional:
    Intel® Celeron® processor B810, 2C/2T, 1.60 GHz, 2M Cache
- BIOS: AMI BIOS
- System chipset: Intel® HM65
- System memory: 1 x 204-pin DDR3 1333 SO-DIMM socket, 2GB DDR3

(default), Optional two sockets support up to 8GB DDR3 1333, non-ECC and un-buffered
- Hard disk drive: One 2.5" 320GB SATA HDD, removable type
- Expansion: 1 x Mini-card Socket for Mini-PCIe and USB interface

Rear I/O
- USB: 4 x USB 2.0 port
- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps
- VGA: 1 x DB-15 2nd VGA port
- Cash drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +19VDC input, Mini-DIN 4Pin lock type
- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)
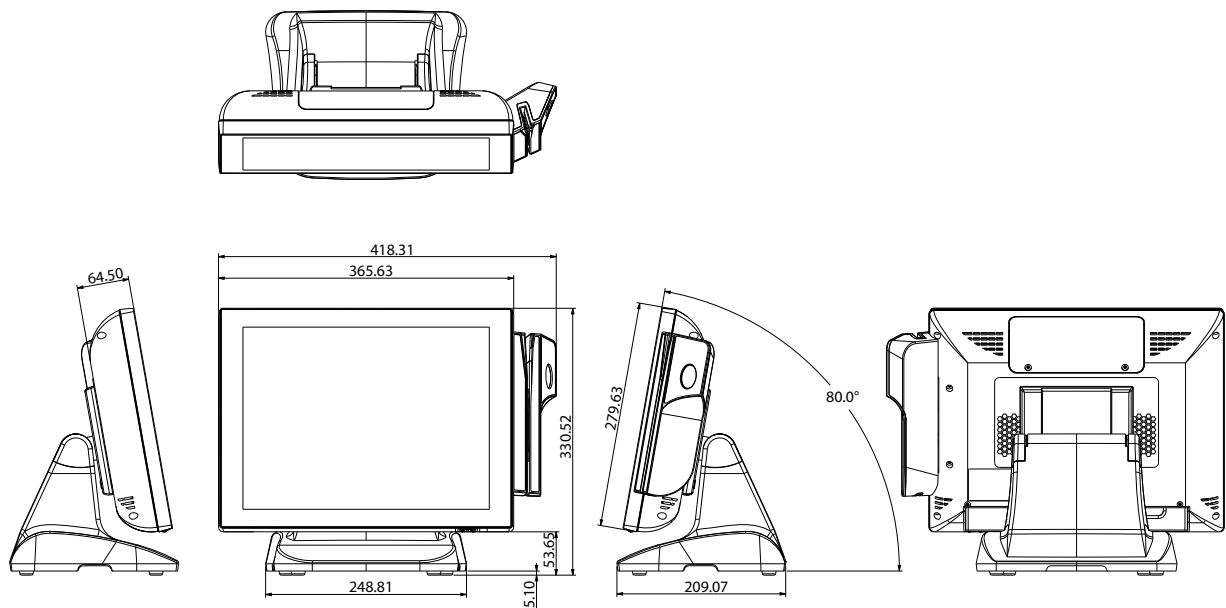
Audio
- High Definition audio codec: Realtek ALC886-GR
- Internal audio: one 3W speaker
- External audio: Line-out audio jack

Ethernet
- LAN chip: Intel® PHY WG82579LM Gigabit LAN

Dimension Drawing

- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: black
- Mounting: desktop type, optional VESA 100 x 100mm wall-mount when detaching stand
- IP protection: front bezel complies with IP-65 protection standard
- Power input: +19VDC
- Power adapter: AC to DC power brick (+19VDC/6.315A, 120W)
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20% ~ 80% relative humidity, non-condensing
- Dimension: 366mm (W) x 331mm (H) x 210mm (D) (no MSR), 419mm (W) x 331mm (H) x 210mm (D) (with MSR)
- Weight: 8.5kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NPT 5851-015 (P/N: A0Y00585105X0)**
  - CPU: Intel® Core™ i3/i5/i7 mobile processor,2C/2T,2.10GHz, 2MB cache
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED backlight/ELO 5-wire true flat resistive touch
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +19VDC/120W power brick

- **Options**
  - 3G module kit (P/N: BW00000023X00)
  - WiFi module kit (P/N: TBD)

NPT 5852

Main Features

- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" projected capacitive true flat touch screen
- 2nd/3rd generation Intel® Core™ i3/i5/i7 processor
- Support DDR3 1333 SO-DIMM memory
- 2.5" removable SATA HDD

- Powered COM (4), USB (4), printer port (1), VGA (1), GbE LAN (1), cash drawer (1)
- Front bezel complies with IP-65 protection standard
- Option kits for MSR/Fingerprint/VFD
- Optional VESA 100 x 100mm mounting for wall-mount application

Product Overview

The NPT 5852 is a high performance Point-of-Sale (POS) hardware solution to fulfill your POS hardware requirement. The stylish zero bezel design makes it easy for your POS Terminal to fit the modern store design. Projected Capacitive Touch Screen is the best reliable solution and Minimum service effort on Touch Screen.

Removable HDD, MSR, fingerprint and VFD kit design provides an easy maintenance method and saving your service cost. The +12VDC output provides enough power for your 2nd display from POS terminal, and offers better cable routing and high-integration for the 2nd display. Small footprint is ideal for installations where space is compact in stores. The VESA mounting design of display head, only 100 x100m m, provides an option for Wall-mounting application when detaching the stand of terminal. The design offers a spill resistant and high integration for POS peripherals, which provides restaurant and retail conditions with continuous operation.

Specifications

Panel
- LCD Size: 15" , 4:3
- Resolution: XGA 1024 x 768
- Luminance: 250cd/m²
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing angle: 80 (upper), 80 (lower), 85 (left), 85(right)
- Backlight: CCFL/LED
- Touch screen: projected capacitive true flat (zero bezel)
- Touch light transmission: 91%
- Touch interface: USB

System
- CPU:
  - Default:
    Intel® Pentium® processor B950, 2C/2T, 2.10 GHz, 2MB Cache
  - Upgrade Optional:
    2nd generation Intel® Core™ mobile processor: i7-2710QE, 4C/8T, 2.1GHz, 6MB Cache; i5-2510E, 2C/4T, 2.5GHz, 3MB Cache; i3-2330E, 2C/4T, 2.2GHz, 3MB Cache
  - Optional:
    Intel® Celeron® processor B810, 2C/2T, 1.60 GHz, 2M Cache
- BIOS: AMI BIOS
- System chipset: Intel® HM65

- System memory: 1 x 204-pin DDR3 1333 SO-DIMM socket, 2GB DDR3 (default), optional two sockets support up to 8GB DDR3 1333, non-ECC and un-buffered
- Hard disk drive: One 2.5" 320GB SATA HDD, removable type
- Expansion: 1 x Mini-Card Socket for Mini-PCIe and USB interface

Rear I/O
- USB: 4 x USB 2.0 port
- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS setting
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps
- VGA: 1 x DB-15 2nd VGA port
- Cash Drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Line-out jack
- DC-IN: 1 x +19VDC input, Mini-DIN 4Pin lock type
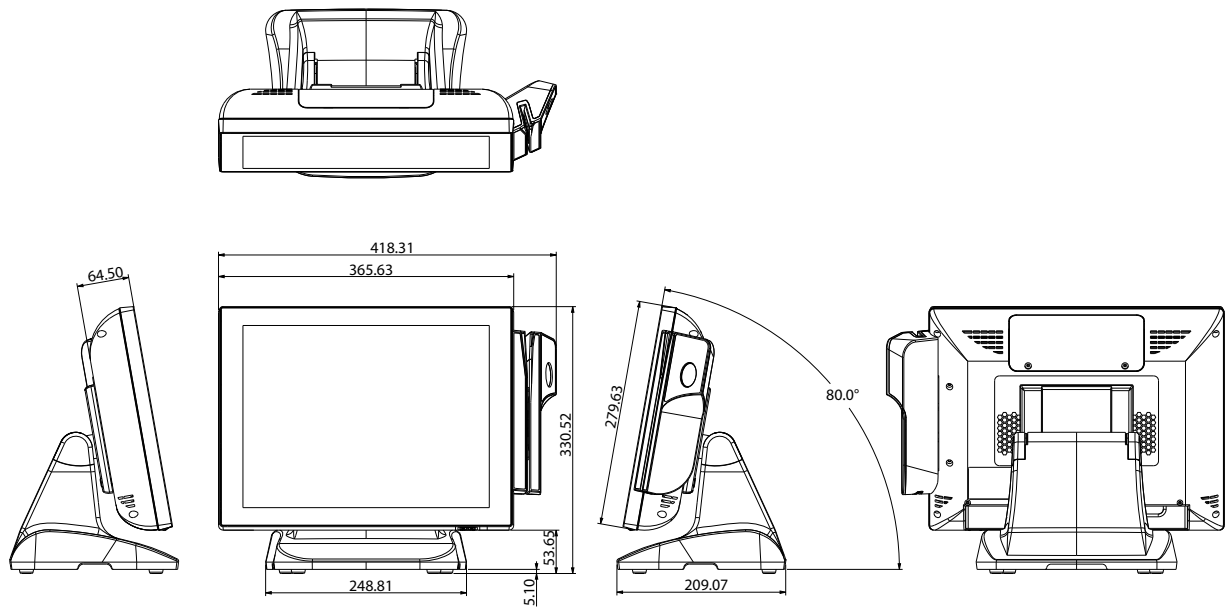- DC-OUT: 1 x +12VDC output for 2nd display power (12V, Max 3.0A)

Ethernet
- LAN chip: Intel® PHY WG82579LM Gigabit LAN
- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: beige/black

Dimension Drawing

- Mounting: desktop type, optional VESA 100 x 100mm wall-mount when detaching stand
- IP protection: front bezel complies with IP-65 protection standard
- Power input: +19VDC
- Power adapter: AC to DC power brick (+19VDC/6.315A, 120W)
- Operating temperature: 0℃ to 40℃
- Storage temperature: -20℃ to 60℃
- Operating humidity: 20%~ 80% relative humidity, non-condensing
- Dimension: 366mm (W) x 331mm (H) x 210mm (D) (no MSR), 419mm (W) x 331mm (H) x 210mm (D) (with MSR)
- Weight: 8.5kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NPT 5852-036 (P/N: A0Y00585206X0)**
  - Color: Black
  - CPU: Intel® Core™ i3/i5/i7 mobile processor,2C/2T,2.10GHz, 2MB cache
  - LCD/Touch: 15" XGA 1024 x 768 250nits with LED backlight/ projected capacitive true flat touch
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5"SATA 5,400rpm
  - Power: +19VDC/120W power brick

- **Options**
  - 3G module kit (P/N: BW00000023X00)
  - WiFi module kit (P/N: TBD)

NPB 3550

Main Features

- Fanless POS box system
- Slim and compact enclosure design
- Intel® Atom™ processor D2550, 1.86GHz
- Support DDR3 1066 SO-DIMM memory
- 2.5" removable SATA HDD

- Powered COM (4), USB (6), printer port (1), VGA (1), DVI (1), GbE LAN (1), cash drawer (1), PS/2(1)
- Optional wall-mount kit for compact space accommodation

Product Overview

The NEXCOM NPB 3550 is a high value rugged die-cast aluminum POS box PC that is designed with high flexibility and scalability. The Rich I/O interface make the POS system easily work with various peripherals. It is perfect for the retail, Kiosk, and restaurant industries application.

Unique Sleek and Noise Free Fanless Design driven by an Intel® Atom™ Cedarview D2550 Dual Core Processor makes it a become cost effective and high value terminal. Additional features like easy-open Latch design for tool-free access and removable HDD for cold swapping make repair so easy, lowering terminal downtime to almost zero thus saving on maintenance cost. Hardware platform can be easily upgraded by swapping out mother board but not swapping out I/O board.

Specifications

System
- CPU: Intel® Atom™ processor 2550, 1.86 GHz
- BIOS: AMI BIOS
- System chipset: Intel® NM10
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 2GB DDR3 1066
- (default), optional support up to 4GB DDR3 1066, non-ECC and unbuffered
- System Graphic: Integrated Graphics controller, Intel® HD Graphics 3600
- Hard disk drive: One 2.5" 320GB SATA HDD, removable type, optional one 2.5" SATA HDD 320GB 5,400rpm for 2nd HDD (by SATA backplane)
- Expansion: 1 x Full size Mini-card socket for Mini-PCIe and USB interface
- 1 x half size Mini-card socket for Mini-PCIe and USB interface
- 1 x SIM Card Socket support for 3G USB Mini-Card, Select by BIOS setting

System Control Indicator
- Power Switch: 1 x Power ON/OFF swich
- Power LED: 1 x Power ON LED(Green)

Front I/O
- USB: 2 x USB 2.0 port (USB 6~7)

Rear I/O
- USB: 4 x USB 2.0 port (USB 1~4)

- COM: 4 x DB-9 powered RS-232 port, adjust RI/5V/12V by BIOS, optional: 1 x DB-9 Powered RS-232, 5V by BIOS Setting
- Powered USB port: 1 x +12VDC Powered USB 2.0 (USB 5)
- Ethernet: 1 x RJ-45, 10/100/1000 Mbps, optional 1 x RJ-45 for 2nd LAN
- VGA: 1 x DB-15 VGA port, optional: 1 x DB-15 2nd VGA share D-Shape hole with COM5
- DVI: 1 x DVI-D port
- Cash drawer: 1 x RJ-11 port, support two cash drawers (24V, Max 1.1A)
- PS/2: 1 x KB/MS Combo PS/2 port
- Parallel: 1 x DB-25 printer port
- Audio: 1 x Headset Jack (Speak-out & MIC)
- DC-IN: 1 x +12VDC input, Mini-DIN 4 pin lock type
- Wireless Antenna: Optional Main/Aux. wireless Antenna
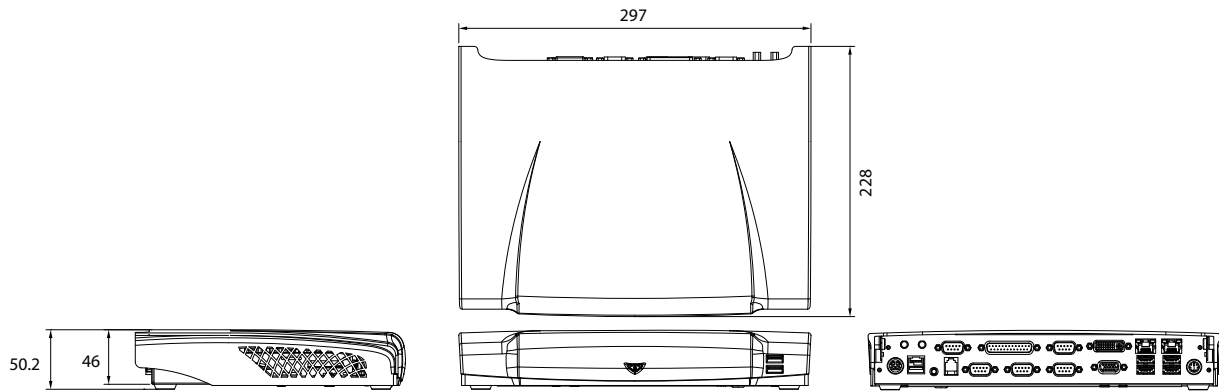
Audio
- High Definition audio codec: Realtek ALC886-GR
- External audio: 1 x Headset Jack (Speak-out & MIC)
- Ethernet LAN chip: LAN1, Realtek RTL8111E Gigabit LAN, optional: LAN 2, Intel® WG82574L
- Ethernet interface: 10/100/1000 Based-TX Ethernet compatible

Mechanical & Environment
- Color: black
- Mounting: desktop type, optional wall-mount Kit

Dimension Drawing

- Power input: +12VDC
- Power adapter: AC to DC power brick (+12VDC/8.33A, 100W)
- Operating temperature: 0℃ ~ 40℃
- Storage temperature: -20℃ ~ 60℃
- Operating humidity: 20% ~ 80% relative humidity, non-condensing
- Dimension: 297mm (W) x 228mm (D) x 50mm (H)
- Weight: 2.6kg (5.73 lbs)

Certifications
- CE approval
- FCC Class A
- LVD

Ordering Information

- **NPB 3550-010 (P/N: A0Y10355001X0)**
  - CPU: Intel® Atom™ processor D2550, Dual-Core 1.86GHz L2 1MB
  - Memory: 2GB DDR3 SO-DIMM
  - HDD: 320GB 2.5" SATA 5,400rpm
  - Power: +12VDC/100W power brick

NPD 1050

Main Features

- Front Bezel IP-65 Stand Compliant
- Slim and compact enclosure design
- stand accommodate Power Brick

- Zero Bezel Touch(P Cap/Resistive Option)
- Modular MSR/FingerPrint (Option)
- Optional wall-mount kit for compact space accommodation

Product Overview

The NPD 1050 is a reliable and flexibility touch monitor that can support an integrated magnetic stripe reader (MSR) and also supports an integrated 2 x 20 rear customer display. The display has touchscreen with five-wire resistive and also with projected capacitive (PCAP) for a multi-touch experience and zero-bezel. The front bezel with frame and borderless (True Flat Surface) types design combined with its Solid IP65 Water and Dust proofing.

The NPD 1050 offers a stable base touch screen and a hidden cable management system, all in an elegant and simple-to-use design. The display can function as a desktop or wall-mounted unit and includes a VESA mounting option. The 15" touch monitor provides an affordable product in a convenient, space-saving design that both first-time and experienced users can deploy more easily, reliably, and more cost-effectively.NPD-1050 is the best solution for NEXPOS box PC fanless computer.

Specifications

Panel
- 15" 4:3 XGA (1024 x 768) TFT LCD panel
- 15" 5-wire resistive touch screen
- 15" projected capacitive true flat touch screen(optional)
- Front bezel complies with IP-65 protection standard
- Option kits for MSR/Fingerprint/VFD
- Optional wall-mount kit for compact space accommodation

Rear I/O
- Touch interface port: 1 x USB2.0 Type B connector for Upstreaming; 1 x USB2.0 Type A for Downstreaming
- Video port: 1 x DB15 VGA/1 x DVI-I connector/1 x DP (Display Port)
- OSD: 1 x AUTO button for auto adjust setting; optional 4 buttons (MENU, SELECT, ▲/+, ▼/-), on optional OSD switch board
- COM: Optional: 2 x DB-9F for RS-232 Upstream
- DC-IN Jack : 1 x +12VDC Input

System Control/Indicator
- Power Switch: 1 x Power ON/OFF switch
- Power LED: 1 x Power ON LED (Green)

Mechanical & Environment
- Color: black
- Mounting: desktop type, optional VESA 100 x 100mm wall-mount when detaching stand
- IP protection: front bezel complies with IP-65 protection standard
- Power input: +12VDC
- Power adapter: Default: Power source from NPB 3550 PoweredUSB 12V; Optional: External AC DC 12V/5.0A 60W Power Brick
- Operating temperature: 0°C to 40°C
- Storage temperature: -20°C to 60°C
- Operating humidity: 20%~80% relative humidity, non-condensing
- Dimension: 368mm (W) x 331mm (H) x 210mm (D) (no MSR), 410mm (W) x 331mm (H) x 210mm (D) (with MSR)
- Weight: 6.4kg
- Tilt angle: 0° ~ 80°

Certifications
- CE approval
- FCC Class A

Dimension Drawing
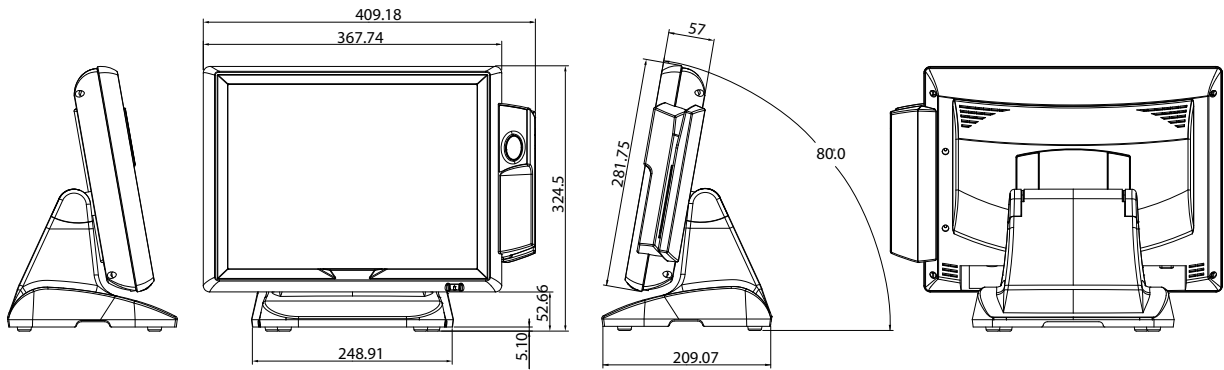
Ordering Information

- **NPD 1050-032 (P/N: A0Y20105002X0)**
  - NexPOS 15" touch display
    LCD: XGA 1024 x 768 250nits
  - Touch: 15" 5-wire true flat resistive touch
  - Power: DC-12V/60W power brick
  - I/O: VGA, DVI-D, DP, USB, COM (for MSR)

ICES 268

Main Features

- Intel® 3rd generation Intel® Embedded Core™ rPGA988 embedded processors family
- Intel® QM77 PCH (HM76) chipset support PICMG COM.0 Rev. 2.0 Type 2, pin-outs
- Support two DDR3 SO-DIMMs 1333/1600 non-ECC up to 16GB
- Support PCIex16 (Gen3.0), 5 x PCIex1, 8 x USB2.0, 2 x SATA3.0/2 x SATA2.0 and 1 x GbE
- Support VGA, dual channels 18/24-bit LVDS and optional 1 x DDI/ SDVO by PEG
- Dimension: 95mm (mm) x 125mm (L)

Product Overview

The ICES 268 is a Type 2 COM Express Basic Module featuring Intel® QM77 PCH (option HM76) chipset supports Intel® 3rd generation Intel® Core™ i7/i5/i3 rPGA988 processors up to i7-3610QE (4 x 2.3GHz/max. TDP 45W) with two DDR3 SO-DIMMs 1333/1600MHz non-ECC up to 16GB.

The 3rd Generation Core i7/i5/i3 processors integrated with Intel® HD graphics with DX11 support one PCIex16 (Gen 3.0) to carrier board. The optional 1 x DDI interfaces port B, allows ICES 268 implement SDVO to HDMI, DVI, DP port by add-in EBK-A2HDMI. The high performance ICES 268 COM Express Basic Module supports 4 x SATA3.0/2.0, 8 x USB2.0, 5 x PCIex1 lanes and 1 x Gigabit Ethernet through the carrier board; NEXCOM is offering standard Type 2 carrier board, ICEB 8050C as well as hardware-ready evaluation starter-kit, ICEK 8050C-T2 build-in 10.4" LCD panel, Flex-ATX power supply to help device makers and equipment builders may evaluate full set of I/O function and add-in cards at early development stage.

Specifications

CPU Support
- Support Intel® 3rd generation Core™ i7/i5/i3 embedded rPGA988 processors
  - Intel® Core™ i7-3610QE (4 x 2.3GHz/6MB cache/Max. TDP 45W)
  - Intel® Core™ i7-3610ME (2 x 2.7GHz/3MB cache/Max. TDP 35W)
  - Intel® Celeron® B810 (2 x 1.6GHz/2MB cache/Max. TDP 35W)

Main Memory
- Two DDR3 SO-DIMMs, 1333/1600 MHz SDRAM non-ECC up to 16GB

Platform Control Hub
- Intel® QM77 PCH (option HM76) chipset

BIOS
- AMI UEFI System BIOS
- Plug and play support
- Advanced Power Management and ACPI support

Display
- Intel® HD graphics with DX11 support and supports Triple independent displays
- One PCI Express x16 Lane (Gen 3.0) down to the carried board
- Supports VGA, single/dual channels LVDS 18/24-bit interfaces
- Optional 1 x DDI port B support HDMI, DVI, DisplayPort and SDVO by PEG with EBK-A2HDMI

Audio
- HD audio interface

On-board LAN
- Intel® 82579LM Gigabit Ethernet, support iAMT 8.0 (supported by QM77 only)
- Support boot from LAN, wake on LAN function
- Signals down to I/O board

COM Express Connector
- AB
  VGA/LVDS/8 x USB2.0, HD Audio/2 x SATA3.0, 2 x SATA 2.0/GbE/GPIO/ LPC bus/5 x PCIex1/SMBus (I2C)/SPI BIOS/SPK out
- CD
  PCIex16 (Gen. 3.0)/PCI (v2.3)/IDE

Power Requirements
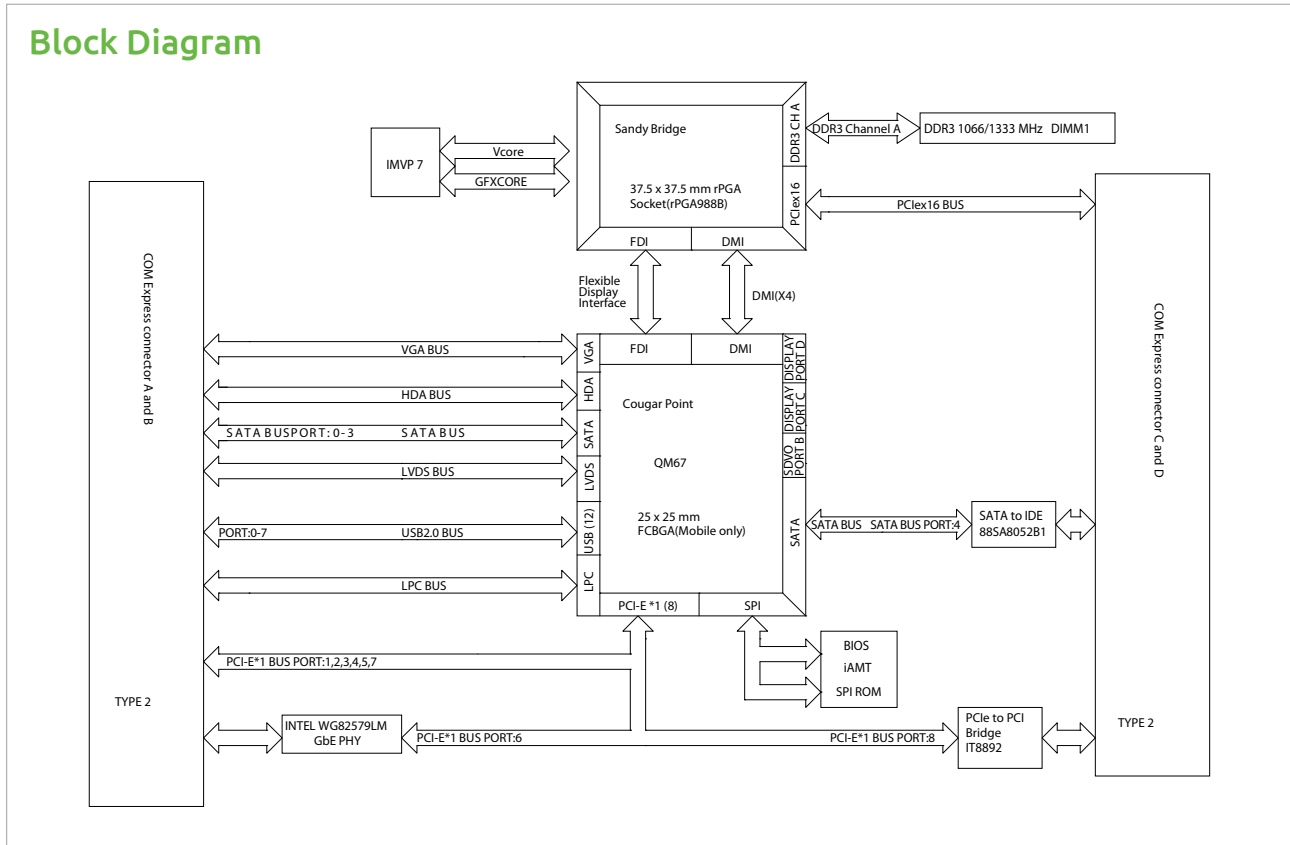- +12V, +5VSB, +3.3V RTC power

Dimensions
- 95mm (W) x 125mm (L)

Environment
- Board level operating temperatures: -15°C to 60°C
- Storage temperatures: -20°C to 80°C
- Relative humidity:

Block Diagram

Block diagram labels:

- IMVP 7
- Vcore
- GFXCORE
- Sandy Bridge — 37.5 x 37.5 mm rPGA Socket(rPGA988B)
- DDR3 CH A — DDR3 Channel A — DDR3 1066/1333 MHz DIMM1
- PCIex16 — PCIex16 BUS
- FDI / DMI
- Flexible Display Interface
- DMI(X4)
- COM Express connector A and B — TYPE 2
- COM Express connector C and D — TYPE 2
- VGA BUS — VGA
- HDA BUS — HDA
- SATA BUS PORT: 0-3 — SATA BUS — SATA
- LVDS BUS — LVDS
- PORT:0-7 — USB2.0 BUS — USB (12)
- LPC BUS — LPC
- Cougar Point — QM67 — 25 x 25 mm FCBGA(Mobile only)
- FDI / DMI
- SDVO PORT B / DISPLAY PORT C / DISPLAY PORT D
- SATA — SATA BUS — SATA BUS PORT:4 — SATA to IDE 88SA8052B1
- PCI-E *1 (8) / SPI
- BIOS / iAMT / SPI ROM
- PCI-E*1 BUS PORT:1,2,3,4,5,7
- INTEL WG82579LM GbE PHY — PCI-E*1 BUS PORT:6
- PCI-E*1 BUS PORT:8 — PCIe to PCI Bridge IT8892

- 10% to 90% (operating, non-condensing)
- 5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **ICES 268 (P/N: 10K00026800X0)**
  COM Express type 2, basic Module QM77 support Intel® 3rd Generation Core™ rPGA988 embedded processors, non-ECC DDR3/2 x SO-DIMMs

- **ICES 268 F- kit (P/N: 10K00026801X0)**
  COM Express Active fan kits with heat-spreader, heat-sink and cooling fan for ICES268

- **ICEB 8050C (P/N: 10KB0805001X0)**
  COM Express Type 2, COM.0 Rev. 2.0 Evaluation CRB, VGA/LVDS/8 x USB2.0/2 x COM/GbE/LPT/5.1 HD/SPDIF, CF/IDE/mSATA/CFast/ PCIex16/PCIex4/PCIex1/PCI/mPCIe, ATX power input

ICES 501X

Main Features

- Embedded Intel® Aton Bay-trail-I SOC chip with 4 core support
- Embedded controller built in with EAPI support
- Support DDR3L memory down 1066/1333MHz up to 4GBytes
- Support onboard EMMC up to 8GBytes

- Support 4PCIe x1(Optional Port 4 if LAN is disabled)/1x USB 3.0/ 7x USB 2.0/2x SATA 2.0 and GbE
- 1x DP/ LVDS interfaces
- Dimension 84x 55mm (W x L)

Product Overview

The ICES 510X is a COM Express® Type 10 mini size module that features Intel® Atom™ Quad-Core processor Bay-trail-I SOC solution. DDR3L Memory down chips 1066 / 1333MHz up to 4GB. The ICES 501X integrates with Intel® Gen7 Graphic engine to support dual displays of LVDS resolution up to 1366 x 768 resolutions and 1DP link with HDMI1.4a / DP1.2 configurations. The high performance ICES 501X COM Express module supports SATA, USB 2.0 & USB 3.0 / VGA / DP (HDMI) / PCIE x 1.

Specifications

CPU Support
- Intel® Atom™ quad core Bay-trail-I SOC up to 1.91GHz

Main Memory
- DDR3L memory down 1066/1333MHz memory up to 4GB

BIOS
- AMI system BIOS
- Plug and play support
- Advanced power management and advanced configuration & power interface support

Display
- Intel® HD graphics with DX9 support
- One DP interfaces down to the carried board
- LVDS 18/24 bit interface

Audio
- HD audio interface

On-board LAN
- Intel® I210 GbE controller, support boot from LAN, wake on LAN
- Support PXE boot from LAN, wake on LAN function
- Signals down to I/O board

Onboard-Storage
- Optional 4GB or 8GB: Micron EMMC chip on board

COM Express Connector
- LVDS/HDA/2 x SATA/GbE/4PCIE x 1(Optional Port 4 if LAN is disabled) /7 x USB 2.0/1 x USB 3.0
- LPC bus / GPIO / SMBus (I2C)/ SPI BIOS

Power Requirements
- +12V, VCC5,VCC3, VCORE, 5VSB Voltage detection
- Support both AT and ATX Power supply mode

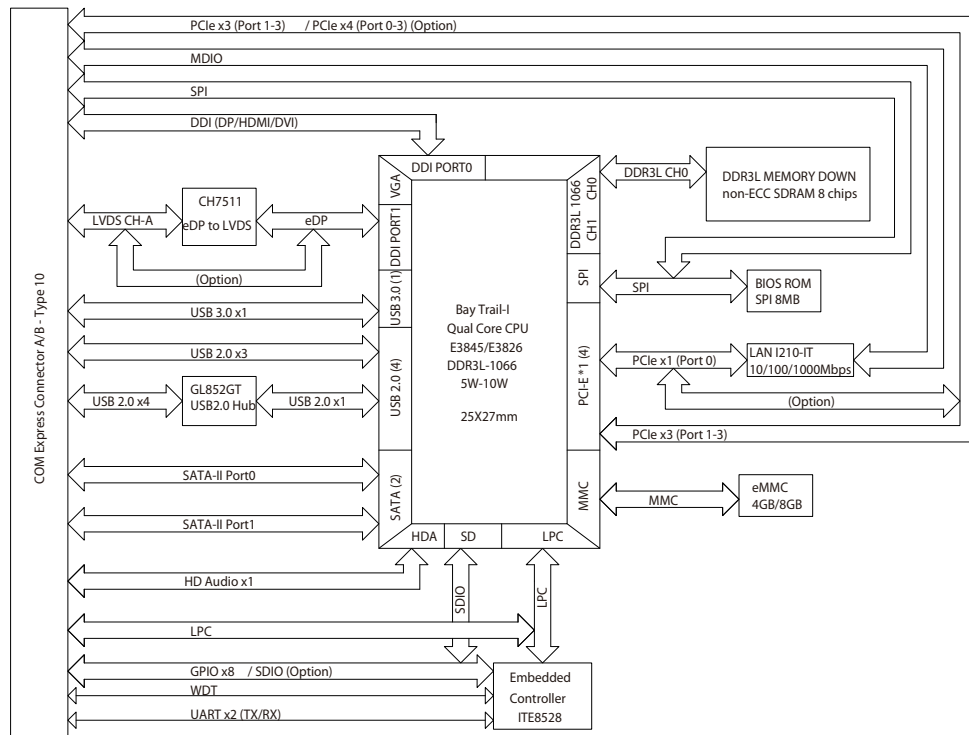### Dimensions
- 84mm (W) x 55mm (L)

Environment
- Board level operating temperatures: -40°C to 85°C
- Storage temperatures: -40°C to 85°C
- Relative humidity:
  - 10% to 90% (operating, non-condensing)
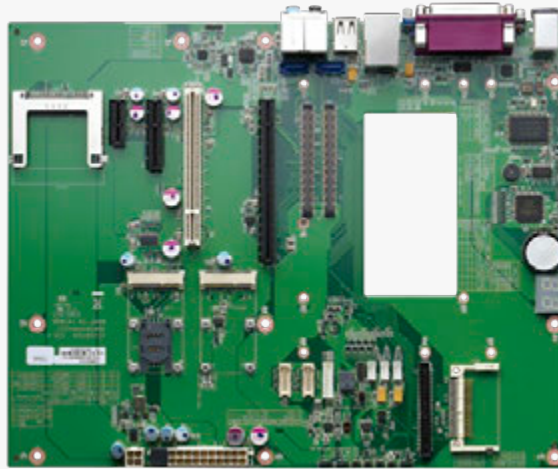 - 5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC class B

Block Diagram

Ordering Information

- **ICES501X-E3845 (P/N: TBD)**
  COM Express type 10 Compact Module Extended -40°C to + 85°C with Intel® Atom™ processor E3845/4C, 1.91GHz /DDR3L memory down with 4GByte SIZE/Onboard 8GBytes eMMC with PCIe/HDMI/LVDS/SATA/GBe

- **ICES501X-E3826 (P/N: TBD)**
  COM Express type 10 Compact Module Extended -40°C to + 85°C with Intel® Atom™ processor E3826/2C, 1.46GHz /DDR3L Memory down with 2GBytes/Onboard 4GBytes eMMC with PCIe/HDMI/LVDS/SATA/GbE

COM Express® is a registered trademark of PICMG.

ICEB 8050C

COM Express Carrier Board, Type 2 pin-out, PICMG COM.0 Rev. 2.0

Bootable from CFAST/Mini-SATA/SATA and CF/Shared IDE

Main Features

- COM Express COM.0, Rev2.0 Evaluation carrier, ATX form-factor
- Support Type 2 pin-outs, COMe Extended/Basic/Compact Module
- Display: VGA & dual channels 18/24-bit LVDS
- Bootable CFAST or Mini-SATA, CF and shared IDE
- PCIex16, PCIex4, PCIex1, PCI x1 and Mini-PCIe for Wi-Fi
- PS2/KB/Mouse, LPT/RS232/422/485, VGA/GbE/4USB/5.1, S/PDIF

Product Overview

NEXCOM ICEB 8050C is a COM Express type 2, pin-out defined by PICMG, COM.0 Rev. 2.0 specification with ATX form-factor. In-house designed features with bootable CFAST/SATA or Mini-SATA/SATA via Mini-PCIe slot (half-/full-size slot) as well as legacy SATA and CF/shared IDE-HDD interfaces. ICEB 8050C support added-on card slots of 1 x PCIex16, 1 x PCIex4, 1 x PCIex1 and 1 x PCI (32/33Mhz) slots. Onboard Super I/O W83627DHG-PT maybe backward compatible of legacy BIOS.

- Faster system Time-to-market
  ICEB 8050C new type 2 carrier MB may help your system design customer to reduce total development cycle time from our proof-of-concept and design-assistance support for your own customized carrier board.

- CPU support from Atom™ to Core™ i7/i5/i3, Celeron® M
  It is ready and easy to adapt with our various CPU/SKU from Intel® Atom to 2nd generation Intel® Core™ i7/i5/i3, Celeron® M-based COM Express core module from compact size (95x 95mm) like ICES 251/ICES 253/ICES 254 to Basic-size (125 x 95mm) like ICES 270/ICES 267/ICES 267S.

- Longevity for your multi-generation durable equipment
  Once you designed common I/O carrier solution board, you may adapt multiple COMe modules with different CPU and upgradable by follow 440pos type-2 pin-outs board-to-board connectors of PICMG COM.0 Rev. 2.0 specification.

Specifications

Form factor
- ATX Carrier MB, dimension: 305mm x 244mm (12" x 9.9")
- COM Express Evaluation CRB: PICMB COM Express board-to-board interconnectors, type 2 pin-puts, female, 8mm stack-up height, COM.0 Rev. 2.0

NEXCOM Computer-On-Modules Support List
- Compact Size (95 x 95mm) : ICES 251/ICES 251X, ICES 253, ICES 254
- Basic Size (125 x 95mm) : ICES 270, ICES 267/ICES 267S

Expansion
- 1 x PCIex16 slot, support PEG interfaces
- 1 x PCIex4 slot, optional 4 x PCIex1 signals
- 1 x PCIex1 slot and 1 x PCI (v2.3) slot
- 1 x Mini-PCIe slot for Wi-Fi with SIM tray

Graphic Interfaces
- Graphic Chip: from Type 2 pin-out, COM Express module

- CRT: support analog VGA with DB15 connector on the I/O edge
- LVDS: dual channels 18/24-bit LVDS connector (dual DF-13-20P)
- PCIex16: optional EBK-A2HDMI (ICES254 only) riser card for HDMI or DP

Super I/O
- Winbond W83627DHG-PT

I/O Interface
- Serial COM: 2 ports
- 1 x edge DB9 connector to support RS232/422/485 (+5/+12V by Ring)
- 1 x internal box-header 2.0 pitch to support RS232
- USB2.0: 8 ports
- 4 x USB2.0 ports by stack Type A on edge
- 3 USB2.0 by 4-pins JST 2.0mm JST connector,
- 1 x internal USB2.0 to Mini-PCIe slot for external wi-fi module
- SATA 2.0: 4 ports

NEXCOM

Block Diagram
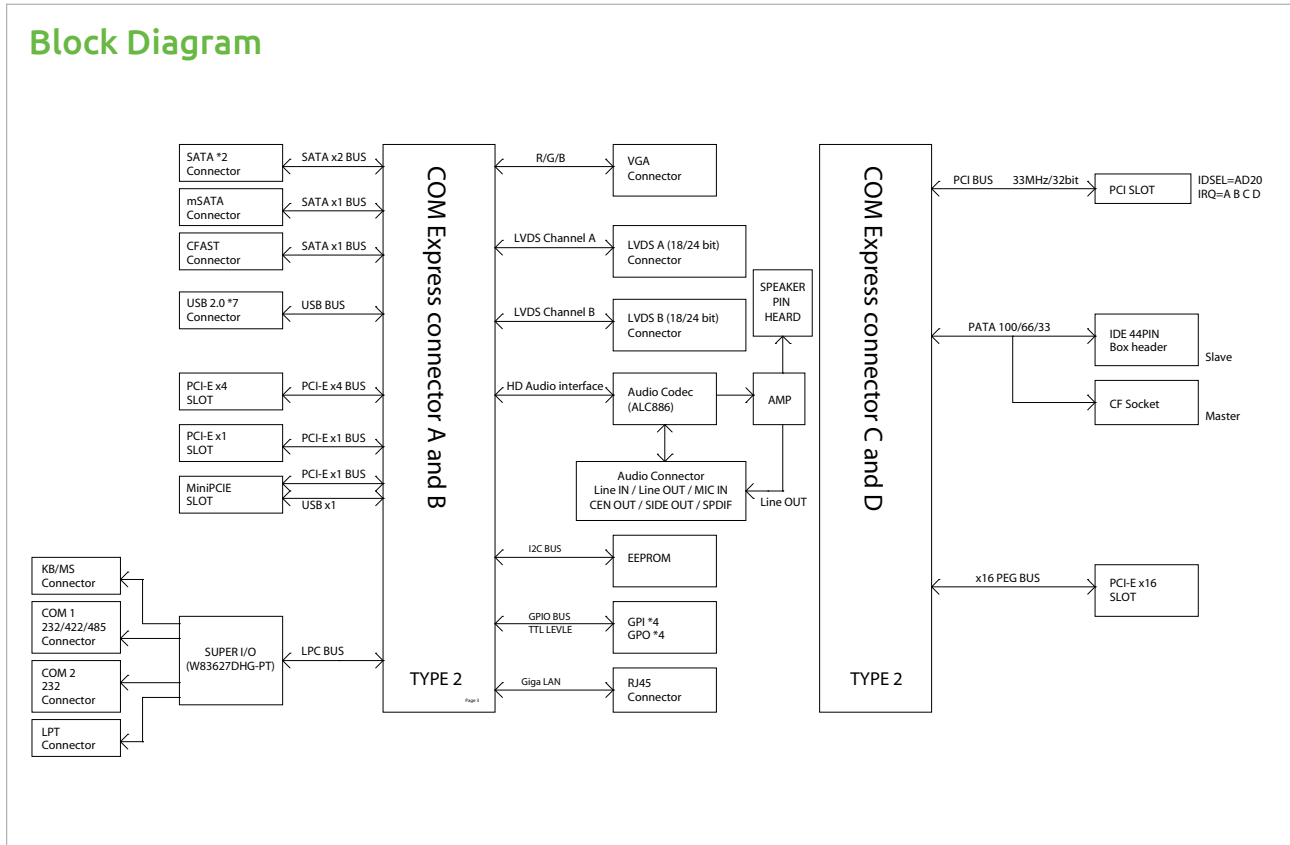
- 2 x SATA 2.0 ports
- 1 x Mini-SATA by Mini-PCIe slot for half-/full size mSATA-SSD
- 1 x CFAST slot for CFAST/SATA 2.0
- CF: 1 x CF/shared IDE slot onboard (default master-mode)
- IDE: 1 x 44pins box-header for legacy IDE-HDD
- PS/2: 2 x PS/2 connectors on edge for Keyboard/Mouse
- Printer Port: 1 x DB25 on edge for legacy printer interface
- GPIO ports: 8 x pins GPIO signals from COMe (default 5V TTL/option 3.3V)

Network
- LAN chip: from COMe CPU module
- Support 1 x RJ45/GbE port on the edge I/O

Audio
- HD Audio AL886 with 5.1 channels
- Support external S/PDIF interface
- Support internal pin-header for L/R speaker-out 2W/ 4 Ohm

EEPROM
- 1 x 2K EEPROM to record PCI Express Lane configuration
- ATMEL AT24C32 (or C02) and address 0 x 57 or (0xAE)

Watchdog Timer
- Watchdog timeout can be programmable by Software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% temperature 25℃)

On-board RTC
- On-chip RTC with battery BR2032

Power Input
- Standard ATX 24 pins and AUX 4-pins with 12V

Dimensions
- ATX form factor, 305 x 244mm (L x W, 12" x 9.6")

Environment
- Operating temperatures: -20℃ to 60℃
- Storage temperature: -40℃ to 85℃

- Relative humidity: Operating 10% to 90%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **ICEB 8050C (P/N: 10KB0805001X0) RoHS Compliant**
  COM Express Type 2, COM.0 Rev. 2.0 Evaluation CRB, VGA/LVDS/8 x USB2.0/2 x COM/GbE/LPT/5.1 HD/SPDIF/CF/shared IDE/mSATA/CFAST/PCIex16/PCIex4/PCI/mPCIe, ATX power input

ICEK 8050C-T2

Integrated COM Express Compact or Basic Module
Bootable Mini-SATA/CFast-SSD on ICEB8050C with
10.4" LCD and Flex-ATX 110/220V AC input

Main Features

- COM Express Type 2, COM.0, Rev2.0 Evaluation Starter Kit
- COM Express Compact or Basic Modules with passive or active fan-sink
- Bootable Mini-SATA/CFast-SSD with 10.4" LCD/18-bit LVDS Display

- PCIex16, PCIex4, PCIex1, PCI x1 (v2.3) and Mini-PCIe for Wi-Fi
- PS2/KB/Mouse, LPT/RS232/422/485, VGA/GbE/4 x USB/5.1 Audio S/PDIF
- Integrated Flex-ATX PSU for AC 110/220V Input

Product Overview

NEXCOM ICEK 8050C-T2 as proof-of-concept as pre- configured system of COM Express starter kit join- design- win assistance package based on COM Express type 2, pin-out defined by PICMG, COM.0 Rev. 2.0 specification. NEXCOM configure and assembly to order service with COM Express Type 2, pin-outs Compact Modules (95 x 95mm) ICES 253 and ICES 254 or Basic Module (125 x 95mm) like ICES 267 or ICES 267S or ICES 268 with active heat-sink for higher computing embedded processors up to i7-2715QE or i7-3610QE of Intel® 2nd or 3rd Generation Core™ i7/i5/i3 and Celeron B810E/827E/847E Mobile processors to adapt wide range of Industrial and embedded applications.

ICEK 8050C-T2 features bootable CFast/SSD from external access or Mini-SATA/SSD via Mini-PCIe slot (half-/full-size slot) from internal build-in onto ICEB 8050C ICEK 8050C-T2 also support legacy SATA and CF/shared IDE-HDD bootable interfaces. ICEK 8050C-T2 support added-on card slots of 1 x PCIex16, 1 x PCIex4, 1 x PCIex1 and 1 x PCI (v2.3) slot for you may add-in I/O cards as evaluation during project development.

- Faster system Time-to-market: ICEK 8050C-T2 as Type 2 starter-kit as pre-configured system ready to help your system design customer to reduce total development cycle time from our proof-of-concept and design-assistance support for your target OS and applications.

- Various CPU SKUs support from Atom™ to Core™ i7/i5/i3, Celeron M: It is ready and easy to adapt with our various CPU/SKU from Intel® Atom™ to 2nd or 3rd generation Intel® Core™ i7/i5/i3, Celeron M-based COM Express compact/basic module from NEXCOM ICES 253/ICES 254 compact size (95 x 95mm) to Basic-size (125 x 95mm) like ICES 267/ICES 267S or ICE S268 as support list.

- Longevity for your multi-generation durable equipment: Once you pre-tested your OS and Application onto our ICEK 8050C-T2 starter kit, You may easy to design your own customized I/O carrier solution board which you may adapt multiple COM Express modules for your target application.

Specifications

Form factor
- Rugged Plastic (HDPE) Suitcase dimension: 47 x 42 x 12 cm³
- Integrated ICEB 8050C Type 2, Carrier CRB for Compact or Basic Modules

Display
- 10.4" AUO, G104SN03 V5

Expansion
- 1 x PCIex16 slot, support PEG interfaces
- 1 x PCIex4 slot, optional 4 x PCIex1 signals
- 1 x PCIex1 slot and 1 x PCI (v2.3) slot
- 1 x Mini-PCIe slot for Wi-Fi with SIM tray

Graphic Interfaces
- CRT: support analog VGA with DB15 connector on the I/O edge

- LVDS: dual channels 18/24-bit LVDS connector (dual DF-13-20P)
- PCIex16: optional EBK-A2HDMI (ICES254 only) riser card for HDMI or DP
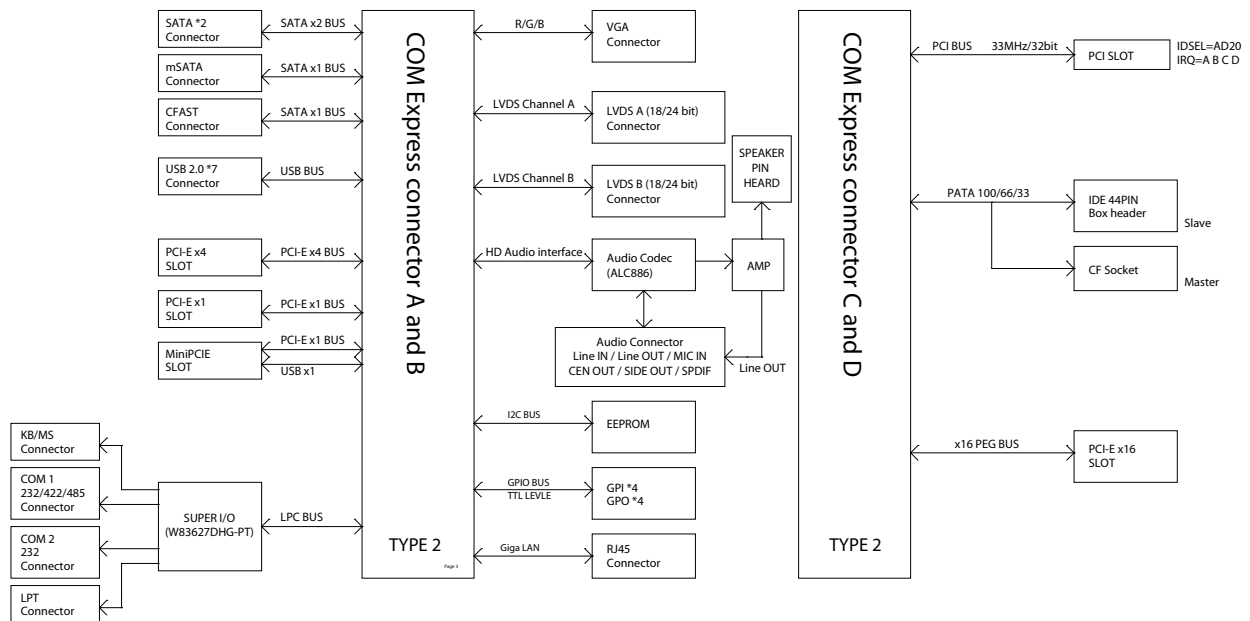
Super I/O
- Winbond W83627DHG-PT

I/O Interface
- Serial COM: 2 ports
  - 1 x edge DB9 connector to support RS232/422/485 (+5/+12V by Ring)
  - 1 x internal box-header 2.0 pitch to support RS232
- USB2.0: 8 ports
  - 4 x USB2.0 ports by stack Type A on edge
  - 3 x USB2.0 by 4-pins JST 2.0mm JST connector

Block Diagram

- 1 x internal USB2.0 to Mini-PCIe slot for external wi-fi module
- ◆ SATA 2.0: 4 ports
  - 2 x SATA 2.0 ports
  - 1 x Mini-SATA by Mini-PCIe slot for half-/full size mSATA-SSD
  - 1 x CFast slot for CFast-SSD/SATA 2.0
- ◆ CF: 1 x CF/shared IDE slot onboard (default master-mode)
- ◆ IDE: 1 x 44pins box-header for legacy IDE-HDD
- ◆ PS/2: 2 x PS/2 connectors on edge for Keyboard/Mouse
- ◆ Printer Port: 1 x DB25 on edge for legacy printer interface
- ◆ GPIO ports: 2 x + 8 x pins header GPIO from COMe (default 5V TTL/option 3.3V)

Network
- ◆ LAN chip: from COMe CPU module
- ◆ Support 1 x RJ45/GbE port on the edge I/O

Audio
- ◆ HD Audio AL886 with 5.1 channels
- ◆ Support external S/PDIF interface
- ◆ Support internal pin-header for L/R speaker-out 2W/ 4 Ohm

EEPROM
- ◆ 1 x 2K EEPROM to record PCI Express Lane configuration
- ◆ ATMEL AT24C32 (or C02) and address 0x57 or (0xAE)

Watchdog Timer
- ◆ Watchdog timeout can be programmable by Software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% temperature 25°C)

On-board RTC
- ◆ On-chip RTC with battery BR2032

Power Input
- ◆ Build-in AC 110/220V Input for Flex-ATX PSU in this Starter-Kit

Ordering Information

- ◆ **ICEK 8050C-T2 (P/N: MISC by Project Registered)**
  COM Express Type 2 Starter Kit ready for NEXOM COM Express compact/basic modules assembly SO-DIMM system memory with passive/active fan-sink onto Type 2 carrier ICEB8050C with bootable Mini-SATA/CFast-SSD pre-load Win 7 trial version OS with 10.4" LCD/LVDS display and build-in Flex-ATX PSU AC 110/220V Input

NEXCOM Computer-On-Modules Support List:

Models	ICES 253	ICES 254	ICES 267	ICES 267S	ICES 268
Processors SKUs	Atom™ D525	Atom™ D2550/N2800	2nd Gen. Core™ i7/i5/i3 rPGA 988	2nd Gen. Core™ i7/i5/i3 FCBGA 1023	3rd Gen. Core™ i7/i5/i3 "rPGA 988
Chipset	ICEH8M	ICH10R	QM67	QM67/HM65	QM77/HM76
Max. Memory	2GB	4GB	8GB	8GB	16GB
SO-DIMM	1	1	1	1	2
Heat-spreader	Yes	Yes	Yes	Yes	Yes
Heat-Sink	Yes	Yes	Yes	Yes	Yes
Cooling Fan	none	none	Yes	Yes	Yes

ICES 667

Main Features

- 3rd generation Intel® Embedded Core™ rPGA988 embedded processors family
- Intel® QM77 PCH (HM76) chipset support PICMG COM.0 Rev. 2.0 Type 6 pin-outs
- Support two DDR3 SO-DIMMs 1333/1600 non-ECC up to 16GB
- Support PCIex16 (Gen3.0) 7 x PCIEx1, 4 x USB3.0/8 x USB2.0, 2 x SATA3.0/2 x SATA2.0 and GbE
- Up to 3 x DDI (DP/HDMI/DVI) multiple displays, VGA, dual channels 18/24-bit LVDS
- Dimension: 95mm (W) x 125mm (L)

Product Overview

The ICES 667 is a Type 6 COM Express Basic Module featuring Intel® QM77 PCH (option HM76) chipset supports 3rd generation Intel® Core™ i7/i5/i3 rPGA988 embedded processors up to i7-3610QE (4 x 2.3GHz/max.TDP 45W) with two DDR3 SO-DIMMs 1333/1600MHz non-ECC up to 16GB.

The 3rd Generation Intel® Core™ i7/i5/i3 processors integrated with Intel® HD graphics with DX11 support one PCIex16 (Gen. 3.0) to carrier board. The Three DDI interfaces allows ICES 667 implement HDMI, DVI, Display Port, SDVO on Customer Solution Board besides VGA, LVDS interface. The high performance ICES 667 COM Express Module supports 4 x SATA2.0/3.0, 12 x USB2.0/3.0 and 7 x PCIex1 lanes through the carrier board; NEXCOM is offering standard Type 6 carrier board, ICEB 8060 to help device makers and equipment builders to evaluate full set of I/O function and add-on cards at early development stage.

Specifications

CPU Support
- Support 3rd generation Intel® Core™ i7/i5/i3 embedded rPGA988 processors
  - Intel® Core™ i7-3610QE (4 x 2.3GHz/6MB cache/Max. TDP 45W)
  - Intel® Core™ i7-3610ME (2 x 2.7GHz/3MB cache/Max. TDP 35W)
  - Intel® Celeron® B810 (2 x 1.6GHz/2MB cache/Max. TDP 35W)

Main Memory
- Two DDR3 SO-DIMMs, 1333/1600 MHz SDRAM non-ECC up to 16GB

Platform Control Hub
- Intel® QM77 PCH (option HM76) chipset

BIOS
- AMI UEFI System BIOS
- Plug and play support
- Advanced Power Management and ACPI support

Display
- Intel® HD graphics with DX11 support and supports Triple independent displays displays
- One PCI Express x16 Lane (Gen. 3.0) down to the carried board
- Supports VGA, single/dual channels LVDS 18/24-bit interfaces
- 3 x DDI supports HDMI, DVI, DisplayPort and SDVO (only by Port B/DDI #1)

Audio
- HD audio interface

On-board LAN
- Intel® 82579LM Gigabit Ethernet, support iAMT 8.0 (supported with QM77 only)
- Support boot from LAN, wake on LAN function
- Signals down to I/O board

COM Express Connector
- AB
  VGA/LVDS/8 x USB2.0, HD Audio/4 x SATA2.0/3.0, GbE/GPIO/LPC bus, 1 x PCIex4/2 x PCIex1/SMBus (I2C)/SPI BIOS/SPK out
- CD
  PCIex16(Gen. 3.0)/3 x DDI/4 x USB3.0/PCIex1
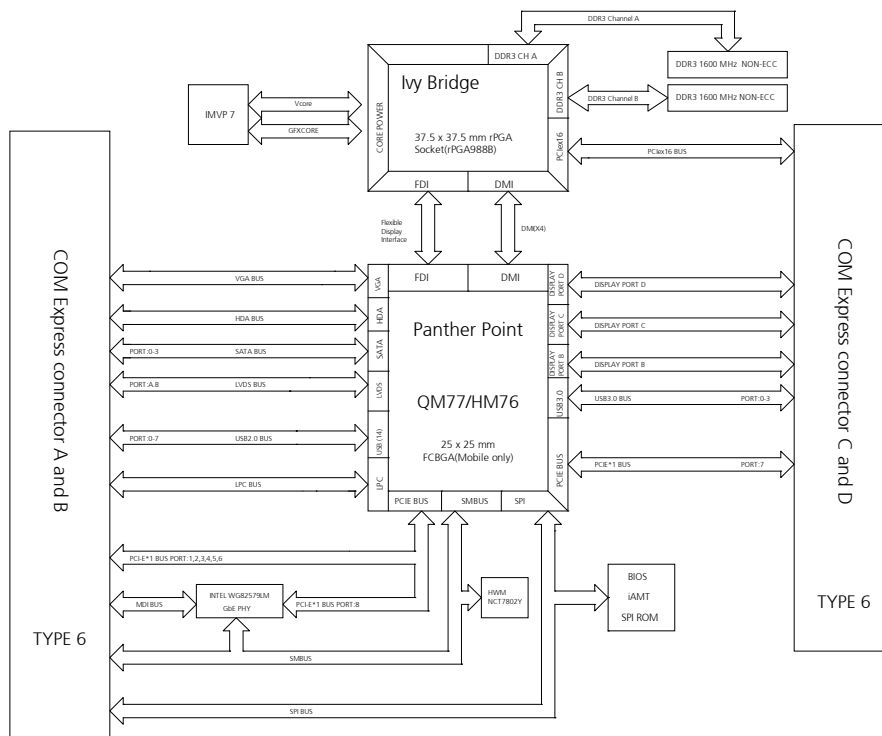
Power Requirements
- +12V, +5VSB, +3.3V RTC power

Dimensions
- 95mm (W) x 125mm (L)

Environment
- Board level operating temperature: -15°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  10% to 90% (operating, non-condensing)

Block Diagram

5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **ICES 667 (P/N: 10K00066700X0)**
  COM Express type 6, basic Module QM77 support 3rd Generation Intel® Core™ rPGA988 embedded processors, non-ECC DDR3/2 x SO-DIMMs

- **ICES 667F-kit (P/N: 10K00066702X0)**
  COM Active fan kits with heat-spreader, heat-sink and cooling fan for ICES 667

- **ICEB 8060 (P/N: 10KB086000X0)**
  COM Express type 6, COM.0 Rev. 2.0 Evaluation Carrier Board, 3 x DDI/VGA/LVDS/4 x USB3.0/8 x USB2.0/6 x COM/2 x GbE/5.1HD, SPDIF/2 x SATA3.0/mSATA/CFast/PCIex16/PCIex4/2 x PCIex1/mPCIe, ATX power input

ICES 668

Main Features

- Embedded Intel® 3rd generation Core™ i7/i5/i3 processor, Ivy Bridge Mbl + ECC
- Intel® QM77 PCH chipset support PICMG COM.0 Rev. 2.0 Type 6 pin-outs
- Support Dual channel DDR3 with ECC SO-DIMMs 1333/1600MHz up to 16GB
- Support PCIex16, 7 x PCIex1, 4 x USB3.0/8 x USB2.0, 2 x SATA 3.0/2 x SATA 2.0 and GbE
- Up to 3 x Independent Displays, VGA, Dual Channels 18/24-bit LVDS, DVI, HDMI, DisplayPort
- Dimension 95mm (W) x 125mm (L)

Product Overview

The ICES 668 is a Type 6 pin-outs COM Express Basic module featuring Intel® QM77 PCH chipset supports Intel® 3rd generation Intel® Core™ processor with Dual DDR3 SO-DIMM socket up to 16GB DDR3 1333/1600MHz SDRAM with ECC support. The ICES 668 integrated Intel® HD graphics with DX11 support or expands via PCI Express Graphic 1 x 16 lanes and support three DDI (Digital Display Interface) to follow the standard of PICMG COM.0 Rev. 2.0 specification. It allows type 6 pin-out Carrier board to implement HDMI, DVI, Display Port, SDVO and legacy VGA, 18/24 bits LVDS interface. The high performance ICES 668 COM Express Basic Module supports 4 x USB3.0/8 x USB2.0, 2 x SATA 3.0/2 x SATA 2.0 and 7 x PCIex1 lanes through our NEXCOM in-house designed ICEB 8060 evaluation carrier MB as well as customized solution for your embedded OEM/ODM projects.

Specifications

CPU Support

- Support Intel® BGA 1023, 3rd generation Intel® Core™ processor
  - Intel® Core™ i7 3615QE (4C/6M cache/2.3GHz/Max. TDP 45W)
  - Intel® Core™ i7 3555LE (2C/4M cache/2.5GHz/Max. TDP 25W)
  - Intel® Core™ i7 3517UE (2C/4M cache/1.7GHz/Max. TDP 17W)
  - Intel® Core™ i3 3217UE (2C/3M cache/1.6GHz/Max. TDP 17W)
  - Intel® Core™ i5 3610ME (2C/3M cache/2.7GHz/Max. TDP 35W)

Main Memory

- Dual DDR3/SO-DIMMs, support 1333/1600MHz ECC system memory up to 16GB

Platform Control Hub

- Intel® QM77 PCH chipset

BIOS

- AMI System UEFI BIOS
- Plug and play support
- Advanced power management and advanced configuration & power interface support

Display

- Intel® HD graphics with DX11 support up to triple independent displays
- One PCI Express x16 Lane down to the carried board
- Supports VGA and single/dual channel s 18/24 bit LVDS interface
- 3 x DDI (Digital Display Interface) supports HDMI/DVI, DisplayPort and SVDO interfaces

Audio

- HD audio interface

On-board LAN

- Intel® 82579LM Gigabit Ethernet, support iAMT 8.0
- Support PXE boot from LAN, wake on LAN function
- Signals down to I/O board

COM Express Connector

- AB
  VGA/LVDS/8 x USB2.0/2 x Serial Port/HD Audio/4 x SATA/GbE/GPIO/ LPC bus, 1 x PCIex4/2 x PCIex1/SMBus (I2C)/SPI BIOS/SPK out
- CD
  PCIex16/3 x DDI/4 x USB3.0/1 x PCIex1

Power Requirements
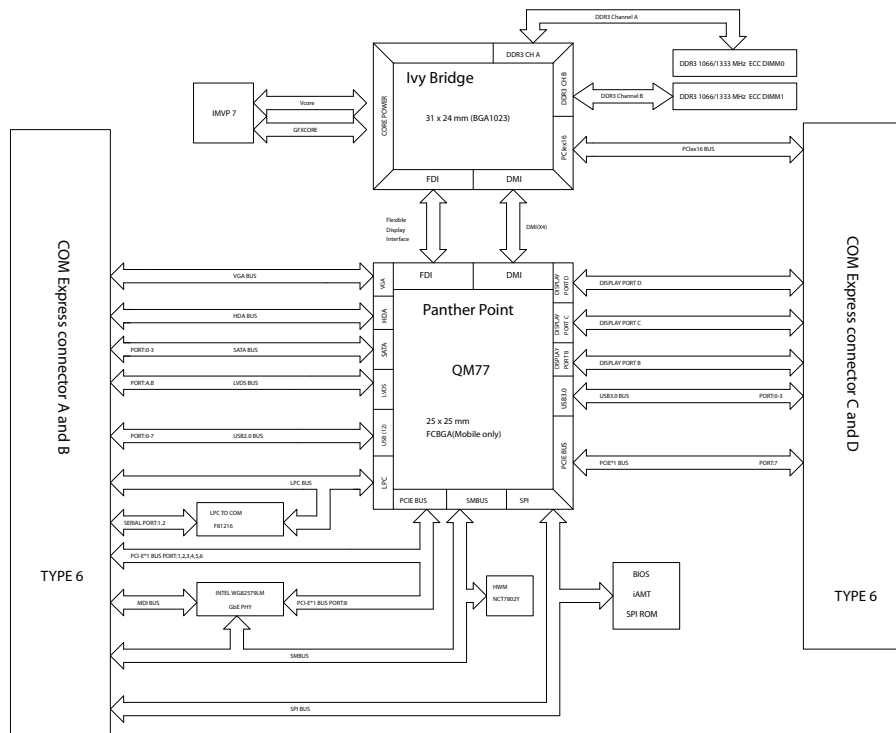
- +12V, +5VSB, +3.3V RTC power

Dimensions

- 95mm (W) x 125mm (L)

Environment

- Board level operating temperatures: 0°C to 60°C
- Storage temperatures: -20°C to 80°C
- Relative humidity:
  10% to 90% (operating, non-condensing)
 5% to 95% (non-operating, non-condensing)

Block Diagram

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **ICES 668-3610ME (P/N: 10K00066806X0)**
  COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i5-3610ME (2 x 2.7GHz, 3MB Cache, 35W) processor, ECC DDR3/2 x SO-DIMMs

- **ICES 668-3615QE (P/N: 10K00066805X0)**
  COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3615QE (4 x 2.3GHz, 6MB Cache, 45W) processor, ECC DDR3/2 x SO-DIMMs

- **ICES 668-3555LE (P/N: 10K00066804X0)**
  COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3555LE (2 x 2.5GHz, 4MB Cache, 25W) processor, ECC DDR3/2 x SO-DIMMs

- **ICES 668-3517UE (P/N: 10K00066803X0)**
  COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3517UE (2 x 1.7GHz, 4MB Cache, 17W) processor, ECC DDR3/2 x SO-DIMMs

- **ICES 668-3217UE (P/N: 10K00066801X0)**
  COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i3-3217UE (2 x 1.6GHz, 3MB Cache, 17W) processor, ECC DDR3/2 x SO-DIMMs

- **ICES 668 F- kit (P/N: 10K00066807X0)**
  Active Fan Kits with heat- spreader, heat-sink and cooling fan for ICES 668 series

- **ICEB 8060 (P/N: 10KB0806000X0) RoHS Compliant**
  COM Express Type 6, COM.0 Rev. 2.0 Evaluation CRB, 3 x DDI/VGA/ LVDS/4 x USB3.0/8 x USB2.0/6 x COM/2 xGbE/5.1 HD, SPDIF/2 x SATA3.0/mSATA/CFast/PCIex16/PCIex4/PCIex1/mPCIe, ATX power input

ICES 670
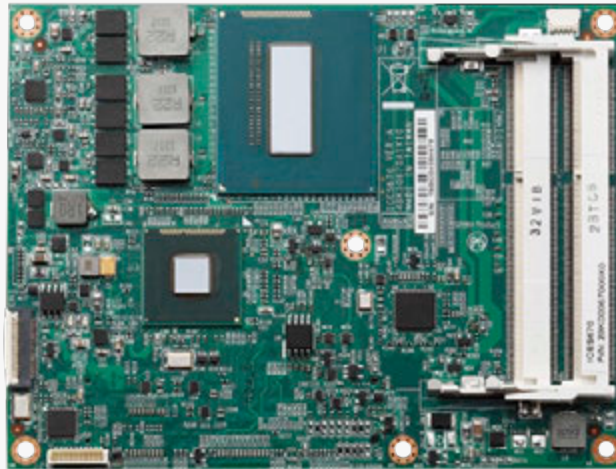
Main Features

- Intel® 4th generation Core™ processor
- Mobile Intel® QM87 chipset
- Support PICMG COM.0 Rev. 2.1 Type 6 pin-outs
- Support Dual channel ECC-DDR3L/SO-DIMMs 1333/1600MHz up to 16GB

- Support PCIex16, 7 x PCIex1, 4 x USB3.0/8 x USB2.0, 2 x SATA3.0/2 x SATA2.0 and GbE
- Up to 3 x independent displays, VGA, eDP/LVDS, DVI, HDMI, DisplayPort
- Dimension 95 x 125mm² (W x L)

Product Overview

The ICES 670 is a COM Express Type 6-pinouts Basic module featuring Intel® Lynx-Point PCH chipset supports Intel® 4th generation Intel® Core™ processors (Haswell/Shark Bay mobile) with Dual ECC-DDR3 SO-DIMM socket up to 16GB DDR3L 1333/1600MHz SDRAM. The ICES 670 integrated Intel® GT1/GT2/GT3 graphics engines with DX11.1 support or expands via PCI Express Graphic 1 x 16 lanes and support three DDI (Digital Display Interface) to follow the standard of PICMG COM.0 Rev. 2.0 specification. It allows type 6-pinout Carrier board to implement HDMI, DVI, Display Port, eDP and legacy VGA, single channel 18-/24-bits LVDS interface. The high performance ICES 670 COM Express Basic Module supports 4 x USB3.0/8 x USB2.0, 2 x SATA3.0/2 x SATA2.0 and 7 x PCIex1 lanes through our NEXCOM designed ICES 8060 as well as customized solution for your embedded projects.

Specifications

CPU Support
- Support Intel® BGA 1364, 4th generation Intel® Core™ processors (Haswell-M/Shark Bay-MB)

Main Memory
- Dual ECC-DDR3L/SO-DIMMs, support 1333/1600MHz memory up to 16GB

Platform Control Hub
- Intel® 8 series (Lynx Point-M) PCH chipset

BIOS
- AMI System UEFI BIOS
- Plug and play support
- Advanced power management and advanced configuration & power interface support

Display
- Intel® GT1/GT2/GT3 integrated graphics processing unit (iGPU)
- One PCI Express x16 (Gen. 3.0) Lane down to the carried board
- Supports VGA and eDP/LVDS interface
- 3 x DDI (Digital Display Interface) supports HDMI/DVI, DP/eDP interfaces

Audio
- HD audio interface

On-board LAN
- Intel® Clarkville (I217) Gigabit Ethernet, support next generation vPro/iAMT

- Support PXE boot from LAN, wake on LAN function
- Signals down to I/O board

COM Express Connector
- AB
  VGA/LVDS/8 x USB2.0/HD Audio/4 x SATA/GbE/GPIO/LPC bus, 1 x PCIex4/2 x PCIex1/SMBus (I2C)/SPI BIOS/SPK out
- CD
  PCIex16/3 x DDI/4 x USB3.0/1 x PCIex1

Power Requirements
- +12V, +5VSB, +3.3V RTC power

Dimensions
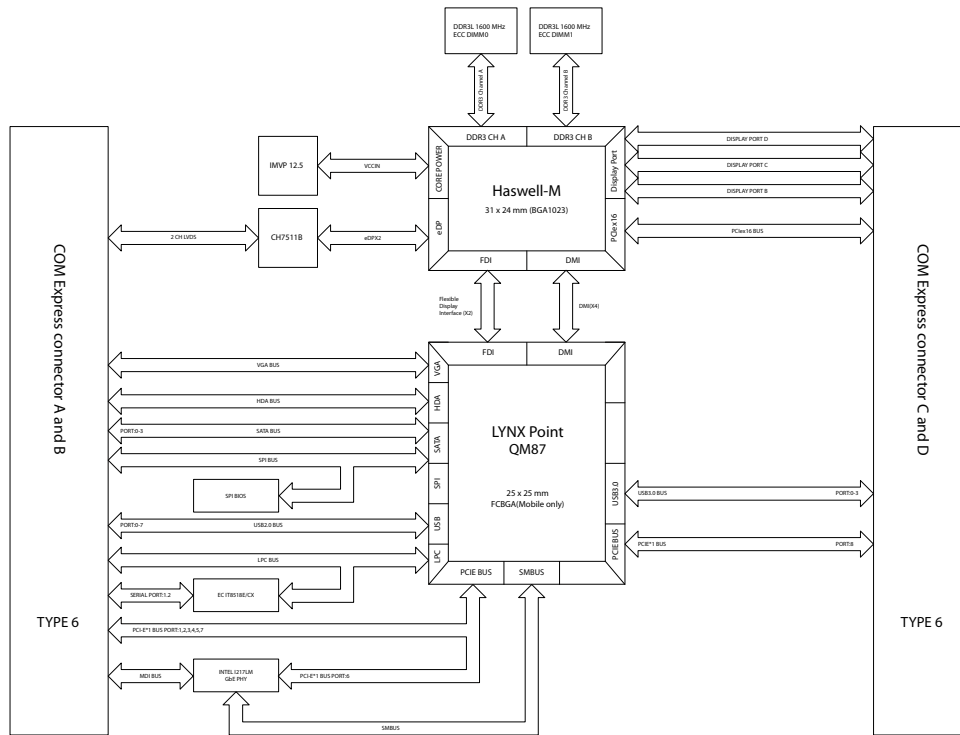- 95mm (W) x 125mm (L)

Environment
- Board level operating temperatures: -15℃ to 60℃
- Storage temperatures: -20℃ to 80℃
- Relative humidity:
  10% to 90% (operating, non-condensing)
  5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Block Diagram

Ordering Information

- **ICES 670 (P/N: 10K00067000X0)**
  COM Express Type 6, Basic Module, onboard 4th Generation Intel®
  Core™ Processors with ECC DDR3L/2 x SO-DIMMs, Mobile Intel®
  QM87 Express Chipset

ICES 671

COM Express Type 6, COMPACT Size Module with 4th Gen. Intel® Core™ i7/i5/i3 processors
MCP solution, DDR3L/GbE/4SATA/4 x PCIex1/DP/2 x USB3.0

Main Features

- 4th gen. Intel® Core™ i7/i5/i3 processor (co-layout with boardwell MCP)
- Triple independent display integrated GT1/GT2/GT3 to support: VGA, dual 18-/24 LVDS, HDMI, DP, DVI
- Dual DDR3L/SO-DIMm (1600Mhz) up to 16GB without ECC memory support
- Up to 2 x USB3.0/8 X USB2.0/4 x SATA 3.0/4 x PCIex1/WDT/GPIO/I2C
- Dimension 95 x 95mm (W x L)

Product Overview

The ICES 671 is a COM Express Type 6 compact size module that features 4th generation Intel® Core™ i7/i5/i3 or Celeron® FCBGA1168 processor and dual DDR3L SO-DIMM memory socket 1600Mhz without ECC support, up to 16 GB. ICES670 is COM Express Type 6 pin-outs, compact module (95 x 95mm) to follow COM.0 Rev. 2.0, This new ICES671 supports dual DDR3L (without ECC) SO-DIMM (1600MHz) up to 16 GB, and advanced I/O interfaces such as PCI Express gen 2.0, 4 x SATA3.0, and 2 x USB3.0. ICES671 is integrated with Intel GT1/GT2/GT3 Integration graphic for powerful graphic processing and three-display capability through display interfaces like HDMI/DVI/Display Port/CRT, and dual channels LVDS. The Compact size COMe express module of ICES671 applied latest Intel shark bay-U MCP solution with lower power TDP(15W) and highest graphic and computing performance, which is ideal for application with high graphic requirement and multiple display connectivity, such as medical, digital signage, automation and surveillance applications.

Specifications

CPU Support
- 4th generation Intel® Core™ i7/i5/i3 processor MCP

Main Memory
- Dual DDR3L/SO-DIMMs, without ECC support 1600MHz memory up to 16GB

BIOS
- AMI UEFI BIOS
- Plug and play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Intel® HD Graphic /GT1/GT2/GT3 with DX 11.1 , OGL 3.2, OCL 1.2 support
- Single and dual channel 18/24 LVDS
- VGA interface (1920 x 1200)
- DDI 1 with HDMI/DP/DVI support (DDI2: optional)

Audio
- HD audio interface

On-board LAN
- Intel® I218LM GbE controller, support boot from LAN, wake on LAN
- Support PXE boot from LAN, wake on LAN function

- Signals down to I/O board

COM Express Connector
- AB : VGA/LVDS/HDA/4 X SATA/GbE/4 x PCIex1/8 X USB2.0 LPC bus/GPIO/SMBus (I2C)/SPI BIOS
- CD : 2 x USB3.0/2 x DDI (DDI2 Optional)

Power Requirements
- +12V, +5VSB, +3.3V RTC power
- Support both AT and ATX power supply mode
- One 3 pins 90 degree edge-connector for DC +12V fan
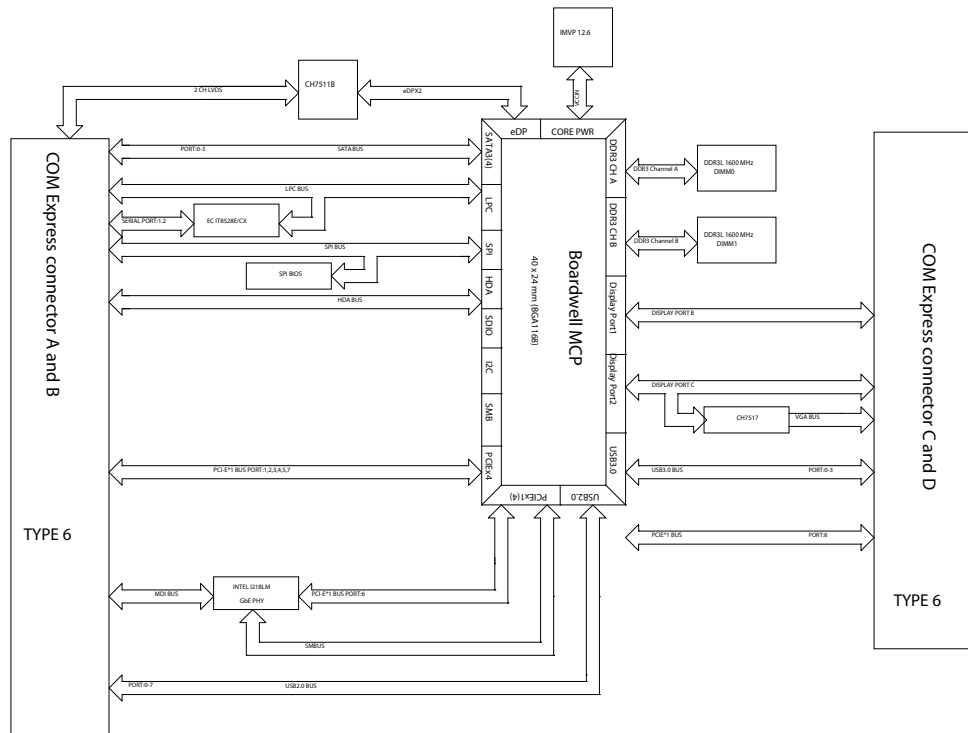
Dimensions
- 95mm (W) x 95mm (L)

Environment
- Board level operating temperatures: -15℃ to 60℃
- Storage temperatures: -20℃ to 80℃
- Relative humidity: 10% to 90% (operating, non-condensing) 5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE/FCC Class B

NEXCOM

Block Diagram

Ordering Information

- **ICES 671-4300U (P/N: TBD)**
  COM Express Type 6 Compact module with 4th generation Intel®
  Core™ i7/i5/i3 processor MCP/2C, 1.9GHz/DDR3L without ECC/PCIe/
  HDMI/VGA/SATA/GBE

- **ICES 671-2980U (P/N: TBD)**
  COM Express Type 6 Compact module with 4th generation Intel®
  Core™ i7/i5/i3 processor MCP/2C, 1.6GHz/DDR3L without ECC/PCIe/
  HDMI/VGA/SATA/GBE

ICES 672

COM Express Type 6, COMPACT Size Module with 5th Gen. Intel® Core™ i7/i5/i3 processors

MCP solution, DDR3L/GbE/4SATA/4 x PCIex1/DP/2 x USB 3.0

Main Features

- 5th gen. Intel® Core™ i7/i5/i3 processor
- Triple independent display integrated GT2/GT3 to support: VGA, dual 18-/24 LVDS, HDMI, DP, DVI
- Dual DDR3L/SO-DIMm (1600Mhz) up to 16GB without ECC memory support

- Up to 2 x USB 3.0/8 X USB 2.0/4 x SATA 3.0/4 x PCIex1/WDT/GPIO/I2C
- Dimension 95 x 95mm (W x L)

Product Overview

The ICES 672 is a COM Express® Type 6 compact size module that features 5th generation Intel® Core™ i7/i5/i3 or Celeron® FCBGA1168 processor and dual DDR3L SO-DIMM memory socket 1600Mhz without ECC support, up to 16 GB. ICES 672 is COM Express Type 6 pin-outs, compact module (95 x 95mm) to follow COM.0 Rev. 2.0, This new ICES 672 supports dual DDR3L (without ECC) SO-DIMM (1600MHz) up to 16 GB, and advanced I/O interfaces such as PCI Express gen 2.0, 4 x SATA 3.0, and 2 x USB 3.0. ICES 672 is integrated with Intel GT2/GT3 Integration graphic for powerful graphic processing and three-display capability through display interfaces like HDMI/DVI/Display Port/CRT, and dual channels LVDS. The Compact size COM Express module of ICES 672 applied latest Intel Broadwell MCP solution with lower power TDP(15W) and highest graphic and computing performance, which is ideal for application with high graphic requirement and multiple display connectivity, such as medical, digital signage, automation and surveillance applications.

Specifications

CPU Support
- 5th generation Intel® Core™ i7/i5/i3 processor MCP

Main Memory
- Dual DDR3L/SO-DIMMs, without ECC support 1600MHz memory up to 16GB

BIOS
- AMI UEFI BIOS
- Plug and play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Intel® HD Graphic GT2/GT3 with DX 11.1 , OGL 3.2, OCL2.0 support
- Single and dual channel 18/24 LVDS
- VGA interface (1920 x 1200)
- DDI 1 with HDMI/DP/DVI support (DDI2: optional)

Audio
- HD audio interface

On-board LAN
- Intel® I218LM GbE controller, support boot from LAN, wake on LAN
- Support PXE boot from LAN, wake on LAN function
- Signals down to I/O board

COM Express Connector
- AB :
  VGA/LVDS/HDA/4 X SATA/GbE/4 x PCIex1/8 X USB2.0
  LPC bus/GPIO/SMBus (I2C)/SPI BIOS
- CD :
  2 x USB3.0/2 x DDI (DDI2 Optional)

Power Requirements
- +12V, +5VSB, +3.3V RTC power
- Support both AT and ATX power supply mode
- One 3 pins 90 degree edge-connector for DC +12V fan
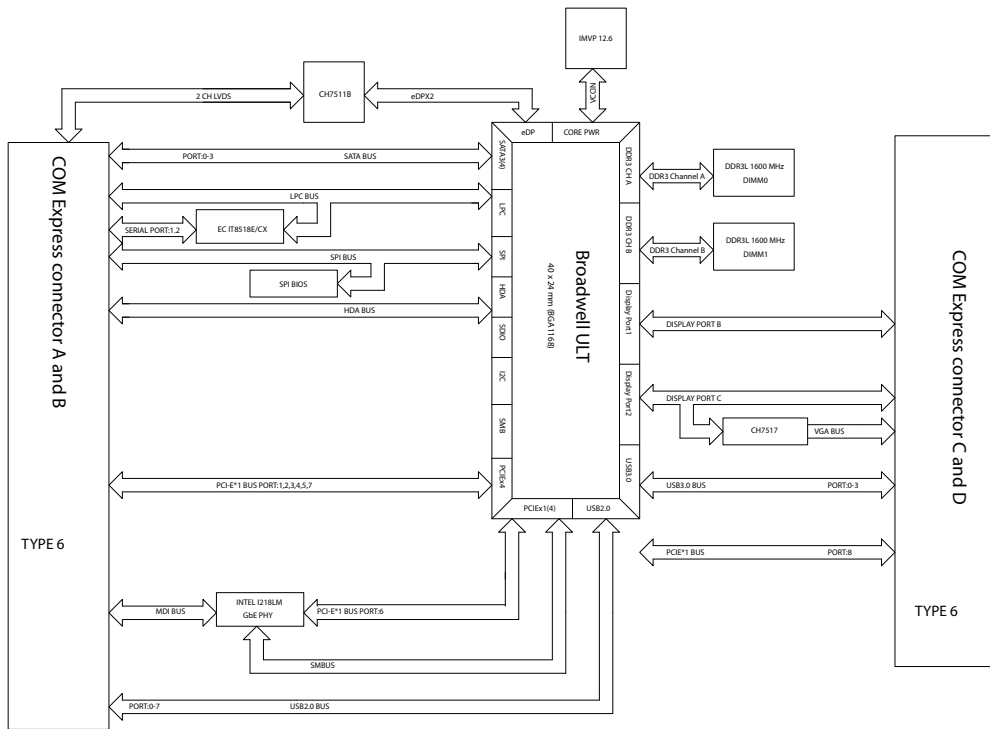
Dimensions
- 95mm (W) x 95mm (L)

Environment
- Board level operating temperatures: -15°C to 60°C
- Storage temperatures: -20°C to 80°C
- Relative humidity:
  10% to 90% (operating, non-condensing)
  5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE/FCC Class B

NEXCOM

Block Diagram

Ordering Information

- **ICES 672-4300U (P/N: TBD)**
  COM Express Type 6 Compact module with 5th generation Intel®
  Core™ i7/i5/i3 processor MCP/2C, 1.9GHz/DDR3L without ECC/PCIe/
  HDMI/VGA/SATA/GBE

- **ICES 672-2980U (P/N: TBD)**
  COM Express Type 6 Compact module with 5th generation Intel®
  Core™ i7/i5/i3 processor MCP/2C, 1.6GHz/DDR3L without ECC/PCIe/
  HDMI/VGA/SATA/GBE

COM Express® is a registered trademark of PICMG.

ICES 673

Main Features

- On-Board Intel® Core™ processor
- 2 channel DDR4 without ECC/SO-DIMMs 2133MHz up to 32GB
- Support three independent displays with eDP and 2 x DDI (Support HDMI/DP/DVI)
- Support eMMC 5.0 up to 16G
- 5 x PCIe x1, 4 x USB 3.0, 8 x USB 2.0, 3 x SATA 3.0 and GbE
- Support Windows 10

Product Overview

The ICES 673 is a COM Express Type 6 compact size module which features Intel® Core™ MCP processor (codename Skylake) and supports dual DDR4 SO-DIMM memory sockets with Non-ECC support, up to 32GB 2133MHz. It is integrated with Intel® integration graphics for powerful graphics processing and through interfaces like eDP and 2 x DDI. This new ICES 673 supports triple displays, on board eMMC up to 16G, and advanced I/O interfaces such as 5 x PCI Express gen. 3, 3 x SATA3.0, and 8 x USB 2.0.

Specifications

CPU Support
- Support Intel® Core™ i5-6300U processor

Main Memory
- Dual 204-pin SO-DIMM sockets supports up to 32 GB DDR4 2133 MHz SDRAM

BIOS
- AMI System BIOS
- Plug and play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Integrated Intel® Gen.8 Graphics Engine support
- Triple independent display integrated GT1/GT2/GT3 to support: eDP + 2 x DDI (Support HDMI/DP/DVI)

COM Express Connector
- AB :
  - HDA/2 x SATA 3.0/GbE/4 x PCIe x1/8 x USB 2.0/LPC bus/GPIO/ SMBus (I2C)/SPI BIOS

- CD:
  - 2 x DDI (Support HDMI/DP/DVI)
  - 4 x USB 3.0
  - 5 x PCIe x1 Gen.3

Power Requirements
- +12VDC, +5Vsb
- Support both AT and ATX power supply mode
- One 3 pins 90 degree edge-connector for DC +12V fan
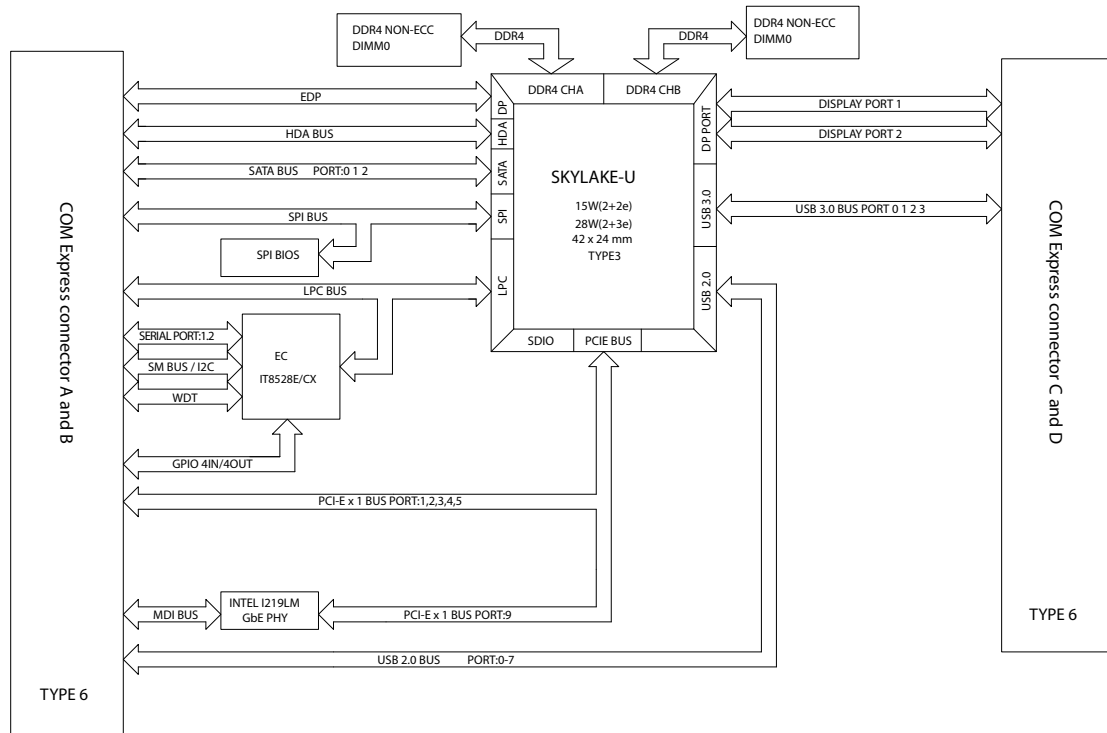
Dimensions
- 95mm (W) x 95mm (L)

Environment
- Board level operating temperatures: -10℃ to 60℃
- Storage temperatures: -20℃ to 85℃
- Relative humidity:
  - 10% to 90% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)
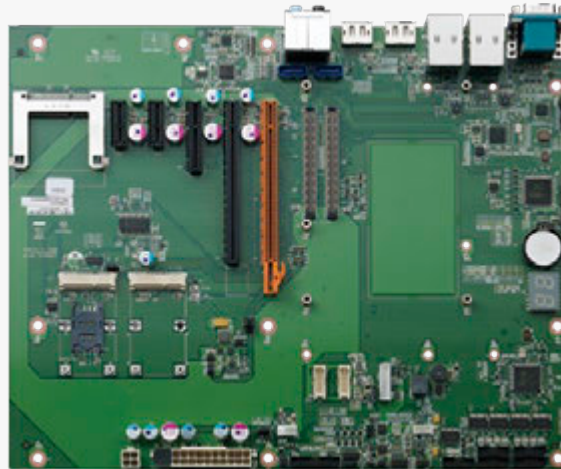
Certifications
- Meet CE/FCC Class B

Block Diagram

Ordering Information

• **ICES 673 (P/N: 10K00067300X0)**
  Intel® Core™ i5-6300U processor, type 6 COM Express compact
  module, 2 x SO-DIMMs non-ECC DDR4 (2133MHz/32GB), 5 x PCIe x1,
  3 x USB 3.0, 8 x USB 2.0, 2 x SATA 3.0, 1 x GbE, 1 x eDP, 2 x DDI (HDMI
  1.4/DisplayPort 1.2/DVI)

COM Express® is a registered trademark of PICMG.

ICEB 8060

Main Features

- COM Express COM.0, Rev 2.0 Evaluation CRB, ATX form-factor
- Support Type 6 pin-out, COMe Extended/Basic/Compact Module
- Display: 3 x DDI (2DP/HDMI), VGA & dual channels 18/24-bit LVDS
- 4 x USB3.0/2 x SATA3.0, PCIe Gen 3.0, Bootable CFAST or Mini-SATA

- PCIex16, DDI (PCIex16), PCIex4, PCIex1 and Mini-PCIe for Wi-Fi
- VGA/RS232/422/485/5COM, Dual GbE/12USB/5.1, S/PDIF

Product Overview

NEXCOM ICEB 8060 is a Carrier CRB of COM Express type 6, pin-out defined by PICMG, COM.0 Rev. 2.0 specification with ATX form-factor. NEXCOM in-house designed features with bootable CFAST/SATA or Mini-SATA/SATA via Mini-PCIe slot (half-/full-size slot) as well as advanced 2 x SATA3.0 interfaces. ICEB 8060 support added-on card slots of 1 x PCIex16 (up to PCIe Gen 3.0), 1 x DDI (SDVO/HDMI/DVI/DP by PCIex16 slot) 1 x PCIex4, 1 x PCIex1 and 1 x Mini-PCIe slots. Onboard Super I/O ITE8783 may support up to 6 x COM including COM2 defined by RS232/422/485 on edge I/O connector. Additional 2nd GbE LAN supported by Intel® 82574L and up to 4 x USB3.0 external devices interfaces, up to 2 x SATA 3.0 internal devices interfaces to support most-updated CPU technology from Intel® 3rd generation Core™ i7/i5/i3 of Ivy bridge-Mbl + ECC onto NEXCOM Computer-On-Module ICES 668 family together.

Specifications

Form factor
- ATX Carrier MB, dimension: 305mm x 244mm (12" x 9.6")
- COM Express Evaluation CRB: PICMB COM Express board-to-board interconnectors, type 6 pin-put, female, 8mm stack-up height, COM.0 Rev. 2.0
- NEXCOM Computer-On-Modules Support List:
- Basic Size (125 x 95mm) : ICES 668

Expansion
- 1 x PCIex16 slot, support PEG interfaces
- 1 x DDI (SDVO/HDMI/DP by orange color PCIex16 slot)
- 1 x PCIex4 slot, optional 4 x PCIex1 signals
- 1 x PCIex1 slot and 1 x Mini-PCIe slot for Wi-Fi with SIM tray

Graphic Interfaces
- Graphic Chip: from Type 6 pin-out, COM Express module
- CRT: support analog VGA with DB15 connector on the I/O edge
- LVDS: dual channels 18/24-bit LVDS connector (dual DF-13-20P)
- DDI (in PCIex16): optional EBK-A2HDMI riser card for HDMI or DP

Super I/O
- ITE8783

I/O Interface
- Serial COM: 6 ports
  - 1 x edge DB9 connector to support RS232/422/485 (+5/+12V by Ring)

  - 5 x internal box-header 2.0 pitch to support RS232
- USB: 12 ports 4 x USB3.0 and 8 x USB2.0 ports
  - 4 x USB3.0/4 x USB2.0 ports by stack Type A on edge
  - 3 x USB2.0 by 4-pins JST 2.0mm JST connector,
  - 1 x internal USB2.0 to Mini-PCIe slot for external wi-fi module
- SATA: 4 ports
  - 2 x SATA 3.0 ports
  - 1 x Mini-SATA by Mini-PCIe slot for half-/full size Mini-SATA/SSD
  - 1 x CFAST slot for CFAST/SATA 2.0
- PS/2: internal 2 x 4-pins header for Keyboard/Mouse
- GPIO ports: 2 x + 8 x pins GPIO signals from COMe (default 5V TTL/ option 3.3V)
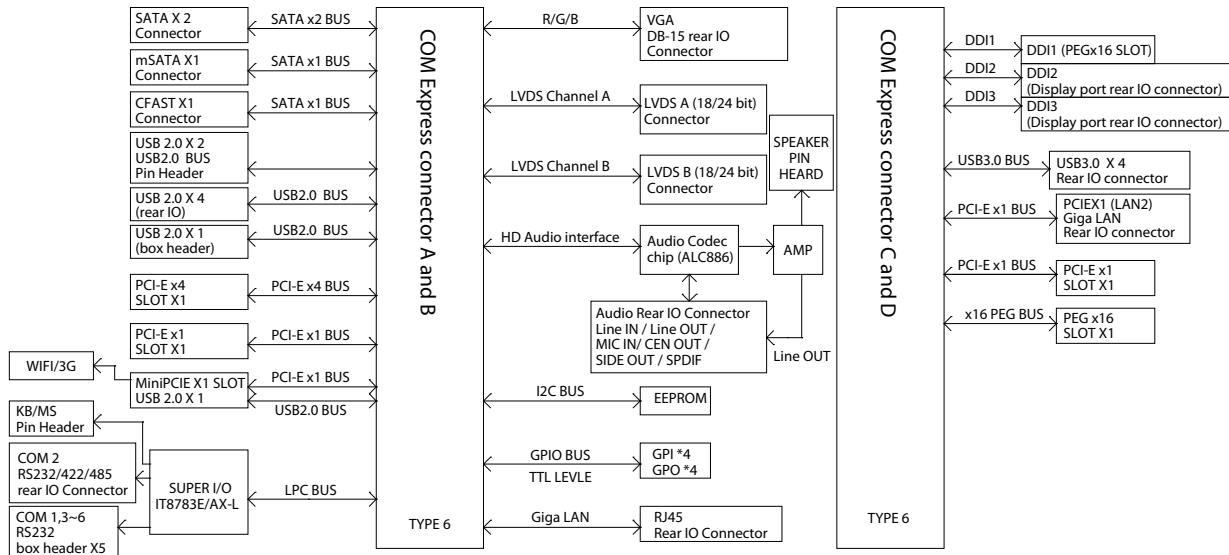
Network
- ETH0: LAN port Connected from COMe CPU module (ICES 668)
- ETH0: Support 1 x RJ45/GbE LAN port on the edge I/O
- ETH1: Support 2nd RJ45/GbE LAN port by Intel® 82574L on the edge I/O
- ETH0 and ETH1 support Boot from LAN (PXE)
- ETH0 and ETH1 support Wake-on-LAN (when +5Vsb power available)

Audio
- HD Audio AL886 with 5.1 channels
- Support external S/PDIF interface
- Support internal pin-header for L/R speaker-out 2W/ 4 Ohm
- Onboard buzzer

Block Diagram

EEPROM
- 1 x 2K EEPROM to record PCI Express Lane configuration
- ATMEL AT24C32 (or C02) and address 0 x 57 or (0 x AE)

Watchdog Timer
- Watchdog timeout can be programmable by Software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% temperature 25℃)

On-board RTC
- On-chip RTC with battery BR2032

Power Input
- Standard ATX 24 pins and AUX 4-pins with 12V

Dimensions
- ATX form factor, 305 x 244mm (Lx W, 12"x9.6")

Environment
- Operating temperatures: -20℃ to 60℃
- Storage temperature: -40℃ to 85℃
- Relative humidity: Operating 10% to 90%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **ICEB 8060 (P/N: 10KB0806000X0) RoHS Compliant**
  COM Express Type 6, COM.0 Rev. 2.0 Evaluation CRB, 3DDI/VGA/LVDS/4USB3.0/8USB2.0/6COM/2GbE/5.1 HD, SPDIF/2SATA3.0/mSATA/CFAST/PCIex16/PCIex4/PCIex1/mPCIe, ATX power input

ICEK 8060-T6

Integrated COM Express Compact or Basic Module
Bootable Mini-SATA/CFast-SSD on ICEB 8060 with
10.4" LCD and Flex-ATX 110/220V AC input

Main Features

- COM Express Type 6, COM.0, Rev2.0 Evaluation Starter Kit
- COM Express Compact or Basic Modules with passive or active fan-sink
- Bootable Mini-SATA/CFast-SSD with 10.4" LCD/18-bit LVDS Display
- PCIex16, PCIex4, 2 x PCIex1, 1 x PEG/DDI/SDVO and Mini-PCIe for Wi-Fi

- 3 x DDI/4 x USB3.0/2 x SATA3.0/6 x COM/VGA/LVDS/2 x GbE/5.1 Audio S/PDIF
- Integrated Flex-ATX PSU for AC 110/220V Input

Product Overview

NEXCOM ICEK 8060-T6 as proof-of-concept as pre-configured system of COM Express starter kit join-design-win assistance package based on COM Express type 6, pin-out defined by PICMG, COM.0 Rev. 2.0 specification. NEXCOM configure and assembly to order service with COM Express Type 6 Basic Module (125 x 95mm) like ICES 667 or ICES 668 with active heat-sink for embedded processors up to i7-3610QE or i7-3615QE (2 x 2.3GHz/6MB/max. TDP 45W) of Intel® 3rd Generation Core™ i7/i5/i3 processors to adapt wide range of Industrial and embedded applications.

ICEK 8060-T6 features bootable CFast/SSD from external access or Mini-SATA/SSD via Mini-PCIe slot (half-/full-size slot) from internal build-in onto ICEB 8060 ICEK 8060-T6 also support legacy SATA 2.0 as bootable interfaces. ICEK 8060-T6 support added-on card slots of 1 x PCIex16, 1 x PCIex4, 2 x PCIex1 and 1 x DDI (port B/SDVO/DP/HDMI) slot may adapt our add-in EBK-A2HDMI (HDMI/DP) for your evaluation of three independent displays during project development.

- Faster system Time-to-market: ICEK 8060-T6 as Type 6 starter kit as pre-configured system ready to help your system design customer to reduce total development cycle time from our proof-of-concept and design-assistance support for your target OS and applications.

- Various CPU SKUs support Intel® 3rd generation Intel® Core™ i7/i5/i3, Celeron Mobile processors supported by COM Express Type 6 Basic module (125 x 95mm) like ICES 667 or ICES 668

- Longevity for your multi-generation durable equipment: Once you pre-tested your OS and Application onto our ICEK 8060-T6 starter kit, You may easy to design your own customized I/O carrier solution board which you may adapt multiple COM Express modules for your target application.

Specifications

Form factor
- Rugged Plastic (HDPE) Suitcase dimension: 47 x 42 x 12 cm³
- Integrated ICEB 8060 Type 2, Carrier CRB for COM Express Basic Module

Display
- 10.4" AUO, G104SN03 V5

Expansion
- 1 x PCIex 16 (Gen 3.0) slot, 1 x PEG/DDI (port B for SDVO/EBKA2-HDMI)
- 1 x PCIex4 slot, 2 x PCIex1 slot and
- 1 x Mini-PCIe slot for Wi-Fi with optional SIM tray

Graphic Interfaces
- CRT: support analog VGA with DB15 connector on the I/O edge
- LVDS: dual channels 18/24-bit LVDS connector (dual DF-13-20P)

Super I/O
- iTE IT8783

I/O Interface
- Serial COM: 6 ports
  - 1 x edge DB9 connector to support RS232/422/485 (+5/+12V by Ring)
  - 5 x internal box-header 2.0 pitch to support RS232
- USB3.0/2.0: 8 ports
  - 4 x USB3.0/USB2.0 ports by stack Type A on edge
  - 3 x USB2.0 by 4pins JST 2.0mm header connector
  - 1 x internal USB2.0 to Mini-PCIe slot for external wi-fi module
- SATA 2.0: 4 ports
  - 2 x SATA 3.0/SATA 2.0 ports
  - 1 x Mini-SATA by Mini-PCIe slot for half-/full size mSATA-SSD
  - 1 x CFast slot for CFast-SSD/SATA 2.0

Block Diagram
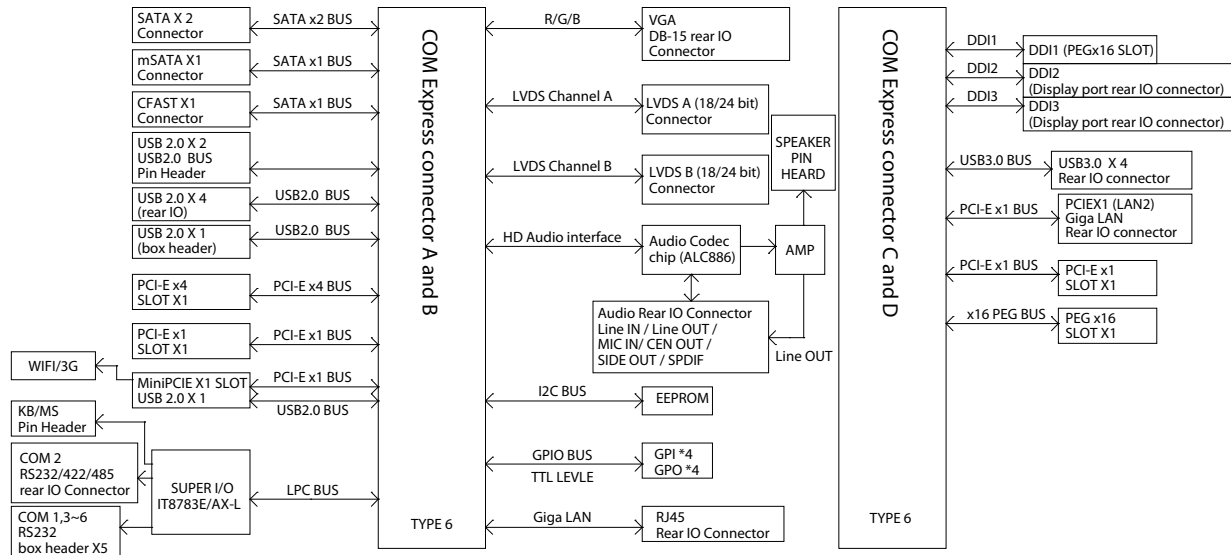
- PS/2: 2 x 4pins header for Keyboard/Mouse
- GPIO ports: 2 x + 8 x pins header GPIO from COMe
  (default 5V TTL/option 3.3V)

Network
- ETH0: LAN chip: from COMe CPU module
- ETH1: 2nd RJ45/GbE port by Intel® 82574L
- Support total 2 x RJ45/GbE ports on the edge I/O

Audio
- HD Audio AL886 with 5.1 channels
- Support external S/PDIF interface
- Support internal pin-header for L/R speaker-out 2W/ 4 Ohm

EEPROM
- 1 x 2K EEPROM to record PCI Express Lane configuration
- ATMEL AT24C32 (or C02) and address 0 x 57 or (0 x AE)

Watchdog Timer
- Watchdog timeout can be programmable by Software from 1 second
  to 255 seconds and from 1 minute to 255 minutes
  (Tolerance 15% temperature 25°C)

On-board RTC
- On-chip RTC with battery BR2032

Power Input
- Build-in AC 110/220V Input for Flex-ATX PSU in this Starter-Kit

Ordering Information

- **ICEK 8060-T6 (P/N: MISC by Project Registered)**
  COM Express Type 6 Starter Kit ready for NEXOM COM Express Type 6
  Basic modules assembly SO-DIMM system memory with passive/ active
  fan-sink onto Type 6 carrier ICEB 8060 with bootable Mini-SATA/CFast-
  SSD, pre-load Win 7 trial version OS with 10.4" LCD/LVDS display and
  build-in Flex-ATX PSU AC 110/220V Input

NEXCOM Computer-on-Modules Support List:

Models	ICES 667	ICES 668
Processors SKUs	3rd Generation Core™ i7/i5/ i3 rPGA 988	3nd. Generation Core™ i7/ i5/i3 FCBGA 1023
Chipset	QM77/HM76	QM77
Max. Memory	16GB	16GB
SO-DIMM	2	2
Memory Type	non-ECC	ECC-DDR3
Heat-spreader	Yes	Yes
Heat-Sink	Yes	Yes
Cooling Fan	Yes	Yes

EBC 354DL

Main Features

- Onboard Intel® Atom™ processor D2550 1.86GHz CPU
- Intel® NM10 Express chipset
- One 204-pin SO-DIMM socket supports up to 4 GB DDR3 800/1066 MHz SDRAM
- Display: VGA & LVDS1 (1 x DF13 20-pin 18/24-bit Single channel) & LVDS2 (2 x DF13 20-pin 24/48-bit Single channel

- 2 x Mini-PCIe
- 2 x Intel® 82574L PCI Express Gigabit Ethernet
- 2 x SATA
- 6 x USB, 4-in/4-out GPIO, Mic-in , Speak out
- Serial port: 3 x RS232, 1 x RS232/422/485 port
- Support AT/ATX mode and Single +12VDC input

Product Overview

The SBC 354DL is a 3.5" SBC embedded board with an on-board Intel® Atom™ processorD2550 1.86GHz CPU with 1MB L2 cache, which supports DDR3 800/1066 memory, along with integrated SGX545 PowerVR Core @ 400/640 MHz Enhanced Gfx & Video , support DX*10.1,OpenGL 3.0 , Full HD-Decode (MPEG2,VC1,AVC,H.264), along with integrated graphics for large display application to support Multiple Display. Intel® NM10 Express chipset provides two SATA, four serial ports, six USB2.0 ports, two Gigabit Ethernet LAN port, two Mini-PCIe interface for application. The EBC 354DL is a great solution featuring a low power consumption processor and small footprint with versatile displays and numerous I/O port support at multi-media applications.

Specifications

CPU Support
- Intel® Atom™ processor D2550 1.86GHz CPU

Main Memory
- One 204-pin SO-DIMM socket supports up to 4 GB DDR3 800/1066 MHz SDRAM

Chipset
- Intel® NM10 Express chipset

BIOS
- AMI BIOS
- Plug & Play support
- Advanced power management
- Advanced configuration & power interface
- 8M bits SPI ROM

On-board LAN
- 2 x Intel® PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LED

Display
- Intel® Atom™ processor D2550 integrated 3D graphics engine, enhances Gfx & video, support DX*10.1, OpenGL 3.0 , and Full HD decode (MPEG2,VC1,AVC,H.264), delivers sophisticated graphics for large display applications, dual independent displays support, at graphics base frequency up to 640MHz, provides a wealth of options

for high-resolution displays
- Analog VGA interface:
  1 x VGA within DSUB connector
  Resolution up to 1920 x 1200 75Hz
- LVDS-1 interface:
  Single (24bit) LVDS panel, resolution up to 1440 x 900 DF13 20-pin LVDS connector for internal connection
- CCFL interface:
  1 x CCFL for LCD Panel Backlight Inverter & PWM/Analog dimming control
- LVDS-2 interface:
  Single (24bit/48bit) LVDS panel, resolution up to 2560 x 1600 with two DF13 20-pin LVDS connector for internal connection
- CCFL interface:
  1 x CCFL for LCD Panel Backlight Inverter & PWM/Analog dimming control

Audio
- Realtek ALC886 CODEC for High Definition
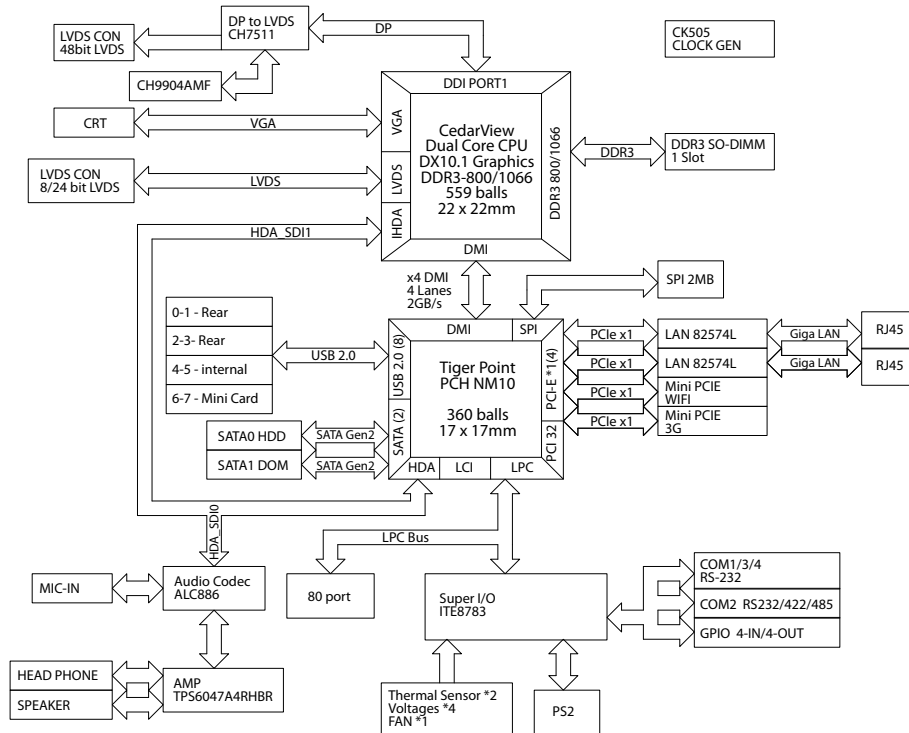- 1 x Mic-in and 1 x Line-out Pin header

Expansion
- 2 x Mini-PCIe

I/O Interface
- Serial port: 4 port
  COM1, 3, 4 support RS232 with 10-pin box header

Block Diagram

COM2 support RS232/422/485 with 10-pin box header

- USB2.0: 6 ports
  4 ports edge connector
  2 ports by 2.0mm JST connector
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL Level (0/5 V)
- On-board power LED and HDD active LED pin header
- 1 x 3-pin fan connector (for CPU)
- 1 x keyboard/mouse pin header
- On-board buzzer/SMBus2.0/reset SW/o n & off switch button

Edge I/O Interface
- 1 x VGA D-SUB connector
- 2 x dual stack USB connector
  2 x RJ45 with LED connector

Watchdog Timer
- Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)

Storage
- 2 x SATA port

System Monitor
- Monitoring of 4 voltages and 2 temperatures
- 4 voltage (Vcore, +12V , +3.3V , 5V)
- 2 temperatures (CPU, system)
- 1 fan speed detection

On-board RTC
- On-chip RTC with battery backup
- 1 x external Li-Ion battery

Power Input
- Support AT and ATX mode

Power Requirements
- Power requirement: +12V DC Input
- One 4-pin power connector

Dimensions
- 3.5" SBC form factor/146mm (L) x 105mm (W) (5.7"x 4.1")

Environment
- Operating temperature: -15°C to 60°C
- Storage temperature: -20°C to 85°C
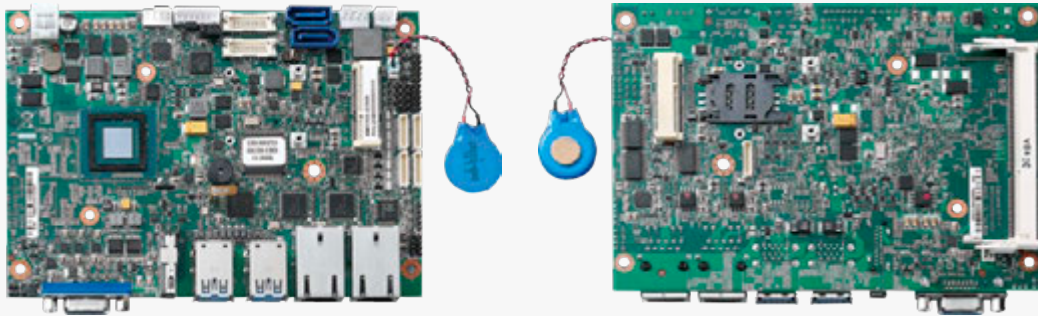- Relative humidity: operating 10% to 90%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **EBC 354DL (P/N: 10E00035402X0) RoHS Compliant**
  Low power Embedded Board with Intel® Atom™ D2550 processor and based on Intel® integrated graphics engine w/ VGA/24bit LVDS1/48bit LVDS2/6 x USB2.0/4 x COMs/2 x Mini-PCIe/2 x Gigabit LAN/2 x SATA

EBC 355

Main Features

- On-board Intel® Atom™ Processor E3800 Product Family
- One 204-pin SO-DIMM socket supports up to 8 GB DDR3L 1066/1333 MHz SDRAM
- Display: HDMI/VGA/1 x LVDS (2 x DF13 20-pin 24/48-bit Single channel)
- 2 x Mini-PCIe

- 2 x Intel® i210 PCI Express Gigabit Ethernet
- 2 x SATA2.0
- 4 x USB3.0, 4-in/4-out GPIO, Mic-in , Speak out
- Serial port: 3 x RS232, 1 x RS232/422/485 port
- Support AT/ATX mode and single +12VDC input

Product Overview

EBC 355 is a 3.5" SBC embedded board with an on-board Intel® Atom™ processor E3800 product family (formerly codenamed "Bay Trail-I") with 1MB L2 cache, which supports DDR3L 1066/1333 memory, along with integrated Intel® Gen. 7 Graphics Engine Enhanced Gfx & Video, support DX 11*, OGL3.2, Full HD decode (MPEG2, VC1, AVC, H.264), along with integrated graphics for large display applications to support multiple displays. Intel® Atom™ processor E3800 product family provides two SATA, four serial ports, four USB3.0 ports, two Gigabit Ethernet LAN port, and two Mini-PCIe interfaces for application. Able to support matrix-displays with rich I/O, the EBC 355 is a great solution featuring a low power consumption and small footprint for multimedia applications.

Specifications

CPU Support
- Support Intel® Atom™ processor E3800 product family

Main Memory
- Single 204-pin SO-DIMM socket supports up to 8 GB DDR3L 1066/1333 MHz SDRAM

Platform Control Hub
- Atom™ processor E3800 product family (formerly codenamed "Bay Trail-I")

BIOS
- AMI System BIOS
- Plug and play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Integrated Intel® Gen.7 Graphics Engine
- Supports VGA and HDMI interface
- Analog VGA interface: 1 xDB-15 connector, resolution up to 1920 x 1200 @75Hz
- HDMI interface: 1 x HDMI connector, resolution up to 1920 x 1200
- LVDS interface: 1 x dual (24/48-bit) LVDS panel, resolution up to 1920 x 1200 DF13 20-pin LVDS connector for internal connection

Audio
- Realtek ALC886 CODEC for High Definition:

- 1 x 4 2.0 pitch pin-header for Mic-in
- 1 x 4 2.0 pitch pin-header for Line-out
- 1 x 5 2.0 pitch pin-header for speaker out

On-board LAN
- 2 x Intel® i210 Gigabit Ethernet
- Support PXE boot from LAN, wake on LAN function
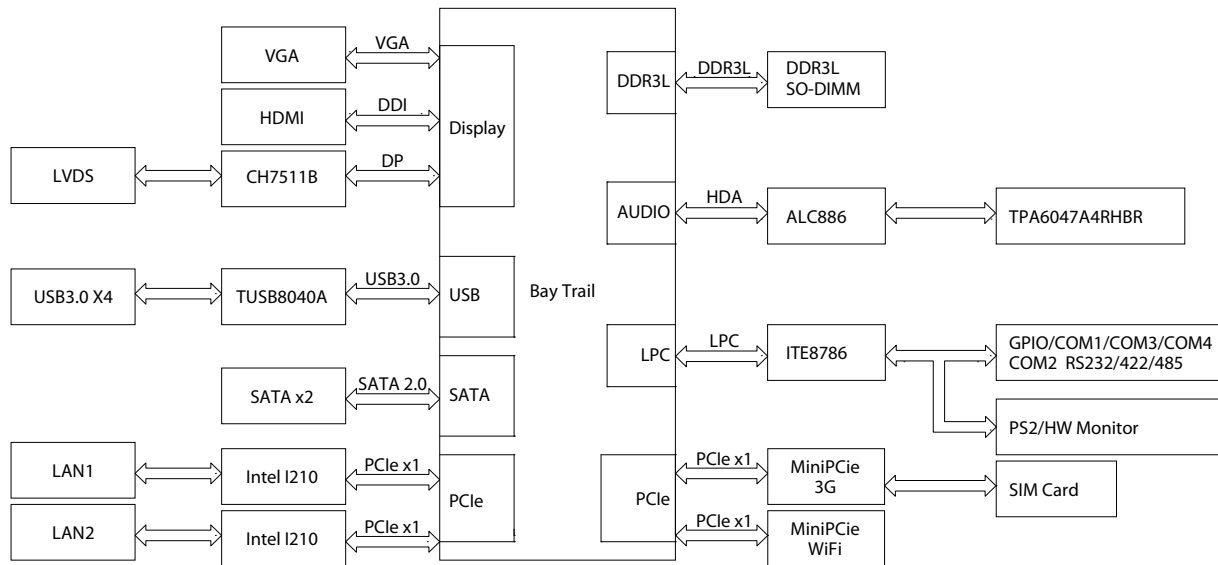
Expansion
- 2 x Mini-PCIe

I/O Interface
- Serial port: 4 ports
  COM1, 3, 4 support RS232 with 10-pin box header
  COM2 support RS232/422/485 with 10-pin box header
- USB3.0: 4 ports
  4 x ports edge connector
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL level (0/5V)
- On-board power LED and HDD active LED pin header
- 1 x 4-pin fan connector (for CPU)
- 1 x keyboard/mouse pin header
- Onboard buzzer/SMBus2.0/reset SW/o n & off switch button

Edge I/O Interface
- 1 x VGA connector
- 1 x HDMI connector
- 2 x dual stack USB3.0 connector

NEXCOM

Block Diagram

- 2 x RJ45 with LED connector

Watchdog Timer
- Watchdog time-out can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)

Storage
- 2 x SATA2.0 ports

System Monitor
- Monitoring of 4 voltages and 2 temperatures
- 4 voltage (Vcore, +12V, +3.3V, 5V)
- 2 temperatures (CPU, system)
- 1 fan speed detection

On-board RTC
- On-chip RTC with battery backup
- 1 x external Li-ion battery

Power Requirements
- Power requirement: +12V DC Input
- One 4-pin power connector

Dimensions
- 146mm (L) x 102mm (W) 5.7" x 4.0"

Environment
- Board Level Operating temperatures: -20°C to 60°C
- Storage temperatures: -25°C to 85°C
- Relative humidity:
  10% to 90% (operating, non-condensing)
  5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **EBC 355-E3826 (P/N: 10E00035500X0) RoHS Compliant**
  Low power embedded board with Intel® Atom™ processor E3826 and based on Intel® integrated graphics engine w/ HDMI/24/48bit LVDS/4 x USB3.0/4 x COMs/2 x Mini-PCIe/2 x Gigabit LAN/2 x SATA

- **EBC 355-E3845 (P/N: 10E00035502X0) RoHS Compliant**
  Low power embedded board with Intel® Atom™ processor E3845 and based on Intel® integrated graphics engine w/ HDMI/24/48bit LVDS/4 x USB3.0/4 x COMs/2 x Mini-PCIe/2 x Gigabit LAN/2 x SATA

- **EBC 355 Cable Kit (P/N: 10E00035501X0)**
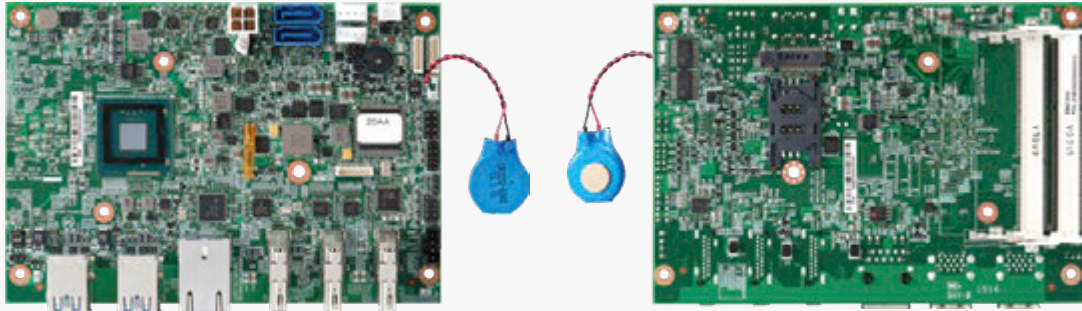
EBC 356

3.5" SBC with 4 core/2 core Intel® Pentium®/Celeron® Processors N3000 SoC

Support DDR3L/M.2 module/4 x USB 3.0/2 x SATA 3.0/3 x HDMI interfaces

Main Features

- On-board Intel® Pentium®/Celeron® Processors N3000 product family (codename Braswell)
- Supports dual channel DDR3L 1600MHz, 2 x SO-DIMM, up to 8GB system memory
- 3 x HDMI connector, 2 of 3 HDMI resolution support 4K/2K
- 2 x SATA 3.0/ 4 x USB 3.0/M.2 module/ 4-in & 4-out GPIO, Mic-in , Speak out
- Support AT/ATX mode and single +12VDC input

Product Overview

EBC 356 is a 3.5" SBC embedded board equipped with Intel® Pentium®/Celeron® Processors N3000 product family to provide a high performance with lower power consumption structure for any application, which supports DDR3L 1600 memory, along with integrated Intel® Gen. 8 Graphics Engine enhanced Gfx & video, and support DX 11*. EBC 356 also provides two SATA 3.0, four USB 3.0 ports, one M.2 interfaces, and supports triple HDMI outputs.

Specifications

CPU Support
- Support Intel® Pentium®/Celeron® Processors N3000 product family

Main Memory
- Dual 204-pin SO-DIMM socket supports up to 8 GB DDR3L 1600 MHz SDRAM

BIOS
- AMI System BIOS
- Plug and play support
- Advanced power management and advanced configuration & power interface support

Display
- Integrated Intel® Gen. 8 Graphics Engine
- Supports HDMI interface
- 3 x HDMI connector
- 2 of 3 HDMI resolutions support 4K/2K, (3840x2160 @ 30Hz, 2560 x 1600 @ 60Hz)
- 1 support 2K (2560x1440 @ 60Hz)

Audio
- Realtek ALC886 CODEC for high definition:
- 1 x 4 pin pin-header for mic -in
- 1x 4 pin-header for line out
- 1x 5 pin header for speak out

On-board LAN
- 1 x Intel® i210 Gigabit Ethernet
- Support PXE boot from LAN, wake on LAN function

Expansion
- 1 x M.2 slot, for an optional 3G/4G or M.2 SSD module

I/O Interface
- Series port: 2 ports
- COM1/2: RS232 1 x10 pin JST connector
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL level (0/5V)
- One 4-pin FAN connector
- One 3 pin header for AT/ATX mode
- One 6 pin header for PS2 keyboard & mouse
- One 4 pin header for power/storage LED
- Onboard buzzer/SMBus2.0/reset SW/on & off switch button

Edge I/O Interface
- 3 x HDMI connector
- 2 x dual stack USB3.0 connector
- 1 x RJ45 with LED connector

Watchdog Timer
- Watchdog time-out can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
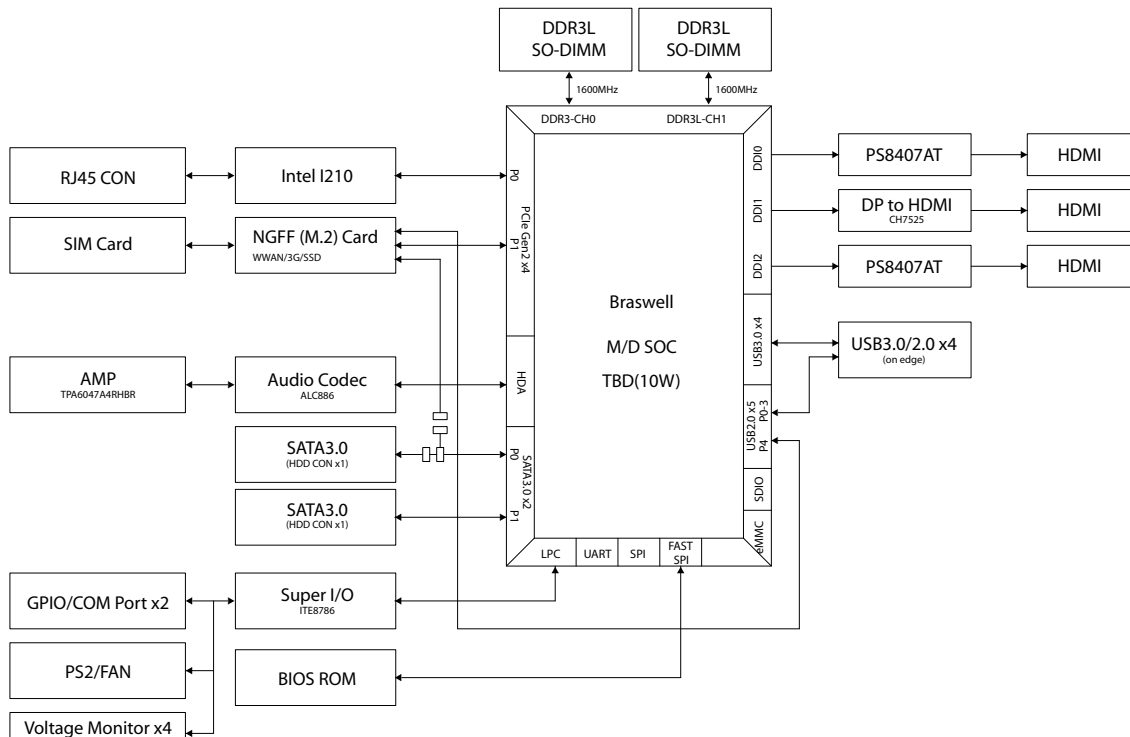
Storage
- 2 x SATA 3.0 ports

System Monitor
- Monitoring of 4 voltages and 2 temperatures
- 4 voltage (Vcore, +12V, +3.3V, 5V)
- 2 temperatures (CPU, system)

NEXCOM

Block Diagram

- 1 fan speed detection

On-board RTC
- On-chip RTC with battery backup
- 1 x external Li-ion battery

Power Requirements
- Power requirement: +12V DC Input
- One 4-pin power connector

Dimensions
- 146mm (L) x 102mm (W) 5.7" x 4.0"

Environment
- Board Level Operating temperatures: -20°C to 60°C
- Storage temperatures: -25°C to 85°C
- Relative humidity:
  - 10% to 90% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **EBC 356 (P/N: 10E00035600X0) RoHS Compliant (N3150)**
  Low power embedded board with 4 core Intel® Pentium®/Celeron® Processors N3000 product family SoC, support 2 x DDR3L/M.2 module/4 x USB 3.0/2 x SATA 2.0/GbE, HDMI interfaces

- **EBC 356-N3050 (P/N: TBD) RoHS Compliant**
  Low power embedded board with 2 core Intel® Pentium®/Celeron® Processors N3000 product family SoC, support 2 x DDR3L /M.2 module/4 x USB 3.0/2 x SATA 2.0/GbE, HDMI interfaces

NEX 609

Main Features

- 3nd generation Intel® Core™ processor family
- Intel® HM76 chipset (QM77 option)
- Two 204-pin SO-DIMM socket supports up to 16GB DDR3 1333/1600 MHz SDRAM
- Display: DVI-I/HDMI/Dual 48bit LVDS (Option LVDS2)
- 1 x Mini-PCIe support mSATA or 3G/SIM, and optionl TPM

- 4 x SATA with RAID 0,1,5,10
- 2 x Intel® Gbe Ethernet
- 10 x USB, 4-in/4-out GPIO, Mic-in, Line-out
- Serial port: 5 x RS232, 1 x RS232/422/485 port
- Support AT/ATX mode and Dual +12VDC/+24VDC input
- 1 x PCIex16 slot 2 x PCIex1 on edge golden finger

Product Overview

The NEX 609 is a Mini-iTX board with 3nd generation Intel® Core™ processor family, which supports DDR3 1333/1600 memory, along with Integrated graphics controller, Intel® HD Graphics 4000, along with integrated graphics for large display application to support Multiple Display. Intel® HM76/QM77 chipset provides Four SATA, Six serial ports, Ten USB2.0 ports, two Gigabit Ethernet LAN port,One PCIex16 slot, One Mini-PCIe with 3G/Wi-Fi/MSATA interface, dual 12V/24V input for Kiosk/digital signage/gamming/applications.

Specifications

CPU Support
- 3rd generation Intel® Core™ processor

Main Memory
- Two 204- pin SO- DIMM socket supports up to 16 GB DDR3 1333/1600MHz SDRAM

Chipset
- Intel® HM76/QM77 chipset (option)

BIOS
- AMI BIOS
- Plug and play support
- Advanced Power Management
- Advanced Configuration & Power Interface

On-board LAN
- 2 x Intel® PCI Express Gigabit Ethernet
- Support Boot From LAN (PXE)
- 2 x RJ45 with LED

Display
- 3rd generation Intel® Core™ processor integrated Intel® HD Graphics 4000 engine, Intel® HD Graphics integrates high-performance graphics and media processing right on the processor ,delivers sophisticated graphics for large display application, three independent display support.
- DVI-I interface: Analog VGA support
- HDMI interface:

- Resolution:
  Up to 2560 x 1600 @60Hz for 1st display port
  Up to 1920 x 1600 @60Hz for 2st display port
  Up to 1920 x 1200 @60Hz for 3st display port
- LVDS1 interface:
  48bit LVDS interface, 2 x DF13 20-pin LVDS connector for internal connection.
  LVDS2 interface (option, Through SDVO w/ CH7308).
  48bit LVDS interface, 2 x DF13 20-pin LVDS connector for internal connection.
- CCFL interface:
  2 x CCFL for LCD Panel Backlight Inverter with Analog & PWM dimming control.
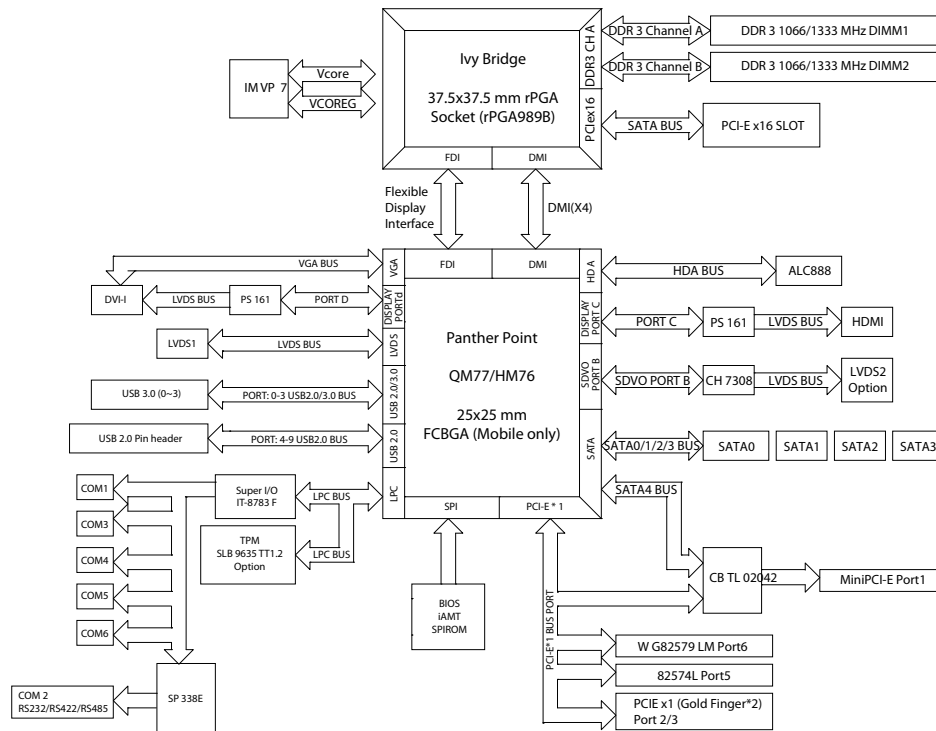- Analog VGA interface: 1 x DB15 VGA port, support up to 2048 x 1563 @ 60Hz

Audio
- Realtek ALC886 CODEC for High Definition
  1 x Phone Jack for Mic-in
  1 x Phone Jack for Line-out
  1 x phone jack for Line-in
  1 x 5 pin 2.0 pitch pin header for speak-out

Expansion
- 1 x Mini-PCIe
- 1 x PCIex16
- 2 x PCIex1 golden finger

Block Diagram

I/O Interface
- Serial port: 6 port
  COM1,6: RS232 DB-9 male connector on edge I/O
  COM2: RS232/422/485 DB-9 male connector on edge I/O
  COM3,4,5: RS232 1 x 6 2.0mm JST connector
- USB2.0/3.0: 10 ports
  USB3.0 x4 ports edge connector
  USB2.0 x6 ports by 2.0mm pin connector
- 8 GPIO lines via header (GPI 0 ~ 3 and GPO0 ~ 3) TTL Level (0/5 V)
- Onboard Power LED and HDD Active LED Pin Header
- 1 x 4-pin fan connector (for CPU)
- 1 x 3-pin fan connector (for System)
- 1 x Keyboard/Mouse pin header
- On board Buzzer/SMBus2.0/Reset SW/o n &Off switch button

Edge I/O Interface
- 1 x dual stack DB9 male + DB9 male for COM1 & COM2
- 1 x HDMI
- 1 x DVI-I + DB9 male FOR COM6
- 2 x RJ45 + dual stack USB
- 1 x Line-out/Mic-in/Line-in

Watchdog Timer
- Watchdog timeout can be programmable by Software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

Storage
- 4 x SATA port with RAID 0,1,5,10 function. (option)

System Monitor
- Monitoring of 4 voltages and 2 temperatures and 2 Fans speed detection
- 4 Voltage (Vcore, +12V, +3.3V, 5V)
- 2 Temperatures (CPU, System)
- 2 Fan Speed detection

On-board RTC
- On-chip RTC with battery backup

- 1 x External Li-Ion battery

Power Input
- Support AT and ATX mode

Power Requirements
- Power requirement: Dual +12V & 24V DC Input
- One 4-pin power connector

Dimensions
- Mini-ITX M/B form factor
- 170mm (L) x 170mm(W)

Environment
- Operating temperatures: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: Operating 10% to 90%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NEX 609 (P/N: 10G00060900X0) RoHS Compliant**
  Mini ITX, Intel® 3rd generation Intel® Core™ processor family with DVI-I/HDMI/Two 48-bit LVDS interface/2 x Gigabit LAN/10 x USB/ 6 x COMs/TPM (option)/MSATA/Dual 12 & 24 Power input)

- **CPU Cooler For NEX 609 (P/N: 5050300544X00)**
  Optional CPU cooler for NEX 609 rPGA 988 socket

NEX 611

Main Features

- AMD Embedded G-Series APU T48E/A50M Express Chipset
- Single channel 2 x DDR3/SO-DIMMs 1066/1333MHz up to 8GB
- Support HDMI/LVDS (shared 2nd. HDMI/VGA dual displays

- 2 x Intel® GbE, 4 x SATA3.0, 14 x USB2.0, 6 x COM, 8 x GPIO
- 1 x PCIex4, 1 x mPCIe, 1 x mSATA
- Support AT/ATX mode by ATX Power Input

Product Overview

NEX 611 is an industrial motherboard with Mini-ITX form factor, which onboard AMD G-series T48E onboard A50M chipset. NEX 611 support single channel 2 x DDR3/SO-DIMMs 1333/1066MHz memory up to 32GB system memory. The embedded A50M support dual displays by legacy VGA and 2 x HDMI with max resolution 1920 x 1200. The A50M chipset manages up to 4 x SATA 3.0 with software RAID 0/1/5/10 supported and performs up to 14 x USB2.0) ports. NEX 611 support PCIex4 amd mPCIe, dual Intel® GbE ports and up to 6 x Series ports incl. 2 x RS-232/422/485 pre-selected in BIOS setting. NEX 611 could be integrated into 1U/2U/4U rack mounted chassis or Desktop Tower as completed system solution for widely industrial applications in the new era of digital infrastructure with NEXCOM.

Specifications

CPU Support
- Onboard AMD G-Series T48E : 2 x1.4GHz/512MB/max. TDP 18W/ AMD RadeonTM HD6310, 520Mhz/Fansink

Main Memory
- 2 x 204-pin single channel DDR3/SO-DIMM 1066/1333Mhz up to 32GB system memory

Chipset
- AMD® A50M Chipset

BIOS
- AMI BIOS UEFI
- Plug and play support

On-board LAN
- 2 x Realtek RTL8111E PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LED

Display
- T48E: AMD RadeonTM HD 6310
- 2 x HDMI
- 1 x VGA

Expansion
- 1 x PCIex4
- 1 x mPCIe

Edge I/O Interfaces
- 1 x Combo for PS2 KB/MS with dual stack USB2.0
- 2 x stack DB9 for COM1 & COM2
- 2 x HDMI
- 1 x VGA
- 2 x RJ45 with dual stack USB2.0
- Line-In/Line-out/MIC phone jack

I/O Interface
- USB2.0: 14 ports (6 x USB2.0 on edge I/O, 6 x internal box-header, 1 x vertical Type A, 1 x for mPCIe)
- Serial: 6 ports (default 2 x RS-232 pre-selected RS422/485 in BIOS, 4 x RS-232 by internal pins-header)
- SATA 3.0 HDD: 4 ports, port 0, 1, 2, 3, and 1 x SATA Power by 1 x 4Pins
- Support Software RAID 0/1/5/10 and Intel® Matrix Storage
- GPIO: Supports 4 x GPI and 4 x GPO with TTL level (5V or 12V by Jumper)

Edge I/O Interface
- On- board buzzer x 1
- 9 x pins system header for Power LED/Power On/Reset/HDD LED
- 1 x 4-pin fan connector (for CPU); 1 x 3-pin fan connectors (for CPU or System)
- On-chip RTC with battery/CR2032 backup holder onbo

Block Diagram
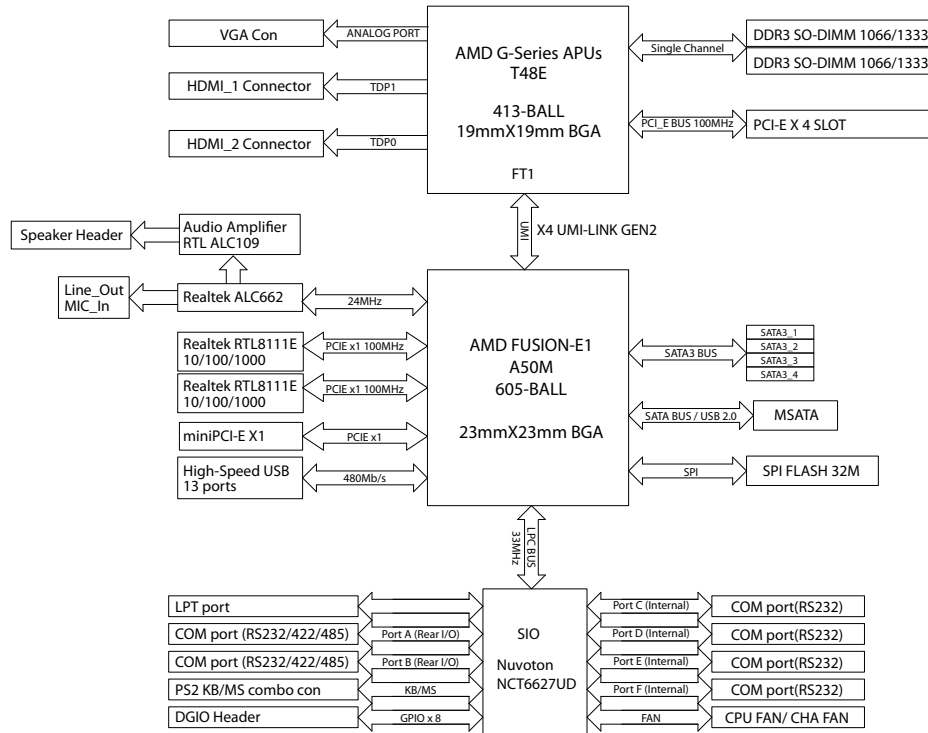
System Monitor

* 4 Voltages (+3.3V, +5V, +12V, Vcore)
* 2 Temperatures (For CPU and System)
* 3 FAN speed monitors (1 for CPU and 2 for Chassis Fan/System)

Power Input

* Support AT/ATX mode
* ATX 4-pin connector for +12V

Dimensions

* Mini-ITX
* Dimension: Lx W, 170mm x 170mm; 6.7"x 6.7" inches

Environment

* Board level operating temperatures: 0°C to 60°C
* Storage temperature: -20°C to 85°C
* Relative humidity: 10% to 90%, (Non-condensing)

Certifications

* Meet CE
* Meet FCC

Ordering Information

* **NEX 611-20PBK (P/N : 10G00061101X0)**
  Bulk-Packed 20 x pcs Mini-ITX, AMD onboard T48E/A50M, 2DDR3/SO-DIMM, 2HDMI/VGA PCIex4/mPCIe, 4SATA3.0, 14USB2.0, 2Gbe, 6COM, mSATA, 4pin ATX Power Input

NEX 613

Mini-ITX, Socket LGA1150 4th Generation Intel® Core™ i7/i5/i3 with Q87,2 x DDR3 SO-DIMM,
VGA/HDMI/LVDS, PCIex16/mPCIe,2 x GbE/4 x SATA3.0/12 x USB/6 x COM/mSATA

Main Features

- 4th Generation Intel® Core™ processor family
- Intel® Q87 chipset
- 2 x204-pin SO-DIMM support DDR3 1333/1600Mhz up to 16GB system memory
- Support VGA/HDMI/LVDS three displays

- 2 x Intel® GbE, 4 x SATA3.0, 1 x mSATA, 12 x USB3.0/2.0, 6 x COM, 8 x GPIO
- 1 x PCIex16 (Gen. 3.0), 1 x mPCIe
- Support AT/ATX mode by ATX Power Input

Product Overview

NEX 613 is a Mini-ITX form factor with 4th generation Intel® Core™ processor family, which support DDR3 1600/1333MHz memory, along with integrated graphics controller, Intel® HD Graphic 4600, along with integrated graphics for large display application to support three display output simultaneously.

Intel® Q87 chipset provides 4 x SATA 3.0, 1 x mSATA(share with mPCIe), 12 x USB (4 x USB3.0/8 x USB2.0) ports, 6 x COM, 2 x GbE. 1 x PCIex16 (Gen. 3.0) and 1 x mPCIe. NEX 613 could be integrated into 1U/2U/4U rack mounted chassis or Desktop Towers as completed system solution for widely industrial applications in the new era of digital infrastructure with NEXCOM.

Specifications

CPU Support
- Socket LGA1150, 4th generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors

Main Memory
- 2 x 204-pin SO-DIMM support DDR3 1333/1600Mhz up to 16GB system memory

Chipset
- Intel® Q87 Platform Controller Hub

BIOS
- AMI BIOS UEFI
- Plug and play support

On-board LAN
- 1 x Intel® I217LM PHY for AMT 9.0
- 1 x Intel® I210 PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LEDs

Display
- 4th generation Intel® Core™ socket LGA1150 processors Integrated HD 4600 graphics engine
- 1 x HDMI
- 1 x VGA
- 1 x LVDS : dual (24-bit) LVDS panel, resolution up to 1920 x 1200 by 40-pin connector

Expansion
- 1 x PCIex16 (Gen. 3.0)
- 1 x mPCIe

I/O Interface
- Serial port : 6 ports
  COM1/2/3 : RS232/422/485 with DB9 male connector on edge I/O
  COM4/5/6 : RS232 2 x 5/2.54mm box header
- USB2.0/3.0 : 12 ports
  4 x USB3.0 ports by edge connectors
  8 x USB2.0 ports by 2 x 5-pin header pitch 2.54mm
- GPIO : Support 4 x GPI and 4 x GPO with TTL level (0/5V)
- Onboard Power LED and HDD Active LED Pin Header
- 1 x 4-pin fan connector (for CPU)
- 1 x 4-pin fan connector (for System)
- 1 x 18-pin header for TPM
- 1 x Keyboard/Mouse pin header
- Onboard Buzzer/SMBus2.0/reset SW/o n &Off switch button
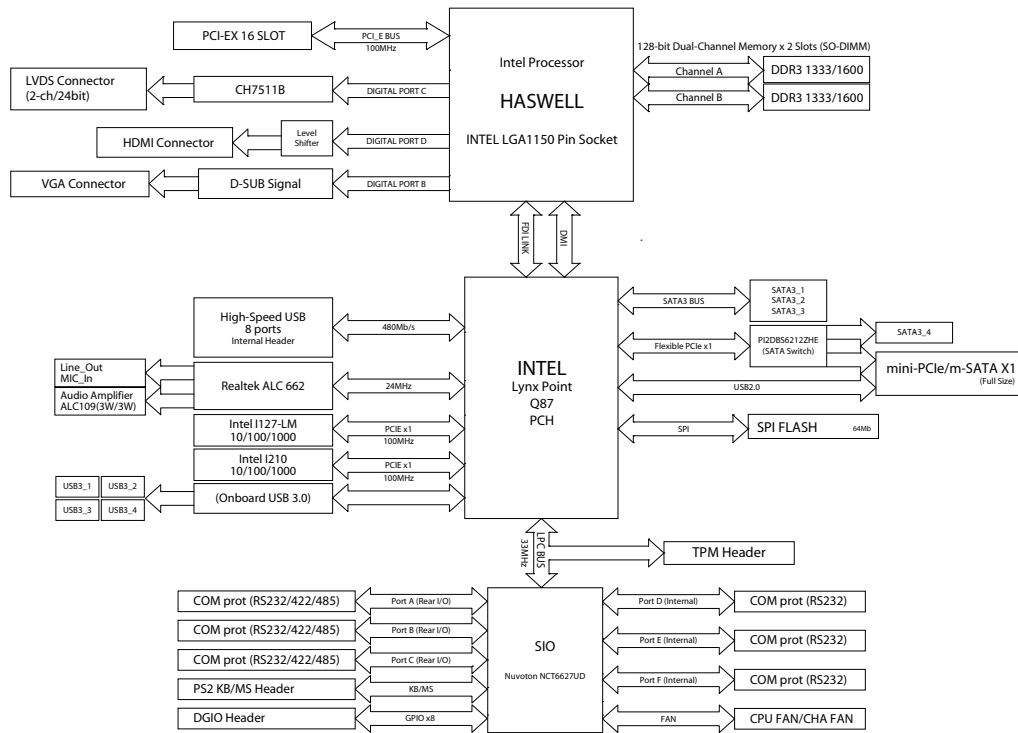
Edge I/O Interfaces
- 1 x VGA + HDMI
- 2 x stack DB9 connector for COM1 & COM2
- 1 x DB9 male connector for COM3 + DVI-I connector
- 2 x RJ45 with dual stack USB3.0 (blue)
- Line-out/Mic-in phone jack

Watchdog Timer
- Watchdog timeout can be programmable by Software from 1 second

NEXCOM

Block Diagram

to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

Storage
- 4 x SATA3.0 ports with RAID 0,1,5,10 function

System Monitor
- Monitoring of 4 voltages and 2 temperatures and 2 fan speed detection
- 4 voltages (Vcore, +12V, +3.3V, 5V)
- 2 temperatures (CPU, System)
- 2 fan speed detection

On-board RTC
- On-chip RTC with battery backup
- 1 x External Li-Ion battery

Power Input
- Support AT and ATX mode

Power Requirements
- Power requirement: ATX Input, jumper AT/ATX (default) mode
- Onboard 2 x 12-pins standard ATX version 2.0 power connector

Dimensions
- Mini-ITX M/B form factor
- 170mm (L) x 170mm (W)

Environment
- Operating temperatures: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: operating 10% to 90%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NEX 613-20PBK (P/N: 10G00061300X0)**
  Bulk-Packed 20 x pcs Mini-ITX, LGA1150 of 4th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors, Q87 with 2 x DDR3/SO-DIMM ,HDMI/VGA/LVDS, PCIex16/mPCIe, 4 x SATA3.0, 4 x USB3.0/8 x USB2.0, 2 x GbE, 7 x COM, mSATA, and ATX Power Input

NEX 617
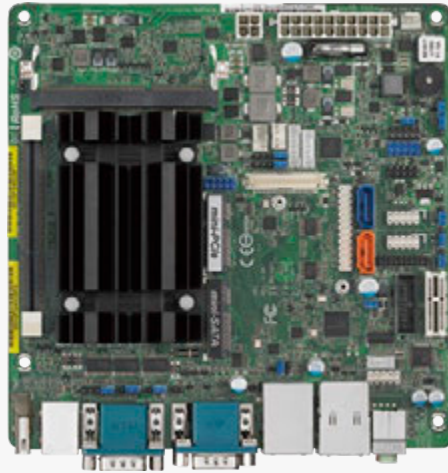
Main Features

- Intel® Celeron Processor J1900
- Integrated Intel® Gen7 Intel® Graphics DX 11*, OGL3.2
- Supports Dual Channel DDR3 1333MHz, 2 x SO-DIMM, up to 8GB system memory

- 3 x COM (RS-232/422/485), 2 x COM (RS-232); 1 x HDMI, 1 x D-Sub, 1 x Dual Channel 24-bit LVDS; 4 x USB 3.0, 6 x USB 2.0, 2 x SATA2; Gigabit LAN : 2 x Realtek Lan
- 9~19 V DC-in or ATX Power Support

Product Overview

NEX 617 is the NEXCOM most advanced flagship Mini-ITX form factor powered by onboard Baytrial family Intel® J1900 Celeron® 4-core processor that integrates with 24/48-bit LVDS & upto 8GB DDR3/L memory & Rich I/Os.

NEX 617 represents a powerful model for intensive multi-media & high computing base application which can be embedded into fan-less or 1U/2U rack mounted chassis as customized system–ready PBOX solution. The wide range 9~19 V DC-in or ATX power makes the power input selection be more flexible.

Specifications

Form Factor
- Dimensions: Mini-ITX (6.7-in x 6.7-in)

Processor System
- CPU: Intel® Celeron® Processor J1900
- Core Number: 4
- Max Speed: (By CPU)
- L3 Cache: 2MB
- Chipset: N/A
- BIOS: UEFI

Expansion Slot
- PCI: 0
- Mini-PCIe: 1 (Full Size)
- mSATA: 1
- PCIe: 1
- CFast Card Socket: 0

Memory
- Technology: Dual Channel DDR3 1333 MHz SDRAM
- Max.: 8GB
- Socket: 2 x SO-DIMM

Graphics
- Controller: Intel® Gen7 Intel® Graphics DX 11*, OGL3.2
- VRAM: Shared Memory
- VGA: Supports max. resolution 1920x1200
- LVDS: Dual Channel 24-bit, max resolution 1920x1200@60Hz

- HDMI: Supports HDMI 1.3a, max resolution 1920x1200
- DVI: No
- DisplayPort: No
- MultiDisplay: Yes (Dual Display)

Ethernet
- Ethernet: 10/100/1000 Mbps
- Controller: GbE LAN: 2 x Realtek RTL8111G-CG
- Connector: 2 x RJ-45

SATA
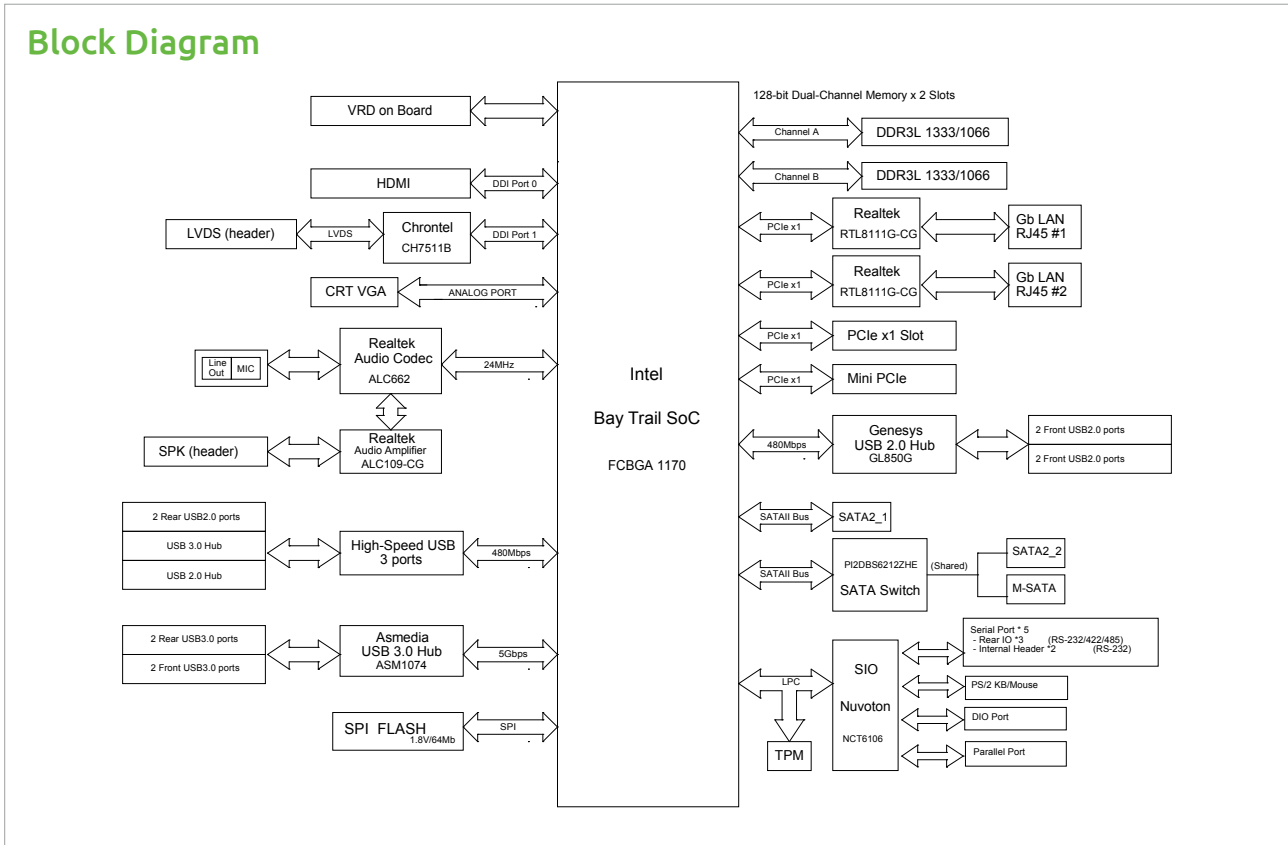- Max. Data Transfer Rate: SATA2 (3.0 Gb/s)

Rear I/O
- VGA: 1
- DVI: 0
- HDMI: 1
- DisplayPort: 0
- Ethernet: 2
- USB: 4 (2 x USB 3.0, 2 x USB 2.0)
- Audio: 2 (Mic-in, Line-out)
- Serial: 3 (RS-232/422/485)
- eSATA: 0
- PS2: 2 (1 x keyboard, 1 x mouse)

Internal Connector
- USB: 6 (2 x USB 3.0, 4 x USB 2.0)
- LVDS / inverter: 1/1
- VGA: 1 (shared with rear I/O VGA COM)

Block Diagram

VRD on Board

HDMI — DDI Port 0

LVDS (header) — LVDS — Chrontel CH7511B — DDI Port 1

CRT VGA — ANALOG PORT

Realtek Audio Codec ALC662 — Line Out | MIC — 24MHz

Realtek Audio Amplifier ALC109-CG — SPK (header)

2 Rear USB2.0 ports / USB 3.0 Hub / USB 2.0 Hub — High-Speed USB 3 ports — 480Mbps

2 Rear USB3.0 ports / 2 Front USB3.0 ports — Asmedia USB 3.0 Hub ASM1074 — 5Gbps

SPI FLASH 1.8V/64Mb — SPI

Intel Bay Trail SoC FCBGA 1170

128-bit Dual-Channel Memory x 2 Slots

Channel A — DDR3L 1333/1066

Channel B — DDR3L 1333/1066

PCIe x1 — Realtek RTL8111G-CG — Gb LAN RJ45 #1

PCIe x1 — Realtek RTL8111G-CG — Gb LAN RJ45 #2

PCIe x1 — PCIe x1 Slot

PCIe x1 — Mini PCIe

480Mbps — Genesys USB 2.0 Hub GL850G — 2 Front USB2.0 ports / 2 Front USB2.0 ports

SATAII Bus — SATA2_1

SATAII Bus — PI2DBS6212ZHE SATA Switch — (Shared) — SATA2_2 / M-SATA

Serial Port * 5
- Rear IO *3   (RS-232/422/485)
- Internal Header *2   (RS-232)

LPC — SIO Nuvoton NCT6106 — PS/2 KB/Mouse / DIO Port / Parallel Port

TPM

- Serial: 2 (RS-232)
- SATA: 2 x SATA2 (3.0Gb/s)
- mPCIe: 1
- Parallel: 1
- mSATA: 1 (shared)
- IrDA: 0
- GPIO 8-bit: 4 x GPI + 4 x GPO
- SATA PWR Output Con: 1
- Speaker Header: 1

Watchdog Timer
- Output: From Super I/O to drag RESETCON#
- Interval: 256 segments, 0,1,2…255sec/min

Power Requirements
- Input PWR: 9-19V DC-In (4-pin ATX PWR Con)
- Power On: AT/ATX Supported
  AT : Directly PWR on as Power input ready
  ATX: Press Button to PWR on after Power input ready

Environment
- Temperature: 0ºC ~ 60ºC

Ordering Information

- **NEX 617-DB (P/N: 10G00061700X0)**
  Mini-ITX form factor powered by onboard Baytrial family Intel® J1900 Celeron® 4-core processor that integrates with 24/48-bit LVDS & upto 8GB DDR3/L memory & Rich I/Os

- **NEX 617- 20PBK (P/N: 10G00061701X0)**
  20-in-1 Bulk-Packed Mini-ITX form factor powered by onboard Baytrial family Intel® J1900 Celeron® 4-core processor that integrates with 24/48-bit LVDS & upto 8GB DDR3/L memory & Rich I/Os

- **I/O Bracket for NEX 617 (P/N: 50201A6003X00)**
  NEX 617 I/O PANEL ver.A for I/O shield for 261D 159.2 x 44.9 mm

NEX 880

Main Features

- Support 2nd generation Intel® Core™ desktop processors
- 4 x DDR3 DIMM Socket up to 32 GB
- VGA + DVI dual displays
- 2 x Intel® Gigabit Ethernet

- Support Intel® AMT 7.0
- 1 x PCIex16(with PCIex8 signals), 1 x PCIex8(with PCIex1 signals), 1 x PCIex4(with PCIex4 signals) slot, 1 x PCIex4 (with PCIex1 signals) slot
- Support SATA 3.0, 2 x RS232

Product Overview

NEX 880 is an industrial motherboard with Micro ATX form factor, which Support 2nd generation Intel® Core™ Desktop processors with Hyper-Threading technology.

The 2nd generation Intel® Core™ Desktop processors support dual channel non-ECC DDR3 1066/1333 MHz memory in four DIMM slots and integrated HD graphics controller. The Q67 PCH manages SATA 3.0 ports and USB2.0 ports. Furthermore, it supports other versatile I/O ports such as two serial ports, ten USB ports, and two Intel® PCI Express Gigabit LAN ports. It offers a great solution for advanced industrial application that requires superb display and processing performance.

Specifications

CPU Support
- LGA1155, 2nd generation Intel® Core™ Desktop processors

Main Memory
- 4 x 240-pin DIMM, for up to 32GB dual channel non-ECC un-buffered DIMM 1066/1333 SDRAM

Chipset
- Intel® Q67 Platform Controller Hub

BIOS
- AMI BIOS
- Plug and play support

On-board LAN
- 1 x Intel® 82579LM PHY for AMT 7.0
- 1 x Intel® 82583 PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LED

Display
- 2nd generation Intel® Core™ Desktop processors Integrated HD graphics
- 1 x VGA
- 1 x DVI-D

Expansion
- 1 x PCIex16 (with PCIex8 signals) slot

- 1 x PCIex8 (with PCIex1 signals) slot
- 1 x PCIex4 (with PCIex1 signals) slot
- 1 x PCIex4 (with PCIex4 signals) slot

Edge I/O Interfaces
- 1 x dual stack Mini DIN 6-pin connector for PS/2 KB/MS
- 1 x dual stack DB9 male connector for COM1 & COM2
- 1 x DVI + DB15 female connector VGA
- 2 x RJ45 with dual stack USB connectors
- Line-In/Line-out/MIC phone jack

I/O Interface
- USB2.0: 10 ports (6 onboard pin header, 4 with type A connector for external)
- Serial port: 2 port, with 2 x 5pin headers (COM 1 and COM 2)
- SATA HDD: 6 ports, port 1, 2 support SATA 3.0, port 3, 4, 5, 6 support SATA 2.0
- Support RAID 0/1/5/10 and Intel® Matrix Storage
- IrDA: on board pin header
- GPIO: Supports 4 sets general purpose I/O each with TTL level (5V) interface
- On-board buzzer x1
- Power LED/Power On/Reset/HDD LED pin header
- 1 x 4-pin fan connector (for CPU); 2 x 3-pin fan connectors (for System)
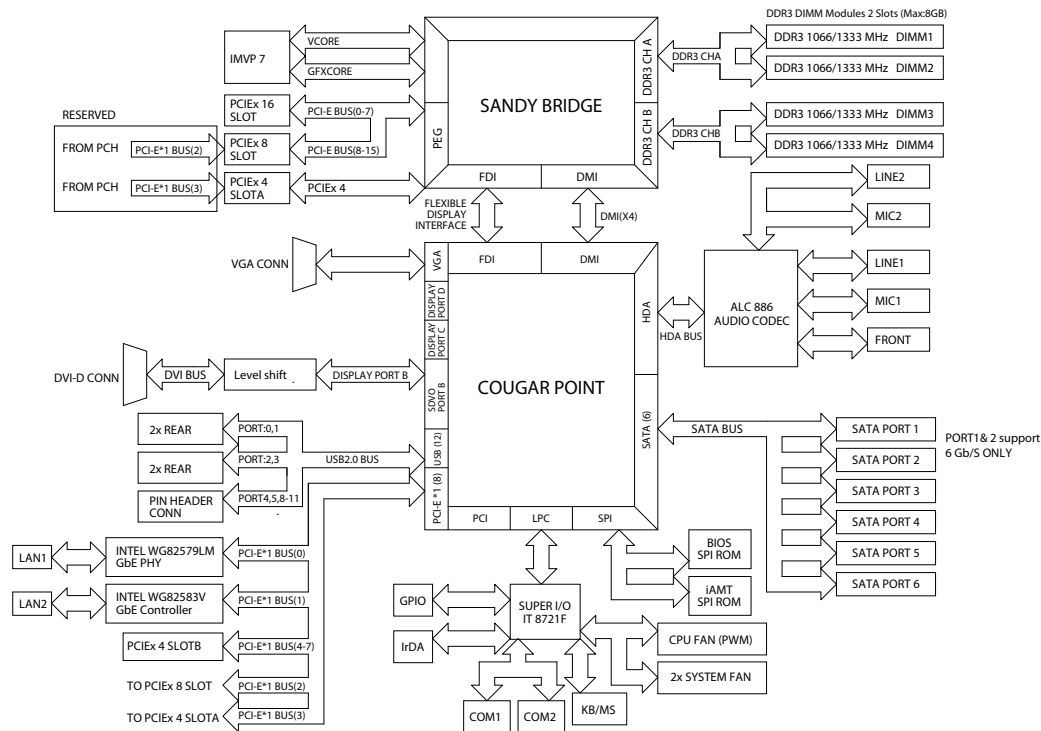
Indutrial Mother Board

NEXCOM

Block Diagram

- On-chip RTC with battery backup
- 1 x External Li-Ion battery

System Monitor
- 4 voltages (+3.3V, +5V, +12V, Vcore)
- 2 temperatures (For CPU and System)
- 3 fan speed monitors (1 for CPU and 2 for system fan)

Power Input
- Support ATX power supplies
- Standard ATX 24-pin connector for +12V/+5V/+3.3V/+5Vsb/-12V
- ATX 8-pin connector for +12V

Dimensions
- Micro ATX
- Dimension: 244mm (L) x 244mm (W)

Environment
- Board level operating temperatures: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: 10% to 90%, (Non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NEX 880 (P/N : 10G00088000X0)**
  Micro ATX, LGA1155, 2nd generation Intel® Core™ Desktop processors, Q67 DDR3 DIMM x4, VGA, DVI-D, 2 x GbE, PCIex8/ PCIex4/2 x PCIex1, 2 x RS232

NEX 883

Micro-ATX, Socket LGA1155 3rd/2nd Generation Intel® Core™ i7/i5/i3, Q77
4 x DDR3, DP/HDMI/DVI-I, PCIex16/PCIex4/2 x PCI/mPCIe, mSATA
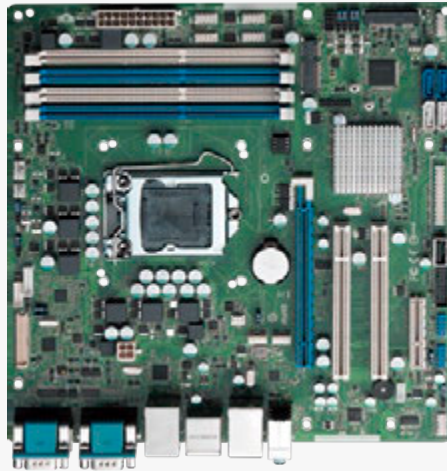
Main Features

- Support Socket 1155 for 3rd./2nd. Generation Intel® Core™ i7/i5/i3, Celeron Processors
- 4 x DDR3 DIMM Socket up to 32 GB
- Support HDMI/DVI-I/DisplayPort dual displays
- 2 x Intel® GbE, 4 x SATA3.0/2.0, mSATA, 12 x USB3.0/2.0, 6 x COM, 8 x GPIO
- 1 x PCIex16, 1 x PCIex4, 1 x mPCIe, 2 x PCI (v2.3)
- Support AT/ATX mode by ATX Power Input

Product Overview

NEX 883 is an industrial motherboard with Micro-ATX form factor, which support 3rd and 2nd Generation Intel® Core™ i7/i5/i3 and Celeron® processors. NEX 883 support dual channel DDR3 1600/1333/1066MHz memory in four long DIMM slots up to 32GB system memory and PCIex16 (3.0/2.0 by CPU)

The Q77 PCH support multiple displays by three DDI (digital display interfaces) for HDMI/DVI-I (VGA)/DP (shared LVDS) ports. Intel® Q77 PCH manages up to 2 x SATA 3.0/2 x SATA 2.0 with software RAID 0/1/5/10 supported and performs up to 12 x USB (4 x USB3.0/8 x USB2.0) ports. NEX 883 support PCIex4, mPCIe, legacy 2 x PCI slots, dual Intel® GbE ports and up to 6 x Series ports incl. 2 x RS-232/422/485 pre-selected in BIOS setting. NEX 883 could be integrated into 1U/2U/4U rack mounted chassis or Desktop Tower as completed system solution for widely industrial applications in the new era of digital infrastructure with NEXCOM.

Specifications

CPU Support
- Socket LGA1155, 3rd or 2nd Generation Intel® Core™ i7/i5/i3, Celeron® processors

Main Memory
- 4 x 240-pin dual channel long DIMMs support DDR3 1066/1333/1600Mhz up to 32GB system memory

Chipset
- Intel® Q77 Platform Controller Hub

BIOS
- AMI BIOS UEFI
- Plug and play support

On-board LAN
- 1 x Intel® 82579V/LM PHY for AMT 8.0
- 1 x Intel® 82583V PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LED

Display
- 3rd or 2nd Generation Intel® Core™ socket LGA1155 processors Integrated HD graphics 1 x VGA
- 1 x HDMI

- 1 x DVI-I
- 1 x DisplayPort

Expansion
- 1 x PCIex16 (Gen. 3.0/2.0 by CPU)
- 1 x PCIex4
- 2 x PCI (v2.3)

Edge I/O Interfaces
- 1 x Combo for PS2 KB/MS
- 2 x stack DB9 for COM1 & COM2
- 1 x HDMI with dual stack USB2.0 (black)
- 1 x DVI-I
- 2 x RJ45 with dual stack USB3.0 (blue) and dual stack USB2.0 (black) connectors
- Line-In/Line-out/MIC phone jack

I/O Interface
- USB3.0: 4 ports (2 x USB3.0 on edge I/O, 2 x internal box-header)
- USB2.0: 8 ports (4 x USB2.0 on edge I/O, 4 x internal box-header)
- Serial: 6 ports (default 2 x RS232 pre-selected RS422/485 in BIOS, 4 x RS232 by internal pins-header)
- SATA HDD: 4 ports, port 0, 1 support SATA 3.0, port 2, 3 support SATA 2.0, dual SATA Power by 2 x 4Pins

Block Diagram
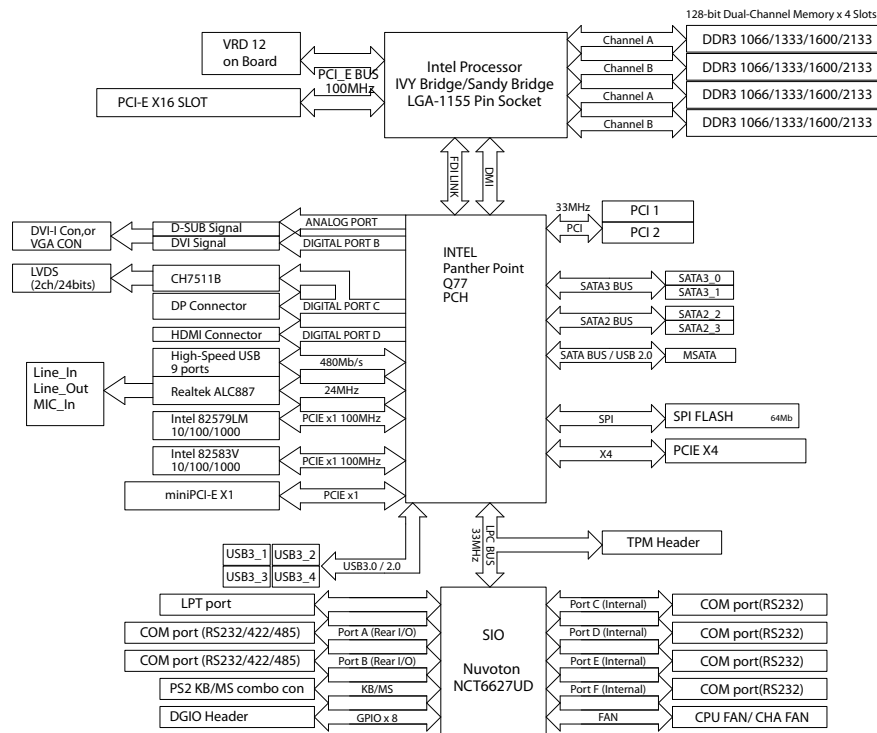
- Support Software RAID 0/1/5/10 and Intel® Matrix Storage
- GPIO: Supports 4 x GPI and 4 x GPO with TTL level (5V or 12V by Jumper)

Interface:
- On-board buzzer x1
- 9 x pins system header for Power LED/Power On/Reset/HDD LED
- 1 x 4-pin fan connector (for CPU); 1 x 3-pin fan connectors (for CPU or System)
- On-chip RTC with battery/CR2032 backup holder onboard

System Monitor
- 4 Voltages (+3.3V, +5V, +12V, Vcore)
- 2 Temperatures (For CPU and System)
- 3 FAN speed monitors (1 for CPU and 2 for Chassis Fan/System)

Power Input
- Support AT/ATX mode
- Standard ATX 24-pin connector for +12V/+5V/+3.3V/+5Vsb/-12V
- ATX 4-pin connector for +12V

Dimensions
- Micro ATX
- Dimension: Lx W, 244mm x 244mm; 9.6"x 9.6"

Environment
- Board level operating temperatures: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: 10% to 90%, (Non-condensing)

Certifications
- Meet CE
- Meet FCC

Ordering Information

- **NEX 883-10PBK (P/N : 10G00088301X0)**
  Bulk-Packed 10 x pcs u-ATX, LGA1155 3rd/2nd Generation Intel® Core™ i7/i5/i3, Celeron processors, Q77 with 4 x DDR3/DIMM, HDMI/DP/DVI-I, PCIex16/PCIex4/2PCI/mPCIe, 2 x SATA3.0/2 x SATA 2.0, 4 x USB3.0/8 x USB2.0, 2GbE, 6COM, mSATA, ATX Power Input

NEX 885

Main Features

- Intel® Q87 support Socket H3/LGA1150 for 4th Generation Intel® Core™ i7/i5/i3 processors
- 4 x DDR3 DIMM Socket up to 32 GB
- Support 2 x HDMI/DisplayPort/VGA up to three independent displays

- 2 x Intel® GbE, 6 x SATA 3.0, 3 x USB3.0/2.0, 4 x USB2.0/4 x COM, 8 x GPIO
- 1 x PCIex16, 2 x PCIex1, 1 x PCIex4
- Support AT/ATX mode by ATX Power Input

Product Overview

NEX 885 is an industrial motherboard with Micro-ATX form factor, build-in Intel® Q87 desktop PCH to support Socket H3/LGA1150 as 4th Generation Intel® Core™ i7/i5/i3 and Celeron® processors which are designed specially to optimize the power savings and performance benefits on the improved 22 nm process. NEX 885 support dual channel DDR3 1600/1333/1066MHz memory in four long DIMM slots up to 32GB. NEX 885 support three independent displays by 2 x HDMI, DisplayPort and VGA. Intel® Q87 PCH manages up to 6 x SATA 3.0 to support software RAID 0/1/5/10 and performs up to 10 x USB (3 x USB3.0/USB2.0 and 4 x USB2.0) NEX 885 support PCIex16, 2 x PCIex1, PCIex4 slots, dual Intel® GbE ports and up to 4 x Series ports incl. 1 x RS-232/422/485 pre-selected in the BIOS. NEX 885 could be integrated into 1U/2U/4U by 19" rack mounted chassis or desktop tower as completed system solution for widely industrial applications in the new era of digital infrastructure.

Specifications

CPU Support
- Socket H3/LGA1150, 4th Generation Intel® Core™ i7/i5/i3 processors

Main Memory
- 4 x 240-pin dual channel long DIMMs support DDR3 1066/1333/1600MHz up to 32GB system memory

Chipset
- Intel® Q87 Platform Controller Hub

BIOS
- AMI BIOS UEFI
- Plug and play support

On-board LAN
- ETH 0: Intel® I217LM PHY for AMT 9.0
- ETH 1: Intel® I211 PCI Express Gigabit Ethernet
- Both ETH0 and ETH1 Support boot from LAN (PXE) when +5Vsb power available
- 2 x GbE RJ45 with LEDs

Display
- 4th Generation Intel® Core™ socket H3/LGA1150 processors Integrated Gen. 7.5 HD graphics
- 2 x HDMI
- 1 x DisplayPort
- 1 x VGA

Expansion
- 1 x PCIex16 (Gen. 3.0)
- 2 x PCIex1
- 1 x PCIex4

Edge I/O Interfaces
- 1 x Combo for PS2 KB/MS
- 1 x stack DB9 for COM1, and 1 x stack DB15 for VGA
- 1 x HDMI, 1 x stack combo of 2nd HDMI and 1 x Display port
- 1 x RJ45 (ETH 0) with dual stack USB3.0 (blue)/USB2.0 connectors
- 1 x RJ45 (ETH 1) with dual stack USB2.0 (black) connectors
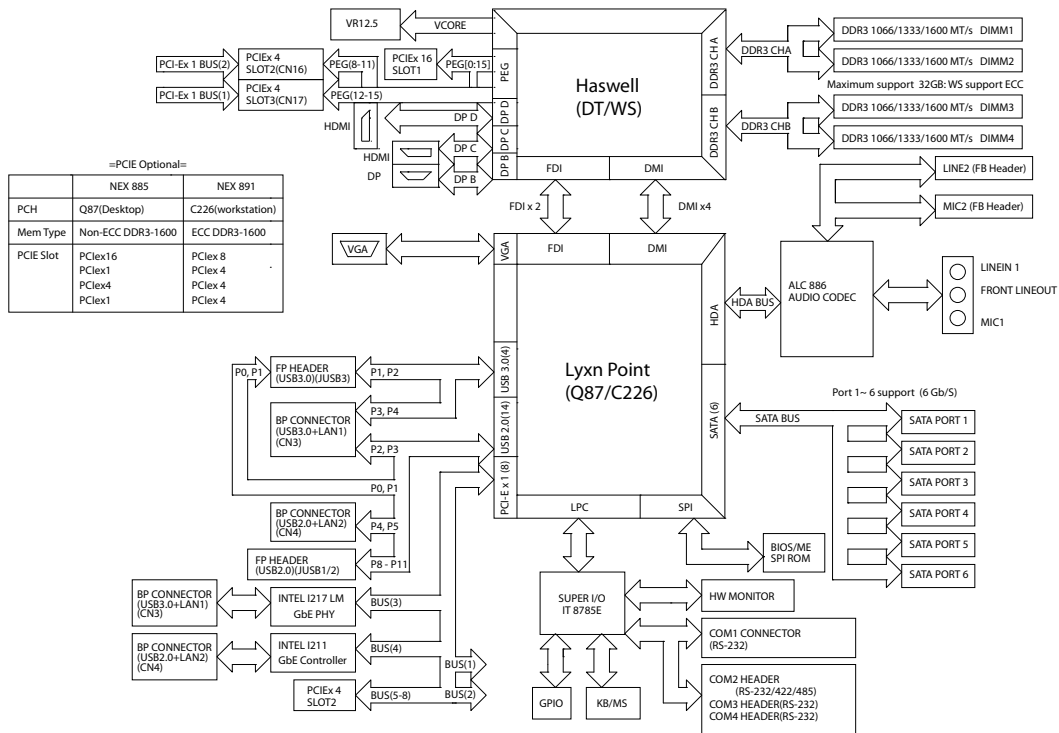- 1 x Stack Line-In/Line-out/Mic-in phone Jack

I/O Interface
- USB3.0: 3 ports (2 x USB3.0 on edge I/O, 1 x internal box-header)
- USB2.0: 7 ports (4 x USB2.0 on edge I/O, 3 x internal box-header)
- Serial: 4 ports (default COM1/RS-232, pre-selected 1 x RS232/422/485, 2 x RS-232 by internal
- SATA HDD: 6 ports, SATA 3.0, Support Software RAID 0/1/5/10 and Intel® Matrix Storage
- GPIO: Supports 4 xGPI and 4 x GPO with TTL level (0- 5V), 2 x 6 pin header, 2.54mm

Interface
- One on-board buzzer
- One 4-pin FAN connector for CPU, Two 3-pin FAN connector x 2 (for

Block Diagram

VR12.5 | VCORE

PCI-Ex 1 BUS(2) | PCIEx 4 SLOT2(CN16) | PEG(8-11) | PCIEx 16 SLOT1 | PEG[0:15] | PEG
PCI-Ex 1 BUS(1) | PCIEx 4 SLOT3(CN17) | PEG(12-15)

Haswell (DT/WS)

DDR3 CH A | DDR3 1066/1333/1600 MT/s DIMM1
DDR3 1066/1333/1600 MT/s DIMM2
Maximum support 32GB: WS support ECC
DDR3 CH B | DDR3 1066/1333/1600 MT/s DIMM3
DDR3 1066/1333/1600 MT/s DIMM4

HDMI | DP D | DP D
HDMI | DP C | DP C
DP | DP B | DP B

FDI | DMI
FDI x 2 | DMI x4

=PCIE Optional=

	NEX 885	NEX 891
PCH	Q87(Desktop)	C226(workstation)
Mem Type	Non-ECC DDR3-1600	ECC DDR3-1600
PCIE Slot	PCIex16	PCIex 8
	PCIex1	PCIex 4
	PCIex4	PCIex 4
	PCIex1	PCIex 4

LINE2 (FB Header)
MIC2 (FB Header)

VGA | VGA | FDI | DMI

ALC 886 AUDIO CODEC | HDA BUS

LINEIN 1
FRONT LINEOUT
MIC1

Lyxn Point (Q87/C226)

FP HEADER (USB3.0)(JUSB3) | P0, P1 | P1, P2 | USB 3.0(4)
BP CONNECTOR (USB3.0+LAN1) (CN3) | P3, P4
| P2, P3 | USB 2.0(14)
| P0, P1 | PCI-E x 1 (8)
BP CONNECTOR (USB2.0+LAN2) (CN4) | P4, P5
FP HEADER (USB2.0)(JUSB1/2) | P8 - P11

HDA
SATA (6)

Port 1~ 6 support (6 Gb/S)
SATA BUS
SATA PORT 1
SATA PORT 2
SATA PORT 3
SATA PORT 4
SATA PORT 5
SATA PORT 6

BP CONNECTOR (USB3.0+LAN1) (CN3) | INTEL I217 LM GbE PHY | BUS(3)
BP CONNECTOR (USB2.0+LAN2) (CN4) | INTEL I211 GbE Controller | BUS(4)
PCIEx 4 SLOT2 | BUS(5-8) | BUS(2)
BUS(1)

LPC | SPI
BIOS/ME SPI ROM

SUPER I/O IT 8785E | HW MONITOR
COM1 CONNECTOR (RS-232)
COM2 HEADER (RS-232/422/485)
COM3 HEADER(RS-232)
COM4 HEADER(RS-232)

GPIO | KB/MS

System)
- One 2 x4/2.54mm pin header for: Power LED/Storage LED/Reset/ Power On-Off
- One 2 x4/2.54mm pin header for :Mic-in/Line-out
- Front Panel I/O: HDD LED (1-3 pin); Power LED (2-4 pin)
- Reset (5-7 pin); Power Button (6-8 pin)
- On board pin header for IrDA Tx/Rx (option)
- On-chip RTC with back-up battery/CR2032 holder onboard

System Monitor
- Derived from Super IO ITE IT8785E to support System Monitor
- Monitoring of voltages, 2 temperatures and 3 Fans Speed
  4 Voltage for 3.3V, 5V, 12V, Vcore
  2 Temperatures (CPU, one external Temperature Sensor)
  3 Fans speed
- Watchdog timeout can be programmable by Software from 1 second to 255 seconds/minutes

Power Input
- Support AT/ATX mode
  Standard ATX 24-pin connector for +12V/+5V/+3.3V/+5Vsb/-12V
  ATX 8-pin connector for +12V power connector

Dimensions
- Micro-ATX/Dimension: Lx W, 244mm x 244mm; 9.6"x 9.6"

Environment
- Board level operating temperatures: -15°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: Operating 10% to 90%, (Non-condensing)

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **NEX 885 (P/N: TBD)**
  Micro ATX, onboard Q87 to support Socket H3/LGA1150, 4th Generation Intel® Core™ i7/i5/i3 Processors 4DDR3/DIMM, 2HDMI/ DP/VGA, PCIEx16/2PCIex1/PCIex4, 6 x SATA 3.0, 3 x USB3.0/2.0, 7 x USB2.0, 2 x GbE, 4 x COM, ATX Power Input

NEX 980

ATX, Socket LGA1155 3rd/2nd Generation Intel® Core™ i7/i5/i3, Q77
4 x DDR3, DP/HDMI/VGA, PCIex16/PCIex4/4PCI/PCIex1/mPCIe, mSATA/CFast
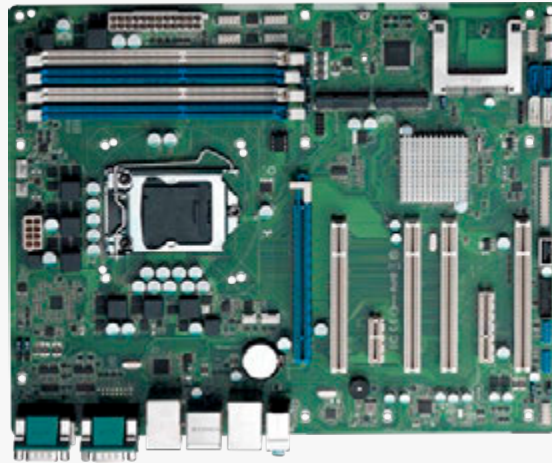
Main Features

- Support Socket LGA 1155 for 3rd/2nd Generation Intel® Core™ i7/i5/i3, Celeron® Processors
- 4 x DDR3 DIMM Socket up to 32 GB
- Support DisplayPort/HDMI/VGA dual displays

- 2 x Intel® GbE, 4 x SATA3.0/2.0, mSATA, CFast, 12 x USB3.0/2.0, 6 x COM, 8 x GPIO
- 1 x PCIex16, 1 x PCIex4, 1 x PCIex1, 1 x mPCIe, 4 x PCI (v2.3)
- Support AT/ATX mode by ATX Power Input

Product Overview

NEX 980 is an industrial motherboard with Standard ATX form factor, which support 3rd and 2nd generation Intel® Core™ i7/i5/i3 Celeron® processors. NEX 980 support dual channel DDR3 1600/1333/1066MHz memory in four long DIMMs up to 32GB system memory and PCIex16 (3.0/2.0 by CPU)The Q77 PCH support multiple displays by three DDI (digital display interfaces) by HDMI/DP ports as well as legacy VGA. Intel® Q77 PCH manages up to 2 x SATA 3.0/2 x SATA 2.0 with software RAID 0/1/5/10 supported and performs up to 12 x USB (4 x USB3.0/8 x USB2.0) ports. NEX 980 support PCIex4, PCIex1, mPCIe, legacy 4 x PCI slots, dual Intel® GbE ports and up to 6 x COM incl. 2 x RS232/422/485. NEX 980 could be integrated into 1U/2U/4U rack mounted chassis or Desktop Towers as completed system solution for widely industrial applications in the new era of digital infrastructure with NEXCOM.

Specifications

CPU Support
- Socket LGA1155, 3rd or 2nd generation Intel® Core™ i7/i5/i3, Celeron® processors

Main Memory
- 4 x 240-pin dual channel long DIMMs support DDR3 1066/1333/1600Mhz up to 32GB system memory

Chipset
- Intel® Q77 Platform Controller Hub

BIOS
- AMI BIOS UEFI
- Plug and play support

On-board LAN
- 1 x Intel® 82579V/LM PHY for AMT 8.0
- 1 x Intel® 82583V PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LEDs

Display
- 3rd or 2nd generation Intel® Core™ socket LGA1155 processors Integrated HD graphics
- 1 x HDMI
- 1 x DisplayPort
- 1 x VGA

Expansion
- 1 x PCIex16 (Gen. 3.0/2.0 by CPU)
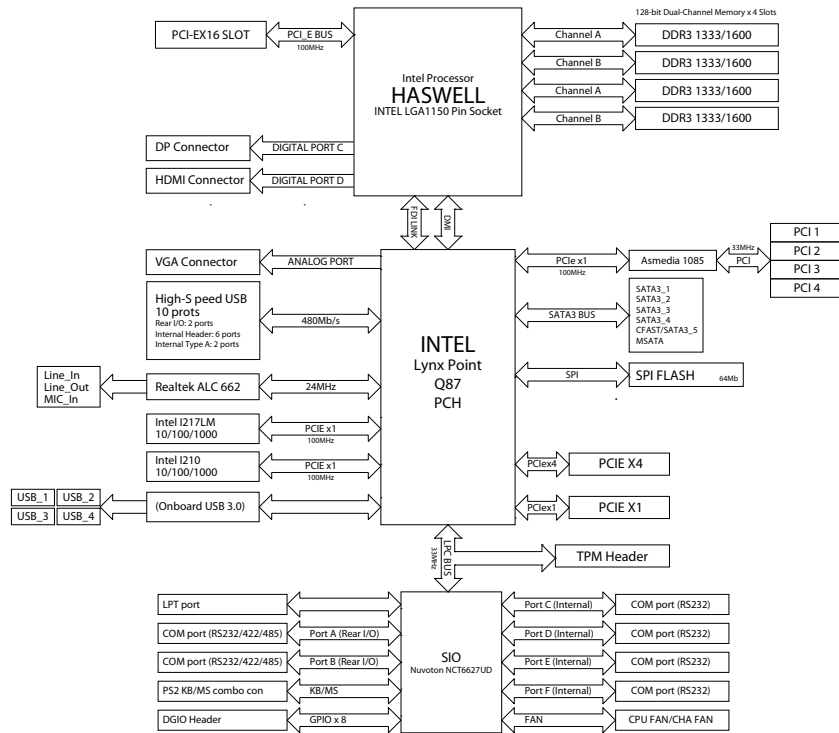- 1 x PCIex4
- 1 x PCIex1
- 4 x PCI (v2.3)

Edge I/O Interfaces
- 1 x Combo for PS2 KB/MS
- 2 x stack DB9 for COM1 & COM2
- 1 x DisplayPort
- 1 x HDMI with dual stack USB2.0 (black)
- 1 x VGA
- 2 x RJ45 with dual stack USB3.0 (blue) and dual stack USB2.0 (black) connectors
- Line-In/Line-out/MIC phone jack

I/O Interface
- USB3.0: 4 ports (2 x USB3.0 on edge I/O, 2 x internal box-header)
- USB2.0: 8 ports (4 x USB2.0 on edge I/O, 4 x internal box-header)
- Serial: 6 ports (default 2 x RS232 pre-selected RS422/485 in BIOS, 4 x RS232 by internal pins-header)
- SATA HDD: 4 ports, port 0, 1 support SATA 3.0, port 2, 3 support SATA 2.0, dual SATA Power by 2 x 4 x pins
- Support Software RAID 0/1/5/10 and Intel® Matrix Storage
- GPIO: Supports 4 x GPI and 4 x GPO with TTL level (5V or 12V by Jumper)

NEXCOM

Block Diagram

VRD 12 on Board

PCI-E X16 SLOT

PCI_E BUS 100MHz

Intel Processor IVY Bridge/Sandy Bridge LGA-1155 Pin Socket

128-bit Dual-Channel Memory x 4 Slots

Channel A	DDR3 1066/1333/1600/2133
Channel B	DDR3 1066/1333/1600/2133
Channel A	DDR3 1066/1333/1600/2133
Channel B	DDR3 1066/1333/1600/2133

FDI LINK | DMI

D-SUB Signal — ANALOG PORT

DP Connector — DIGITAL PORT C

HDMI Connector — DIGITAL PORT D

High-Speed USB 9 ports — 480Mb/s

Line_In / Line_Out / MIC_In

Realtek ALC 887 — 24MHz

Intel 82579LM 10/100/1000 — PCIE x1 100MHz

Intel 82583V 10/100/1000 — PCIE x1 100MHz

Mini-PCIe X1 — PCIE x1 / USB 2.0

INTEL Panther Point Q77 PCH

PCI 33MHz

PCI 1
PCI 2
PCI 3
PCI 4

SATA3 BUS — SATA3_0 / SATA3_1

SATA2 BUS — SATA2_2 / SATA2_3

SATA BUS — MSATA

SATA BUS — CFAST

SPI — SPI FLASH 64Mb

X4 — PCIe X4

X1 — PCIe X1

USB3_1 | USB3_2
USB3_3 | USB3_4

USB3.0/2.0

LPC BUS 33MHz

TPM Header

LPT port

COM port (RS232/422/485) — Port A (Rear I/O)

COM port (RS232/422/485) — Port B (Rear I/O)

PS2 KB/MS combo con — KB/MS

DGIO Header — GPIO x 8

SIO Nuvoton NCT6627UD

Port C (Internal) — COM port(RS232)
Port D (Internal) — COM port(RS232)
Port E (Internal) — COM port(RS232)
Port F (Internal) — COM port(RS232)
FAN — CPU FAN/ CHA FAN

Interface:
- Onboard buzzer x1
- 9 x pins system header for Power LED/Power On/Reset/HDD LED
- 1 x 4-pin fan connector (for CPU); 1 x 3-pin fan connectors (for CPU or System)
- On-chip RTC with battery/CR2032 backup holder onboard

System Monitor
- 4 Voltages (+3.3V, +5V, +12V, Vcore)
- 2 Temperatures (For CPU and System)
- 3 FAN speed monitors (1 for CPU and 2 for Chassis Fan/System)

Power Input
- Support AT/ATX mode
- Standard ATX 24-pin connector for +12V/+5V/+3.3V/+5VSB/-12V
- ATX 4-pin connector for +12V

Dimensions
- ATX
- Dimension: Lx W, 305mm x 244mm; 12"x 9.6"

Environment
- Board level operating temperatures: 0°C to 60°C
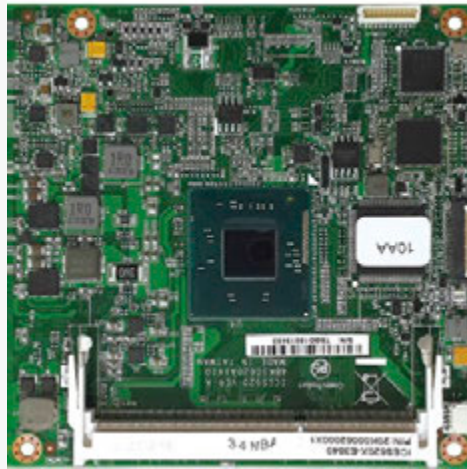- Storage temperature: -20°C to 85°C
- Relative humidity: 10% to 90%, (Non-condensing)

Certifications
- Meet CE
- Meet FCC

Ordering Information

- **NEX 980-10PBK (P/N : 10G00098001X0)**
  Bulk-Packed 10 x pcs ATX, LGA1155 of 3rd/2nd Generation Intel® Core™ i7/i5/i3, Celeron® processors, Q77 with 4 x DDR3/DIMM , HDMI/DP/VGA, PCIex16/PCIex4/PCIex1/4PCI/mPCIe, 2 x SATA3.0/2 x SATA 2.0, 4 x USB3.0/8 x USB2.0, 2 x GbE, 6 x COM, mSATA, CFast and ATX Power Input

NEX 981

ATX, Socket LGA1150 4th Generation Intel® Core™ i7/i5/i3, Q87

4 x DDR3, DP/HDMI/VGA, PCIex16/PCIex4/4PCI/PCIex1, mSATA
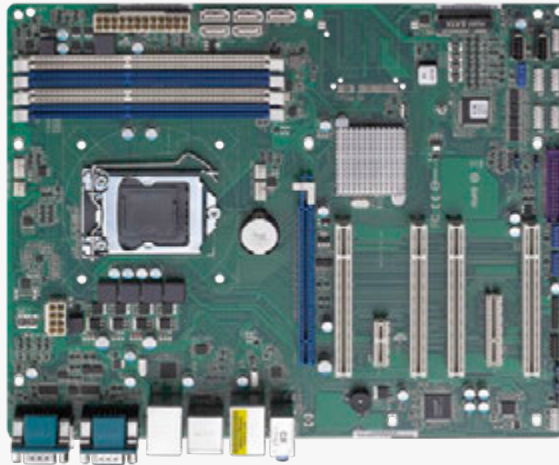
Main Features

- Support Socket LGA 1150 for 4th Generation Intel® Core™ i7/i5/i3/ Pentium®/Celeron® Processors
- 4 x DDR3 DIMM Socket up to 32 GB
- Support DisplayPort/HDMI/VGA dual displays
- 2 x Intel® GbE, 5 x SATA3.0, mSATA, 12 x USB3.0/2.0, 6 x COM, 8 x GPIO
- 1 x PCIex16(Gen. 3.0), 1 x PCIex4, 1 x PCIex1, 4 x PCI (v2.3)
- Support AT/ATX mode by ATX Power Input

Product Overview

NEX 981 is an industrial motherboard with Standard ATX form factor, which support 4th generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors. NEX 981 support dual channel DDR3 1600/1333/1066MHz memory in four long DIMMs up to 32GB system memory and PCIex16 (Gen. 3.0). The Q87 PCH supports three Independent displays, by three DDI (digital display interfaces) for HDMI/DP ports as well as legacy VGA. Intel® Q87 PCH manages up to 5 x SATA 3.0 with software RAID 0/1/5/10 supported and performs up to 12 x USB (4 x USB3.0/8 x USB2.0) ports. NEX 981 support PCIex16(Gen. 3.0), PCIex4, PCIex1, legacy 4 x PCI slots, dual Intel® GbE ports and up to 6 x COM incl. 2 x RS232/422/485. NEX 981 could be integrated into1U/2U/4U rack mounted chassis or Desktop Towers as completed system solution for widely industrial applications in the new era of digital infrastructure with NEXCOM.

Specifications

CPU Support
- Socket LGA1150, 4th generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® processors

Main Memory
- 4 x 240-pin dual channel long DIMMs support DDR3 1066/1333/1600MHz up to 32GB system memory

Chipset
- Intel® Q87 Platform Controller Hub

BIOS
- AMI BIOS UEFI
- Plug and play support

On-board LAN
- 1 x Intel® I217LM PHY for AMT 9.0
- 1 x Intel® I210 PCI Express Gigabit Ethernet
- Support boot from LAN (PXE)
- 2 x RJ45 with LEDs

Display
- 4th generation Intel® Core™ socket LGA1150 processors Integrated HD graphics
- 1 x HDMI
- 1 x DisplayPort
- 1 x VGA

Expansion
- 1 x PCIex16 (Gen. 3.0)
- 1 x PCIex4
- 1 x PCIex1
- 4 x PCI (v2.3)

Edge I/O Interfaces
- 1 x Combo for PS2 KB/MS
- 2 x stack DB9 for COM1 & COM2
- 1 x DisplayPort
- 1 x HDMI with dual stack USB2.0 (black)
- 1 x VGA
- 2 x RJ45 with dual stack USB3.0 (blue) connectors
- Line-In/Line-out/Mic-in phone jack

I/O Interfaces
- Serial port : 6 ports
  COM1/2 : RS232/422/485 with DB9 male connector on edge I/O
  COM3/4/5/6 : RS232 2 x5/2.54mm box header
- USB2.0/3.0 : 12 ports
  4 x USB3.0 ports by edge connectors
  2 x USB2.0 ports by edge connectors, 4 x USB2.0 ports by 2 x 5-pin header pitch 2.54mm, 2 x Vertical Type A USB Connectors
- GPIO : Support 4 x GPI and 4 x GPO with TTL level(0/5V)
- 1 x 3-pin and 1 x 4-pin fan connectors for CPU
- 1 x 3-pin and 1 x 4-pin fan connectors for System

NEXCOM

Block Diagram

PCI-EX16 SLOT — PCI_E BUS 100MHz

Intel Processor HASWELL INTEL LGA1150 Pin Socket

128-bit Dual-Channel Memory x 4 Slots
- Channel A — DDR3 1333/1600
- Channel B — DDR3 1333/1600
- Channel A — DDR3 1333/1600
- Channel B — DDR3 1333/1600

DP Connector — DIGITAL PORT C
HDMI Connector — DIGITAL PORT D

FDI LINK / DMI

VGA Connector — ANALOG PORT

INTEL Lynx Point Q87 PCH

PCIe x1 100MHz — **Asmedia 1085** — 33MHz PCI — PCI 1 / PCI 2 / PCI 3 / PCI 4

SATA3 BUS — SATA3_1 / SATA3_2 / SATA3_3 / SATA3_4 / CFAST/SATA3_5 / MSATA

High-Speed USB 10 ports Rear I/O: 2 ports / Internal Header: 6 ports / Internal Type A: 2 ports — 480Mb/s

SPI — **SPI FLASH** 64Mb

Line_In / Line_Out / MIC_In — **Realtek ALC 662** — 24MHz

Intel I217LM 10/100/1000 — PCIE x1 100MHz

Intel I210 10/100/1000 — PCIE x1 100MHz

PCIex4 — **PCIE X4**

PCIex1 — **PCIE X1**

USB_1 / USB_2 / USB_3 / USB_4 — (Onboard USB 3.0)

LPC BUS / SMB — **TPM Header**

LPT port
COM port (RS232/422/485) — Port A (Rear I/O)
COM port (RS232/422/485) — Port B (Rear I/O)
PS2 KB/MS combo con — KB/MS
DGIO Header — GPIO x 8

SIO Nuvoton NCT6627UD

Port C (Internal) — **COM port (RS232)**
Port D (Internal) — **COM port (RS232)**
Port E (Internal) — **COM port (RS232)**
Port F (Internal) — **COM port (RS232)**
FAN — **CPU FAN/CHA FAN**

- 1 x 18-pin header for TPM
- 1 x 26-pin header for Parallel port
- 1 x Onboard buzzer
- Power LDE/Power On/Reset/HDD LED pin header

Watchdog Timer
- Watchdog timeout can be programmable by Software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25℃)

Storage
- 5 x SATA3.0 ports with RAID 0,1,5,10 function.
- 1 x mSATA

System Monitor
- 4 voltages (Vcore, +12V, +3.3V, 5V)
- 2 temperatures (CPU and System)
- 4 fan speed detection

On-board RTC
- On-chip RTC with battery backup
- 1 x External Li-Ion battery

System Monitor
- 4 Voltages (+3.3V, +5V, +12V, Vcore)
- 2 Temperatures (CPU and System)
- 4 FAN speed monitors (2 for CPU and 2 for System)

Power Input
- Support AT/ATX mode
- Standard ATX 24-pin connector for +12V/+5V/+3.3V/+5VSB/-12V
- ATX 4-pin connector for +12V

Dimensions
- ATX
- Dimension: Lx W, 305mm x 244mm; 12"x 9.6"

Environment
- Board level operating temperatures: 0℃ to 60℃
- Storage temperature: -20℃ to 85℃
- Relative humidity: 10% to 90%, (Non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NEX 981-10PBK (P/N : 10G00098100X0)**
  Bulk-Packed 10 x pcs ATX, LGA1150 of 4th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors, Q87 with 4 x DDR3/DIMM, HDMI/DP/VGA, PCIex16/PCIex4/PCIex1/4PCI/5 x SATA3.0, 4 x USB3.0/8 x USB2.0, 2 x GbE, 6 x COM, mSATA, and ATX Power Input

ICES 620X

COM Express Type 6, COMPACT Size Module with
Intel® Atom™ E3800 Family Processor DDR3L/GbE/2SATA/4 X PCIe and DP/USB3.0

Main Features

- Embedded Intel® Atom™ E3800 family processors with 4 core support
- Embedded controller built-in with EAPI support
- Support DDR3L without ECC/SO-DIMMs 1066/1333MHz up to 4GB
- Support 4 x PCIex1, 1 x USB3.0/7 x USB2.0/2 x SATA2.0 and GbE
- 2 x DP/VGA interfaces
- Dimension 95 x 95mm (W x L)

Product Overview

The ICES 620X is a COM Express Type 6 compact size module that features Intel® Atom™ E3800 Quad-Core processor, and one DDR3L SO-DIMM memory socket without ECC support, up to 8GB 1066/1333MHz. The ICES 620X integrates with Intel® Gen7 Graphic engine to support dual displays of CRT resolution up to 2048 x 1536 resolutions and 2DPs link with HDMI1.4a/DP1.2 configurations. The high performance ICES 620X COM Express module supports SATA, USB2.0 & USB3.0/VGA/DP (HDMI)/PCIex1.

Specifications

CPU Support
- Intel® Atom™ E3800 Quad core processor up to 1.91GHz.

Main Memory
- Dual DDR3L/SO-DIMMs without ECC 1066/1333MHz memory up to 8GB

BIOS
- AMI System BIOS
- Plug and play support
- Advanced power management and advanced configuration & power interface support

Display
- Intel® HD graphics with DX9 support
- Two DPs interfaces down to the carried board
- Standard VGA interface

COM Express Connector
- AB :
  VGA/HDA/2 x SATA/GbE/4 x PCIex1 (without Gbe)/7 x USB2.0

LPC bus/SDIO (without GPIO)/GPIO/SMBus (I2C)/SPI BIOS
- CD:
  1 x USB3.0/2 x DP (HDMI)

Power Requirements
- +12V, +5VSB, +3.3V RTC power
- Support both AT and ATX power supply mode
- One 3 pins 90 degree edge-connector for DC +12V fan

Dimensions
- 95mm (W) x 95mm (L)

Environment
- Board level operating temperatures: -40°C to 85°C.
- Storage temperatures: -20°C to 80°C
- Relative humidity:
  10% to 90% (operating, non-condensing)
  5% to 95% (non-operating, non-condensing)
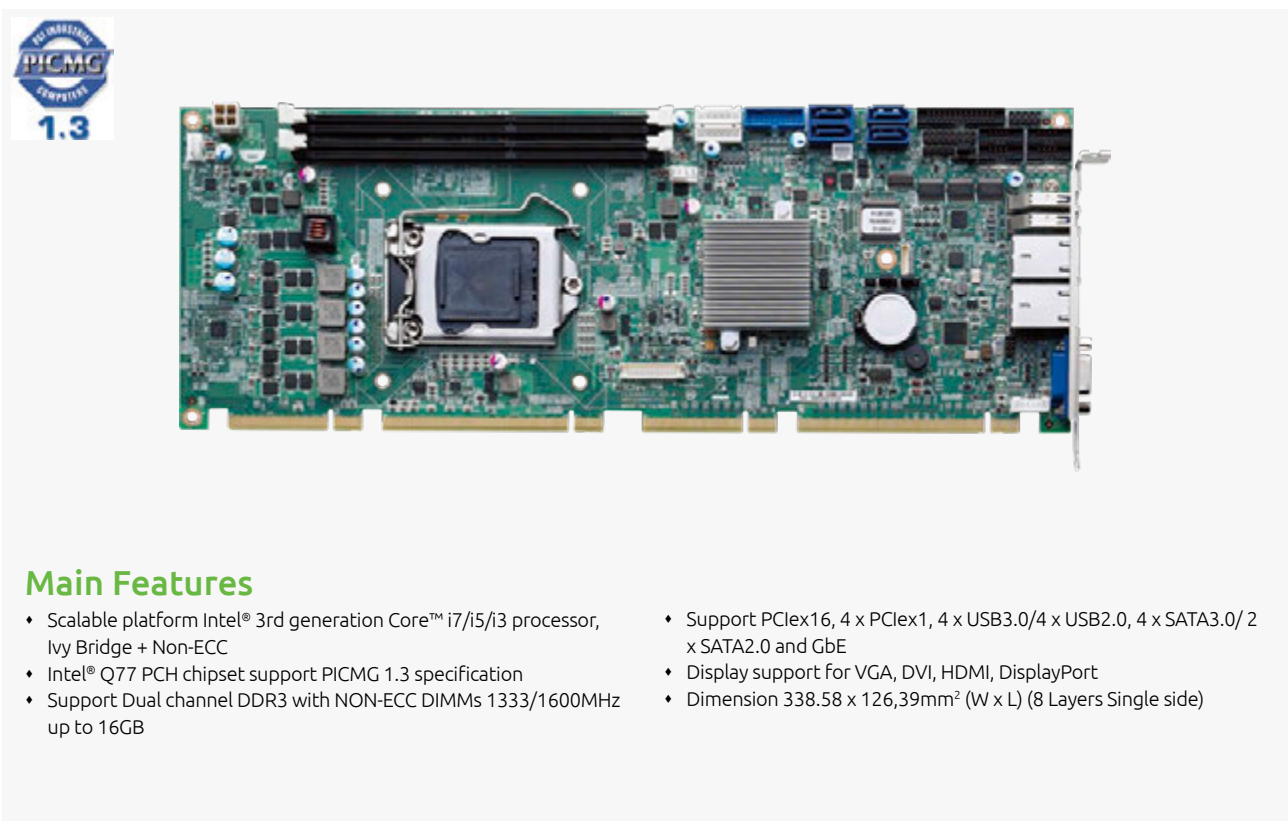
Certifications
- Meet CE/FCC Class B

Block Diagram

The block diagram shows connections between COM Express connector A and B, BAY TRAIL I (27 x 25 mm TYPE3), and COM Express connector C and D.

- DDR3L NON-ECC DIMM0 — DDR3L
- VGA BUS — VGA
- HDA BUS — HDA
- PORT: 0 1 — SATA BUS — SATA
- SPI BUS — SPI
- SPI BIOS
- LPC BUS — LPC
- SERIAL PORT:1.2
- SM BUS / I2C
- WDT
- EC IT8528E/CX
- GPIO 4IN/4OUT
- PCI-E*1 BUS PORT:1,2,
- SW PCI-E*1 BUS PORT:1
- SW PCI-E*1 BUS PORT:2
- PCIE SWITCH PEX8603
- PCI-E*1 BUS PORT:3
- INTEL I210-IT GbE PHY
- MDI BUS
- PCI-E*1 BUS PORT:4
- USB2.0 BUS PORT:0-2 (COMe PORT 0-2)
- USB2.0 HUB BUS (COMe PORT 3-6)
- DISPLAY PORT C
- DISPLAY PORT B
- DP PORT
- USB3.0 BUS PORT 0 — USB3.0
- USB2.0 BUS PORT3 — USB2.0
- USB2.0 1 TO 4HUB GL852GT
- PCIE BUS
- TYPE 6
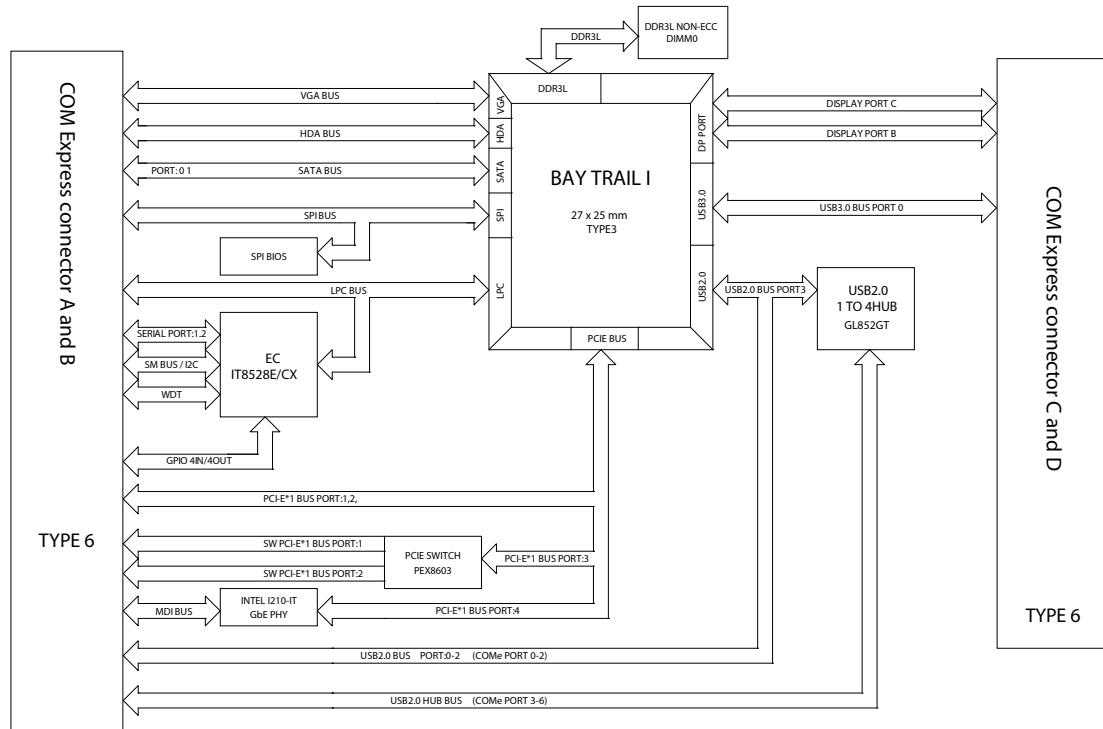
Ordering Information

- **ICES 620X-3845 (P/N: 10K00062004X0)**
  COM Express Type 6 Compact Module Extended -40°C to + 85°C with Intel® Atom™ E3800 family processor/4C, 1.91GHz/DDR3L without ECC/PCIe/HDMI/VGA/SATA/GbE

- **ICES 620X-3826 (P/N: 10K00062003X0)**
  COM Express Type 6 Compact Module Extended -40°C to + 85°C with Intel® Atom™ E3800 family processor/2C, 1.46GHz/DDR3L without ECC/PCIe/HDMI/VGA/SATA/GbE
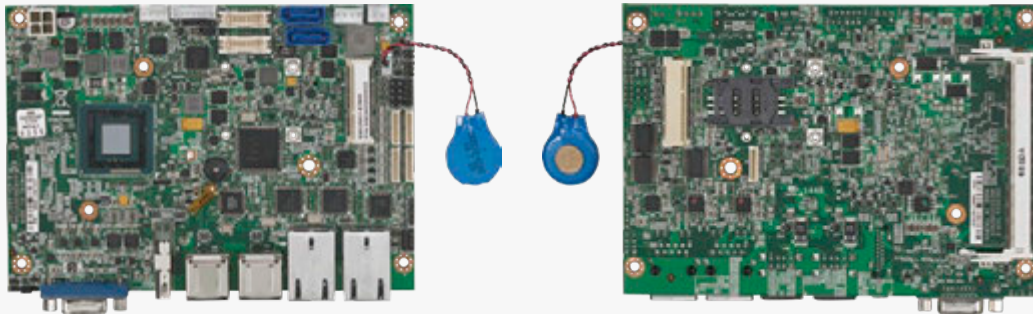
EBC 355X

Main Features

- On-board Intel® Atom™ Processor E3800 Product Family
- One 204-pin SO-DIMM socket supports up to 8 GB DDR3L 1066/1333 MHz SDRAM
- Display: HDMI/VGA/1 x LVDS
  (2 x DF13 20-pin 24/48-bit Single channel)
- 2 x Mini-PCIe

- 2 x Intel® i210 PCI Express Gigabit Ethernet
- 2 x SATA 2.0
- 4 x USB 2.0,, 4-in/4-out GPIO, Mic-in , Speak out
- Serial port: 3 x RS232, 1 x RS232/422/485 port
- Support AT/ATX mode and single +12VDC input

Product Overview

EBC 355X series of 3.5" boards is based on the multi-core SoC Intel® Atom™ processor E3800 product family (formerly codenamed "Bay Trail"). This series of 3.5" boards operates at wide temperature range with low power consumption, and features USB 2.0 ports and Intel® Gen 7 Graphics with multi-display support. NEXCOM's EBC 355X series of 3.5-inch boards are aimed at embedded applications. The EBC 355X series support a maximum memory of 8GB DDR3L SDRAM. It also offers four USB 2.0 ports along with three display outputs of VGA, HDMI and LVDS to provide the flexibility to support a range of peripherals and dual display. The 3.5" boards provide reliable operation within wide operating temperature range of -40 to 85 degrees Celsius. The EBC 355X series is ideal for battery-powered portable devices, multimedia HMI panels, outdoor systems installed in harsh environments, home automation and thin clients.

Specifications

CPU Support
- Support Intel® Atom™ processor E3800 product family

Main Memory
- Single 204-pin SO-DIMM socket supports up to 8 GB DDR3L 1066/1333 MHz SDRAM

Platform Control Hub
- Atom™ processor E3800 product family (formerly codenamed "Bay Trail-I")

BIOS
- AMI System BIOS
- Plug and play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Integrated Intel® Gen.7 Graphics Engine
- Supports VGA and HDMI interface
- Analog VGA interface: 1 xDB-15 connector, resolution up to 1920 x 1200 @75Hz
- HDMI interface: 1 x HDMI connector, resolution up to 1920 x 1200
- LVDS interface: 1 x dual (24/48-bit) LVDS panel, resolution up to 1920 x 1200 DF13 20-pin LVDS connector for internal connection

Audio
- Realtek ALC886 CODEC for High Definition:

1 x 4 2.0 pitch pin-header for Mic-in
1 x 4 2.0 pitch pin-header for Line-out
1 x 5 2.0 pitch pin-header for speaker out

On-board LAN
- 2 x Intel® i210 Gigabit Ethernet
- Support PXE boot from LAN, wake on LAN function

Expansion
- 2 x Mini-PCIe

I/O Interface
- Serial port: 4 ports
  COM1, 3, 4 support RS232 with 10-pin box header
  COM2 support RS232/422/485 with 10-pin box header
- USB 2.0: 4 ports
  4 x ports edge connector
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL level (0/5V)
- On-board power LED and HDD active LED pin header
- 1 x 4-pin fan connector (for CPU)
- 1 x keyboard/mouse pin header
- Onboard buzzer/SMBus2.0/reset SW/o n & off switch button

Edge I/O Interface
- 1 x VGA connector
- 1 x HDMI connector

Block Diagram
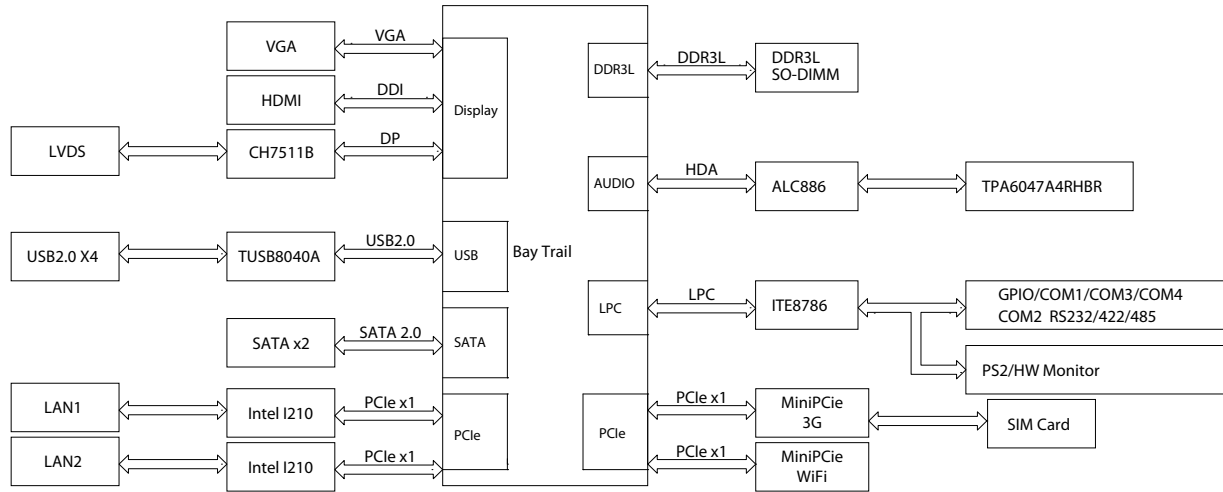
- 2 x dual stack USB 2.0 connector
- 2 x RJ45 with LED connector

Watchdog Timer
- Watchdog time-out can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)

Storage
- 2 x SATA 2.0 ports

System Monitor
- Monitoring of 4 voltages and 2 temperatures
- 4 voltage (Vcore, +12V, +3.3V, 5V)
- 2 temperatures (CPU, system)
- 1 fan speed detection

On-board RTC
- On-chip RTC with battery backup
- 1 x external Li-ion battery

Power Requirements
- Power requirement: +12V DC Input
- One 4-pin power connector

Dimensions
- 146mm (L) x 102mm (W) 5.7" x 4.0"

Environment
- Board Level Operating temperatures: -40°C to 85°C
- Storage temperatures: -40°C to 85°C
- Relative humidity:
  10% to 90% (operating, non-condensing)
  5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **EBC 355X-E3826 (P/N: TBD) RoHS Compliant**
  Low power embedded board with Intel® Atom™ processor E3826 and extended -40°C to + 85°C w/ HDMI/24/48bit LVDS/4 x USB2.0/4 x COMs/2 x Mini-PCIe/2 x Gigabit LAN/2 x SATA

- **EBC 355X-E3845 (P/N: TBD) RoHS Compliant**
  Low power embedded board with Intel® Atom™ processor E3845 and extended -40°C to + 85°C w/ HDMI/24/48bit LVDS/4 x USB2.0/4 x COMs/2 x Mini-PCIe/2 x Gigabit LAN/2 x SATA

PEAK 886VL2

Main Features

- Scalable platform Intel® 3rd generation Core™ i7/i5/i3 processor, Ivy Bridge + Non-ECC
- Intel® Q77 PCH chipset support PICMG 1.3 specification
- Support Dual channel DDR3 with NON-ECC DIMMs 1333/1600MHz up to 16GB

- Support PCIex16, 4 x PCIex1, 4 x USB3.0/4 x USB2.0, 4 x SATA3.0/ 2 x SATA2.0 and GbE
- Display support for VGA, DVI, HDMI, DisplayPort
- Dimension 338.58 x 126,39mm² (W x L) (8 Layers Single side)

Product Overview

The PEAK 886VL2 is a PICMG1.3 Full-size single computing board featuring Intel® Q77 PCH chipset supports Intel® 3rd generation Intel® Core™ processor with Dual DDR3 DIMM socket up to 16GB DDR3 1333/1600MHz SDRAM with Non-ECC support and integrated HD Graphic controller.

The Intel® Q77 PCH manages SATA2.0/3.0 Ports. Furthermore, it supports others versatile I/O ports such as legacy four series ports, KB/Mouse interface, optional TPM function, eight USB ports, four PCI express x1 interface and two Intel® PCI express Gigabit LAN port. It offers a great solution for advance industrial application that requires superb display and processing performance.

Specifications

CPU Support
- Support Intel® LGA1155, 3rd generation Intel® Core™ processor
  Intel® Core™ i7- 3770 (4C/8M cache/3.4GHz/Max. TDP 77W)
  Intel® Core™ i5- 3550S (4C/6M cache/3.0GHz/Max. TDP 65W)
  Intel® Core™ i3- 3220 (2C/3M cache/2.4GHz/Max. TDP 55W)
  Intel® Pentium® G2120 (2C/3M cache/1.6GHz/Max. TDP 65W)

Main Memory
- Dual DDR3/DIMMs, support 1333/1600MHz Non-ECC system memory up to 16GB

Platform Control Hub
- Intel® Q77 PCH chipset

BIOS
- AMI System BIOS
- Plug and play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Intel® HD graphics with DX11 support up to two independent displays
- One PCI Express x16 Lane down to PICMG1.3 Golden finger
- Supports VGA and DVI/HDMI/Display port interface

Audio
- HDA interface with PIN Header

On-board LAN
- Intel® 82579LM Gigabit Ethernet, support iAMT 8.0
- Intel® 82574L Gigabit Ethernet,
- Support PXE boot from LAN, wake on LAN function

I/O Interface
- USB: 3.0 2 Ports through I/O bracket/USB2.0: 4 ports through backplane/2 Port through 2.5mm JST connectors
- Six SATA Port: Four SATA 3.0/Two SATA 2.0. (Support RAID0/1/5/10 and Intel® Rapid Storage Technology AHCI)
- One PCI express x16/Four PCI express x1
- Two RJ45 Gigabit Ethernet LAN ports.
- Four series ports (COM2 Supports RS232/422/485, RI pin can supply 5V/12V voltage)
- Parallel port through box header
- Keyboard/Mouse interface
- HDA Interface through pin header for Audio function.
- On board pin header for IRDA
- TPM support(option)

Power Requirements
- +12V, +5V , +3.3V , +5VSB, +3.3V RTC power
- Power source form backplane through golden finger and AUX +12V
- Support ATX/AT Power supplies

Dimensions
- 338mm (W) x 126mm (L)

Block Diagram
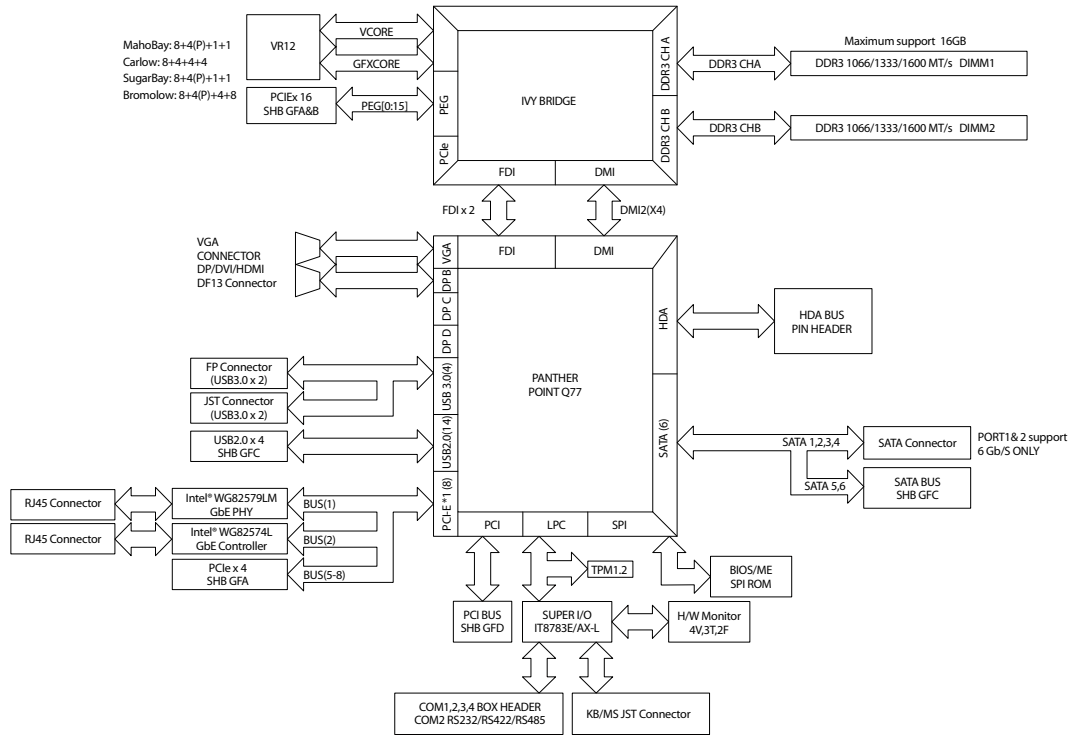
Environment

- Board Level Operating temperatures: 0°C to 60°C
- Storage temperatures: -20°C to 80°C
- Relative humidity:
  10% to 90% (operating, non-condensing)
 5% to 95% (non-operating, non-condensing)

Certifications

- Meet CE
- FCC Class A

Ordering Information

- **PEAK 886VL2 (P/N: 10P0886VL00X0)**
  PICMG 1.3 Full-size SBC, Intel® LGA1155 3rd Generation Core™ i7/i5/i3 Processors With Max 16GB, DDR3 DIMM, VGA integration, Intel® Gigabit Ethernet x2, USB3.0 x4, SATA3.0 x4

PEAK 887VL2
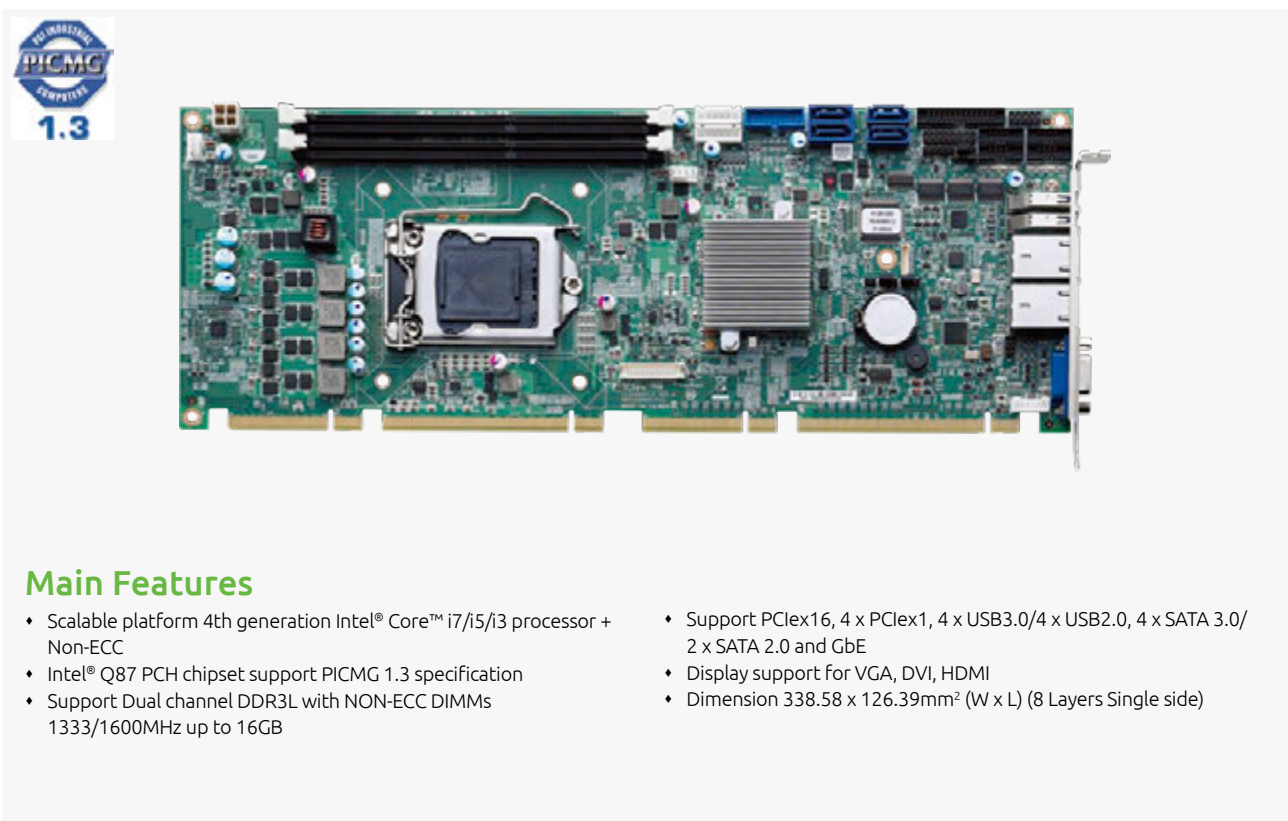
Main Features

- Scalable platform 4th generation Intel® Core™ i7/i5/i3 processor + Non-ECC
- Intel® Q87 PCH chipset support PICMG 1.3 specification
- Support Dual channel DDR3L with NON-ECC DIMMs 1333/1600MHz up to 16GB
- Support PCIex16, 4 x PCIex1, 4 x USB3.0/4 x USB2.0, 4 x SATA 3.0/ 2 x SATA 2.0 and GbE
- Display support for VGA, DVI, HDMI
- Dimension 338.58 x 126.39mm² (W x L) (8 Layers Single side)

Product Overview

The PEAK 887VL2 is a PICMG1.3 Full-size single computing board featuring Intel® Q87 PCH chipset supports 4th generation Intel® Core™ processor with Dual DDR3L DIMM socket up to 16GB DDR3 1333/1600MHz SDRAM with Non-ECC support and integrated HD Graphic controller.

The Intel® Q87 PCH manages SATA 2.0/3.0 Ports. Furthermore, it supports others versatile I/O ports such as legacy four series ports, KB/Mouse interface, optional TPM function, eight USB ports, four PCI express x1 interface and two Intel® PCI express Gigabit LAN port. It offers a great solution for advance industrial application that requires superb display and processing performance.

Specifications

CPU Support
- 4th generation Intel® Core™ i7/i5/i3 processor (95W/ 65W/ 45W/ 35W) TDPs, Socket LGA1150

Main Memory
- 2 x DIMM, support Dual channel DDR3L (default)/DDR3 NON-ECC DIMM (dual voltage models by auto detection for DDR3 and DDR3L
- Maximum 16 GB – 1066/1333/1600 MT/S

Platform Control Hub
- Intel® Q87 Express Chipset PCH

BIOS
- AMI system BIOS
- 16MBit SPI depended on AMT function
- Dual BIOS for Four PCIex1 and One PCIex4 (setting by DP switch)

Display
- The Processor Graphics contains a refresh of the seventh generation graphics
- Intel® HD Graphics GT1/GT2
- Share system memory
- Analog Display Support
- Drive a standard progressive scan analog monitor

Audio
- Reverse HDA interface, 2.0mm 2 x 5 pin header

On-board LAN
- 1 x Intel® I217LM GbE PHY
- 1 x Intel® I211 Gigabit Ethernet Controller
- RJ45 with LED connecter x 2
- Support Boot From LAN (PXE)
- RJ45 LED
- Support Wake on LAN
- Extra (External) LED: 2 x 4 pin header

I/O Interface
- ITE8783
- PS2 KB/MS reserve 1 x6 (2.0m) JST connector
- 26-pin Box Header x 1 (2.0mm)
- SIO Box Header x 4 (2.0mm), COM1,3,4 support RS232, COM2 RS232/422/485, RI pin can be select RI/5V/12V with jumper (2 x 3 pin 2.0mm pin-header)
- 4 Ports USB2.0 and 4 ports USB3.0:
  2 ports through 2.5mm JST Connectors, located near Rear Side of PCB (near CPU, USB3.0)
  4 ports through backplane (USB2.0)
  2 ports through I/O bracket (USB3.0)
- 4-pin FAN connector x 2 (for CPU,System)
- On board pin header for IrDA Tx Rx 1 x5/2.54mm pin-header
- HDD LED/Power LED/Power ON SW/ Reset SW
- On Board buzzer

Block Diagram
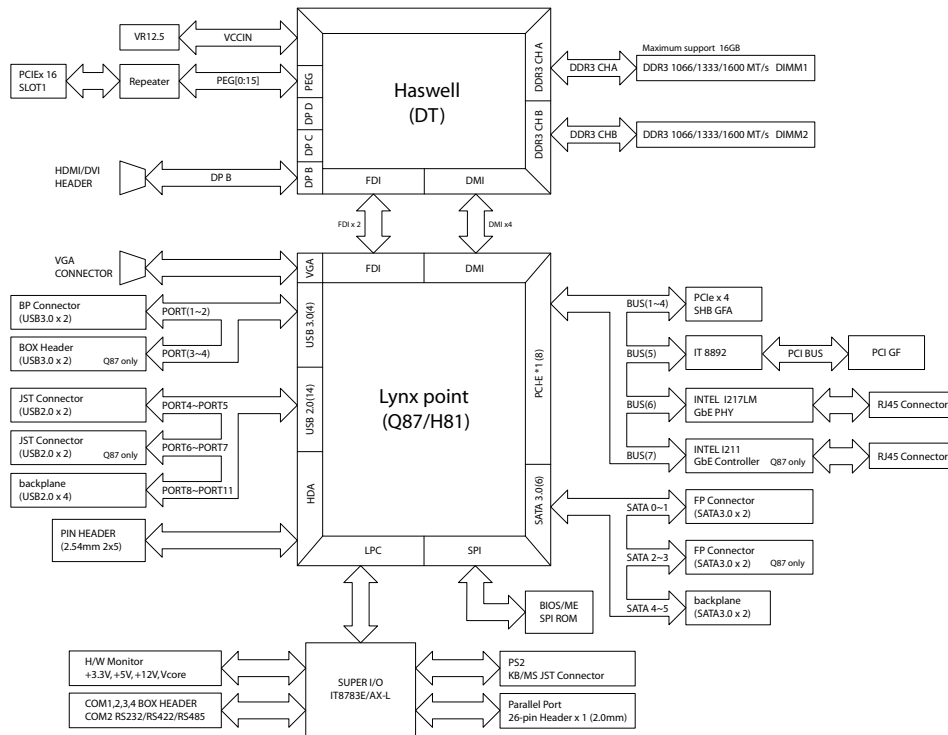
- USBx1/USBx1/LAN1 RJ45 x1/LAN2 RJ45 x1/VGA DB15 from top to down

Power Requirements
- Power source from Backplane through Golden Finger and AUX +12V
- Support ATX/AT function by jumper setting
- BIOS default is (ATX MODE)

Dimensions
- 338.58mm x 126.39mm, 8 layers (single side)

Environment
- Board Level Operating temperatures: -15°C to 60°C
- Storage temperatures: -20°C to 85°C
- Relative humidity:
  10% to 90% (operating, non-condensing)
  5% to 95% (non-operating, non-condensing)

Certifications
- CE approval
- FCC Class A
- CB/CCC certification

Ordering Information

- **PEAK 887VL2 (P/N: 10P0887VL00X0)**
  PICMG 1.3 Full-size SBC, 4th Generation Intel® Core™ i7/i5/i3 processor, LGA1150, With Max 16GB, DDR3L/DDR3 DIMM, VGA integration, Intel® Gigabit Ethernet x2, USB3.0 x4, SATA 3.0 x4

PEAK 888
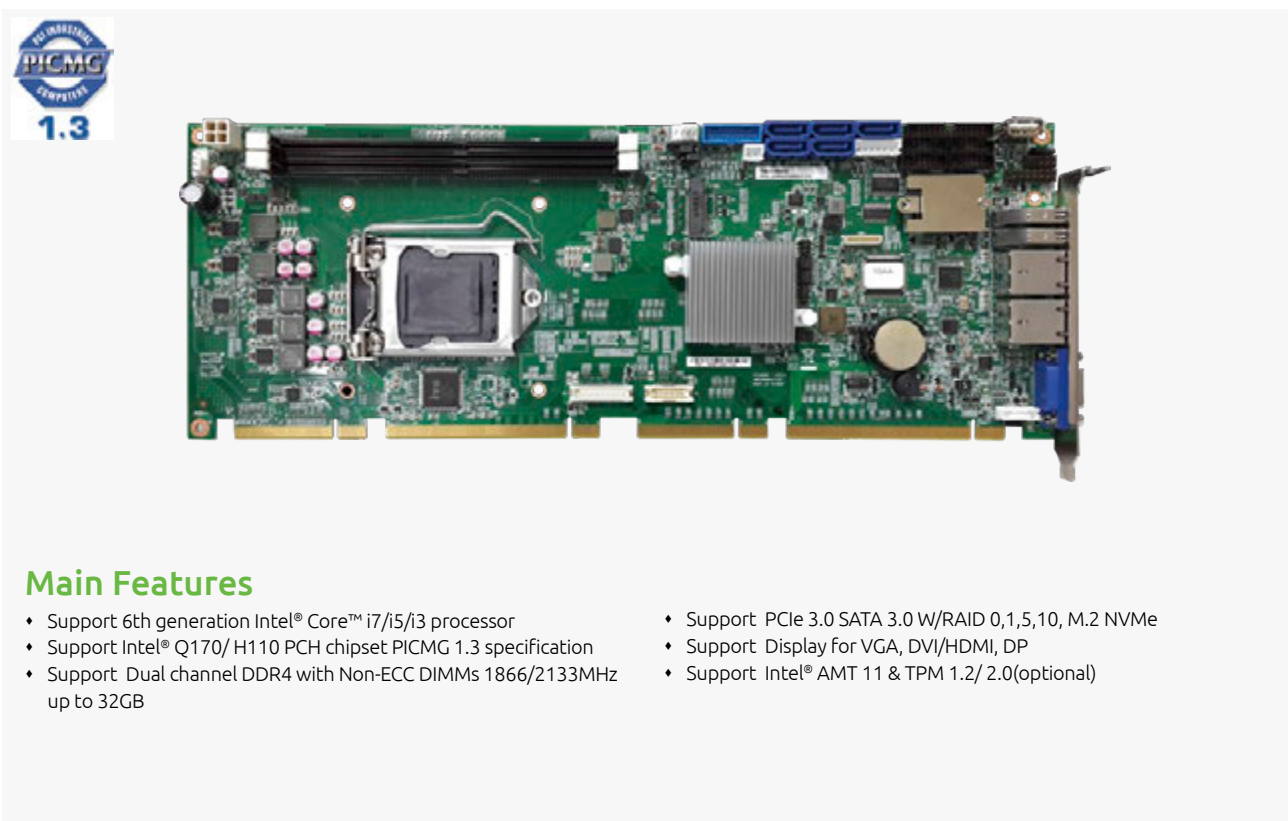
Main Features

- Support 6th generation Intel® Core™ i7/i5/i3 processor
- Support Intel® Q170/ H110 PCH chipset PICMG 1.3 specification
- Support Dual channel DDR4 with Non-ECC DIMMs 1866/2133MHz up to 32GB

- Support PCIe 3.0 SATA 3.0 W/RAID 0,1,5,10, M.2 NVMe
- Support Display for VGA, DVI/HDMI, DP
- Support Intel® AMT 11 & TPM 1.2/ 2.0(optional)

Product Overview

The PEAK 888 is a PICMG1.3 Full-size Single-Board Computing .It equipped with Intel® 6th generation Core™ i7/i5/i3 processors and Intel® Q170/ H110 chipset. It comes with Dual DDR4 DIMM socket up to 32GB DDR4 1866/2133MHz with Non-ECC support and integrated HD Graphic controller. The PEAK 888Q SKU with Intel® Q170 PCH providing high performance and rich expansion. The SATA3.0 ports with RAID 0, 1, 5 and 10 helps provide quick access to data files and data protection. Furthermore, the advanced storage capabilities with Intel® RST features PCIe Gen3 x4 on NGFF M.2 form factor (2280, 22110) to maximizes storage performance and it also features an integrated Intel® AMT 11 for easier maintenance.

The PEAK 888H SKU with Intel® H110 PCH provides high performance and cost effective solution.

Specifications

CPU Support
- 6th generation Intel® Core™ i7/i5/i3 processor (65W/ 35W) TDPs, Socket LGA1151

Main Memory
- 2 x DIMM, support Dual channel DDR4 NON-ECC DIMM 1866/2133 MT/S (Maximum32GB)

Platform Control Hub
- Intel® H110 Express Chipset PCH
- Intel® Q170 Express Chipset PCH

BIOS
- AMI system BIOS
- 16MBit SPI depended on AMT function
- Dual BIOS for Four PCIex1 and One PCIex4

Display
- The Processor Graphics contains a refresh of the ninth generation graphics
- Intel® HD Graphics 530
- Support independent triple display.
- VGA: Resolution up to 1920*1200 pixels @60MHz
- DVI : Resolution up to 1920*1200 pixels @60MHz
- HDMI: Resolution up to 4096*2304 pixels @60MHz
- DP: Resolution up to 4096*2304 pixels @60MHz
  - * Supporting 4K display required two DDR channels of same size

Audio
- High definition audio interface (Compatible with NEXCOM audio daughter board PN: 10E000HDA00X0 EBK-HAD)

On-board LAN
- 1 x Intel® WG1219LM GbE PHY (PEAK 888Q support Intel® AMT 11)
- 1 x Intel® I211 Gigabit Ethernet Controller
- RJ45 with LED connecter x 2
- Support Boot from LAN (PXE)
- Support Wake on LAN

I/O Interface
- 1 x PCI Express x16 and 1 PCI Express x4 to backplane
  4 x PCI to backplane
- SATA port

PEAK 888H
  - 3 x SATA 3.0 Port (2 x SATA 3.0 to BP through BIOS setting)
  - 1 x M.2 2280 /22110 M Key (SATA 3.0)

PEAK 888Q
  - 5 x SATA 3.0 port (2 x SATA 3.0 to BP through BIOS setting)
  - 1 x M.2 2280/ 22110 M Key (NVMe Gen 3 PCIex4)
  - Support RAID 0/1/5/10
  - SIO: ITE8786 , COM 1,3,4 Support RS232 , COM2 support RS232/422/485 can be selected RI/5V/12V through jumper
  - PS2 KB/MS *1 JST connector

Block Diagram
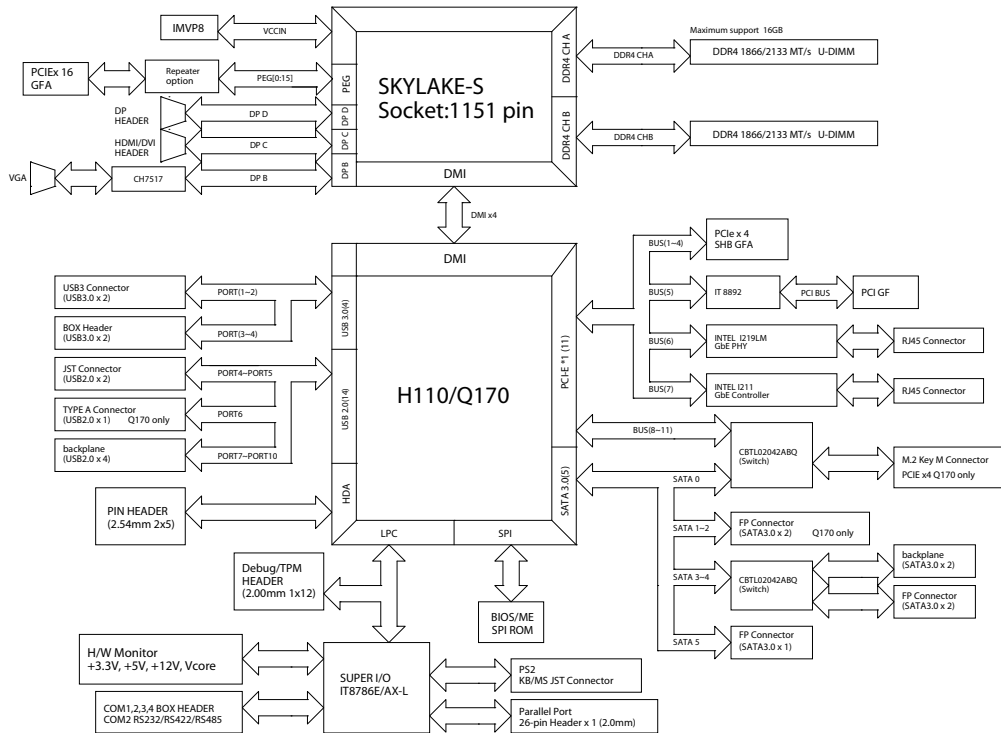
- Parallel Port: 26-pin box header x 1
- 6 Ports USB2.0 and 4 ports USB3.0
  2 ports USB2.0, 2 ports USB3.0
  1 port USB2.0 Type A (PEAK 888Q only)
  4 ports USB 2.0 through backplane
  2 ports USB 3.0 through I/O bracket
- 2*10 pin header to support TPM module
- 2 x Smart FAN connector (for CPU, system)
- On-board buzzer
- Watchdog time out can be programmable by software from 1 second to 255 seconds

Power Requirements
- Power source from backplane through golden finger and AUX +12V
- Support ATX/AT function by jumper setting
- BIOS default is (ATX MODE)

Dimensions
- 338.58mm x 126.39mm, 8 layers (single side)

Environment
- Board level operating temperatures: -20℃ to 60℃
- Storage temperatures: -20℃ to 85℃
- Relative humidity:
  0% to 90% (operating, non-condensing)
  0% to 95% (non-operating, non-condensing)

Certifications
- CE approval
- FCC Class A
- CB/CCC certification

Ordering Information

- **PEAK 888Q (P/N: 10P00088801X0)**
  PICMG 1.3 Full-size SBC,Q170, Intel® LGA1151 , DDR4 DIMM, VGA x1, LAN x2, USB3.0 x4, SATA3.0 x5

- **PEAK 888H (P/N: 10P00088800X0)**
  PICMG 1.3 Full-size SBC,H110, Intel® LGA1151,DDR4 DIMM, VGA x1, LAN x2, USB3.0 x4, SATA3.0 x4

PEAK 779VL2

Main Features

- Scalable platform 3rd generation Intel® Core™ i7/i5/i3 processors + non-ECC
- Intel® B75 PCH chipset support PICMG1.0 specification
- Support Dual channel DDR3 with Non-ECC DIMMs 1333/1600MHz, up to 16GB
- Support PCI/ISA, 4 x USB3.0/4 x USB2.0, 1 x SATA3.0/3 x SATA2.0 and 2 x GbE
- Display support for VGA, DVI, HDMI
- Dimension 338.58mm (L) x 122mm (W) (8 layers single side)

Product Overview

The PEAK 779VL2 is a PICMG1.0 Full-size single computing board featuring Intel® B75 PCH chipset supports 3rd generation Intel® Core™ processor with Dual DDR3 DIMM socket up to 16GB DDR3 1333/1600MHz SDRAM with Non-ECC support and integrated HD Graphic controller. The Intel® B75 PCH manages SATA2.0/3.0 Ports. Furthermore, it supports others versatile I/O ports such as legacy PCI & ISA interface, two series ports, KB/Mouse interface, optional TPM function, eight USB ports, and two Intel PCI express Gigabit LAN port. It offers a great solution for advance industrial application that requires superb display and processing performance.

Specifications

CPU Support
- Support Intel® LGA1155, 3rd generation Intel® Core™ processor
- Intel® Core i7-3770 (4C/8M cache/3.4GHz/Max. TDP 77W)
- Intel® Core i5-3550S (4C/6M cache/3.0GHz/Max. TDP 65W)
- Intel® Core i3-3220 (2C/3M cache/2.4GHz/Max. TDP 55W)
- Intel® Pentium® G2120 (2C/3M cache/1.6GHz/Max. TDP 65W)

Main Memory
- Dual DDR3/DIMMs, support 1333/1600MHz non-ECC system memory up to 16GB

Platform Control Hub
- Intel® B75 PCH chipset

BIOS
- AMI System BIOS
- Plug and play support
- Advanced power management and advanced configuration & power

Display
- Intel® HD graphics with DX11 support up to two independent displays
- Supports VGA and DVI/HDMI interfaces

Audio
- HDA interface with PIN header.

On-board LAN
- Intel® 82579LM Gigabit Ethernet
- Intel® 82574l Gigabit Ethernet
- Support PXE boot from LAN, wake on LAN function

I/O Interface
- USB: 3.0, 2 x ports through I/O bracket/2 x port through JST Connector
- USB2.0: 4 x ports through 2.5mm JST connectors
- Four SATA Port: one SATA 3.0/three SATA 2.0
- Four PCI interface/three ISA interface (through ITE8888)
- Two RJ45 Gigabit Ethernet LAN ports
- Four series ports (COM2 Supports RS232/422/485, RI pin can supply 5V/12V voltage)
- Parallel port through box header
- Keyboard/mouse interface
- HDA interface through pin header for audio function (optional)

Power Requirements
- +12V, +5V, +3.3V, +5VSB, +3.3V RTC power
- Power source form backplane through golden finger and AUX +12V
- Support ATX/AT Power supplies

Dimensions
- 338.58mm (L) x 122mm (W)

Environment
- Board level operating temperatures: -15°C to 60°C
- Storage temperatures: -20°C to 80°C
- Relative humidity:

Block Diagram
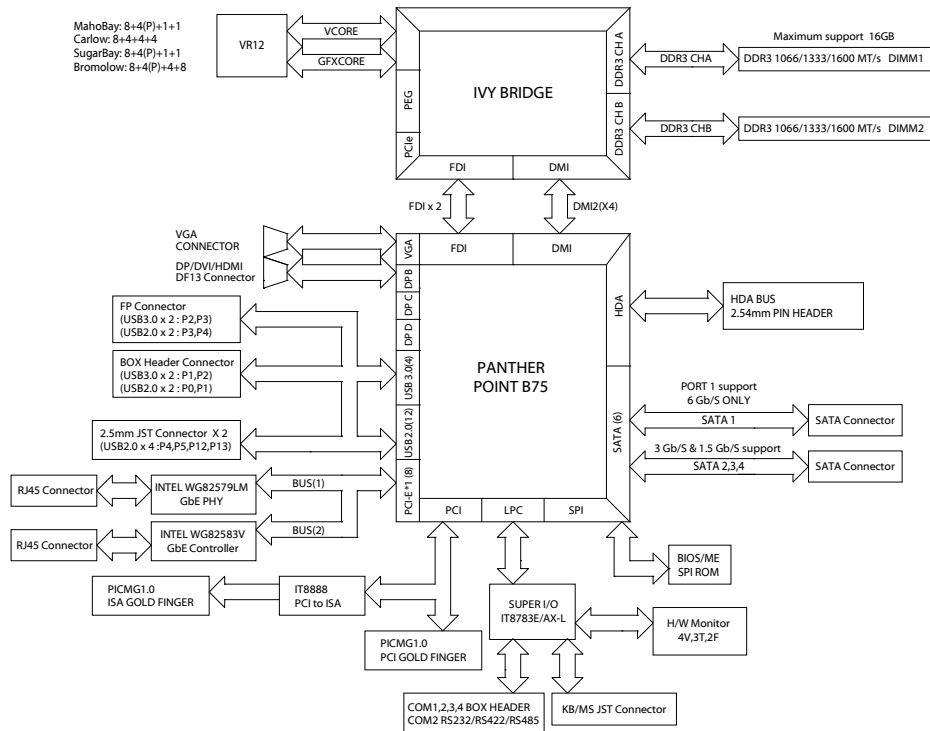
10% to 90% (operating, non-condensing)
5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Ordering Information

- **PEAK 779VL2 (P/N: 10P0779VL00X0)**
  PICMG 1.0 full-Size SBC, Intel® B75 chipset, 3rd generation Intel®
  Core™ i7/i5/i3 processor with DDR3 DIMM 1333/1600MHz up to 16G,
  VGA integrated, 2 x GbE, 4 x SATA
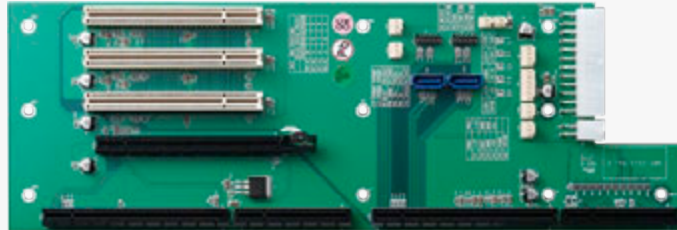
NBP 0513

Main Features

- Greater Powers Delivery Capability, Supports High Performance system Host Board and Add-on Card
- Follows PICMG 1.3 Mount Holes
- Supports 1 x PCIE x16/ 3 x PCI
- Power Connector Supports

- ATX Standard Power connector: Max 5A for 20-pin
  - Support AT Standard Power connector: Max 5A for 12-pin
  - Support +12V, 12V, 5V, 3.3V Power Connector
- Compliance with PICMG 1.3 Full-size SBC

Specifications

System Architecture
- 5-slot backplane

Dimensions
- 317mm (W) x 110mm (L)

Slot
- 1 x PICMG 1.3 (SHB slot)
- 1 x PCIE x16
- 3 x PCI

I/O Interface
- 2 x SATA

Power Input/output
- ATX Standard Power connector: Max 5A for 20-pin
- Support AT Standard Power connector

Environment
- Operating temperature: 0℃ to 60℃
- Storage temperature: -20℃ to 80℃
- Relative humidity:
  - Operating 10% to 90%, non-condensing
  - Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 0513 (P/N: 79N0051301X00) RoHS Compliant**
  PICMG 1.3 5-slot backplane ,1 SHB Slot, 1 x PCIE x16, 3 x PCI

Dimension Drawing

NBP 0522

Main Features

- Designed for PEAK870 and PEAK872
- Support 1 PCIex16/1, 1 PCIex4/1 and 1 x Full-sized PCI Add-on card
- Compatible with PCIMG 1.3 board

Specifications

System Architecture
- For 5-slot chassis

Dimensions
- 317.5mm (W) x 110.7mm (L)

Slots
- PICMG 1.3 (SBC slot)
- 1 x PCIex16 (default as PCIex1)
- 1 x PCIex4 (default as PCIex1)
- 2 x PCI 32bit/33MHz

Power Input
- 1 x 24pin Power connector

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  Operating 10% to 90%, non-condensing
  Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 0522 (P/N: 79N0052200X00)**
  PCIMG 1.3 w/ SBC slot, 1 x PCIex1, 1 PCIex1, and 2 x PCI slot

Dimension Drawing
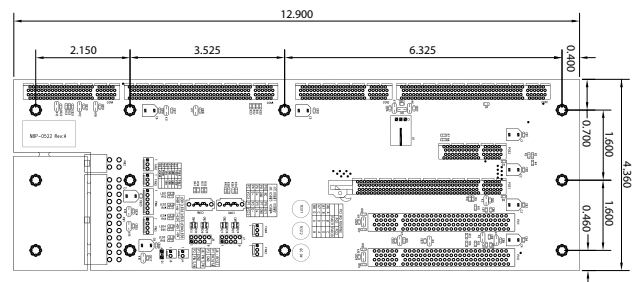
NBP 14210

Main Features

- Follows PICMG 1.3 Mount Holes and Compatible with GuangHsing's 4U Chassis
- 10 x PCI 32-bit/33MHz Supports 7 x PCI Full-sized Add-on Card
- Supports ATX/BTX Power Supply
- Compliance with PEAK 870VL2

Specifications

System Architecture
- 14-slot backplane

Dimensions
- 328mm (L) x 317mm (W) (12.91" x 12.48")

Slots
- 1 x PICMG 1.3 (SHB slot)
- 10 x PCI 32bit/33Mhz
- 1 x PCIex16
- 1 x PCIex4

I/O Interface
- 4 x USB2.0 with 2 x 9 pin-header
- 2 x SATA
- 3 x 3-pins FAN
- 1 x 6 Pin JST NEXCOM Defined Front I/O Connector for Power LED Connector/Power Switch/Reset Button connector

Power Input
- 1 x 24-pin power connector
- 1 x 8-pin 12V AUX power connector
- 1 x 4-pin 12V AUX power connector

Power Output
- 1 x 4-pins 12V AUX power connector to SBC/SHB

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  Operating 10% to 90%, non-condensing
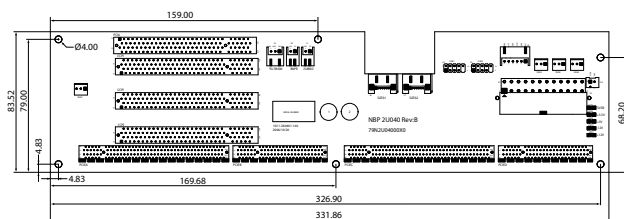 Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information
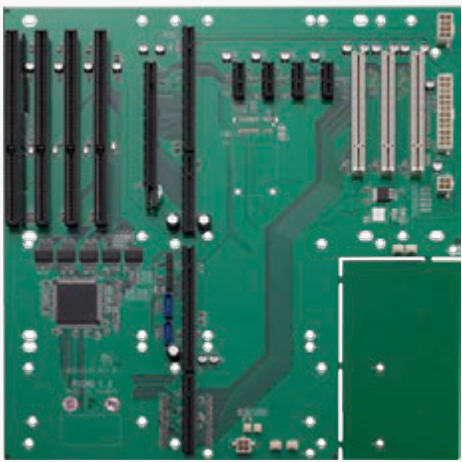
- **NBP 14210 (P/N: 79N1421000X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 SHB slot, 10 PCI slots, 1 PCIex16, 1 PCIex4

Dimension Drawing

NBP 14534
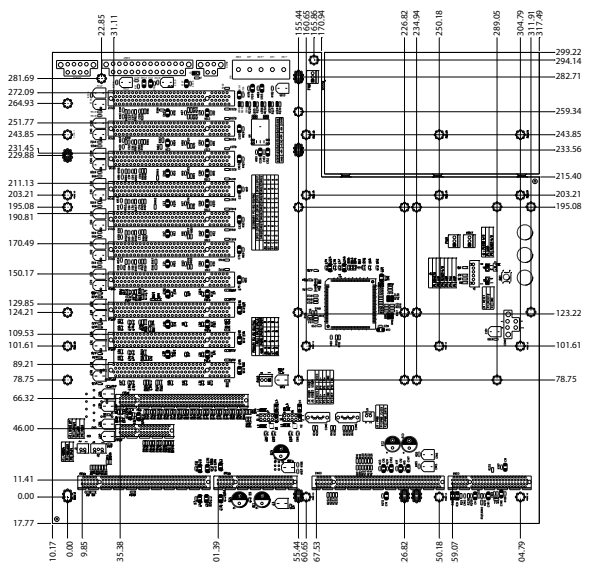
Main Features

- 4 ISA slots on PICMG 1.3 backplane
- Size : 317mm (W) x 328mm (L)

- Support ATX & BTX power supply

Specifications

System Architecture
- For 13-Slot chassis

Dimensions
- 317mm (W) x 328mm (L)

Slot
- PICMG1.3 (SBC Slot), Three PCI , Four ISA , Four PCIex1

Power Input
- 1 x 24pin power connector
- 1 x 8pin auxiliary power connector
- 1 x 4pin auxiliary power connector

Power Output
- 1 x 4pins 12V AUX power connector to SBC/SHB
- 1 x 4pins power connector for system fan

Environment
- Operating Temperature: 0°C~60°C (32°F~140°F)
- Storage Temperature: -20°C~60°C (-4°F~140°F)
- Operating Humidity: 10%~90% (Non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 14534 (P/N: 79N1453400X00) RoHS Compliant**
  PICMG 1.3 13 Slot Backplane for 4U chassis w/ SBC slot, 4 PCIe slot
  3 PCI slot, 4 ISA Slot, 1 Mini-PCIe (Reserved)

Dimension Drawing
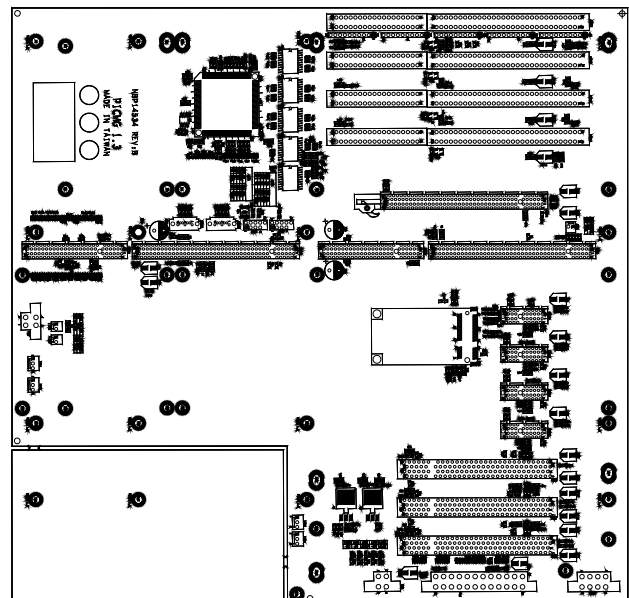
NBP 14570-BX
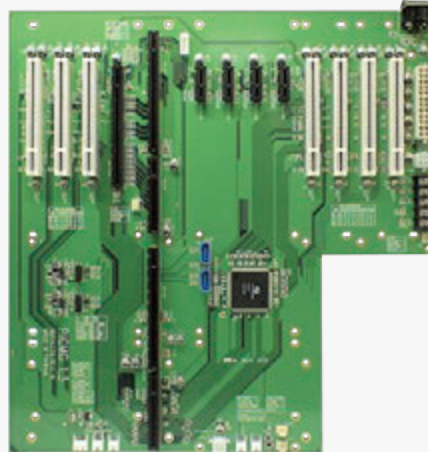
Main Features

- 1 x PICMG 1.3 (SHB Slot)/7 x PCI 32-bit/33MHz
- 1 x PCIex16 Lane/4 x PCIex1 Lane
- Supports ATX Power Supply

Specifications

System Architecture
- For 14-slot Chassis

Dimensions
- 317mm (L) x 328mm (W) (12.4" x 12.9")

Slots
- 1 x PICMG 1.3 (SHB slot)
- 7 x PCI 32bit/33Mhz
- 1 x PCIex16
- 4 x PCIex1

I/O Interface
- 4 x USB2.0 with 2 x 9 pin-header
- 2 x SATA
- 2 x 3pin fan
- 1 x 6 Pin JST NEXCOM defined front I/O connector for power LED connector/power switch/reset button connector

Power Input
- 1 x 24pin power connector
- 1 x Terminal Block

Power Output
- 1 x 4pin 12V AUX power connector to SBC/SHB

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
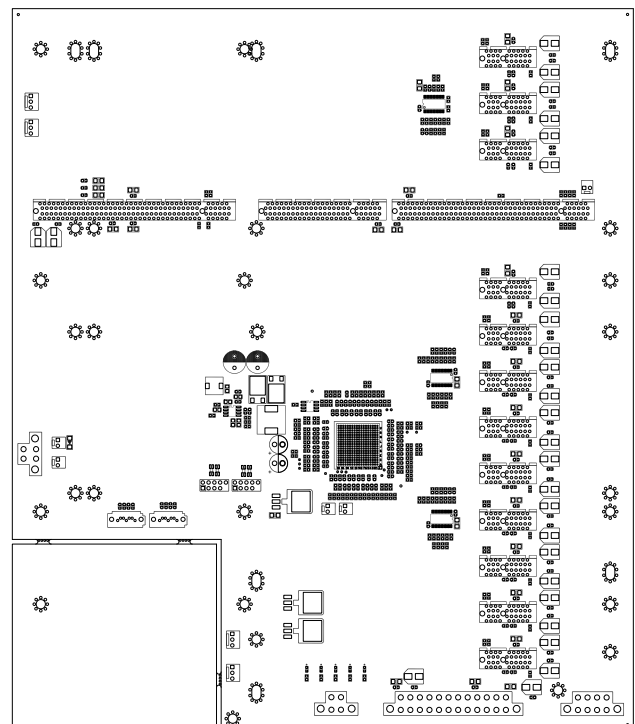- Relative humidity: 10% to 90% (Non-condensing)

Certifications
- CE approval
- FCC Class A
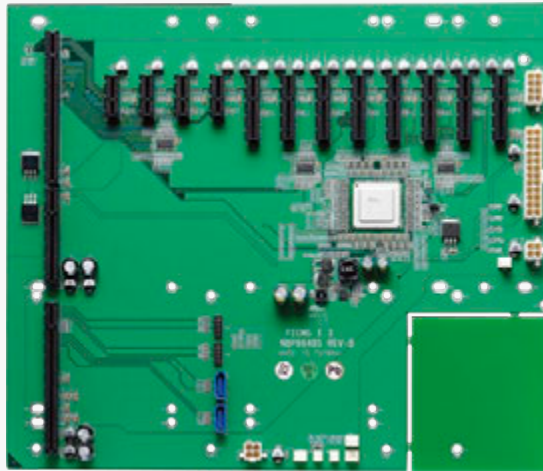
Ordering Information

- **NBP 14570-BX (P/N: 79N1457001X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 SHB slot, 7 PCI slots, 1 PCIex16, 4 PCIex1

Dimension Drawing

NBP 2U040
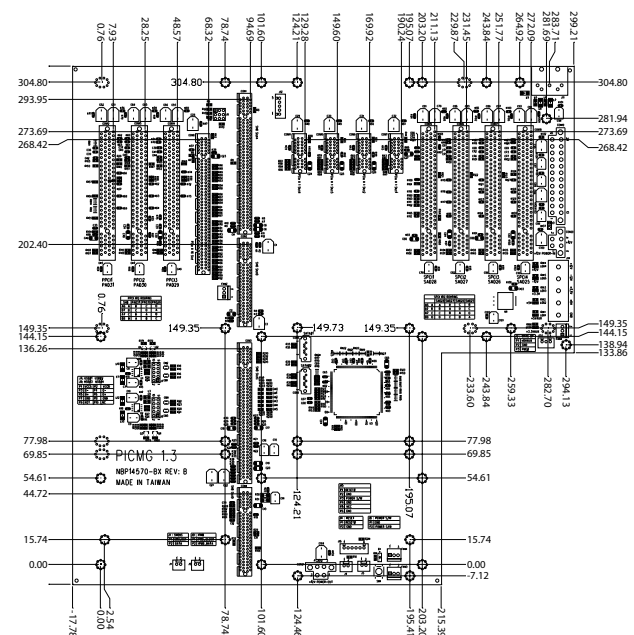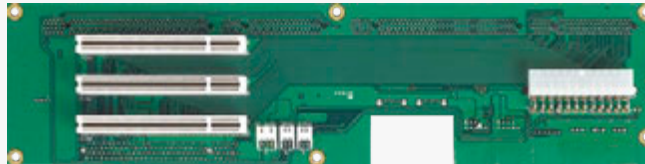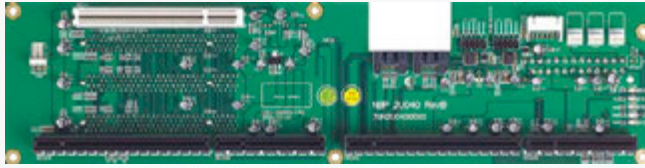
Main Features

- Designed for NEXCOM PBOX 240P with User Friendly Cabling
- Supports 3 Full-sized and 1 Half-sized PCI Add-on Card
- Compatible with GuangHsing's 2U PICMG 1.3 Chassis

Specifications

System Architecture
- 2U (Butterfly) backplane

Dimensions
- 331mm (L) x 84mm (W) (13.0" x 3.3")

Slots
- 1 x PICMG 1.3 (SHB slot)
- 4 x PCI 32bit/33Mhz (3 x Full-Sized/1 x Half-Sized supported)

I/O Interface
- 4 x USB2.0 with 2 x 9pin header
- 2 x SATA
- 1 x IPMI
- 1 x SMBUS
- 1 x Wake-up
- 4 x 3pins FAN
- 1 x 6 pin JST NEXCOM Defined front I/O Connector in 90°C,
  for Power LED Connector/Power Switch/Reset Button connector

Power Input
- 1 x 24pins power connector

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  Operating 10% to 90%, non-condensing
  Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC class A

Ordering Information

- **NBP 2U040 (P/N: 79N2U04000X00)**
  PICMG 1.3 butterfly backplane for 2U chassis w/ 1 SHB slot,
  4 PCI slots

Dimension Drawing

NBP 2U220
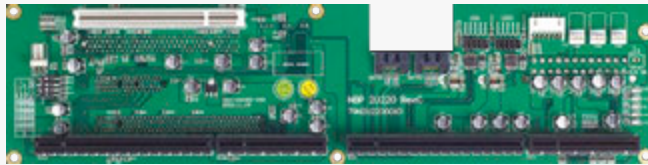
Main Features

- Designed for NEXCOM PBOX 240P with User Friendly Cabling
- Supports 1 PCIex16 and 1 x Full-sized PCIex4 Lane
- Compatible with GuangHsing's 2U PICMG 1.3 Chassis

Specifications

System Architecture
- 2U (Butterfly) backplane

Dimensions
- 331mm (L) x 84mm (W) (13.0" x 3.3")

Slots
- 1 x PICMG 1.3 (SHB slot)
- 2 x PCI 32bit/33Mhz (1 x Full-Sized/1 x Half-Sized supported)
- 1 x PCIex16
- 1 x PCIex4

I/O Interface
- 4 x USB2.0 with 2 x 9 pin-header
- 2 x SATA
- 1 x IPMI
- 1 x SMBUS
- 1 x Wake-up
- 4 x 3pins FAN
- 1 x 6pin JST NEXCOM Defined front I/O connector in 90℃,
  for Power LED Connector/Power Switch/Reset Button connector

Power Input
- 1 x 24pin power connector

Environment
- Operating temperature: 0℃ to 60℃
- Storage temperature: -20℃ to 80℃
- Relative humidity:
  Operating 10% to 90%, non-condensing
  Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 2U220 (P/N: 79N2U22000X00) RoHS Compliant**
  PICMG 1.3 butterfly backplane for 2U chassis w/ 1 SHB slot, 2 PCI slots,
  1 PCIex16 slot, 1 PCIex4 slots

Dimension Drawing
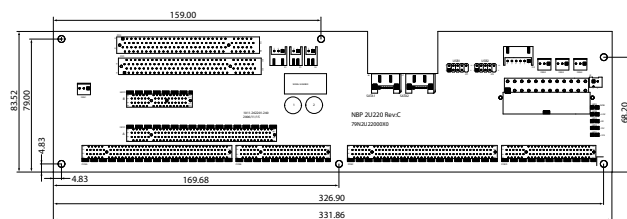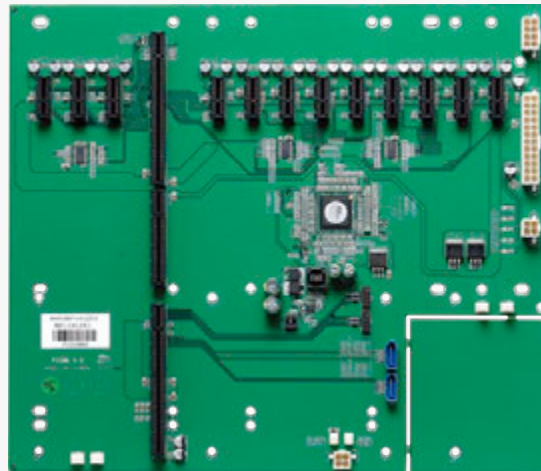
NBP 1412X1

Main Features

- Greater Powers Delivery Capability, Supports High Performance
- System Host Board and Add-on Card
- Follows PICMG 1.3 Mount Holes and Compatible with GuangHsing's
- 4U Chassis
- Supports 12 x PCIex1
- Supports ATX/BTX Power Supply
- Compliance with PEAK 877VL2, PEAK 886VL2, PEAK 887VL2

Product Overview

The NBP 1412X1 is a 14-slot backplane for 4U chassis with 1 SHB slot, 12 x PCIex1 slots. It follows PICMG 1.3 platform specifications and supports ATX power supply.

Specifications

System Architecture
- 14-slot backplane

Dimension
- 317mm (L) x 273mm (W) (12.4" x 10.7")

Slots
- 12 x PCIex1

I/O Interface
- 4 x USB 2.0 with 2 x 9 pin-header
- 2 x SATA
- 6 x 3-pin FAN

Power Input
- 1 x 24-pin power connector
- 1 x Terminal Block

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (Non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 1412X1 (P/N: 79N0141201X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 SHB slot, 12 PCIex1

Dimension Drawing

NBP 8648S

Main Features

- Greater Powers Delivery Capability, Supports High Performance System Host Board and Add-on Card
- Follows PICMG 1.3 Mount Holes and Compatible with GuangHsing's 4U Chassis
- Supports 4 x PCIex1 and 8 x PCIex4
- Supports ATX/BTX Power Supply
- Compliance with PEAK 877VL2, PEAK 886VL2, PEAK 887VL2

Product Overview

The NBP 8648S is a 14-slot backplane for 4U chassis with 1 SHB slot, 4 x PCIex1 and 8 x PCIex4 slots. It follows PICMG 1.3 platform specifications and supports ATX power supply.

Specifications

System Architecture
- 14-slot backplane

Dimension
- 317mm (L) x 274mm (W)(12.4" x10.7")

Slots
- 4 x PCIex1 and 8 x PCIex4

I/O Interface
- 4 x USB 2.0 with 2 x 9 pin-header
- 2 x SATA
- 4 x 3-pin FAN
- 2 x 2-pin FAN

Power Input
- 1 x 24-pin power connector

Power Onput
- 1 x 4-pin 12V AUX power connector to SBC/SHB

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (Non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 8648S (P/N: 79N8648S00X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 x SHB slot, 4 x PCIex1 and 8 x PCIex4
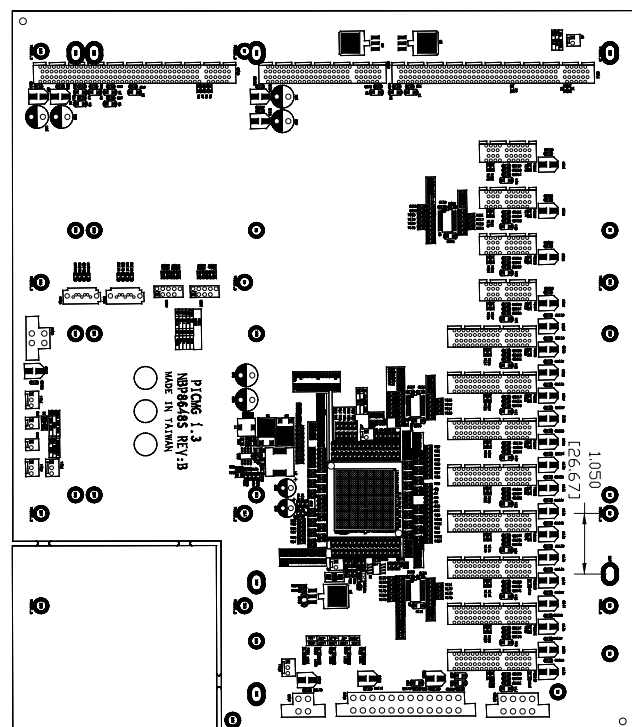
NBP 14282

PICMG 1.3 13-slot Backplane for 4U Chassis with
1 SHB Slot, 1 x PCIE x8/ 1 x PCIE x4/ 2 x PCI 32-bit/ 8 x PCI-X
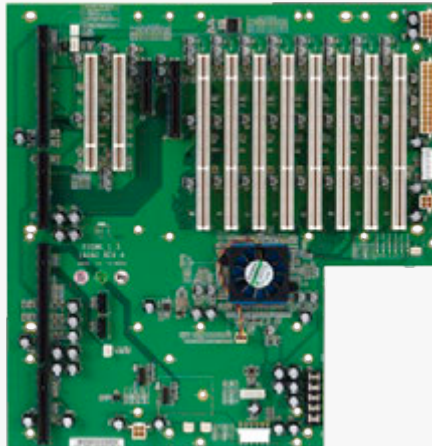
Main Features

- Greater Powers Delivery Capability, Supports High Performance system Host Board and Add-on Card
- Follows PICMG 1.3 Mount Holes and Compatible with standard 4U Chassis
- Supports PCIE-8 x 1/ PCIE-4 x 1/ 32-bit PCI x 2/ PCI-X x8

- Power Connector Supports
  - 24PINATX Power connector
  - Support AUXStandard Power connector
  - Support +12V, 12V, 5V, 3.3V Power Connector
- Compliance with PICMG 1.3 Full-size SBC

Specifications

System Architecture
- 13-slot backplane

Dimensions
- 317mm (L) x 327mm (W)

Slots
- 1 x PICMG 1.3 (SHB slot)
- 1 x PCIe x8
- 1 x PCIe x4
- 2 x 32-bit PCI
- 8 x PCI-X

I/O Interface
- 2 x USB 2.0 with 2 x 9 pin-header
- 2 x SATA

Power Input/output
- ATX Standard Power connector: BTX24-pin
- Support+12V Standard Power Connector: ATX +12V 4PIN x 2

Environment
- Operating temperature: 0℃ to 60℃
- Storage temperature: -20℃ to 80℃
- Relative humidity:
  - Operating 10% to 90%, non-condensing
 - Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 14282 (P/N: 79N01428200X0) RoHS Compliant**
  PICMG 1.3 13-slot backplane for 4U chassis, 1 SHB Slot, 1 x PCIEx 8, 1 x PCIE x4, 2 x PCI 32-bit, 8 x PCI-X

Dimension Drawing
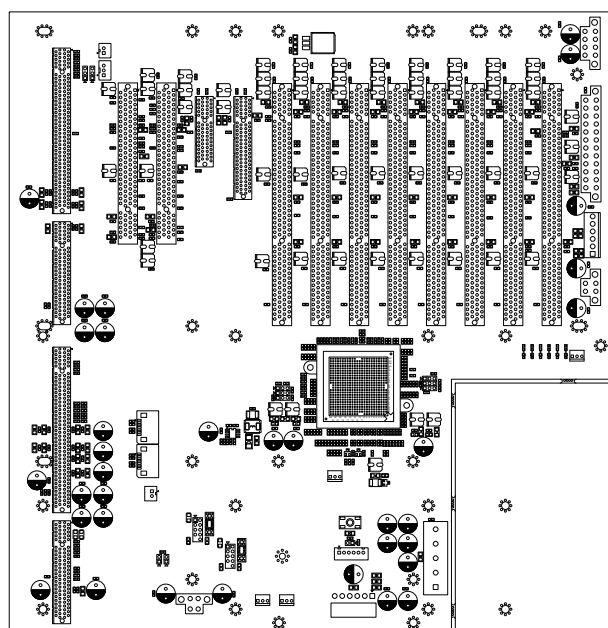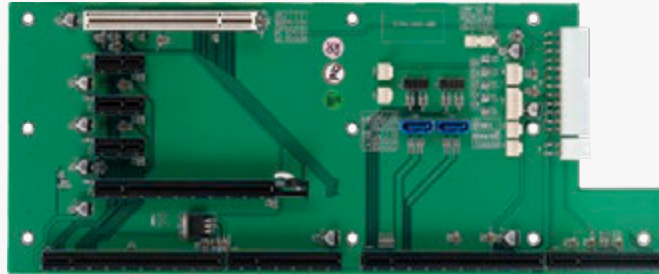
NBP 0641

Main Features

- Greater Powers Delivery Capability, Supports High Performance system Host Board and Add-on Card
- Follows PICMG 1.3 Mount Holes
- Supports 1 x PCIE x16/ 3 x PCIEx1/ 1 x PCI
- Power Connector Supports

- ATX Standard Power connector: Max 5A for 20-pin
  - Support AT Standard Power connector: Max 5A for 12-pin
  - Support +12V, 12V, 5V, 3.3V Power Connector
- Compliance with PICMG 1.3 Full-size SBC

Specifications

System Architecture
- 6-slot backplane

Dimensions
- 328mm (W) x 132mm (L)

Slot
- 1 x PICMG 1.3 (SHB slot)
- 1 x PCIE x16
- 3 x PCIe
- 1 x PCI

Power Input/output
- ATX Standard Power connector: Max 5A for 20-pin
- Support AT Standard Power connector

Environment
- Operating temperature: 0℃ to 60℃
- Storage temperature: -20℃ to 80℃
- Relative humidity:
  - Operating 10% to 90%, non-condensing
 - Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 0641 (P/N: 79N0064100X00) RoHS Compliant**
  PICMG 1.3 6-slot backplane,1 SHB Slot, 1 x PCIE x16, 3 x PCIEx1, 1 x PCI

Dimension Drawing
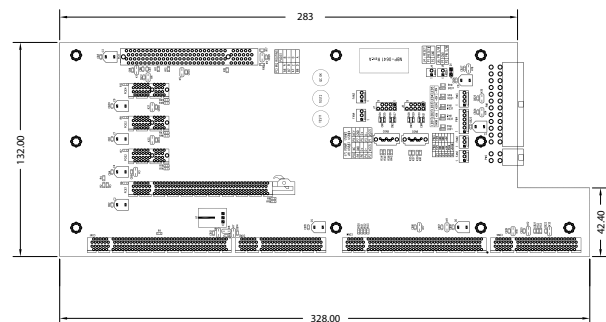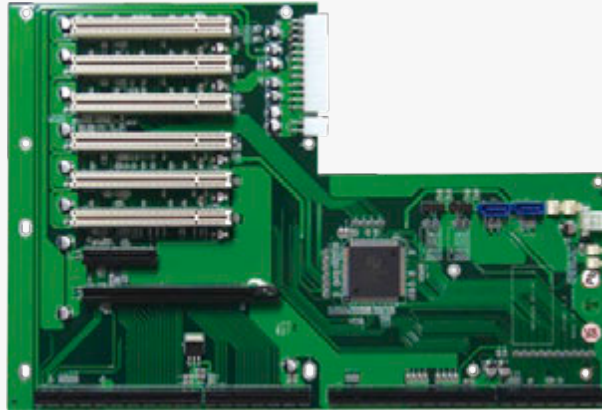
NBP 0926

PICMG 1.3 9-slot Backplane for 4U Chassis
with 1 SHB Slot, 6 x PCI Slots, 1 x PCIex16 Slots, 1 x PCIex4

Main Features

- Greater Powers Delivery Capability, Supports High Performance system Host Board and Add-on Card
- Follows PICMG 1.3 Mount Holes and Compatible with standard 4U Chassis
- Supports 6 x PCI 32-bit/33, 1 x PCIex16 Slots, 1 x PCIex4
- Supports ATX/BTX Power Supply
- Compliance with PICMG 1.3 Full-size SBC, PEAK 886VL2 and PEAK 887VL2

Specifications

System Architecture
- 9-slot backplane

Dimension
- 327 x 221(mm)

Slot
- 1 x PICMG 1.3 (SHB slot)
- 6 x PCI Slots 32-bit/33
- 1 x PCIex16 Slots
- 1 x PCIex4

I/O Interface
- 4 x USB 2.0 with 2 x 9 pin-header
- 2 x SATA

Power Input/output
- ATX Standard Power connector: BTX24-pin
- Support+12V Standard Power Connector: ATX +12V 4PIN x 2

Environment
- Operating temperature: 0℃ to 60℃
- Storage temperature: -20℃ to 80℃
- Relative humidity:
- Operating 10% to 90%, non-condensing
- Non-operating 5% to 95%, non-condensing

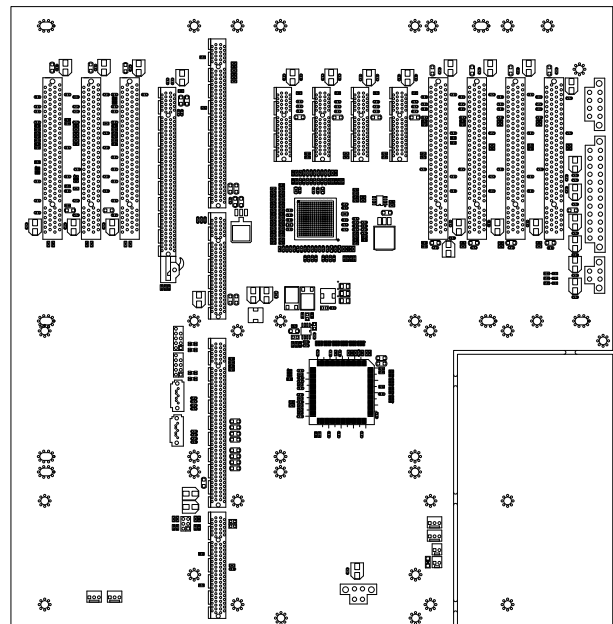### Certifications
- CE approval
- FCC Class A

Ordering Information

- NBP 0926 (P/N: 79N0092601X00) RoHS Compliant
  PICMG 1.3 9-slot backplane for 4U chassis w/ 1 SHB slot, 6 x PCI slots, 1 x PCIex16 slot, 1 x PCIex4
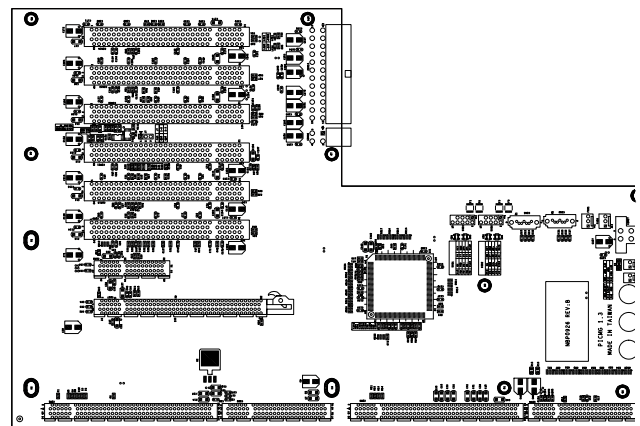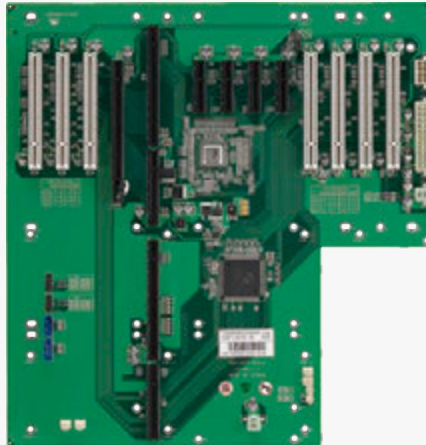
Dimension Drawing

NBP 14670

Main Features

- Greater Powers Delivery Capability, Supports High Performance system Host Board and Add-on Card
- Follows PICMG 1.3 Mount Holes and Compatible with standard 4U Chassis
- Supports 1 x PCIE x16, 4 x PCIE x4, 7 x PCI

- Power Connector Supports
- 24 PIN ATX Power connector
- 8 PIN AUX Standard Power connector
- Support ±12/5V/3.3V Power Connector
- Compliance with PICMG 1.3 Full-size SBC

Specifications

System Architecture
- 13-slot backplane

Dimensions
- 317mm (L) x 328mm (W) (12.4" x 12.9")

Slots
- 1 x PICMG 1.3 (SHB slot)
- 1 x PCIe x16
- 4 x PCIe x4
- 7 x PCI

I/O Interface
- USB 2.0 with 2 x 10 pin-headers
- 2 x SATA
- 1 x 3 pin fan
- connector for power LED/reset button connector

Power Input
- ATX Standard Power connector: BTX24-pin
- Support+12V Standard Power Connector: ATX +12V 4PIN x 2

Power Output
- 1 x 4pin 12V AUX power connector to SBC/SHB

Environment
- Operating temperature: 0℃ to 60℃
- Storage temperature: -20℃ to 80℃
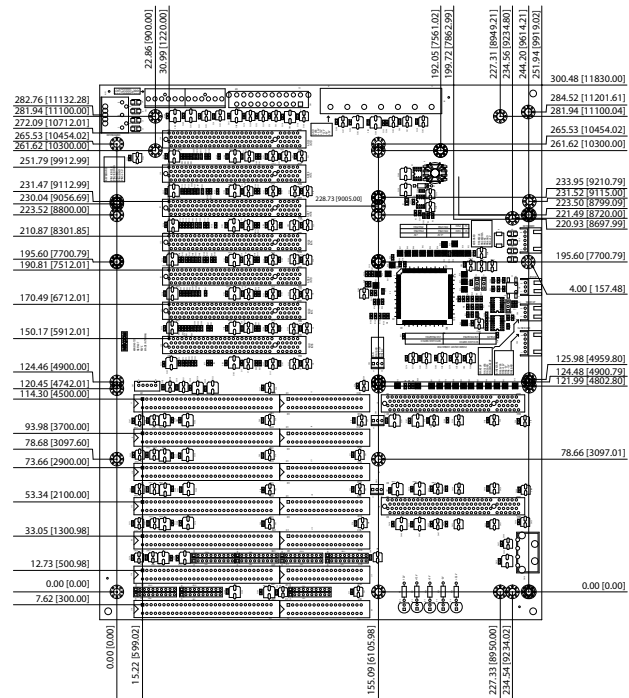- Relative humidity:
- Operating 10% to 90%, non-condensing
- Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP14670 (P/N: 7A00000153X00) RoHS Compliant**
  PICMG 1.3 13-slot backplane for 4U chassis,1 x SHB Slot, 1 x PCIE x16, 4 x PCIE x4, 7 x PCI

Dimension Drawing

NBP 1407P
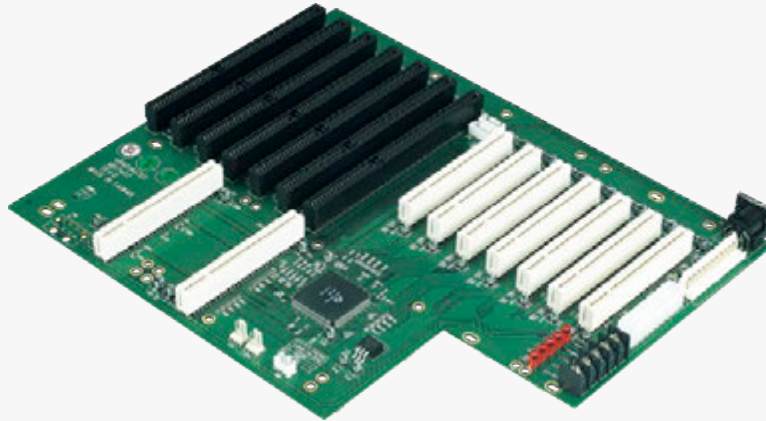
Main Features

- 7 x PCI/2 x PICMG/PICMG/5 x ISA Slots
- Size: 315mm x 310mm

- Supports ATX Power Supply

Specifications

System Architecture
- For 14-Slot Chassis

Dimensions
- 315mm (L) x 310mm (W) (12.8" x 12.2")

Slots
- PICMG1.0 (SBC Slot), 7 x PCI, 5 x ISA

Power Input
- 1 x 20pin power connector
- 1 x Terminal Block

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (Non-condensing)

Certification
- CE approval
- FCC Class A

Ordering Information

- **NBP 1407P (LF) (P/N: 79N1407P00X00)**
  PICMG 1.0 14-slot backplane for 4U chassis w/ SBC slot, 7 PCI slots, 5 ISA slots

Dimension Drawing

NBP 1412P
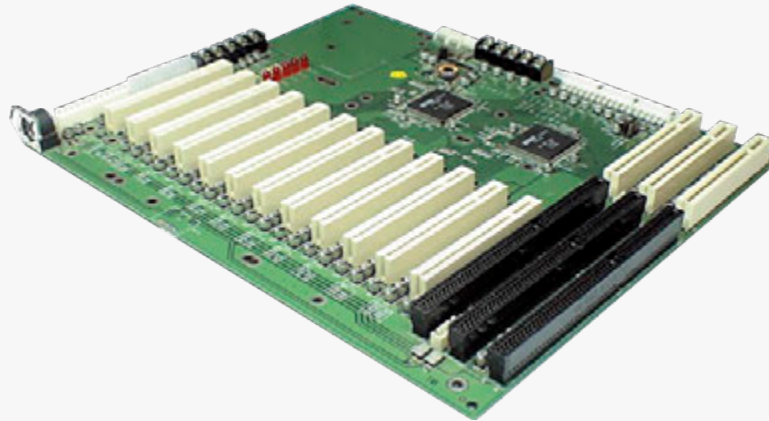
Main Features

- 12 x PCI/3 x PICMG Slots
- Size: 315mm x 260mm
- Supports ATX or AT Power Supply

Specifications

System Architecture
- For 14-slot Chassis

Dimension
- 315mm (L) x 260mm (W) (12.4" x 10.2")

Slots
- PICMG 1.0 (SBC Slot)
- 12 x PCI slots

Power Input
- 1 x 20pin power connector
- 1 x NEXCOM peripheral power connector
- 1 x Terminal Block

Environment
- Operating temperatures: 0°C to 60°C
- Storage temperatures: -20°C to 80°C
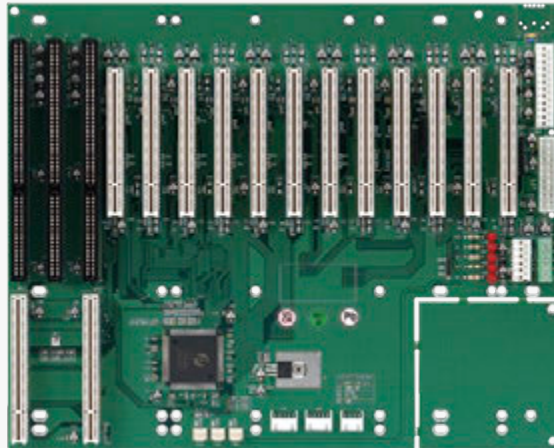- Relative humidity: 10% to 90% (Non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 1412P(LF) (P/N: 10N01412P00X0)**
  PICMG 1.0 14-slot backplane for 4U chassis w/ SBC slot, 12 PCI slots

Dimension Drawing

NBP 14P12
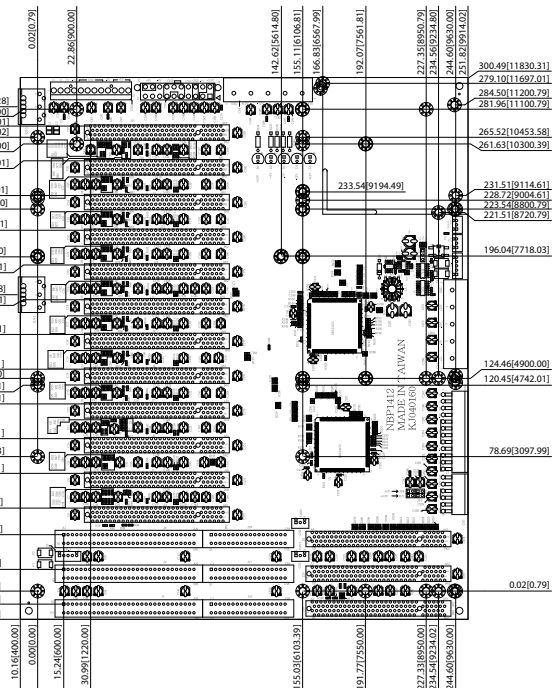
Main Features

- Follows PICMG 1.0 Mount Holes and Compatible with standard 4U Chassis
- Supports 1 x ISA / 12 x PCI
- PCI Compliant with the following Specification
  - Three 5V 32bit PCI slots for full-size boards on the Primary bus.
  - 5V/3.3V 32-bit PCI slots for full-size boards on the secondary bus
  - Supports PCI Local Bus Specification Revision 2.2, Advanced Configuration

- Power Interface(ACPI), PCI Power Management Revision 1.0
- Power Connector Supports
- 24 PIN ATX Power connector
- 8 PIN AUX Standard Power connector
- 6 PIN ATX +3.3V Power connector
- Support ±12V, 5V, 3.3V Power Connector
- Compliance with PICMG 1.0 Full-size SBC

Specifications

System Architecture
- 15-slot backplane

Dimensions
- 317mm (L) x 257mm (W)

Slots
- 3 x PICMG 1.0 (SHB slot)
- 1 x ISA
- 12 x PCI

Power Input/output
- ATX Standard Power connector: BTX24-pin
- Support+12V Standard Power Connector: ATX +12V 4PIN x 2

Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  - Operating 10% to 90%, non-condensing
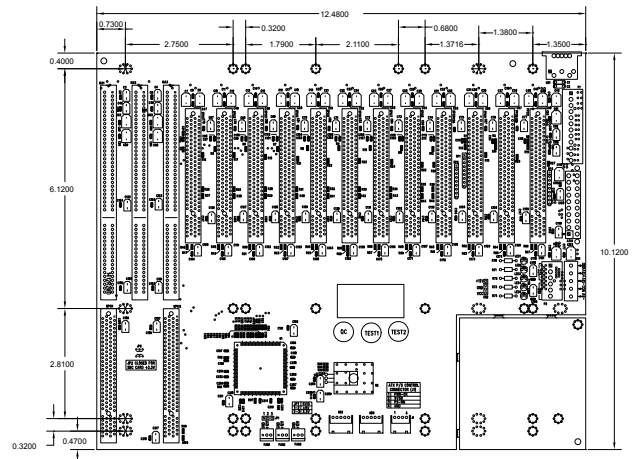 - Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

- **NBP 14P12 (P/N: 79N0014P01X00) RoHS Compliant**
  PICMG 1.0 15-slot backplane for 4U chassis w/ 1 SHB slot,
  2 PICMG1.0 Slot, 1 x ISA, 12 x PCI

Dimension Drawing

IFA 1610

Core**Fort**™ Industry Firewall, 2 ports VPN Router

Main Features

- Stateful (L4) packet firewall
- Intrusion prevention (IPS)
- SSL VPN secure remote access
- Serial gateway (RS485)
- Operating temperature range, from 0°C (32°F) up to 60°C (140°F)
- Compact palm size

Product Overview

The Core**Fort**™ industry firewall series is a fully integrated industry 2 ports firewall router with VPN function. The fully equipped, broadband-capable firewall router offers a stateful packet inspection firewall, denial-of-service(DoS)/distributed denial-of-service(DDoS) protection and intrusion prevention, portscan detection, and real-time alerts. It gives additional protection for machinery and equipment installed on the secure side of the firewall. Equipped with SSL VPN functions, the Core**Fort**™ industry firewall provides a remote access infrastructure to secure connections, and helps machine builder/system integrator to design easily maintained systems. Furthermore, its full-industrial design is ideal for industrial environment application.

Pairing VPN capabilities, the Core**Fort**™ industry firewall series is an ideal endpoint connectivity and security solution for industrial automation, process control, energy and medical instrument remote management application.

Specifications

Network Security
- Stateful packet firewall
- Intrusion detection/prevention (IDS/IPS)
- Multiple public IPs
- SNMP support (V1/V2/V3)
- VoIP/SIP support
- Portscan detection
- DoS and DDoS protection
- SYN/ICMP flood protection
- DNS proxy/routing

WAN
- Supports uplinks/WANs: Ethernet (Static/DHCP), PPPoE

Traffic Shaping
- Bandwidth management

User Authentication
- Active directory/NTLM
- LDAP
- Local

Network Address Translation
- Destination NAT
- Incoming routed traffic

- One-to-one NAT
- Source NAT (SNAT)
- IPSec NAT Traversal

Bridging
- Firewall stealth mode
- OSI-layer 2 firewall-function
- Spanning tree
- Unlimited bridges
- Unlimited interfaces per bridge

VPN (Virtual Private Network)
- IPsec
  - Encryption: 3DES, AES 128/256-bit,MD5, SHA1
  - Diffie Hellman (2, 5, 14, 15, 16,17,18)
  - Authentication: Pre-Shared Key, RSA Keys X.509-certificates IKEv1, L2TP
  - DPD (dead peer detection)
  - NAT Traversal
  - Compression
  - PFS (perfect forward secrecy)
  - VPN: site-to-site
  - VPN: client-to-site (road warrior)
  - Integrated certificate authority

Block Diagram
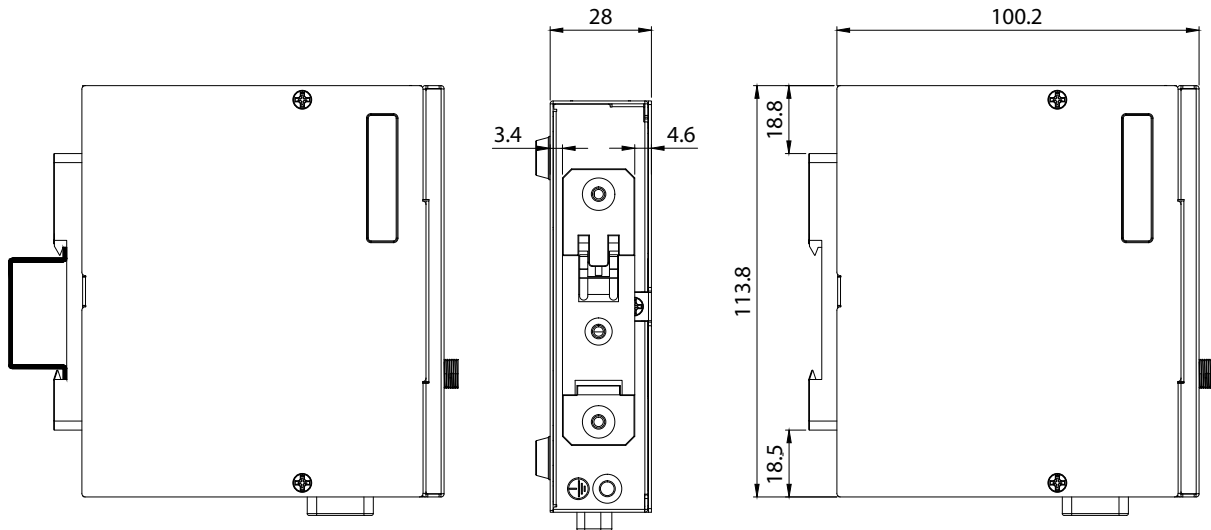
- True SSL/TLS VPN (OpenVPN)
  - Encryption: DES, 3DES, AES 128/192/256-bit, CAST5, Blowfish
  - Authentication: Pre-shared key, X.509-certificates , certification authority, and local
  - Support for VPN over HTTPS proxy (OpenVPN)
  - PPTP passthrough
  - VPN: site-to-site
  - VPN: client-to-site (road warrior)
  - VPN client for Microsoft Windows, Mac OS X and Linux
  - Multiple logins per user

Services
- Event notification & handling
- NTP (network time protocol)
- DHCP server
- SNMP server
- DynDNS

Logs and Reports
- Customizable real-time dashboard
- Live log viewer (AJAX based)
- Detailed user based web access report
- Network/system/performance statistics
- Rule-based logging settings (firewall rules)
- Syslog: local or remote
- openTSA trusted time stamping

Management
- Easy web-based administration (SSL)
- Secure remote SSH/SCP access
- Centralized management (via SSL)

Updates and Backup
- Centralized updates through Core**Fort**™ network
- Scheduled backup
- Encrypted backups via e-mail
- Instant recovery/backup to USB stick

Hardware Specification
- 1 x 10/100/1000 Base-T Ethernet WAN
- 1 x 10/100/1000 Base-T Ethernet LAN
- 2 x USB
- RS232/422/485
- microSD 4GB

Physical and Power
- DIN rail/wall mount (optional)/desktop
- Fanless
- Dimension(H x W x D): 110 x 25.4 x 100mm
- Weight(G.W. Kg):0.51 Kg
- IP30
- DC Jack/terminal block ,24V DC

Environmental Specification
- Operating temperature 0°C ~ 60°C (32°F ~ 140°F)
- Storage temperature -20°C ~ 70°C (-4°F ~ 158°F)
- Humidity:10% ~ 90%, non-condensing

Certification
- Safety: UL 508
- FCC/CE/RoHS

Package Content
- IFA1610 x 1
- QIG x 1
- Power input 5.08mm terminal block x 1

Ordering Information
- **IFA 1610 (P/N: 10IF0161000X0)**
  Industry firewall 2 ports VPN router (3 years service & maintenance)

IFA 2610

CoreFort™ Industry Firewall, 3 ports VPN Router with Rugged Design

Main Features

- Stateful (L4) packet firewall
- Intrusion prevention (IPS)
- SSL VPN secure remote access

- DI/DO support
- Serial gateway (RS485)
- Versatile logging & report system

Product Overview

The CoreFort™ industry firewall series is a fully integrated industry 3 ports firewall router with VPN function. The fully equipped, broadband-capable firewall router offers a stateful packet inspection firewall, denial-of-service(DoS)/distributed denial-of-service(DDoS) protection and intrusion prevention, portscan detection, and real-time alerts. It gives additional protection for machinery and equipment installed on the secure side of the firewall. Equipped with SSL VPN functions, the CoreFort™ industry firewall provides a remote access infrastructure to secure connections, and helps machine builder/system integrator to design easily maintained systems. Furthermore, its tough fully-rugged design is ideal for harsh environment application.

Pairing VPN capabilities, the CoreFort™ industry firewall series is an ideal endpoint connectivity and security solution for industrial automation, process control, energy and medical instrument remote management application.

Specifications

Network Security
- Stateful packet firewall
- Intrusion detection/prevention (IDS/IPS)
- Multiple public IPs
- SNMP support (V1/V2/V3)
- VoIP/SIP support
- Portscan detection
- DoS and DDoS protection
- SYN/ICMP flood protection
- DNS proxy/routing

Multi-WAN/Failover
- Supports multiple uplinks/WANs: Ethernet (Static/DHCP), PPPoE, Analog/UMTS modem
- Automatic WAN uplink failover
- Monitoring of WAN uplinks

Traffic Shaping
- Bandwidth management

User Authentication
- Active directory /NTLM
- LDAP
- Local

Network Address Translation
- Destination NAT
- Incoming routed traffic
- One-to-one NAT
- Source NAT (SNAT)
- IPSec NAT Traversal

High Availability
- Hot standby (active/passive)
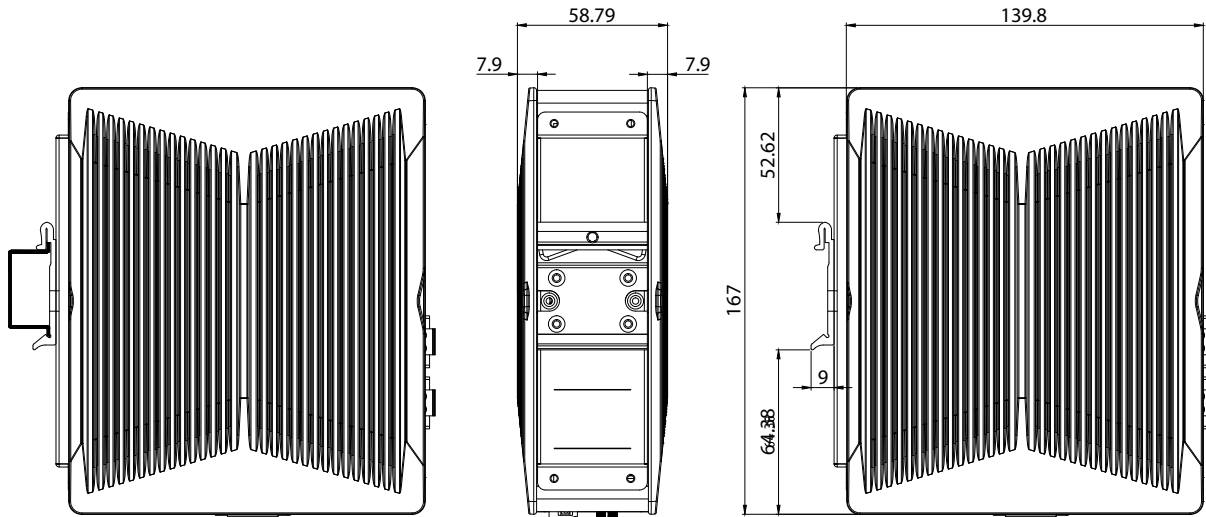- Node Data/configuration synchronization

Bridging
- Firewall stealth mode
- OSI-layer 2 firewall-function
- Spanning tree
- Unlimited bridges
- Unlimited interfaces per bridge

VPN (Virtual Private Network)
- IPsec
  - Encryption: 3DES, AES 128/256-bit,MD5, SHA1
  - Diffie hellman (2, 5, 14, 15, 16,17,18)
  - Authentication: Pre-shared key, RSA keys X.509-certificates IKEv1, L2TP
  - DPD (dead peer detection)
  - NAT Traversal
  - Compression
  - PFS (perfect forward secrecy)

Block Diagram

- VPN: site-to-site
- VPN: client-to-site (road warrior)
- Integrated certificate authority
- True SSL/TLS VPN (OpenVPN)
  - Encryption: DES, 3DES, AES 128/192/256-bit, CAST5, Blowfish
  - Authentication: Pre-shared key, X.509-certificates , certification authority, and local
  - Support for VPN over HTTPS proxy (OpenVPN)
  - PPTP passthrough
  - VPN: site-to-site
  - VPN: client-to-site (road warrior)
  - VPN: client for Microsoft Windows, Mac OS X and Linux
  - Multiple logins per user
  - VPN failover

Services
- Event notification & handling
- NTP (network time protocol)
- DHCP server
- SNMP server
- DynDNS

Logs and Reports
- Customizable real-time dashboard
- Live log viewer (AJAX based)
- Detailed user based web access report
- Network/system/performance statistics
- Rule-based logging settings (firewall rules)
- Syslog: local or remote
- openTSA trusted time stamping

Management
- Easy Web-based administration (SSL)
- Secure remote SSH/SCP access
- Centralized management (via SSL)

Updates and Backup
- Centralized updates through Core**Fort**™ network
- Scheduled backup
- Encrypted backups via e-mail
- Instant recovery/backup to USB stick

Routing
- Static routes
- Source-based routing
- Destination-based routing
- Policy-based routing (based on interface, MAC, protocol, or port)

Hardware Specification
- 1 x 10/100/1000 Base-T Ethernet WAN
- 2 x 10/100/1000 Base-T Ethernet LAN
- 1 x USB
- 1 x DI/DO
- RS-232/422/485
- microSD 4GB

Physical and Power
- DIN rail/wall mount (optional)
- Fanless
- Dimension(H x W x D): 167 x 59 x 140mm
- Weight(G.W. Kg):1.90Kg
- IP30
- Terminal block,24V DC

Environmental Specification
- Operating temperature 0°C ~ 60°C (32°F ~ 140°F)
- Storage temperature -20°C ~ 70°C(-4°F ~ 158°F)
- Humidity: 5% ~ 95%, non-condensing

Certification
- Safety: UL 508
- FCC/CE/RoHS

Package Content
- IFA 2610 x 1
- QIG x 1
- Power Input 5.08mm terminal block x 1
- DI/DO terminal block x 1

Ordering Information

- **IFA 2610 (P/N: 10IF0261000X0)**
  Industry firewall 3 ports VPN router (3 years service & maintenance)

IFA 3610

Main Features

- Stateful (L4) packet firewall
- Intrusion prevention (IPS)
- SSL VPN secure remote access

- DI/DO support
- Serical gateway (RS485)
- Wide temperature range, up to 70°C (158°F)

Product Overview

The Core**Fort**™ industry firewall series is a fully integrated industry multi-port firewall router with VPN function. The fully equipped, broadband-capable firewall router offers a stateful packet inspection firewall, denial-of-service(DoS)/distributed denial-of-service(DDoS) protection and intrusion prevention, portscan detection, and real-time alerts. It gives additional protection for machinery and equipment installed on the secure side of the firewall. Equipped with SSL VPN functions, the Core**Fort**™ industry firewall provides a remote access infrastructure to secure connections, and helps machine builder/system integrator to design easily maintained systems. Furthermore, its tough fully-rugged design is ideal for harsh environment application. With wide temperature range up to to 70°C (158°F) degree, it offers reliable communication network in extreme temperature conditions.

Pairing VPN capabilities, the Core**Fort**™ industry firewall series is an ideal endpoint connectivity and security solution for industrial automation, process control, energy and medical instrument remote management application.

Specifications

Network Security
- Stateful packet firewall
- Intrusion detection/prevention (IDS/IPS)
- Multiple public IPs
- SNMP support (V1/V2/V3)
- VoIP/SIP support
- Portscan detection
- DoS and DDoS protection
- SYN/ICMP flood protection
- DNS proxy/routing

Multi-WAN/Failover
- Supports multiple Uplinks/WANs: Ethernet (Static/DHCP), PPPoE, Analog/UMTS modem
- Automatic WAN uplink failover
- Monitoring of WAN uplinks

Traffic Shaping
- Bandwidth management

User Authentication
- Active directory /NTLM
- LDAP
- Local

Network Address Translation
- Destination NAT
- Incoming routed traffic
- One-to-one NAT
- Source NAT (SNAT)
- IPSec NAT Traversal

High Availability
- Hot standby (active/passive)
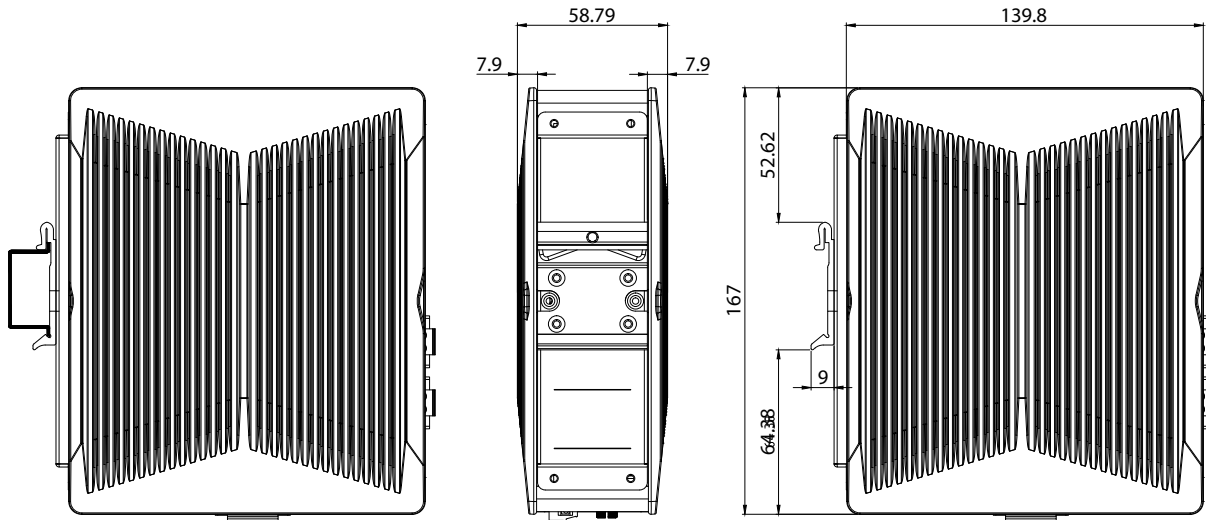- Node Data/Configuration Synchronization

Bridging
- Firewall Stealth Mode
- OSI-layer 2 firewall-function
- Spanning tree
- Unlimited bridges
- Unlimited interfaces per bridge

VPN (Virtual Private Network)
- IPsec
  - Encryption: 3DES, AES 128/256-bit,MD5, SHA1
  - Diffie Hellman (2, 5, 14, 15, 16,17,18)
  - Authentication: Pre-Shared Key, RSA Keys X.509-certificates IKEv1, L2TP
  - DPD (Dead Peer Detection)
  - NAT-Taversal
  - Compression
  - PFS (perfect forward secrecy)

Block Diagram

- VPN: site-to-site
- VPN: client-to-site (road warrior)
- Integrated certificate authority
- True SSL/TLS VPN (OpenVPN)
  - Encryption: DES, 3DES, AES 128/192/256-bit, CAST5, Blowfish
  - Authentication: Pre-shared key, X.509-certificates , certification authority, and local
  - Support for VPN over HTTPS proxy (OpenVPN)
  - PPTP passthrough
  - VPN: site-to-site
  - VPN: client-to-site (road warrior)
  - VPN: client for Microsoft Windows, Mac OS X and Linux
  - Multiple logins per user
  - VPN failover

Services
- Event notification & handling
- NTP (network time protocol)
- DHCP server
- SNMP server
- DynDNS

Logs and Reports
- Customizable real-time dashboard
- Live Log Viewer (AJAX based)
- Detailed user based web access report
- Network/system/performance statistics
- Rule-based logging settings (firewall rules)
- Syslog: local or remote
- OpenTSA trusted time stamping

Management
- Easy web-based administration (SSL)
- Secure remote SSH/SCP access
- Centralized management (via SSL)

Updates and Backup
- Centralized updates through Core**Fort**™ network
- Network
- Scheduled backup
- Encrypted backups via e-mail
- Instant recovery/backup to USB stick

Routing
- Static routes
- Source-based routing
- Destination-based routing
- Policy-based routing (based on interface, MAC, protocol, or port)

Hardware Specification
- 1 x 10/100/1000 Base-T Ethernet WAN
- 4 x 10/100/1000 Base-T Ethernet LAN
- 1 x USB
- 1 x DI/DO
- RS-232/422/485
- microSD 4GB

Physical and Power
- DIN rail/wall mount (optional)
- Fanless
- Dimension (H x W x D): 167mm x 59mm x 140mm
- Weight(G.S. Kg):1.90Kg
- IP30
- Dual power input 24VDC

Environmental Specification
- Operating temperature: -20°C ~ 70°C/-4°F ~ 158°F
- Storage temperature: -40°C ~ 80°C/-40°F ~ 176°F
- Humidity: 5% ~ 95%, non-condensing

Certification
- Safety: UL 508
- FCC/CE/RoHS

Package Content
- IFA 3610 x 1
- QIG x 1
- Power Input 5.08mm terminal block x 2
- DI/DO terminal block x 1

Ordering Information

- **IFA 3610 (P/N: 10IF0361000X0)**
  Industry firewall 5 ports VPN router (3 years service & maintenance)

IVD 1000

Main Features

- Fully-integrated VPN server
- Stateful (L4) packet firewall
- SSL VPN secure remote access
- Serial gateway (RS485)
- Up to 25/100 concurrent licenses
- Redundant storage (RAID1)

Product Overview

With the Core**Fort**™ VPN Dispatcher, users can define and manage network connections with extreme flexibility, adapting them to suit the specific needs, like create multiple and distributed networks using VPN gateway to gateway and enable remote connections to your network and take advantage of the intuitive VPN client, which is universally compatible with Windows, Mac OS X and Linux…and so on.

Specifications

Network Security
- Stateful packet firewall
- Intrusion detection/prevention (IDS/IPS)
- Multiple public IPs
- SNMP support (V1/V2/V3)
- VoIP/SIP support
- Portscan detection
- DoS and DDoS protection
- SYN/ICMP flood protection
- DNS proxy/routing
-

Multi-WAN/Failover
- Supports multiple uplinks/WANs:
  Ethernet (Static/DHCP), PPPoE, Analog/UMTS modem
- Automatic WAN uplink failover
- Monitoring of WAN uplinks

Traffic shaping
- Bandwidth management

User Authentication
- Active directory/NTLM
- LDAP
- Local

Network Address Translation
- Destination NAT
- Incoming routed traffic

- One-to-one NAT
- Source NAT (SNAT)
- IPSec NAT traversal

High Availability
- Hot standby (active/passive)
- Node data/configuration synchronization

Bridging
- Firewall stealth mode
- OSI-layer 2 firewall-function
- Spanning tree
- Unlimited bridges
- Unlimited interfaces per bridge

VPN (Virtual Private Network)
- IPsec
  - Encryption: 3DES, AES 128/256-bit,MD5, SHA1
  - Diffie hellman (2, 5, 14, 15, 16,17,18)
  - Authentication: Pre-shared key, RSA keys X.509-certificates IKEv1, L2TP
  - DPD (Dead Peer Detection)
  - NAT Traversal
  - Compression
  - PFS (perfect forward secrecy)
  - VPN: site-to-site
  - VPN: client-to-site (road warrior)
  - Integrated certificate authority

NEXCOM

- True SSL/TLS VPN (OpenVPN)
  - Encryption: DES, 3DES, AES 128/192/256-bit, CAST5, blowfish
  - Authentication: Pre-shared key, X.509-certificates, certification authority, and local
  - Support for VPN over HTTPS proxy (openVPN)
  - PPTP passthrough
  - VPN: client-to-Site (road warrior)
  - VPN: client for Microsoft Windows, Mac OS X and Linux
  - Multiple logins per user
  - VPN failover

Services
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- DHCP server
- SNMP server
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Logs and Reports
- Customizable real-time Dashboard
- Live log viewer (AJAX based)
- Detailed user based web access report
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- Rule-based logging settings (firewall rules)
- Syslog: local or remote
- openTSA trusted time stamping

Management
- Easy web-based administration (SSL)
- Secure remote SSH/SCP access
- Centralized management (via SSL)

Updates and Backup
- Centralized updates through Core**Fort**™ network
- Scheduled backup
- Encrypted backups via e-mail
- Instant recovery/backup to USB Stick

Routing
- Static routes
- Source-based routing
- Destination-based routing
- Policy-based routing (based on interface, MAC, protocol, or port)

Hardware Specification
- Intel® Atom™ CPU
- 6 x 10/100/1000 Base-T Ethernet
- 2 x USB
- 1 x Console port
- 2 x 2.5" HDD (RAID1)

Physical and Power
- Rack mount
- Dimension (H x W x D): 44mm x 426mm x 238mm
- 100W ATX power supply

Environmental Specification
- Operating temperature 0°C - 40°C (32°F - 104°F)
- Storage temperature -20°C - 70°C (-4°F - 158°F)
- Humidity: 10% - 90%, non-condensing

Certification
- FCC/CE/RoHS

Package Content
- IVD1000-S/A x 1
- QIG x 1
- Power cord
- Rack mount kit

Ordering Information

- **IVD 1000-S (P/N: TBD)**
  VPN dispatcher server with 25 licenses
  stateful packet firewall, SSL VPN, unified VPN management
  (3 years services & maintenance)

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