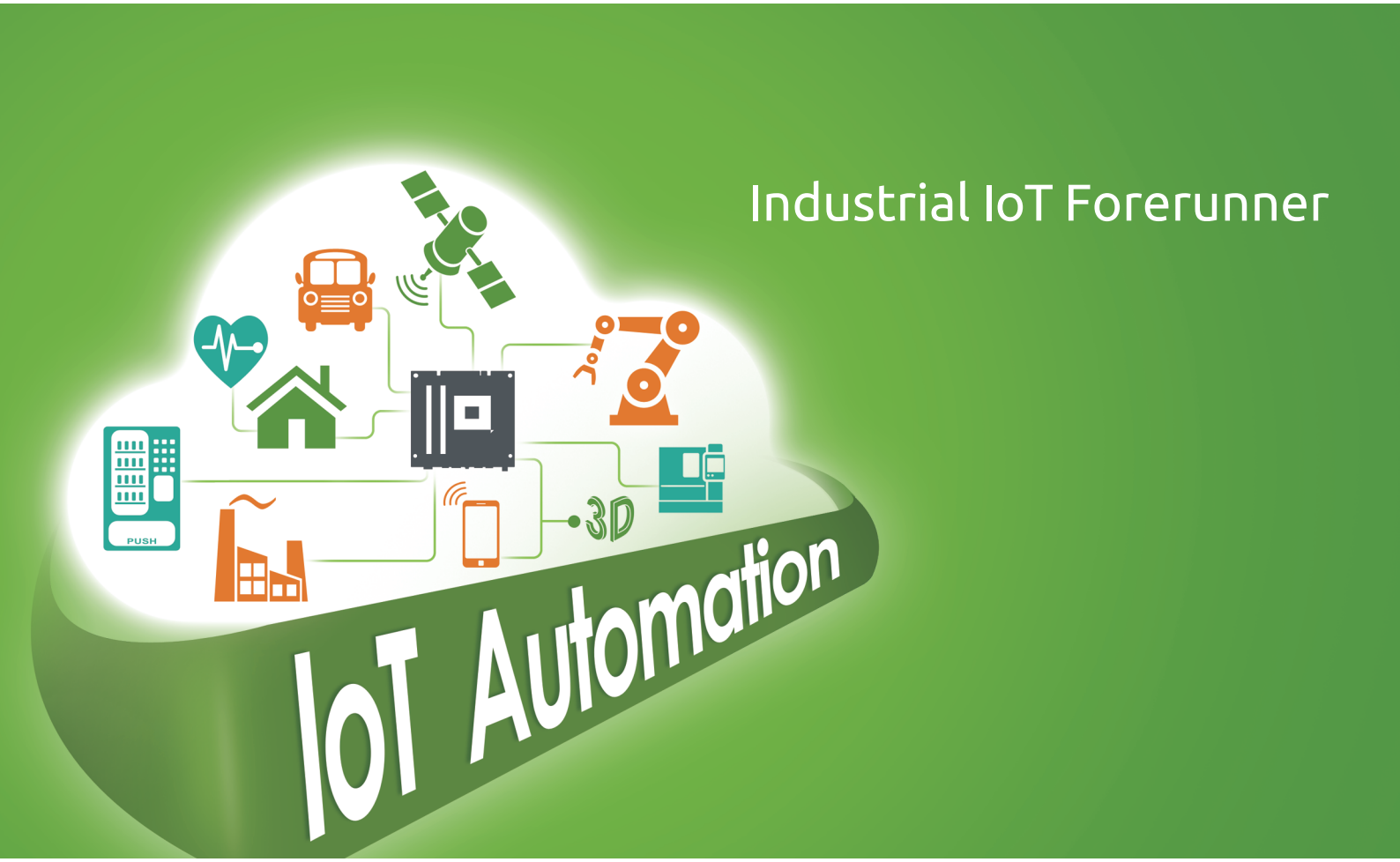
NEXCOM
The Intelligent Systems



2017
IoT Automation Solutions

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

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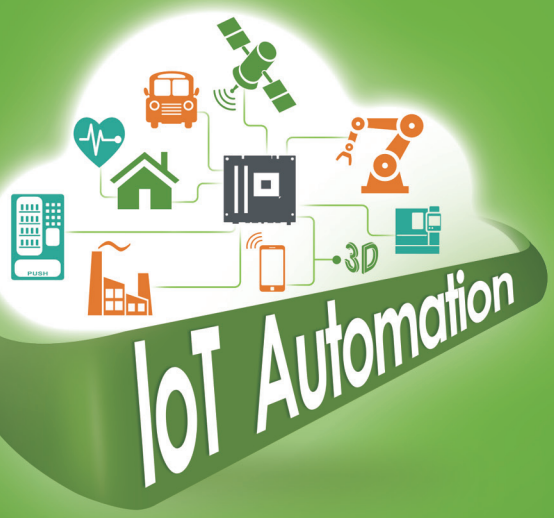

IAS

IoT Automation Solutions

Fanless Computer
Factory Automation
HMI
Applied Panel PC & Monitor
Industrial Panel PC & Monitor
Softlogic Controller
Machine Automation
Cyber-Physical System
Henge™ Industry Solution
Industrial Wireless Solution
Computer-On-Modules
Embedded Computing
PICMG Single Board Compute

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Fanless Computer

Factory Automation

HMI

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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

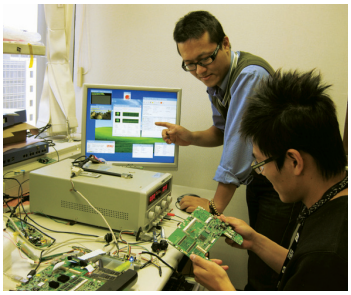
Aim to better support the activities of all its partners, NEXCOM divides its sales force into six dedicated business units to target rapidly expanding vertical markets. This enhances each business unit concentrating on strategic channel accounts and on repeat order business. Moreover, NEXCOM's business 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

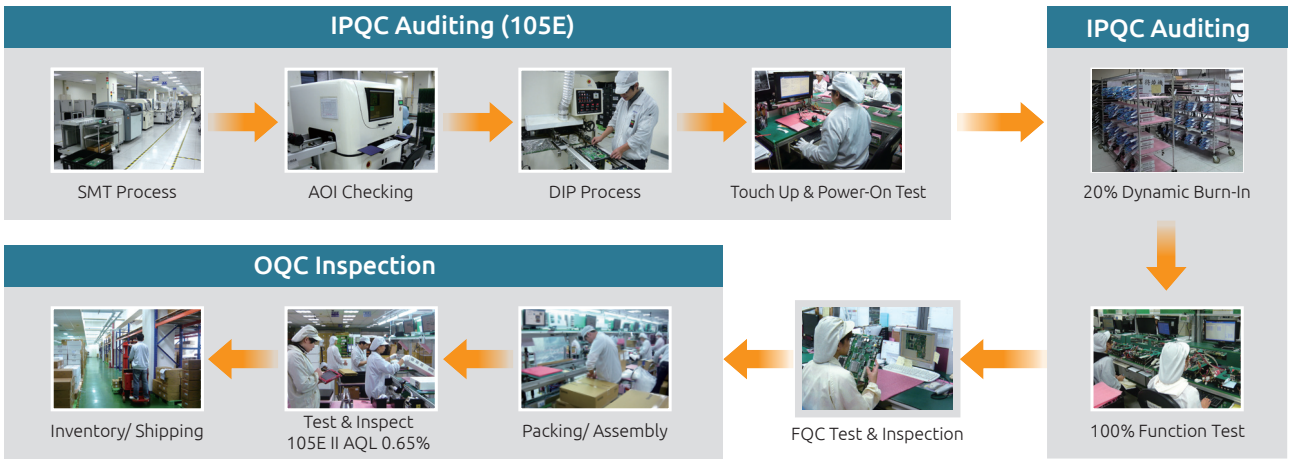
Optimal Manufacturing Efficiency

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.



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.

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:

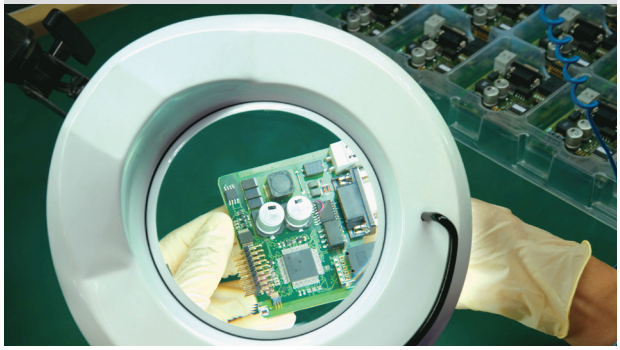
Prompt Time-to-Market

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.

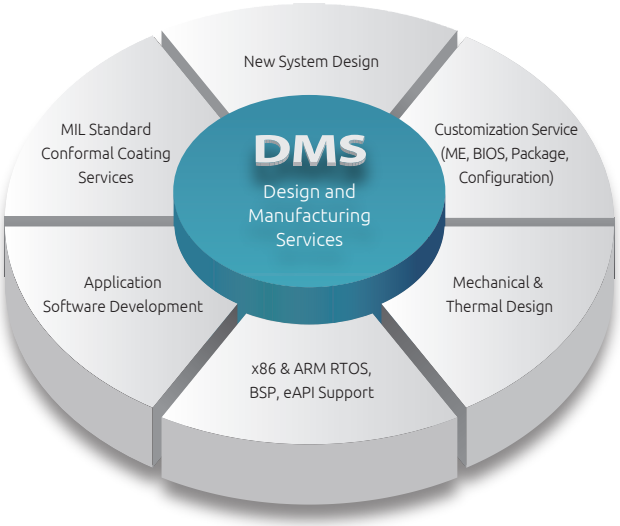
Scope of DMS Work

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.



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

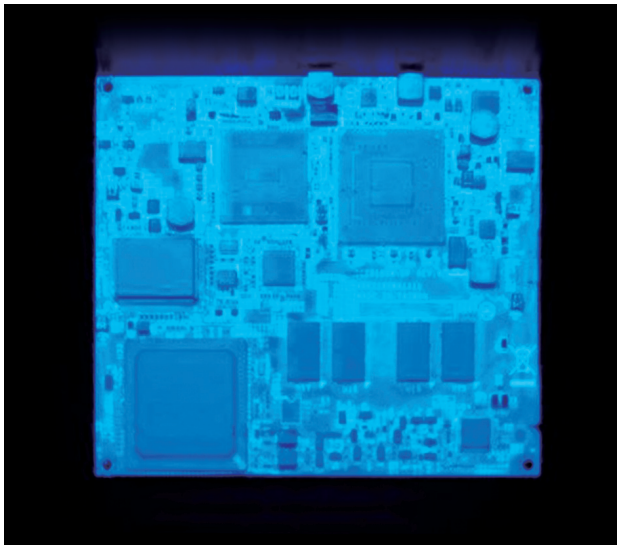
NEXCOM uses automated Conformal Coater equipment for applications that require a high level of accuracy and repeatability in moderate to high volume manufacturing environments. "State of the Art" coating line is a closed-loop robotic platform featuring optical encoder feedback on all axes.

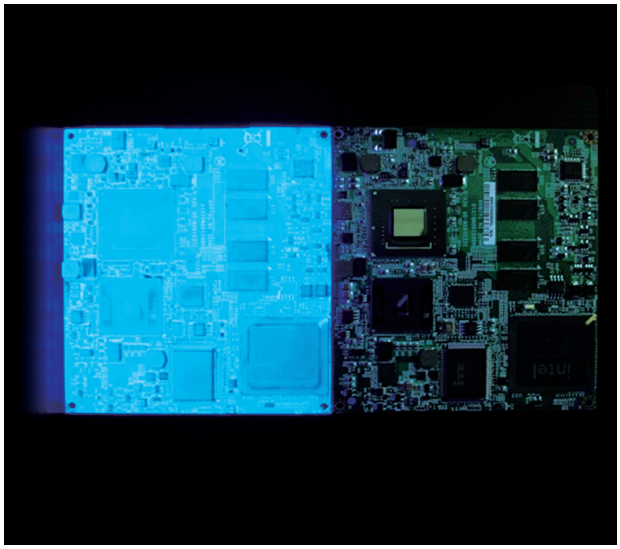
Smart Masking Technology

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

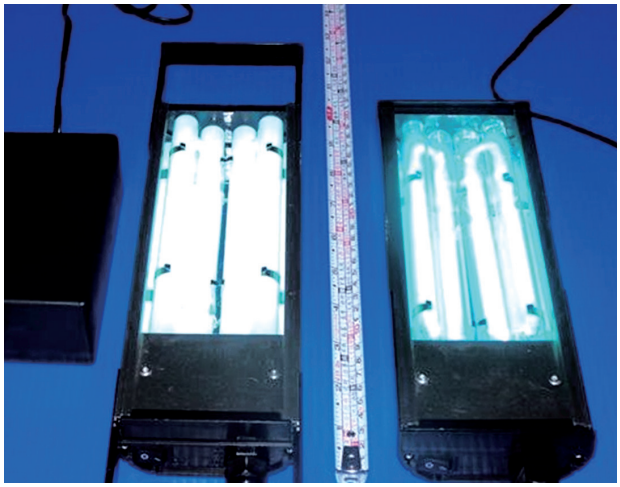
NEXCOM's deflux cleaning system is also equipped with an onboard cleanliness testing system which allows a user to program a desired cleanliness level. This assures that cleanliness levels will be consistent batch after batch.

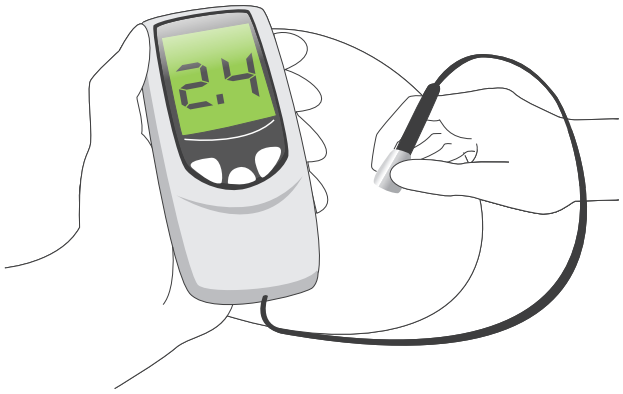
De-Coating RMA Service

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

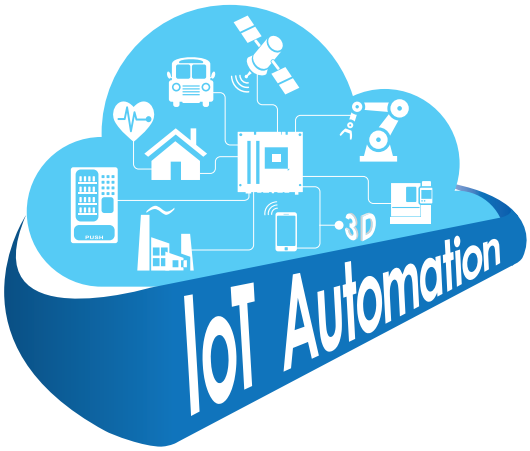
Conformal coating inspection is a critical factor in determining successful coating application and long term reliability of PCBs. Using the IPC standards allows the coating operator to monitor the coating application performance. NEXCOM offers 100% manual screening by examining the PCB under white and 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 Systems, The Solutions to Industry 4.0



NEXCOM maps out a solution blueprint for Industry 4.0, which seamlessly integrates connected manufacturing and big data cloud computing.

NEXCOM IoT Automation Solutions (IAS) Business Group has broadened its Industry 4.0 solutions to include cyber-physical system (CPS) ready solutions (iAutomation), robot solutions (NexROBO), EtherCAT motion solutions (NexMotion), and industrial network & cloud solutions. All solutions leverage NEXCOM IoT Studio and IoT gateways to stream field data to cloud services powered by world-renowned cloud services such as Microsoft Azure, IBM Bluemix™ and iSAP etc.

The integrated cloud-enabled services such as remote management, big data analytics, machine learning, and business intelligence (BI) can provide benefits such as

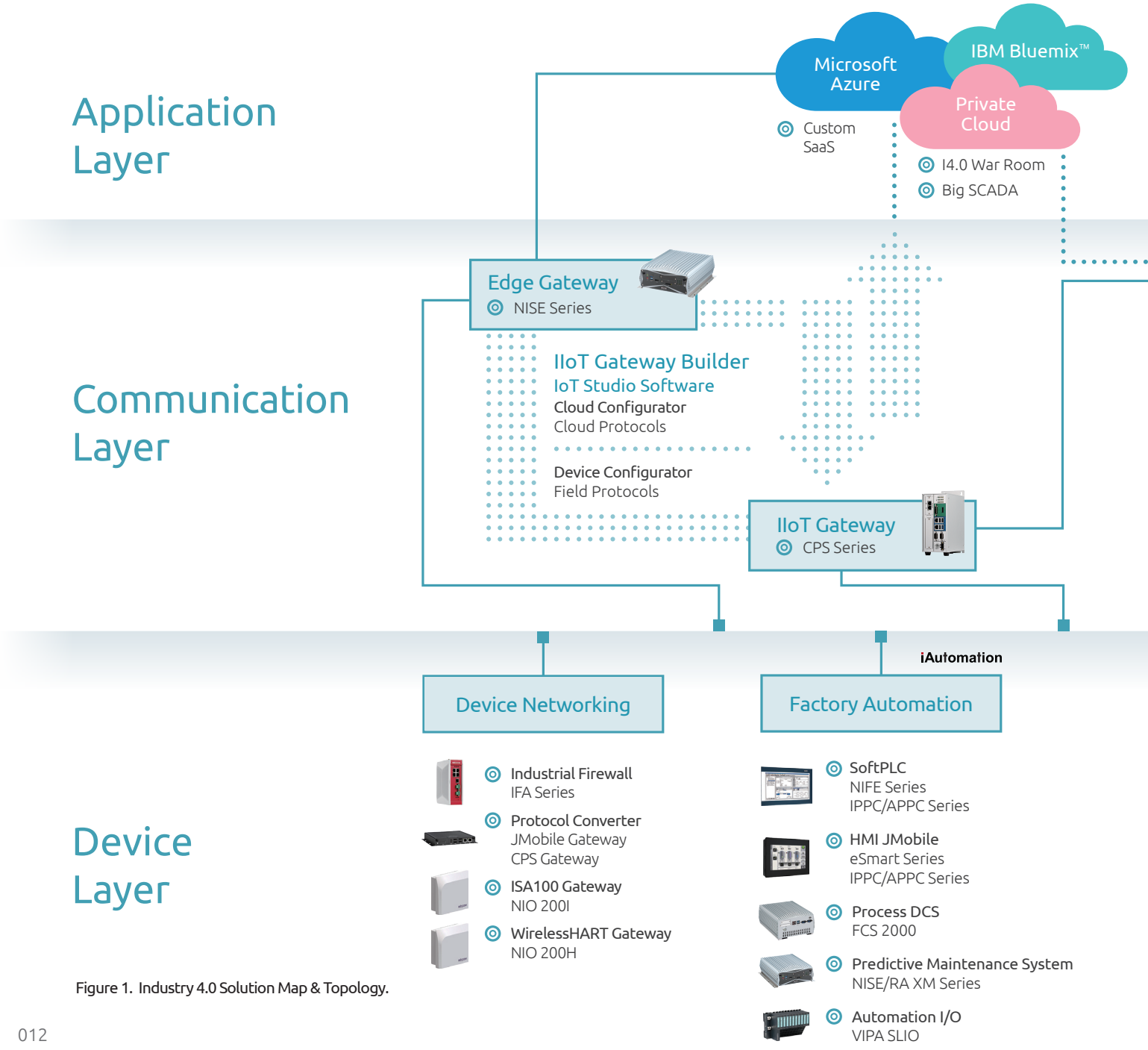
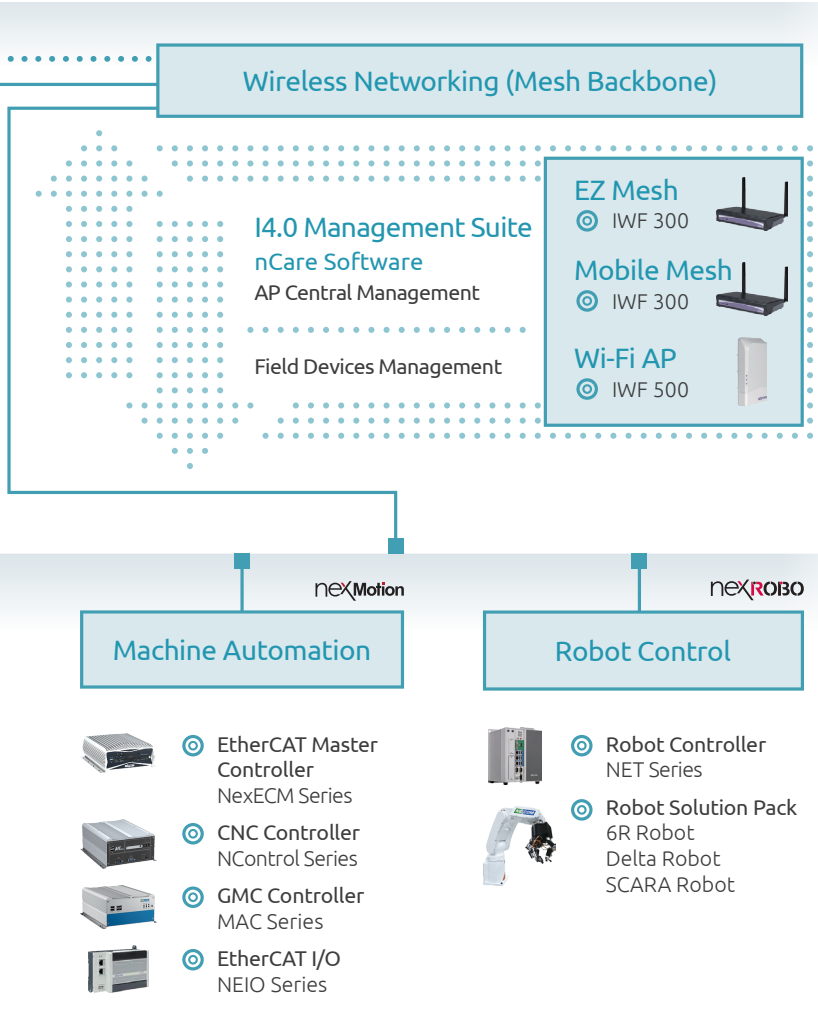


Figure 1. Industry 4.0 Solution Map & Topology.

remote monitoring to enable exception management and advanced process control.

For instance, operators can benefit by getting an accurate measure of machine status and factory operations in real-time, as well as integrating enterprise resource planning (ERP) and manufacturing execution systems (MES) systems to optimize supply chain management. Based on live field data, big data analytics and machine learning can establish predictive models that assist operators in managing factory operations, identifying causes for abnormal conditions, and taking corrective actions. Preventive maintenance can be executed prior an equipment failure to ensure production efficiency and yield rate.

Positioning itself as an industrial IoT forerunner, NEXCOM has broadened its Industry 4.0-ready iAutomation solutions, including cyber-physical system (CPS) ready solutions, robot solutions, EtherCAT motion solutions, and industrial network & cloud solutions for smart manufacturing. Mirroring the ambition for Industry 4.0, a connected factory will enable raw data to be exchanged over the network and translated into valuable information, helping enterprises make insightful decisions and therefore increase competiveness in fast-paced industries. Our best-in-class solution topology has new technological breakthroughs and innovative convergence of data communications technology. It can better serve customers in an increasingly competitive global marketplace and lead manufacturers to smart factory automation.



IoT Automation Solution Brochures

IoT Automation Solutions Master e-Catalog

USB Driver

NEXCOM provides a wide range of IoT Automation solutions for increasing demands of industrial applications. NEXCOM IoT Automation Solutions Master e-Catalog covers NEXCOM's most up-to-date and completed solutions, detailed product datasheets, and selection guides of high-performance industrial fanless computers, different-size industrial panel PCs, machine and robot automation lineups, PC-based factory automation families, IoT solutions, industrial wireless solutions, and embedded computing and customization services.

IoT Automation Solution Product Selection Guide

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 IoT and CPS to streamline manufacturing and business processes, improve versatility and precision, and boost quality and capacity.

Robot & Machine Automation Product Selection Guide

NEXCOM EtherCAT robot solutions, NexROBO, unleash possibilities for in-house development, add-on functionality, and reconfiguration of robots. Based on an open and modular architecture, NexROBO delivers development flexibility and expandable functions with a variety of EtherCAT Master controllers, pre-validated third-party EtherCAT slaves, and NEXCOM EtherCAT Master development stack, aimed to stimulate the broad use of robotic systems and industrial robots.

Industrial Network and Cloud Product Selection Guide

The industrial IoT (IIoT) network lay the important foundation for Industry 4.0. It includes three pillars—Cyber-Physical System (CPS), Industrial Wireless Solution, and Industrial Firewall for IoT Security. NEXCOM provides the IIoT network with complete product solutions which cover all three scopes. The product solutions are designed with the concepts of "ready to use" and "click to connect" so users can easily establish the IIoT network that can encompass existing automation systems in their Industry 4.0 and IIoT applications.

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).

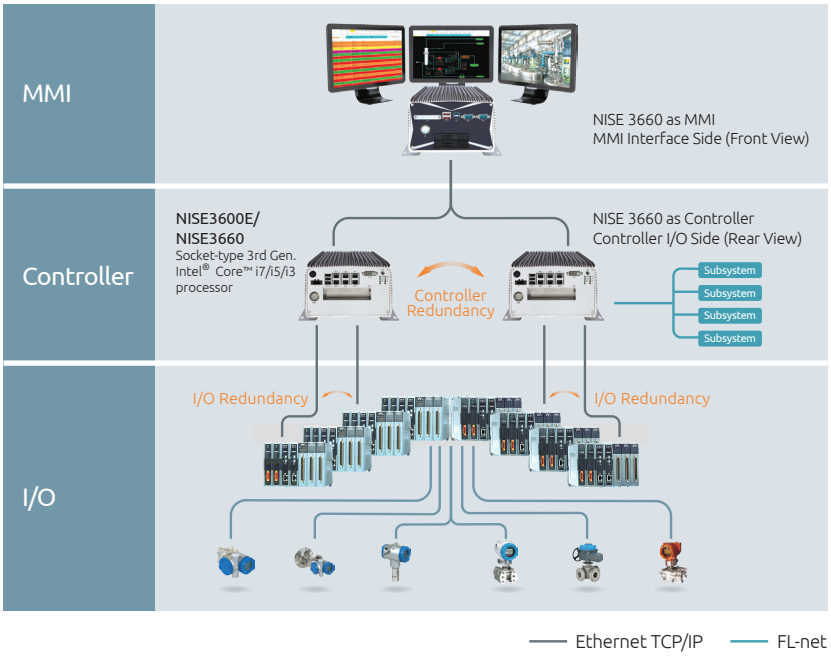


Figure 2. NEXCOM NISE 3660 as deployed in the customer's DCS

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.

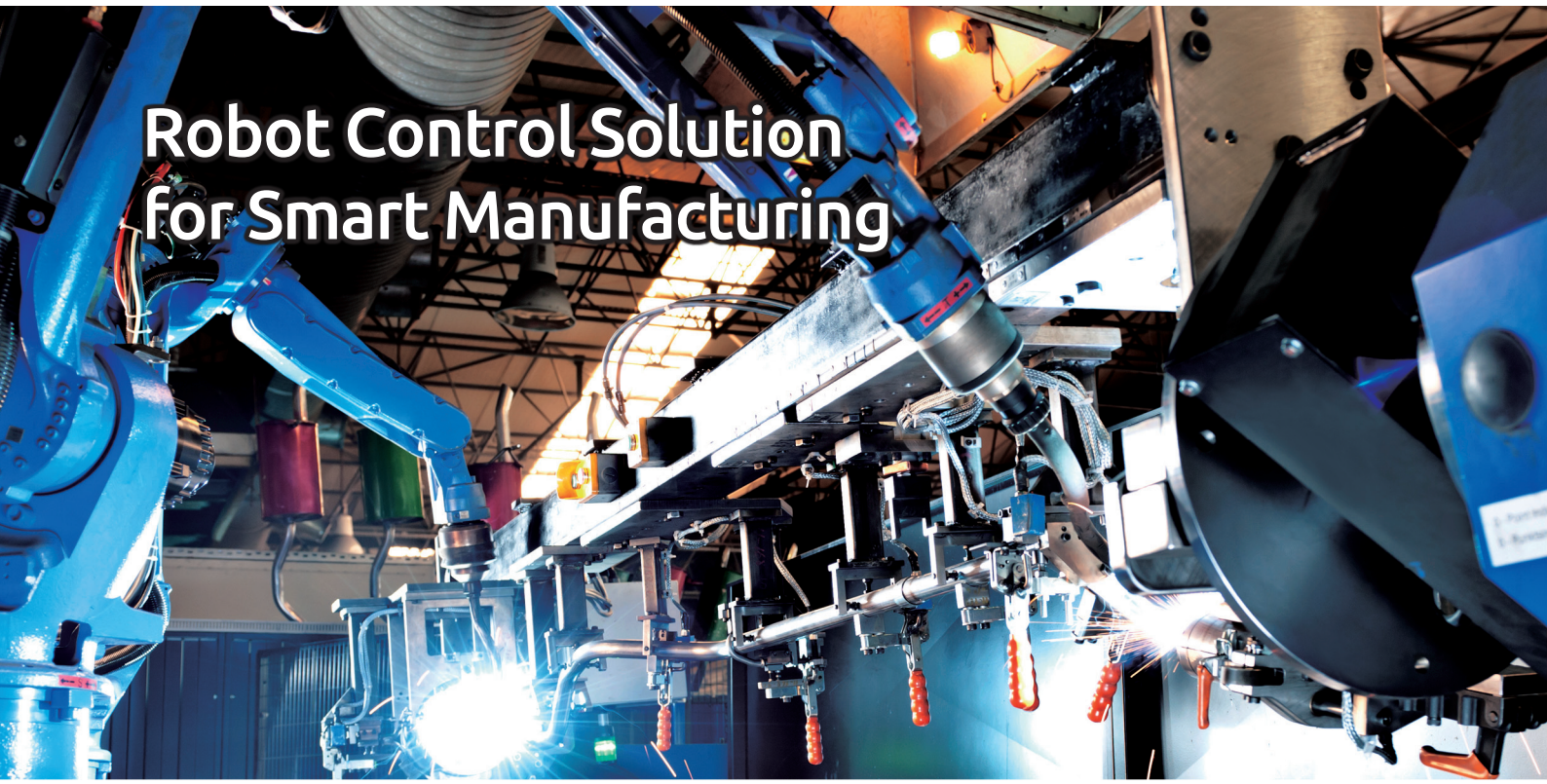
Value-added Service from NEXCOM

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:

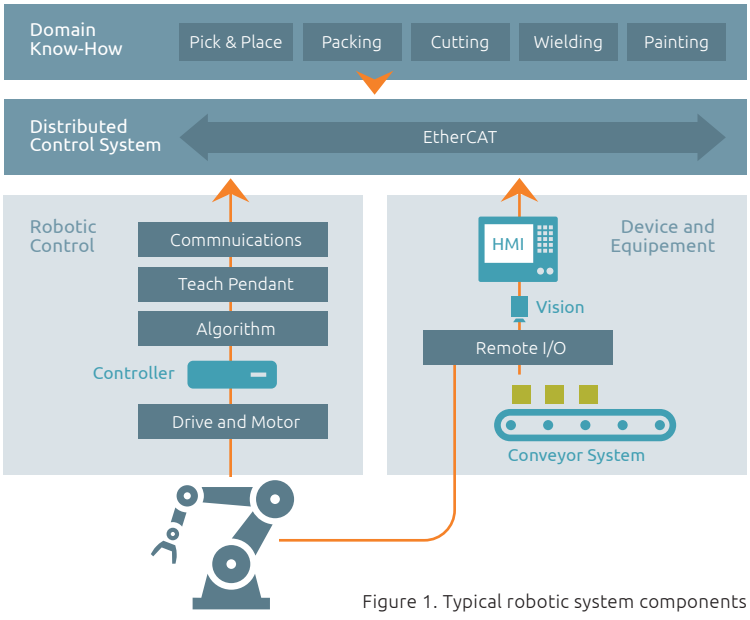


Figure 1. Typical robotic system components

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.

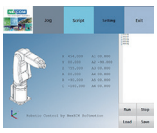
Modular and Open Robot Solution

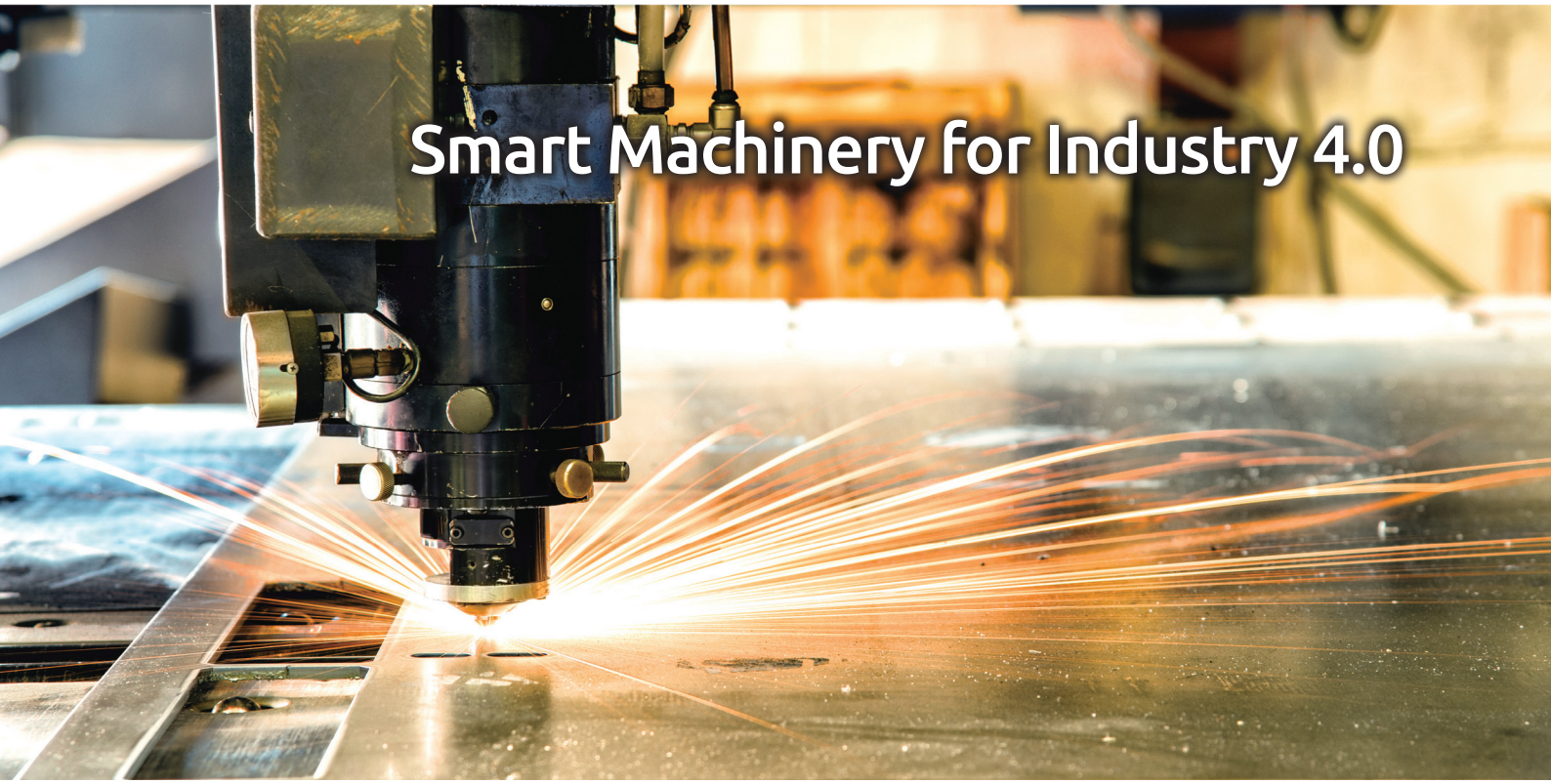
A robotic production line involves many aspects beyond the robots, some of which can be challenging. There are actuation controls, sensing, data processing, and operational intelligence that may present issues around system integration, machine-to-machine communication, and information integration. Taken 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 1640P	NEXCOM	Teach Pendant	Customer's
	Remote I/O	NEXCOM NEIO-B1811	VIPA SLIO	N/A	NEXCOM NEIO-B1811

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

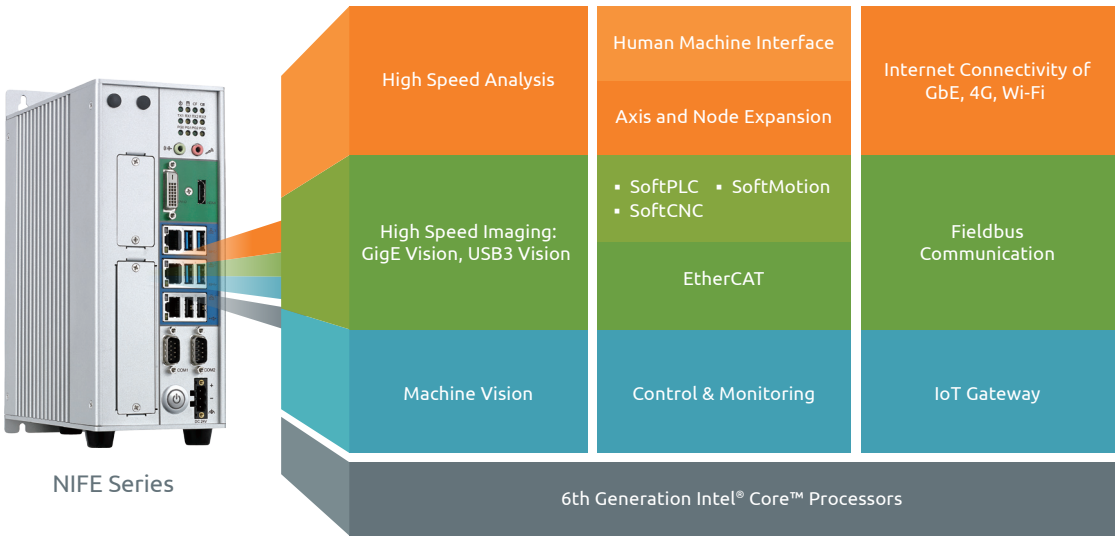


Figure 1. An integrated IoT controller and on-machine vision system must provide high-speed imaging and analysis, highly synchronized control and monitoring, and IoT gateway functionality.

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

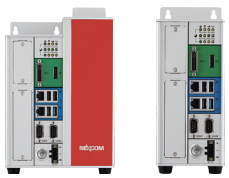
The NIFE 300 IoT controller offers a choice of the Intel® Core™ i7-6700TE, i5-6500TE, and i3-6100TE processors, all of which use the Intel® Q170 Chipset. The processors offer the multi-core architecture required to consolidate systems and deliver real-time, deterministic performance. They enable the 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 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 CPS 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 CPS series can interface to different types of fieldbus modules and support many fieldbus protocols, including PROFINET, PROFIBUS, EtherNet/IP, DeviceNet, OPC UA, and Modbus. This capability enables the CPS series to act as a fieldbus

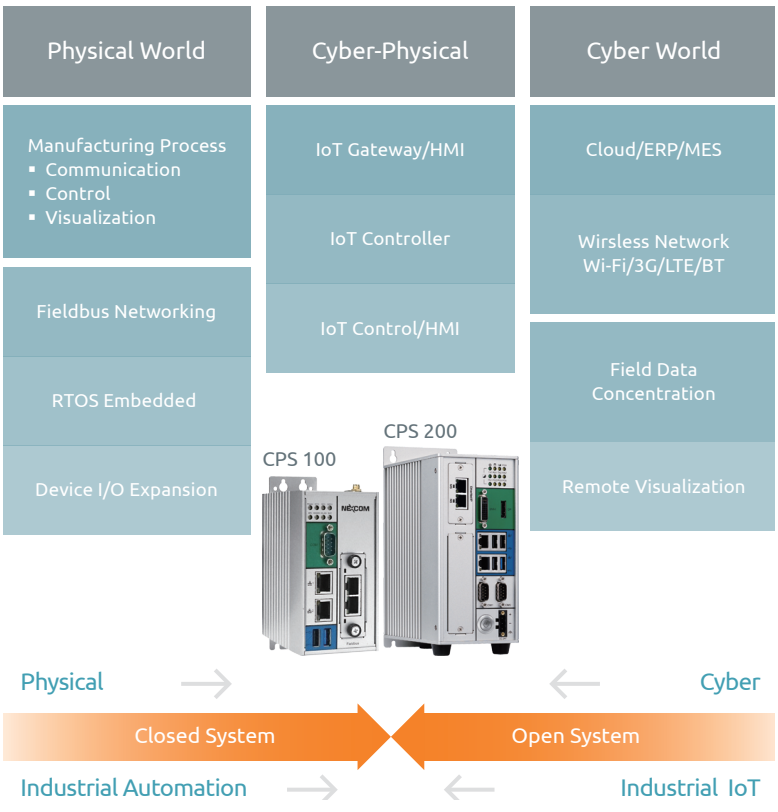


Figure 1. NEXCOM PC-based factory automation building blocks

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™/Celeron® processors. The multi-core architecture of Intel® Atom™ and Celeron® processors equips the CPS series with ample computing performance to collect and process input data and command field devices to take appropriate actions. The CPS 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 CPS 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 CPS 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 CPS 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 CPS 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 CPS 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 CPS 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 CPS series are available with a mobile HMI App, 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 CPS series – anytime, anywhere.

CPS Product Selection

Model Name	CPS 100	CPS 200	NISE 50
Photo			
Category	Fieldbus Enabled IoT Remote Gateway	Fieldbus Enabled IoT Edge Gateway	General Purpose IoT Gateway
Communication Protocols for Local Devices	PRFINET-RT, PROFIBUS-DP, EtherNet/IP (Slave), Modbus/TCP, Modbus/RTU (Master), OPC UA Client	PRFINET-RT, PROFIBUS-DP, EtherNet/IP (Slave), Modbus/TCP, Modbus/RTU (Master), OPC UA Client	Modbus/TCP, Modbus/RTU (Master)
Communication For Cloud/Server	MQTT, SQLite, Https	MQTT, SQLite, Https	MQTT, SQLite, Https
Temperature	-20°C~+65°C	0°C~+50°C	-5°C~+55°C

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.

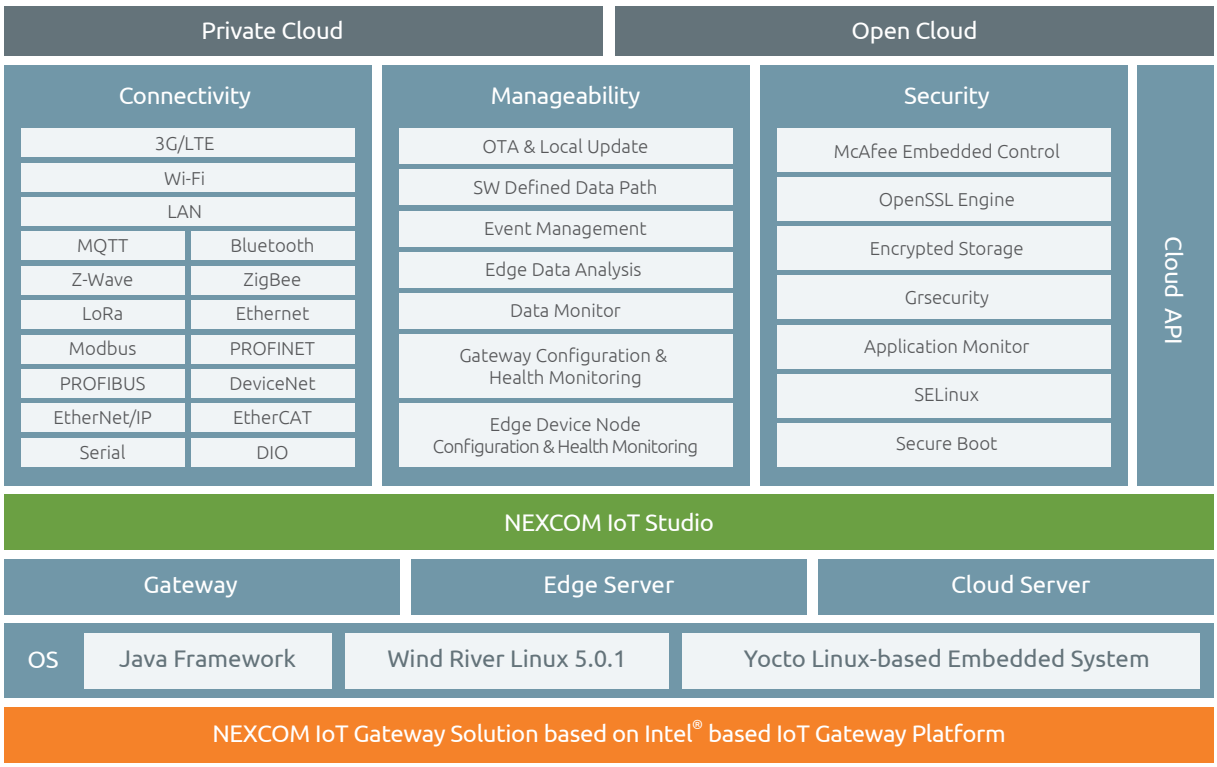


Figure 1. NEXCOM IoT Gateway integrates critical hardware and software components to meet the challenges of deploying IoT gateways.

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).

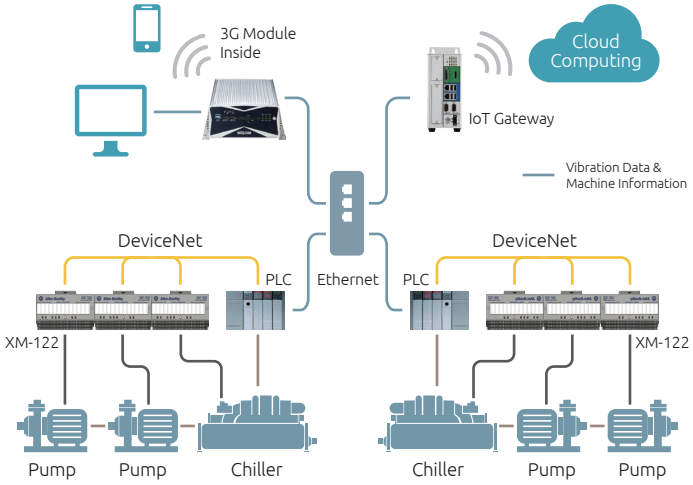


Figure 2. IoT gateway application

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).

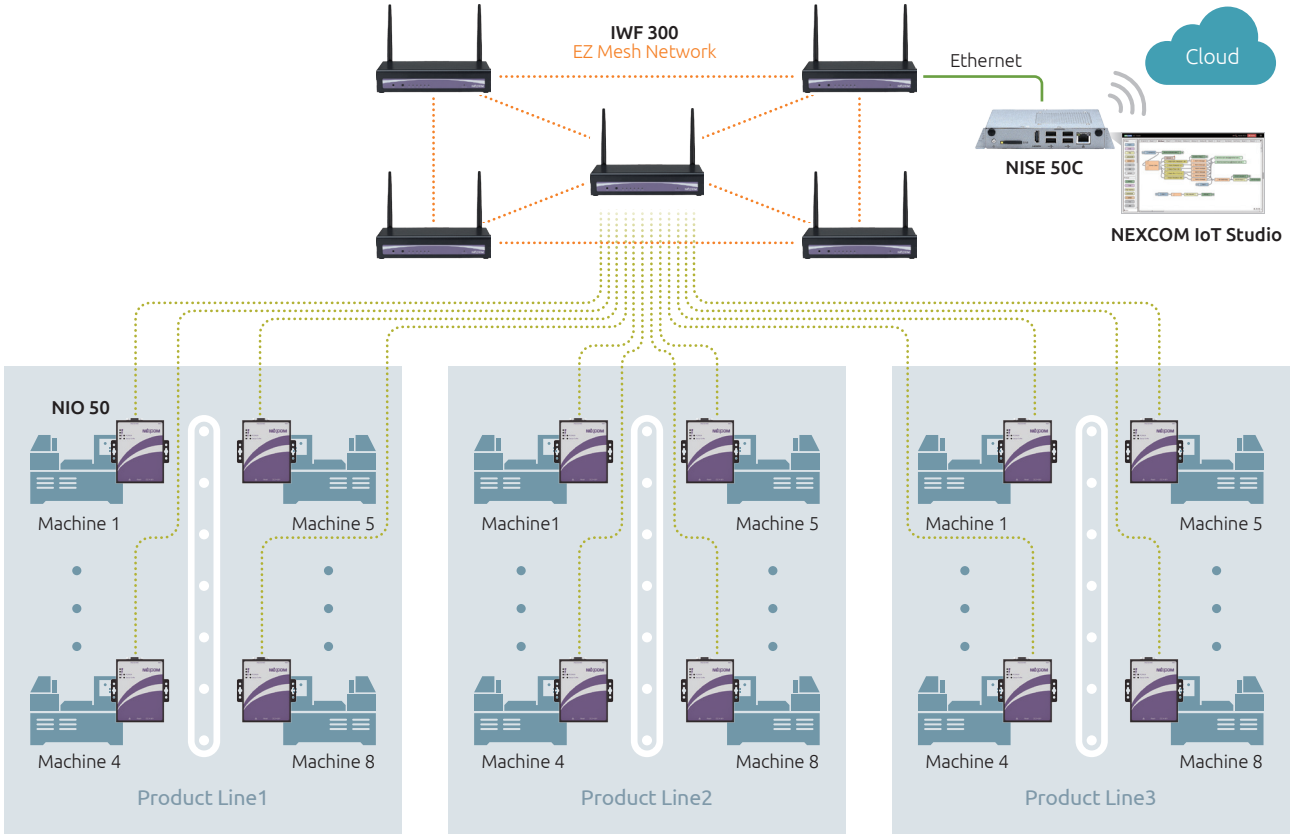


Figure 1. Industrial wireless network diagram

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 200IAG NIO 200IDG NIO 200IDR NIO 200HAG	NIO 50 NIO 51
							

Fanless Computer

Model					
	NISE 50	**NISE 50W**	**NISE 50C**	**NISE 50C-H**	**NISE 103**
CPU	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ D425 1.8GHz
Chipset	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® ICH8M
Max. Memory	2G DDR3L onboard (support 4G memory max)	2G DDR3L onboard (support 4G memory max)	2G DDR3L onboard (support 2G memory max)	2G DDR3L onboard (support 2G memory max)	2GB DDR3
HDD Space	-	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, CF)
SD Card	-	-	-	-	-
eMMC	16GB	16GB	16GB	-	-
CD-ROM/DVD-ROM	-	-	-	-	-
VGA	-	-	-	-	1
LVDS	-	-	-	-	Single, 18-bit (Internal)
DVI	-	-	-	-	-
TV-Out	-	-	-	-	-
HDMI	1	1	1	1	-
Display Port	-	-	-	-	-
eSATA	-	-	-	-	-
IEEE1394	-	-	-	-	-
USB	4	4	4 x USB 2.0	4 x USB 2.0	4
PS/2	-	-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	3	3	3	3	4
RS422/485	1	1	-	-	1
RS422/485 Isolation	-	-	-	-	-
CANbus	-	-	-	-	-
mini-PCIe	3	3	3	3	1
SIM Card Holder	1	1	1	1	1 (Internal)
GPIO	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	1 x GbE	1 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 +24V	ATX, DC +24V	ATX, DC 12V	ATX, DC 12V	ATX, DC 12V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	-	-	-	-	-
Win7 32-bit	-	V	V	V	V
Win7 64-bit	-	V	V	V	-
WES2009 32-bit	-	-	-	-	V
Win8 32-bit	V	V	V	V	-
Win8 64-bit	V	V	V	V	-
WinCE/WEC	-	-	-	-	WinCE 6.0
Win10 32-bit	V	V	V	V	-
Win10 64-bit	V	V	V	V	-
System Dimension (W x D x H, mm)	162 x 26 x 150	285 x 150 x 26	146 x 26 x 150	146 x 42 x 150	185 x 131 x 54
Carton Dimension (W x D x H, mm)	233 x 227 x 169	346 x 265 x 200	233 x 227 x 169	233 x 227 x 169	259 x 233 x 129
Net Weight (kg)	0.87	1.4	0.84	0.95	1.2
Gross Weight (kg)	1.5	2.3	1.5	1.6	2

					
NISE 104	**NISE 105**	**NISE 105A**	**NISE 105-E3845**	**NISE 106-N3160**	**NISE 106-N3710**
Intel® Atom™ D2550 1.86GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3845 1.91GHz	Intel® Celeron® N3160 1.6GHz	Intel® Pentium® N3710 1.6GHz
Intel® NM10	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Braswell	Intel® Braswell
4G DDR3	4GB DDR3L	4GB DDR3L	4GB DDR3L	4GB DDR3L	4GB DDR3L
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 x 2.5" SATA 2.0 HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay
1 (External, CFast)	1 (External, SATA 2.0 CFast)	1 (External, SATA 2.0 CFast)	1 (External, SATA 2.0 CFast)	1 (External, CFast)	1 (External, CFast)
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-D)	1 (DVI-D)
-	-	-	-	-	-
1	1	1	1	1	1
-	-	-	-	1	1
-	-	-	-	-	-
-	-	-	-	-	-
6	2 x USB 2.0 1 x USB 3.0	2 x USB 2.0 1 x USB 3.0	2 x USB 2.0 1 x USB 3.0	4 x USB 3.0	4 x USB 3.0
-				-	-
-	-	-	-	-	-
4	4	4	4	4	4
2	2	4	2	2	2
-	-	-	-	-	-
-	-	-	-	-	-
1	1	1	1	1	1
1 (Internal)	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	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	Mic-in & Line-out
ATX, DC +10~28V	ATX, DC +9V~30VDC	ATX, DC +9V~30VDC	ATX, DC +9V~30VDC	ATX, DC +9V~30VDC	ATX, DC +9V~30VDC
Optional	Optional	Optional	Optional	Optional	Optional
-	-	-	-	-	-
V	V	V	V	V	V
-	V	V	V	V	V
V	-	-	-	-	-
-	V	V	V	V	V
-	V	V	V	V	V
WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0	-	-
-	V	V	V	V	V
-	V	V	V	V	V
185 x 131 x 54	185 x 131 x 54	185 x 131 x 54	185 x 131 x 54	185 x 131 x 54	185 x 131 x 54
259 x 233 x 129	259 x 233 x 129	259 x 233 x 129	259 x 233 x 129	245 x 318 x 152	245 x 318 x 152
1.2	1.3	1.3	1.3	1.3	1.3
2	2	2	2	2	2

Fanless Computer

Model					
	NISE 2200	**NISE 2210**	**NISE 2210E**	**NISE 2300**	**NISE 2310**
CPU	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz	Intel® Atom™ D2550 1.86GHz
Chipset	Intel® ICH10 RAID	Intel® ICH10 RAID	Intel® ICH10 RAID	Intel® ICH10 RAID	Intel® ICH10 RAID
Max. Memory	4G DDR3	4G DDR3	4G DDR3	4G DDR3	4G DDR3
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	-	-	-	-	-
LVDS	Single, 24-bit (Internal)	Single, 24-bit (Internal)	Single, 24-bit (Internal)	-	-
DVI	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)/1 (DVI-D)	1 (DVI-I)/1 (DVI-D)
TV-Out	-	-	-	-	-
HDMI	1	1	1	-	-
Display Port	-	-	-	-	-
eSATA	-	-	-	-	-
IEEE1394	-	-	-	-	-
USB	6	6	6	6	6
PS/2	-	-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	6	6	6	4	4
RS422/485	4	4	4	4	4
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	1	1
SIM Card Holder	1	1	1	1	1
GPIO	4-in/4-out (external)	4-in/4-out (external)	4-in/4-out (external)	4-in/4-out (external)	4-in/4-out (external)
LAN Ports	2 x GbE	2 x GbE	2 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 +9V~36VDC	ATX, DC +9V~36VDC	ATX, DC +9V~36VDC	ATX, DC + 9V~36VDC	ATX, DC +9V~36VDC
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	-	1 x PCI	1 x PCIe x4 or 1 x PCIe x1(if mini-PCIe module is installed)	-	1 x PCI
Win7 32-bit	V	V	V	V	V
Win7 64-bit	-	-	-	-	-
WES2009 32-bit	V	V	V	V	V
Win8 32-bit	-	-	-	-	-
Win8 64-bit	-	-	-	-	-
WinCE/WEC	WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0
Win10 32-bit	-	-	-	-	-
Win10 64-bit	-	-	-	-	-
System Dimension (W x D x H, mm)	195 x 200 x 65	195 x 200 x 90	195 x 200 x 90	195 x 200 x 65	195 x 200 x 90
Carton Dimension (W x D x H, mm)	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
Net Weight (kg)	2.6	3	3	2.6	3
Gross Weight (kg)	4	4.4	4.4	4	4.4

				
NISE 2310E	**NISE 2400**	**NISE 2400-J1900**	**NISE 2410**	**NISE 2410E**
Intel® Atom™ D2550 1.86GHz	Intel® Atom™ E3827 1.75GHz	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ E3827 1.75GHz	Intel® Atom™ E3845 1.91GHz
Intel® ICH10 RAID	Intel® Bay Trail-I	Intel® Bay Trail-D	Intel® Bay Trail-I	Intel® Bay Trail-I
4G DDR3	8GB DDR3L	8GB DDR3L	8GB DDR3	8GB DDR3
1 x 2.5" SATA 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
1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1 (DVI-I)/1 (DVI-D)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
-	-	-	-	-
-	1	1	1	1
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
6	4 x USB 2.0 1 x USB 3.0	4 x USB 2.0 1 x USB 3.0	4 x USB 2.0 1 x USB 3.0	4 x USB 2.0 1 x USB 3.0
-	-	-	-	-
-	-	-	-	-
4	4	4	4	4
4	2	2	2	2
2 (2.5KV Isolation)	-	-	-	-
-	-	-	-	-
1	2	2	2	2
1	1	1	1	1
4-in/4-out (external)	4-in/4-out (internal)	4-in/4-out (internal)	4-in/4-out (internal)	4-in/4-out (internal)
4 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 +9V~36VDC	ATX, DC +9~30V	ATX, DC +9~30V	ATX, DC +9~30V	ATX, DC +9~30V
Optional	Optional	Optional	Optional	Optional
1 x PCIex1	-	-	1 x PCI	1 x PCIe
V	V	V	V	V
-	V	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	V	V
-	V	V	V	V
195 x 200 x 90	195 x 200 x 65	195 x 200 x 65	195 x 200 x 90	195 x 200 x 90
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	2.7	2.7	3	3
4.4	4	4	4.4	4.4

Fanless Computer

Model					
	NISE 2410-J1900	**NISE 2420**	**NISE 300**	**NISE 301**	**NISE 3600E**
CPU	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ E3845 1.91GHz	4th Gen. Haswell Intel® i5-4402E BGA	Intel® Atom™ E3845 1.91GHz	3rd Gen. Intel® Core™ i5/i3 socket (2nd Gen. Intel® Core™ i5/i3 socket)
Chipset	Intel® Bay Trail-D	Intel® Bay Trail-I	Intel® QM87	Intel® Bay Trail-I	Intel® QM77
Max. Memory	8GB DDR3L	8GB DDR3	8GB DDR3/DDR3L	4GB DDR3L	8GB DDR3
HDD Space	1 x 2.5" SATA II HDD bay	1 x 2.5" SATA II HDD bay	2 x 2.5" SATA3.0 HDD bay	1 x 2.5" SATA II HDD bay	1 x 2.5" SATA HDD bay
CFast Socket	1 (External, CFast)	1 (External, CFast)	1 (External, SATA 3.0 CFast)	1 (External, SATA 2.0 CFast)	1 (External, CFast)
SD Card	-	-	-	-	-
eMMC	-	-	-	-	-
CD-ROM/DVD-ROM	-	-	-	-	-
VGA	-	-	-	1	1
LVDS	-	-	-	-	Dual, 24-bit (Internal)
DVI	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-D)	1 (DVI-D)
TV-Out	-	-	-	-	-
HDMI	1	1	1	-	-
Display Port	-	-	-	-	2
eSATA	-	-	-	-	-
IEEE1394	-	-	-	-	-
USB	4 x USB 2.0 1 x USB 3.0	4 x USB 2.0 1 x USB 3.0	2 x USB 2.0 2 x USB 3.0	2 x USB 2.0	2 x USB 2.0 4 x USB 3.0
PS/2	-	-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	4	4	2	2	6
RS422/485	2	2	2 (RS232/422/485)	2 (RS232/422/485)	1
RS422/485 Isolation	-	-	-	-	-
CANbus	-	-	-	-	-
mini-PCIe	2	2	6	2	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 (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 +24V	ATX, DC +9~30V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	1 x PCI	2 x PCI	-	-	1 x PCIe x4
Win7 32-bit	V	V	V	V	V
Win7 64-bit	V	V	V	V	V
WES2009 32-bit	-	-	-	-	V
Win8 32-bit	V	V	V	V	V
Win8 64-bit	V	V	V	V	V
WinCE/WEC	WinCE 7.0	WinCE 7.0	-	WEC 7	-
Win10 32-bit	V	V	-	-	V
Win10 64-bit	V	V	-	-	V
System Dimension (W x D x H, mm)	195 x 200 x 90	195 x 200 x 111	310 x 212 x 80	205 x 160 x 80	215 x 272 x 93
Carton Dimension (W x D x H, mm)	335 x 294 x 193	337 x 296 x 227	440 x 340 x 224	324 x 303 x 193	378 x 342 x 269
Net Weight (kg)	3	3.2	4.3	2.4	5
Gross Weight (kg)	4.4	4.6	5.7	3.6	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, 24-bit (Internal)	Dual, 24-bit (Internal)	Dual, 24-bit (Internal)	Dual, 24-bit (Internal)	Dual, 24-bit (Internal)
1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)
-	-	-	-	-
-	-	-	-	-
2	2	2	2	2
-	-	-	-	-
-	-	-	-	-
2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 2 x USB 3.0	2 x USB 2.0 2 x USB 3.0
-	-	-	-	-
-	-	-	-	-
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 PCIe x4	2 x PCI	1 x PCI and 1 x PCIe x4	1 x PCIe x4	2 x PCIe x4
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, 24-bit (Internal)	Dual, 24-bit (Internal)	Dual, 24-bit (Internal)	Dual, 24-bit (Internal)	Dual, 24-bit (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 USB 2.0 2 x USB 3.0	2 x USB 2.0 2 x USB 3.0	2 x USB 2.0 2 x USB 3.0	2 x USB 2.0 2 x USB 3.0	2 x USB 2.0 2 x USB 3.0
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 PCIe x4	1 x PCIe x4	2 x PCI	2 x PCIe x4
Win7 32-bit	V	V	V	V	V
Win7 64-bit	V	V	V	V	V
WES2009 32-bit	V	V	V	V	V
Win8 32-bit	V	V	V	V	V
Win8 64-bit	V	V	V	V	V
WinCE/WEC	-	-	-	-	-
Win10 32-bit	-	-	-	-	-
Win10 64-bit	-	-	-	-	-
System Dimension (W x D x H, mm)	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 (W x D x H, mm)	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, 24-bit (Internal)	Dual, 24-bit (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 USB 2.0 2 x USB 3.0	2 x USB 2.0 2 x USB 3.0	4 x USB 2.0 4 x USB 3.0	4 x USB 2.0 4 x USB 3.0	4 x USB 2.0 4 x USB 3.0
-	-	-	-	-
-	-	-	-	-
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 PCIe x4	-	1 x PCIe x4	2 x PCIe x4	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 3700E-C226**	**NISE 3700E2-C226**	**NISE 3700P2-C226**
CPU	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	4th Gen. Intel® Core™ i7/i5/i3 LGA socket
Chipset	Intel® Q87 PCH	Intel® C226 PCH	Intel® C226 PCH	Intel® C226 PCH
Max. Memory	8GB DDR3/DDR3L	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
CFast Socket	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-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	-	-	-	-
eSATA	-	-	-	-
IEEE1394	-	-	-	-
USB	4 x USB 2.0 4 x USB 3.0	4 x USB 2.0 2 x USB 3.0	4 x USB 2.0 2 x USB 3.0	4 x USB 2.0 2 x USB 3.0
PS/2	-	-	-	-
Parallel Port	-	-	-	-
Serial Port	3	3	3	3
RS422/485	2	2	2	2
RS422/485 Isolation	-	-	-	-
CANbus	-	-	-	-
mini-PCIe	2	2	2	2
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)
LAN Ports	3 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
Power Input Range	ATX, DC +9~30V	ATX, DC +9~30V	ATX, DC +9~30V	ATX, DC +9~30V
Power Supply Adapter	Optional	Optional	Optional	Optional
Expansion	1 x PCI and 1 x PCIe x4	1 x PCIe x4	2 x PCIe x4	2 x PCI
Win7 32-bit	V	V	V	V
Win7 64-bit	V	V	V	V
WES2009 32-bit	-	-	-	-
Win8 32-bit	V	V	V	V
Win8 64-bit	V	V	V	V
WinCE/WEC	V	V	V	V
Win10 32-bit	V	V	V	V
Win10 64-bit	V	V	V	V
System Dimension (W x D x H, mm)	215 x 272 x 114	215 x 272 x 93	215 x 272 x 114	215 x 272 x 114
Carton Dimension (W x D x H, mm)	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	5	5
Gross Weight (kg)	6.4	5.9	6.4	6.4

				
NISE 3700P2E-C226	**NISE 3720E**	**NISE 3720E2**	**NISE 3720P2**	**NISE 3720P2E**
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)
Intel® C226 PCH	Broadwell MCP	Broadwell MCP	Broadwell MCP	Broadwell MCP
8GB DDR3/DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L	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 HDD bay
1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	1	1	1	1
-	-	-	-	-
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)
-	-	-	-	-
-	-	-	-	-
-	2	2	2	2
-	-	-	-	-
-	-	-	-	-
4 x USB 2.0 2 x USB 3.0	2 x USB 2.0 2 x USB 3.0 2 x Internal USB 2.0	2 x USB 2.0 2 x USB 3.0 2 x Internal USB 2.0	2 x USB 2.0 2 x USB 3.0 2 x Internal USB 2.0	2 x USB 2.0 2 x USB 3.0 2 x Internal USB 2.0
-	-	-	-	-
-	-	-	-	-
3	6	6	6	6
2	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)
-	-	-	-	-
-	-	-	-	-
2	2 (mSATA/ PCIe option)	2 (mSATA/ PCIe option)	2 (mSATA/ PCIe option)	2 (mSATA/ PCIe option)
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	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 +24V	ATX, DC +24V	ATX, DC +24V
Optional	Optional	Optional	Optional	Optional
1 x PCI and 1 x PCIe x4	1 x PCIe x4	2 x PCIe x4	2 x PCI	1 x PCI and 1 x PCIe x4
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 93	215 x 272 x 114	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	5	5	5
6.4	5.9	6.4	6.4	6.4

Factory Automation

Model					
	NIFE 100	**NIFE 100S**	**NIFE 101**	**NIFE 103**	**NIFE 105**
CPU	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ E3826 1.46GHz	Intel® Atom™ x5-E3930 1.8GHz
Chipset	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Bay Trail-I	Intel® Apollo Lake-I
Max. Memory	4GB DDR3L	4GB DDR3L	4GB DDR3L	Onboard 2GB DDR3L	Onboard 4GB DDR3L
NVRAM	1Mb	1Mb	1Mb	-	-
Storage	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	1 x 2.5" SATA HDD bay	Onboard eMMC 16GB	Onboard eMMC 16GB
CFast Socket	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	-	-
SD Card	-	-	-	-	1
VGA	-	-	-	-	-
DVI	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	-	-
HDMI	-	-	-	1 (Micro HDMI)	1
Display Port	-	-	-	-	-
USB	1 x USB 2.0 1 x USB 3.0	1 x USB 2.0 1 x USB 3.0	1 x USB 2.0 1 x USB 3.0	1 x USB 2.0 1 x USB 3.0	4 x USB 3.0
PS/2	-	-	-	-	-
Parallel Port	-	-	-	-	-
Serial Port	2	2	2	1	2
RS422/485	2 (RS232/422/485)	2 (RS232/422/485)	2 (RS232/422/485)	1 (RS485)	2 (RS232/422/485)
RS422/485 Isolation	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	1 (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 (external)	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	-	-
Fieldbus I/O Support	1	1	-	-	-
Power Input Range	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V
Win7 32-bit	V	V	V	V	-
Win7 64-bit	V	V	V	V	-
WES2009 32-bit	-	-	-	-	-
Win8 32-bit	V	V	V	V	-
Win8 64-bit	V	V	V	V	-
WinCE/WEC	WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0	-
Win10 32-bit	-	-	-	V	-
Win10 64-bit	-	-	-	V	V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional
Expansion	-	-	-	-	-
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 (W x D x H, mm)	92 x 135.5 x 192.5	92 x 135.5 x 192.5	58 x 135.5 x 192.5	56.5 x 100 x 120	46.2 x 100 x 120
Carton Dimension (W x D x H, mm)	298 x 262 x 196	298 x 262 x 196	298 x 262 x 196	212 x 221 x 164	212 x 221 x 164
Net Weight (kg)	1.9	1.8	1.7	0.6	0.7
Gross Weight (kg)	3	2.9	2.8	1.5	1.6

				
NIFE 105W	**NIFE 200**	**NIFE 200P2**	**NIFE 200P2E**	**NIFE 200E2**
Intel® Atom™ x5-E3930 1.8GHz	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ J1900 2.0GHz	Intel® Atom™ J1900 2.0GHz
Intel® Apollo Lake-I	Intel® Bay Trail-D	Intel® Bay Trail-D	Intel® Bay Trail-D	Intel® Bay Trail-D
Onboard 4GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L	8GB DDR3L
-	-	-	-	-
Onboard eMMC 16GB	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	1	1	1	1
-	-	-	-	-
-	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)	1 (DVI-I)
1	-	-	-	-
-	1	1	1	1
4 x USB 3.0	3 x USB 2.0 1 x USB 3.0	3 x USB 2.0 1 x USB 3.0	3 x USB 2.0 1 x USB 3.0	3 x USB 2.0 1 x USB 3.0
-	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
-	-	-	-	-
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 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)	2 (2.5KV Isolation)
-	-	-	-	-
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)
2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
-	Line-out	Line-out	Line-out	Line-out
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
-	V	V	V	V
-	V	V	V	V
-	-	-	-	-
-	V	V	V	V
-	V	V	V	V
-	WinCE 7.0	WinCE 7.0	WinCE 7.0	WinCE 7.0
-	V	V	V	V
V	V	V	V	V
Optional	Optional	Optional	Optional	Optional
-	-	2 x PCI	1 x PCI and 1x PCIe x1	2 x PCIe x1
-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
78.2 x 100 x 120	85 x 157 x 214	151 x 157 x 230	151 x 157 x 230	151 x 157 x 230
212 x 221 x 164	346 x 265 x 200	355 x 259 x 321	355 x 259 x 321	355 x 259 x 321
0.8	2.3	3.3	3.3	3.3
1.8	3.3	4.3	4.3	4.3

Factory Automation

Model						
	NIFE 300	**NIFE 300P2**	**NIFE 300P2E**	**NIFE 300E16**	**NIFE 300P3**	**NIFE 300E3**
CPU	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)	6th Gen. Intel® Core™ i7/i5/i3 LGA socket (Skylake-S)
Chipset	Intel® Q170	Intel® Q170	Intel® Q170	Intel® Q170	Intel® Q170	Intel® Q170
Max. Memory	8GB DDR4 2133MHz	8GB DDR4 2133MHz	8GB DDR4 2133MHz	8GB DDR4 2133MHz	8GB DDR4 2133MHz	8GB DDR4 2133MHz
NVRAM	-	-	-	-	-	-
Storage	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	2 x 2.5" SATA HDD bay
CFast Socket	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)	1 (External, CFast)
SD Card	-	-	-	-	-	-
VGA	-	-	-	-	-	-
DVI	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)	1 (DVI-D)
HDMI	1	1	1	1	1	1
Display Port	-	-	-	-	-	-
USB	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0	2 x USB 2.0 4 x USB 3.0
PS/2	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
Parallel Port	-	-	-	-	-	-
Serial Port	2	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)	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)	2 (2.5KV Isolation)
CANbus	-	-	-	-	-	-
mini-PCIe	2	2	2	2	2	2
SIM Card Holder	1	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)	4-in/4-out (internal)
LAN Ports	3 x GbE	3 x GbE	3 x GbE	3 x GbE	3 x GbE	3 x GbE
Audio	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out	Mic-in & Line-out
Fieldbus I/O Support	1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)	1 (Optional)
Power Input Range	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V	ATX, DC +24V
Win7 32-bit	V	V	V	V	V	V
Win7 64-bit	V	V	V	V	V	V
WES2009 32-bit	-	-	-	-	-	-
Win8 32-bit	V	V	V	V	V	V
Win8 64-bit	V	V	V	V	V	V
WinCE/WEC	-	-	-	-	-	-
Win10 32-bit	V	V	V	V	V	V
Win10 64-bit	V	V	V	V	V	V
Power Supply Adapter	Optional	Optional	Optional	Optional	Optional	Optional
Expansion	-	2 x PCI	1 x PCI and 1 x PCIe x8	1 x PCIe x16	2 x PCI and 1 x PCIe x8	2 x PCIe x4 and 1 x PCIe x8
Operating Temp. (w/HDD) Based on IEC 60068 STD	-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
System Dimension (W x D x H, mm)	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	175 x 185 x 251
Carton Dimension (W x D x H, mm)	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	389 x 329 x 336
Net Weight (kg)	3.5	4.4	4.4	4.4	4.7	4.7
Gross Weight (kg)	4.9	6.1	6.1	6.1	6.4	6.4

Teach Pendant

Model				
	TP-100	**TP-100-VGA**	**TP-100-DVI**	**TP-100-DP**
LCD Size	10.1" 16:10	10.1" 16:10	10.1" 16:10	10.1" 16:10
Max Resolution	WXGA, 1280 x 800	WXGA, 1280 x 800	WXGA, 1280 x 800	WXGA, 1280 x 800
Luminum (cd/m2)	500	500	500	500
Backlight	LED	LED	LED	LED
LCD Color	16.7M	16.7M	16.7M	16.7M
Touch Screen	10 points P-Cap	10 points P-Cap	10 points P-Cap	10 points P-Cap
Emergency Stop Button	2 channels (2 NC)	2 channels (2 NC)	2 channels (2 NC)	2 channels (2 NC)
3-position Deadman Switch	3 channels (2 NO & 1 NC)	3 channels (2 NO & 1 NC)	3 channels (2 NO & 1 NC)	3 channels (2 NO & 1 NC)
2-position Key Switch	2 channels (auto/manual)	2 channels (auto/manual)	2 channels (auto/manual)	2 channels (auto/manual)
CPU	Intel® Atom™ E3826 Dual Core 1.46GHz	-	-	-
Memory	4GB DDR3L	-	-	-
User Memory	32GB	-	-	-
Ethernet	1 (10/100/1000 Mbit)	-	-	-
Display Input	-	VGA	DVI-D	DisplayPort
USB	2 USB 3.0	2 USB 3.0	2 USB 3.0	2 USB 3.0
Cable Connector and Signal	HDB-44 (including power, E-stop buttons, deadman switch, key switch and Giga LAN signals)	HDB-44 (including power, E-stop buttons, deadman switch, key switch, USB 3.0 and VGA signals)	HDB-44 (including power, E-stop buttons, deadman switch, key switch, USB 3.0 and DVI-D signals)	HDB-44 (including power, E-stop buttons, deadman switch, key switch, USB 3.0 and DisplayPort signals)
Construction	Front: aluminum magnesium alloy Back: ABS+PC plastic	Front: aluminum magnesium alloy Back: ABS+PC plastic	Front: aluminum magnesium alloy Back: ABS+PC plastic	Front: aluminum magnesium alloy Back: ABS+PC plastic
Power Input	24 Vdc (19.2 to 28.8 Vdc)	24 Vdc (19.2 to 28.8 Vdc)	24 Vdc (19.2 to 28.8 Vdc)	24 Vdc (19.2 to 28.8 Vdc)
Current Consumption	0.76A at 24Vdc (max.)	0.625A at 24Vdc (max.)	0.635A at 24Vdc (max.)	0.635A at 24Vdc (max.)
Power Supply Adapter	Optional	Optional	Optional	Optional
Operating Temp.	0°C to 45°C	0°C to 50°C	0°C to 50°C	0°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
Operating Humidity	5%~90%, non-condensing	5%~90%, non-condensing	5%~90%, non-condensing	5%~90%, non-condensing
IP level	Full IP65	Full IP65	Full IP65	Full IP65
Dimmension (W x H x D, mm)	297.3 x 257.2 x 57.2 (78.5mm including emergency button)	297.3 x 257.2 x 57.2 (78.5mm including emergency button)	297.3 x 257.2 x 57.2 (78.5mm including emergency button)	297.3 x 257.2 x 57.2 (78.5mm including emergency button)
Weight (kg)	1.45	1.5	1.49	1.49
Gross Weight (kg)	2	2.3	2.2	2.2

HMI

Model			
	eTOP504	**eSMART04N**	**eTOP507/507N**
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
Luminum (cd/m2)	150 typ.	200 typ.	300 typ.
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	256MB DDR	256MB DDR
User Memory	128MB	2GB	128MB
Ethernet	2 (10/100 Mbit)	1 (10/100 Mbit)	2 (10/100 Mbit)
USB	2 x USB 2.0	1 x USB 2.0	2 x USB 2.0
COM Port	1 x RS232, 422, 485 software configuration	1 x RS232, 422, 485 software configuration	1 x RS232, 422, 485 software configuration
Power Jack	3-pin terminal block	3-pin terminal block	3-pin terminal block
SD Socket	Yes	-	Yes
Expansion	1 Optional plug-in	-	2 Optional plug-in
Construction	Aluminum	Plastic	Aluminum
Mounting	Panel Mounting	Panel Mounting	Panel Mounting
Power Input	24 Vdc (10 to 32 Vdc)	24 Vdc (18 to 32 Vdc)	24 Vdc (10 to 32 Vdc)
Current Consumption	0.55A at 24Vdc (max.)	0.25A at 24Vdc (max.)	0.65A at 24Vdc (max.)
Power Supply Adapter	Optional	Optional	Optional
Operating Temp.	0°C to 50°C	0°C to 50°C	0°C to 50°C
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 (W x H, mm)	136 x 96	136 x 96	176 x 136
Dimmension (W x H x D, mm)	147 x 107 x 60	147 x 107 x 34	187 x 147 x 51
Net Weight (kg)	Approx. 1	Approx 0.4	Approx. 1
Gross Weight (kg)	1.3	0.7	1.4

			
eSMART07N	**eTOP510**	**eSMART10N**	**eLITE610**
7" 16:9	10.4" 4:3	10.1" 16:9	10.1" 16:9
WVGA, 800 x 480	SVGA, 800 x 600	WSVGA, 1024 x 600	WSVGA, 1024 x 600
200 typ.	300 typ.	200 typ.	240
LED	LED	LED	LED
64K	64K	64K	16.7M
Resistive	Resistive	Resistive	Resistive
Linux 3.12	Microsoft Windows CE 6.0	Linux 3.12	Windows 10
256MB DDR	256MB DDR	512MB DDR	4GB DDR3L
2GB	256MB	4GB	32GB
1 (10/100 Mbit)	2 (10/100 Mbit)	1 (10/100 Mbit)	2 (10/100/1000 Mbit)
1 x USB 2.0	2 x USB 2.0	1 x USB 2.0	2 x USB 3.0
1 x RS232, 422, 485 software configuration	1 x RS232, 422, 485 software configuration	1 x RS232, 422, 485 software configuration	1 x RS232, 422, 485 BIOS configuration
3-pin terminal block	3-pin terminal block	3-pin terminal block	3-pin terminal block
-	Yes	-	-
-	2 Optional plug-in	-	-
Plastic	Aluminum	Plastic	Plastic
Panel Mounting	Panel Mounting	Panel Mounting	Panel/VESA Mounting
24 Vdc (18 to 32 Vdc)	24 Vdc (10 to 32 Vdc)	24 Vdc (18 to 32 Vdc)	24 Vdc (19.2 to 28.8 Vdc)
0.3A at 24Vdc (max.)	0.95A at 24Vdc (max.)	0.38A at 24Vdc (max.)	1.64A at 24Vdc (max.)
Optional	Optional	Optional	Optional
0°C to 50°C	0°C to 50°C	0°C to 50°C	-5°C to 50°C
-20˚C to 70˚C	-20˚C to 70˚C	-20˚C to 70˚C	-20˚C to 75˚C
5% ~ 85%, Non-condensing	5% ~ 85%, Non-condensing	5% ~ 85%, Non-condensing	5% ~ 90%, Non-condensing
IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)	IP66 (front), IP20 (rear)
176 x 136	276 x 221	271 x 186	271 x 186
187 x 147 x 34	287 x 232 x 60	282 x 197 x 35	282 x 197 x 35
Approx. 0.6	Approx. 2.1	Approx. 1	Approx. 1.37
0.9	2.8	1.6	2.3

Industrial Panel PC

Model				
	IPPC 1632P	**IPPC 1640P**	**IPPC 1840P**	**IPPC 2132P**
LCD Size	15.6" 16:9	15.6" 16:9	18.5" 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
Luminance (cd/m^2)	300	300	300	300
Contrast Ratio	500	500	1000	5000
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
LCD Color	16.7M	16.7M	16.7M	16.7M
Touch Screen	10 Point P-Cap	10 Point P-Cap	10 Point P-Cap	10 Point P-Cap
Touch Light Transmission	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
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
CFast Socket	1	1	1	1
2nd Display Output	VGA	VGA	VGA	VGA
PS2 KB/MS	-	1	1	-
Ethernet (10/100/1000)	2	2	2	2
Line-out	1	1	1	1
Line-in	1	-	-	1
Mic-in	1	-	-	1
USB 2.0/3.0	4/-	2/1	2/1	4/-
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
Parallel Port	-	-	-	-
Power Switch	1	1	1	1
Remote Power Switch	-	1	1	-
Reset Button	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
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
Construction Front Panel	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
Power Input	+12~30VDC	+12~30VDC	+12~30VDC	+12~30VDC
Power Supply Adapter	Optional	Optional	Optional	Optional
Operating Temp.	-10°C to 60°C	-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	-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 (W x H, mm)	401 x 296	401 x 296	475.4 x 305.2	547 x 367
Dimension (W x H x D, 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
Net Weight (kg)	6.4	6.4	8.2	9.26
Gross Weight (kg)	9.5	10	10.5	13

			
IPPC 2140P	**IPPC 1560TE**	**IPPC 1560T-DC**	**IPPC 1560T-AC**
21.5" 16:9	15" 4:3	15" 4:3	15" 4:3
Full HD, 1920 x 1080	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768
300	400	450	450
5000	700	800	800
89(U), 89(D), 89(L), 89(R)	60(U), 80(D), 80(L), 80(R)	70(U), 80(D), 80(L), 80(R)	70(U), 80(D), 80(L), 80(R)
LED	LED	LED	LED
16.7M	16.2M	16.2M	16.2M
10 Point P-Cap	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire
87%	81%	81%	81%
Intel® Celeron® J1900 Quad Core 2.0 GHz	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
-	Intel® HM76	Intel® HM76	Intel® HM76
4GB DDR3L SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module
1	1	1	1
VGA	VGA	VGA	VGA
1	2	2	2
2	2	2	2
1	-	1	1
-	-	1	1
-	-	1	1
2/1	4 (Hidden)/-	5 (1 In front)/-	5 (1 In front)/-
Isolation 2 x RS232,422,485	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
-	-	-	1
1	1	1	1
1	-	-	-
1	1	1	1
Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	AC Inlet (IEC60320 C14)
-	-	-	4-In/4-Out
-	-	-	4-In/4-Out
2 x mini-PCIe	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 Zero 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
+12~30VDC	+24VDC ±20%; Fuse: 250V/10A	+12~30VDC	100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
Optional	Optional	Optional	Internal
-10°C to 60°C	-10°C to 50°C	-10°C to 50°C	-10°C to 50°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
Front Frame IP66	Front Frame IP65	Front Frame IP65	Front Frame IP65
547 x 367	455 x 295	455 x 295	455 x 295
562.4 x 382.4 x 62.85	477.64 x 310 x 95.72	477.64 x 310 x 95.72	477.64 x 310 x 95.72
9.26	9.51	9.34	9.75
13	14.5	14.5	14.5

Industrial Panel PC

Model	Coming Soon	Coming Soon		
	IPPC A1570T-DC	**IPPC A1570P-DC**	**IPPC A1770T-DC**	**IPPC A1770P-DC**
LCD Size	15" 4:3	15" 4:3	17" 4:3	17" 4:3
Max. Resolution	XGA,1024 x 768	XGA, 1024 x 768	SXGA, 1280 x 1024	SXGA, 1280 x 1024
Luminance (cd/m^2)	450	450	350	350
Contrast Ratio	800	800	1000	1000
Viewing Angle (H-V)	70(U), 80(D), 80(L), 80(R)	70(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
LCD Color	16.2M	16.2M	16.7M	16.7M
Touch Screen	Resistive 5-wire	Five Point P-cap	Resistive 5-wire	Five Point P-Cap
Touch Light Transmission	81%	87%	81%	87%
CPU	4th Gen. Intel® Core™ i5/i3 LGA socket	4th Gen. Intel®Core™ i5/i3 LGA socket	4th Gen. Intel®Core™ i5/i3 LGA socket	4th Gen. Intel®Core™ i5/i3 LGA socket
Chipset	Intel® QM87	Intel® QM87	Intel® QM87	Intel® QM87
Memory	Max. 8GB DDR3/DDR3L	Max. 8GB DDR3/DDR3L	Max. 8GB DDR3/DDR3L	Max. 8GB DDR3/DDR3L
CFast Socket	1	1	1	1
2nd Display Output	DVI-I + DP	DVI-I + DP	DVI-I + DP	DVI-I + DP
PS2 KB/MS	1	1	2	2
Ethernet (10/100/1000)	2	2	2	2
Line-out	1	1	1	1
Line-in	1	1	1	1
Mic-in	1	1	1	1
USB 2.0/3.0	1(In front)/4	1(In front)/4	1(In front)/4	1(In front)/4
COM Port	2 x RS232,422,485	2 x RS232,422,485	2 x RS232,422,485	2 x RS232,422,485
Parallel Port	-	-	-	-
Power Switch	1	1	1	1
Remote Power Switch	1	1	1	1
Reset Button	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
GPIO	-	-	-	-
Digital I/O	-	-	-	-
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 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	+12V~30VDC	+12V ~ 30VDC	+12~30VDC	+12~30VDC
Power Supply Adapter	Optional	Optional	Optional	Optional
Operating Temp.	-10°C to 50°C	-20°C to 60°C	-10°C to 50°C	-10°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
Operating Humidity	10%~90% relative humidity, Non-condensing	10%~90% relative humidity, 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 (W x H, mm)	382 x 312	382 x 312	436 x 360.5	436 x 360.5
Dimension (W x H x D, mm)	400 x 330 x 104.9	400 x 330 x 104.9	451 x 375.5 x 105	451 x 375.5 x 105
Net Weight (kg)	8.99	9.08	10.2	10.2
Gross Weight (kg)	13.83	13.83	16.2	16.2

				
IPPC A1770T-AC	**IPPC A1770P-AC**	**IPPC A1770TF-DC**	**IPPC 1960T-DC**	**IPPC 1960T-AC**
17" 4:3	17" 4:3	17" 4:3	19" 4:3	19" 4:3
SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA, 1280 x 1024	SXGA 1280 x 1024	SXGA, 1280 x 1024
350	350	350	350	350
1000	1000	1000	1000	1000
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)
LED	LED	LED	LED	LED
16.7M	16.7M	16.7M	16.7M	16.7M
Resistive 5-wire	Five Point P-Cap	Resistive 5-wire	Resistive 5-wire	Resistive 5-wire
81%	87%	81%	81%	81%
4th Gen. Intel® Core™ i5/i3 LGA socket	4th Gen. Intel®Core™ i5/i3 LGA socket	4th Gen. Intel® Core™ i7/i5/i3 LGA socket	3rd Gen. Intel®Core™ i5 (i5-3610ME) 2 x 2.7GHz	3rd Gen. Intel®Core™ i5 (i5-3610ME) 2 x 2.7GHz
Intel® QM87	Intel® QM87	Intel® QM87	Intel® HM76	Intel® HM76
Max. 8GB DDR3/DDR3L	Max. 8GB DDR3/DDR3L	Max. 8GB DDR3/DDR3L	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module
1	1	1	1	1
DVI-I + DP	DVI-I + DP	DVI-I + DP	VGA	VGA
2	2	2	2	2
2	2	2	2	2
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1(In front)/4	1(In front)/4	1(In front)/4	5 (1 In front)/-	5 (1 In front)/-
Isolation 2 x RS232,422,485	Isolation 2 x RS232,422,485	2 x RS232,422,485	2 x RS232,422,485/ 1 x RS232	Isolation 2 x RS232,422,485/ 4 x RS232
-	-	-	-	1
1	1	1	1	1
1	1	1	-	-
1	1	1	1	1
AC Inlet (IEC60320 C14)	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/4-Out	-	-	4-In/4-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
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
100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A	100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A	+12~30VDC	+12~30VDC	100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
Internal	Internal	Optional	Optional	Internal
-10°C to 50°C	-10°C to 60°C	-10°C to 50°C	-10°C to 50°C	-10°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
10%~90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing	10%~90%, Non-condensing	10% ~ 90%, Non-condensing
Front Frame IP66	Front Frame IP66	Front Frame IP66	Front Frame IP65	Front Frame IP65
436 x 360.5	436 x 360.5	436 x 360.5	455 x 385	455 x 385
451 x 375.5 x 92.9	451 x 375.5 x 92.9	451 x 375.5 x 105	477.64 x 399.24 x 99.38	477.64 x 399.24 x 99.38
10.5	10.5	9.26	10.6	11.2
16.5	16.5	15.26	16.5	17.2

Industrial Panel PC

Model				
	IPPC A1970T-DC	IPPC A1970P-DC	IPPC 2160P-DC	IPPC 2160P-AC
LCD Size	19" 4:3	19" 4:3	21.5" 16:9	21.5" 16:9
Max. Resolution	SXGA, 1280 x 1024	SXGA, 1280 x 1024	Full HD, 1920 x 1080	Full HD, 1920 x 1080
Luminance (cd/m^2)	350	350	300	300
Contrast Ratio	1000	1000	5000	5000
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)	89(U), 89(D), 89(L), 89(R)
Backlight	LED	LED	LED	LED
LCD Color	16.7M	16.7M	16.7M	16.7M
Touch Screen	Resistive 5-wire	Five Point P-cap	Five Point P-Cap	Five Point P-Cap
Touch Light Transmission	80%	87%	87%	87%
CPU	4th Gen. Intel®Core™ i5/i3 LGA socket	4th Gen. Intel®Core™ i5/i3 LGA socket	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® QM87	Intel® HM76	Intel® HM76
Memory	Max. 8GB DDR3/DDR3L	Max. 8GB DDR3/DDR3L	4GB DDR3 SO-DIMM module	4GB DDR3 SO-DIMM module
CFast Socket	1	1	1	1
2nd Display Output	DVI-I + DP	DVI-I + DP	VGA	VGA
PS2 KB/MS	1	1	2	2
Ethernet (10/100/1000)	2	2	2	2
Line-out	1	1	1	1
Line-in	1	1	1	1
Mic-in	1	1	1	1
USB 2.0/ 3.0	1 (In front)/4	1 (In front)/4	4/-	4/-
COM Port	2 x RS232,422,485	2 x RS232,422,485	2 x RS232,422,485/ 1 x RS232	Isolation 2 x RS232,422,485/ 4 x RS232
Parallel Port	-	-	-	1
Power Switch	1	1	1	1
Remote Power Switch	1	1	-	-
Reset Button	1	1	1	1
Power Jack	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	AC Inlet (IEC60320 C14)
GPIO	-	-	-	4-In/4-Out
Digital I/O	-	-	-	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 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	+12V~30VDC	+12V~30VDC	+12~30VDC	100-240 V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
Power Supply Adapter	Optional	Optional	Optional	Internal
Operating Temp.	-10°C to 50°C	-20°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	-20˚C to 75˚C
Operating Humidity	10%~90% relative humidity, Non-condensing	10%~90% relative humidity, Non-condensing	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing
IP Level	Front Frame IP66	Front Frame IP66	Front Frame IP65	Front Frame IP65
Cut Out Size (W x H, mm)	452 x 382	452 x 382	455 x 385	455 x 385
Dimension (W x H x D, mm)	470 x 400 x 104.9	470 x 400 x 104.9	562.4 x 382.4 x 99.38	562.4 x 382.4 x 99.38
Net Weight (kg)	10.25	10.34	11.91	12.51
Gross Weight (kg)	16.25	16.34	18.91	19.51

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	400	300
Contrast Ratio	500	1000	5000
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
LCD Color	16.7M	16.7M	16.7M
Touch Screen	10 Point P-Cap	10 Point P-Cap	10 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
Power Jack	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector	Terminal Blocks 3-Pin Phoenix Connector
Construction Front Panel	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
Power Input	+12~30VDC	+12~30VDC	+12~30VDC
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 (W x H, mm)	401 x 296	475.4 x 305.2	547 x 367
Dimension (W x H x D, 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
Net Weight (kg)	5.48	6.24	7.87
Gross Weight (kg)	8.5	9	12

Applied Panel PC

Model			
	APPC 0840T	**APPC 1230T/1231T**	**APPC 1235T**
LCD Size	8.0" 4:3	12.1" 4:3	12.1" 4:3
Max. Resolution	SVGA, 800 x 600	SVGA, 800 x 600	XGA, 1024 x 768
Luminance (cd/m^2)	400	450	500
Contrast Ratio	500	700	700
Viewing Angle (H-V)	50(U), 70(D), 70(L), 70(R)	65(U), 75(D), 80(L), 80(R)	80(U), 80(D), 80(L), 80(R)
Backlight	LED	LED	LED
LCD Color	262K	16.2M	16.2M
Touch Screen	Resistive 5-wire (flush panel type)	Resistive 5-wire (flush panel type)	Resistive 5-wire (flush panel type)
Touch Light Transmission	82%	80%	80%
CPU	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ D2550 Dual Core 1.86GHz
Chipset	-	Intel® NM10 Express	Intel® NM10 Express
Memory	2GB DDR3L SO-DIMM module	2GB DDR3 SO-DIMM module	2GB DDR3 SO-DIMM module
CF Socket	1	1	1
2nd Display Output	VGA	VGA	VGA
PS2 KB/MS	-	1	1
Ethernet (10/100/1000)	2	2	2
Line-out	1	1	1
Line-in	-	1	1
Mic-in	-	1	1
USB 2.0/3.0	3/1	4/-	4/-
COM Port	2 x RS232,422,485	2 x RS232,422,485/Isolation 2 x RS232,422,485, 2 x RS232	2 x RS232,422,485
Power Switch	1	1	1
Remote Power Switch	1	-	-
Reset Button	1	1	1
Power Jack	DC 4-pin DIN Power Jack with shield, 90°	DC 4-pin DIN Power Jack with shield, 90°	Terminal Blocks 3-pin phoneix connector
GPIO	-	-/2-in, 2-out	-
Digital I/O	-	-/4-in, 4-out	-
Expansion	1 x mini-PCIe	2 x mini-PCIe	2 x mini-PCIe
Construction Front Panel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel	ABS+PC Plastic front bezel
Mounting	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
Power Supply Adapter	Optional	Optional	Optional
Operating Temp.	-5°C to 50°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
Operating Humidity	10% ~ 90%, Non-condensing	10% ~ 90%, Non-condensing	10%~90%, Non-condensing
IP Level	Front Frame IP65	Front Frame IP65	Front Frame IP65
Cut Out Size (W x H, mm)	209.6 x 167.1	304.5 x 230	304.5 x 230
Dimension (W x H x D, mm)	217.4 x 176.4 x 68.9	317 x 243 x 65.89	317 x 243 x 65.89
Net Weight (kg)	2.3	3.9	3.9
Gross Weight (kg)	4	6	6

			
APPC 1240T	**APPC 1245T**	**APPC 1530T/1531T**	**APPC 1540T**
12.1" 4:3	12.1" 4:3	15" 4:3	15" 4:3
SVGA, 800 x 600	XGA, 1024 x 768	XGA, 1024 x 768	XGA, 1024 x 768
450	500	450	450
700	700	800	800
65(U), 75(D), 80(L), 80(R)	80(U), 80(D), 80(L), 80(R)	70(U), 80(D), 80(L), 80(R)	70(U), 80(D), 80(L), 80(R)
LED	LED	LED	LED
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)
80%	80%	81%	81%
Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ E3826 Dual Core 1.46GHz
-	-	Intel® NM10 Express	-
2GB DDR3L SO-DIMM module	2GB DDR3L SO-DIMM module	2GB DDR3 SO-DIMM module	2GB DDR3L SO-DIMM module
1	1	1	1
VGA	VGA	VGA	VGA
1	1	1	1
2	2	2	2
1	1	1	1
-	-	1	-
-	-	1	-
2/1	2/1	4/-	2/1
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
1	1	1	1
1	1	-	1
1	1	1	1
Terminal Blocks 3-pin phoneix connector	Terminal Blocks 3-pin phoneix connector	DC 4 pin DIN Power Jack with shield, 90°	Terminal Blocks 3-pin phoneix connector
-	-	-/2-in, 2-out	-
-	-	-/4-in, 4-out	-
2 x mini-PCIe	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
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
+12~30VDC	+12~30VDC	+12~30VDC	+12~30VDC
Optional	Optional	Optional	Optional
-5°C to 60°C	-5°C to 60°C	-5°C to 60°C	-5°C to 60°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
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
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 63.2
4	4	5	5.1
6	6	8	9

Applied Panel PC

Model				
	APPC 1730T/1731T	APPC 1740T	APPC 1930T/1931T	APPC 1940T
LCD Size	17" 4:3	17" 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
Luminance (cd/m^2)	350	350	350	350
Contrast Ratio	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)
Backlight	LED	LED	LED	LED
LCD Color	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)
Touch Light Transmission	81%	81%	81%	81%
CPU	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 Dual Core 1.86GHz	Intel® Atom™ E3826 Dual Core 1.46GHz
Chipset	Intel® NM10 Express	-	Intel® NM10 Express	-
Memory	2GB DDR3 SO-DIMM module	2GB DDR3L SO-DIMM module	2GB DDR3 SO-DIMM module	2GB DDR3L SO-DIMM module
CF Socket	1	1	1	1
2nd Display Output	VGA	VGA	VGA	VGA
PS2 KB/MS	1	1	1	1
Ethernet (10/100/1000)	2	2	2	2
Line-out	1	1	1	1
Line-in	1	-	1	-
Mic-in	1	-	1	-
USB 2.0/3.0	4/-	2/1	4/-	2/1
COM Port	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, 2 x RS232	Isolation 2 x RS232,422,485
Power Switch	1	1	1	1
Remote Power Switch	-	1	-	1
Reset Button	1	1	1	1
Power Jack	DC 4 pin DIN Power Jack with shield, 90°	Terminal Blocks 3-pin phoneix connector	DC 4 pin DIN Power Jack with shield, 90°	Terminal Blocks 3-pin phoneix connector
GPIO	-/2-in, 2-out	-	-/2-in, 2-out	-
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
Construction Front Panel	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 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	+12to30V DC	+12to30V DC	+12to30V DC
Power Supply Adapter	Optional	Optional	Optional	Optional
Operating Temp.	-5°C to 60°C	-5°C to 60°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
Operating Humidity	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
Cut Out Size (W x H, mm)	399 x 329	399 x 329	436 x 366	436 x 366
Dimension (W x H x D, mm)	410.4 x 340.4 x 65.9	410.4 x 340.4 x 65.9	457.64 x 379.24 x 61.25	457.64 x 379.24 x 61.25
Net Weight (kg)	6.6	6.7	6.5	6.7
Gross Weight (kg)	9.5	8	10	9

Applied Touch Monitor

Model					
	APPD 1200T	**APPD 1205T**	**APPD 1500T**	**APPD 1700T**	**APPD 1900T**
LCD Size	12.1" 4:3	12.1" 4:3	15" 4:3	17" 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
Luminance (cd/m^2)	450	500	450	350	350
Contrast Ratio	700	700	800	1000	1000
Viewing Angle (H-V)	65(U), 75(D), 80(L), 80(R)	80(U), 80(D), 80(L), 80(R)	70(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
LCD Color	16.2M	16.2M	16.2M	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)
Touch Light Transmission	80%	80%	81%	81%	81%
Touch Screen I/F	RS232, USB	RS232, USB	RS232, USB	RS232, USB	RS232, USB
OSD Function	OSD Keypad	OSD Keypad	OSD Keypad	OSD Keypad	OSD Keypad
Video Input	VGA, DVI-D	VGA, DVI-D	VGA, DVI-D	VGA, DVI-D	VGA, DVI-D
Power Jack	Terminal Blocks 3-pin phoneix connector	Terminal Blocks 3-pin phoneix connector	Terminal Blocks 3-pin phoneix connector	Terminal Blocks 3-pin phoneix connector	Terminal Blocks 3-pin phoneix connector
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 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
Power Supply Adapter	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 60°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
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
Certifications	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B	CE, FCC Class B
Cut Out Size (W x H, mm)	304.5 x 230	304.5 x 230	371 x 297	399 x 329	436 x 366m
Dimension (W x H x D, mm)	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
Net Weight (kg)	2.9	2.9	3.98	5.3	5.4
Gross Weight (kg)	5	5	7	8	9

Machine Automation

Model					
	NET 101-ECM	NET 104-ECM	NET 200-ECM	NET 300-ECM	NET 3140P2E-ECM
CPU	Intel® Atom™ E3826 Dual Core 1.46GHz	Intel® Atom™ D2550 1.86GHz	Intel® Celeron® J1900 Quad Cord 2.0GHz	Intel® Core™ i5-6500TE Quad Core 2.3GHz	Intel® Core™ 2 Duo P8400
Chipset	Intel® Bay Trail-I	Intel® NM10	Intel® Bay Trail-D	Intel® Q170	Intel® GM45/ICH9M
OS	WES 7	WES 7	WES 7	WES 7	WES 7
Memory	4GB DDR3L	2GB DDR3	2 x 2GB DDR3L	4GB DDR4	2 x 2GB DDR3
NVRAM	Onboard 1Mb	Optional	Optional	Optional	Optional
HDD/SSD	128GB SSD	500GB HDD	500GB HDD	256GB SSD	500GB HDD
CF/CFast	1 (External, CFast)	1 (External, CFast)	-	1 (External, CFast)	1 (External, CF)
SD Card	-	-	1	-	-
Display	1 x DVI-I	1 x DVI-I 1 x HDMI	1 x DVI-I 1 x DP	1 x DVI-D 1 x HDMI	1 x VGA 1 x DVI-I
USB	1 x USB 2.0 1 x USB 3.0	6 x USB 2.0	3 x USB 2.0 1 x USB 3.0	2 x USB 2.0 4 x USB 3.0	6 x USB 2.0
PS/2	-	-	-	-	1
Audio	Line-out	Mic-in & Line-out	Line-out	Mic-in & Line-out	Mic-in & Line-out
Serial Port	2	4	2	2	4
mini-PCIe	1	1	2	2	-
LAN Ports	2 (1 x EtherNet, 1 x EtherCAT)	2 (1 x EtherNet, 1 x EtherCAT)	2 (1 x EtherNet, 1 x EtherCAT)	3 (2 x EtherNet, 1 x EtherCAT)	2 (1 x EtherNet, 1 x EtherCAT)
SIM Card Holder	1	1 (Internal)	1	1	-
Expansion	mini-PCIe	-	2 x mini-PCIe	2 x mini-PCIe	1 x PCI 1 x PCIe x1
GPIO	4-In/4-Out (Internal)	-	4-In/4-Out (Internal)	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	DC 24V ±20%	DC +10~28V	DC 24V ±20%	DC 24V ±20%	DC +16~30V
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 (W x D x H, mm)	58 x 135.5 x 192.5	185 x 131 x 54	85 x 157 x 214	90 x 185 x 251	195 x 268 x 101
Net Weight (kg)	2	1.4	2.5	3.7	5

					
NET 3500-ECM	**NET 3600E-ECM**	**MAC 3500-GTS**	**MAC 3500-GTP**	**NControl 20/20D**	**NControl 30/30D**
Intel® Core™ i5-520M	Intel® Core™ i5-3610ME	Intel® Core™ i7/i5 socket	Intel® Core™ i7/i5 socket	Intel® Core™ 2 Duo P8400	Intel® Core™ 2 Duo P8400
Intel® QM57	Intel® QM77	Intel® QM57	Intel® QM57	Intel® GM45/ICH9M	Intel® GM45/ICH9M
WES 7	WES 7	Selectable	Selectable	WinCE 6.0 + WES 2009 (20D)	WinCE 6.0 + WES 2009 (30D)
2 x 2GB DDR3	2 x 2GB DDR3L	up to 4GB DDR3	up to 4GB DDR3	2GB DDR3	2GB DDR3
Optional	Optional	Optional	Optional	-	-
500GB HDD	500GB HDD	2 x 2.5" HDD Driver Bay	2 x 2.5" HDD Driver Bay	32GB SSD	32GB SSD
-	1 (External, CFast)	-	-	1 (External, CF)	1 (External, CF)
-	-	-	-	-	-
1 x VGA 1 x DVI-I	1 x VGA 1 x DVI-D 2x DP	1 x VGA 1 x DVI-I	1 x VGA 1 x DVI-I	1 x VGA 1 x DVI-I	1 x VGA 1 x DVI-I
6 x USB 2.0	2 x USB 2.0 4 x USB 3.0	6 x USB 2.0	6 x USB 2.0	6 x USB 2.0	6 x USB 2.0
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
4	6	2	4	4	4
-	1	2	-	-	-
2 (1 x EtherNet, 1 x EtherCAT)	2 (1 x EtherNet, 1 x EtherCAT)	2 x GbE	2 x GbE	2 x GbE	2 x GbE
-	1	-	-	-	-
1 x PCI	1 x PCIe x4	-	-	-	-
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)
-	-	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	Distributed Motion Control	Centralized Motion Control	Centralized Motion Control	CNC	CNC
EtherCAT	EtherCAT	Pulse/Analog	Pulse	EtherCAT	EtherCAT, MECHATROLINK III
up to 64	up to 64	4	4	up to 10	up to 14
VC/C++	VC/C++	VC/C++	VC/C++	IEC-61131-3	IEC-61131-3
DC +9~30V	DC +9~30V	DC +9~30V	DC +9~30V	DC +16~30V	DC +16~30V
-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
195 x 268 x 80	215 x 272 x 93	195 x 268 x 80	195 x 268 x 80	195 x 268 x 101	195 x 268 x 101
4.7	5.2	4.7	4.7	5	5

EtherCAT Digital I/O Module

Model	 NEIO-B1101	 NEIO-B1102	 NEIO-B1201	 NEIO-B1202	 NEIO-B1811	 NEIO-B1812
Type	DI Module (Sink)	DI Module (Sink/Source)	DO Module (Sink)	DO Module (Source)	DI/O Module (Sink)	DI/O Module (Source)
Number of Inputs	32	32	-	-	16	16
Input Voltage	24 V_{DC}	24 V_{DC}	-	-	24 V_{DC}	24 V_{DC}
Input On-State Voltage, "1"	15~30 V_{DC} (IEC 61131-2 type 1) 11~30 V_{DC} (IEC 61131-2 type 2/3)	9~24 V_{DC} (Sink) 0~15 V_{DC} (Source)	-	-	15~30 V_{DC} (IEC 61131-2 type 1) 11~30 V_{DC} (IEC 61131-2 type 2/3)	9~24 V_{DC} (Sink) 0~15 V_{DC} (Source)
Input Off-State Voltage, "0"	0~5 V_{DC} (IEC 61131-2 type 1/2/3)	0~8 V_{DC} (Sink) 16~24 V_{DC} (Source)	-	-	0~5 V_{DC} (IEC 61131-2 type 1/2/3)	0~8 V_{DC} (Sink) 16~24 V_{DC} (Source)
Input Filter	3 ms	1 ms	-	-	3 ms	1 ms
Number of Outputs	-	-	32	32	16	16
Output Voltage	-	-	24 V_{DC}	24 V_{DC}	24 V_{DC}	24 V_{DC}
Output Load Type	-	-	Resistive, Inductive	Resistive, Inductive, Capacitive	Resistive, Inductive	Resistive, Inductive, Capacitive
Max. Output Current	-	-	500 mA/ch	500 mA/ch	500 mA/ch	500 mA/ch
Switching Time	-	-	Off to On : 100 us On to Off : 150 us	Off to On : 100 us On to Off : 150 us	Off to On : 100 us On to Off : 150 us	Off to On : 100 us On to Off : 150 us
Power Input	24 V_{DC} (±20%)	24 V_{DC} (±20%)	24 V_{DC} (±20%)	24 V_{DC} (±20%)	24 V_{DC} (±20%)	24 V_{DC} (±20%)
Operation Temperature	0°C to 55°C	0°C to 55°C	0°C to 55°C	0°C to 55°C	0°C to 55°C	0°C to 55°C

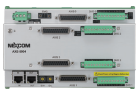
EtherCAT COM Port Module

Model		
	NEIO-B1601	**NEIO-B1603**
Number of Channels	2	4
COM 1	RS 232/422/485	RS 232/422/485
COM 2	RS 422/485	RS 422/485
COM 3	-	RS 422/485
COM 4	-	RS 422/485
Data Bits	5, 6, 7, 8	5, 6, 7, 8
Stop Bits	1, 1.5, 2	1, 1.5, 2
Parity	None, Odd, Even, Space, Mark	None, Odd, Even, Space, Mark
Baud Rate	0.3~115.2 kbps	0.3~115.2 kbps
Power Input	24 V_{DC} (±20%)	24 V_{DC} (±20%)
Operation Temperature	0°C to 55°C	0°C to 55°C

EtherCAT Analog I/O Module

Model	
	NEIO-B1831
Number of Voltage Inputs	6
Voltage Input Range	±10 V
Resolution	16-bit
Number of Current Inputs	2
Current Input Range	0 ~ 20 mA
Resolution	16-bit
Number of Analog Outputs	2
Output Range	0~10V
Resolution	12-bit
Power Input	24 V_{DC} (±20%)
Operation Temperature	0°C to 55°C

EtherCAT Pulse-Output Module

Model	
	AXE-5904
Number of Axes	4
Pulse Output Rate	Up to 8pps
Pulse Command Output	CW/CCW, OUT/DIR, 4 x AB
Encoder Input Type	Incremental
Encoder Resoluion	32-bit
Encoder Input Signal	CW/CCW, AB/Z
Max. Input Frequency	4MHz
Dedicated I/O	LIM/HOME/INP ALM/ARST/SVON
General Purpose Input	3 Channel Per Axis
Power Input	24 V_{DC} (±10%)
Operation Temperature	0°C to 50°C

CPS Series

Model			
	CPS 100	**CPS 200**	**NISE 50**
Category	Fieldbus Enabled IoT Remote Gateway	Fieldbus Enabled IoT Edge Gateway	General Purpose IoT Gateway
Communication Protocols for Local Devices	PROFINET-RT, PROFIBUS-DP, EtherNet/IP (Slave), Modbus/TCP, Modbus/RTU (Master), OPC-UA Client	PROFINET-RT, PROFIBUS-DP, EtherNet/IP (Slave), Modbus/TCP, Modbus/RTU (Master), OPC-UA Client	Modbus/TCP, Modbus/RTU (Master)
Communication for Cloud/Server	MQTT, SQLite, Https	MQTT, SQLite, Https	MQTT, SQLite, Https
Wireless Communication Interface Options	Wi-Fi, 3G, 4G/LTE	Wi-Fi, 3G, 4G/LTE	Wi-Fi, 3G, 4G/LTE
Number of LAN Port	2	2	2
Type of LAN	RJ45	RJ45	RJ45
COM Port	1 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232 1 x RS-422/485
USB	1 x USB 3.0 1 x USB 2.0	1 x USB 3.0 3 x USB 2.0	4 x USB 2.0
Display	-	1 x DVI-I, 1 x DP	1 x HDMI
Mounting Style	Wall/DIN Rail	Wall/DIN Rail	Wall
Temperature	-20°C ~ +65°C	0°C ~ +50°C	-5°C ~ +55°C
Dimension (mm)	63 x 100 x 151	85 x 157 x 214	162 x 126 x 150
DC Input	24VDC ±20%	24VDC ±20%	24VDC ±20%
Certification	CE, FCC	CE, FCC	CE, FCC
Storage	16G eMMC	128G SSD	16G eMMC (Optional mSATA)

Industy Firewall

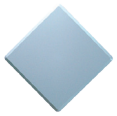
Model Name				
	Industry Firewall Multi-port VPN Router			VPN Dispatcher
	IFA 1610	**IFA 2610**	**IFA 3610**	**IVD 1000-S/A**
Network Security	Yes	Yes	Yes	Yes
VPN Connections	Unlimited	Unlimited	Unlimited	25/100 Licenses
VPN Function	Client/ Site-to-Site	Client/ Site-to-Site	Client/ Site-to-Site	VPN 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 110/100/1000 Mbps	3 x 10/100/1000 Mbps	5 x 10/100/1000 Mbpsx	6 x 10/100/1000 Mbps
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 (H x W x D) mm	114 x 28 x 100	167 x 59 x 140	167 x 59 x 140	44 x 462 x 238
Operating Temperature	0°C ~ +60°C 32°F ~ +140°F	0°C~ +60°C 32°F ~ +140°F	-20°C~ +70°C -4°F ~ +158°F	0°C ~ +40°C 32°F ~ +104°F
Storage Temperature	-20°C ~ +70°C -4°F ~ +158°F	-20°C ~ +70°C -4°F ~ +158°F	-40°C~ +80°C -40°F ~ +176°F	-20°C ~ +70°C -4°F ~ +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

Cost-Effective IWF Access Point

Model			
	IWF 3310XM/H	**IWF 6320M/H**	**IWF 6330M/H**
Category	Industrial Mesh AP/CPE	Outdoor AP	Outdoor AP
WLAN Standard	802.11a/b/g/n	802.11a/b/g/n	802.11a/b/g/n
Number of Radios	1	2	3
Number of Antenna	2	4	6
Type of RF Connector	RP-SMA	N-Type female	N-Type female
Number of WAN Port	1	1	1
Number of LAN Port	0	0	0
Type of LAN	RJ45	RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)
Console Port	-	-	-
USB2.0	-	-	-
IP Rating	IP30	IP67	IP67
Conformal Coating	-	-	-
Mounting Style	Wall/DIN-Rail mount	Wall/Pole mount	Wall/Pole mount
Temperature	-40°C to +80°C	-35°C to +75°C	-35°C to +75°C
Dimension (mm)	58.8 x 139.6 x 167	220 x 220 x 77	220 x 220 x 77
PoE Input	IEEE 802.3at	PoE: 48V	PoE: 48V
DC Input	2 x DC input: +12~+48V	-	-
Certification	CE, FCC, EN50155	CE, FCC	CE, FCC
Safety	EN60950-1	EN60950-1	EN60950-1
Operation Mode	AP/Station/Mesh* (* Mesh model only)	AP/Station/Mesh	AP/Station/Mesh
Management Mode	SNMP/GUI Management	SNMP/GUI Management	SNMP/GUI Management

			
IWF 501/501D	**IWF 502/502D**	**IWF 503/503D**	**IWF 504D**
Outdoor CPE	Outdoor CPE	Outdoor AP/CPE	PtP/PtMP AP/CPE
802.11b/g/n	802.11a/n	802.11ac/an/a 3x3 MIMO	802.11ac+b/g/n 2x2 MIMO
1	1	1	2
IWF 501: 12dBi embedded antenna IWF 501D: 2 x RP-xSMA female	IWF 502: 14dBi embedded antenna IWF 502D: 2 x SMA female	IWF503: 10dBi embedded antenna IWF503D: 3 x RP-xSMA female	4
IWF 501D: 2 x RP-SMA female	IWF 502D: 2 x RP-SMA female	IWF 503D: 3 x RP-xSMA female	4 x RP-SMA female
2	2	1	1
0	0	1	1
RJ45	RJ45	RJ45	RJ45
-	-	-	-
-	-	-	-
IP55	IP55	IP55	IP55
-	-	-	-
Pole mount	Pole mount	Wall/Pole mount	Wall/Pole mount
-35°C to +75°C	-35°C to +75°C	-35°C to +75°C	-30°C to +75°C
280 x 93 x 45	280 x 93 x 45	240 x 135 x 58	240 x 135 x 58
PoE: 12~24V	PoE: 12~24V	Passive PoE: 24V	Passive PoE: 24V
-	-	-	-
CE, FCC	CE, FCC	CE, FCC	CE, FCC
EN60950-1	EN60950-1	EN60950-1	EN60950-1
AP/Client/Router/WISP	AP/Client/Router/WISP	AP/Client Bridge/ AP Router/Client Router	AP/Client Bridge/ AP Router/Client Router
GUI Management	GUI management	SNMP/GUI Management	SNMP/GUI Management

IWF Antenna

Part Number					
	603ANT0008X00	**603ANT0011X00**	**603ANT0014X00**	**603ANT0009X00**	**603ANT0012X00**
Category	Omni-directional	Omni-directional	Dual Band, Omni-directional	MIMO, Directional	MIMO, Directional
Frequency Range	2400 ~ 2500MHz	4900 ~ 5350MHz	2400~2500/ 5150~5875MHz	2300~2700MHz	5150~5875MHz
Peak Gain	8 dBi	8 dBi	4dBi@2.4GHz; 7dBi@5GHz	16~17 dBi	20 dBi
VSWR	2.0 : 1 (Max.)	2.0 : 1 (Max.)	2.0 : 1 (Max.)	2.0 : 1 (Max.)	2.0 : 1 (Max.)
Polarization	Linear, Vertical	Linear, Vertical	Linear, Vertical	Linear, Vertical/ Horizontal	Dual linear, ±45°
HPBW/Horizontal	360°	360°	360°	18°~25°	10°
HPBW/Vertical	15°	12°	30°/20°	18°~25°	10°
Power Handling	20W (cw)	20W (cw)	2W (cw)	6W (cw)	6 W (cw)
Front to Back Ratio	-	-	-	-25dB (Max.)	-30dB (Max.)
Isolation (Front/Back)	-	-	-	16dB (Min.)	24dB (Min.)
Impedance	50Ω	50Ω	50Ω	50Ω	50Ω
Connector*	N type, female	N type, female	N type, male	N type, femal	N type, female
Survival Wind Speed	216km/hr	216km/hr	216km/hr	216km/hr	216km/hr
Temperature	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
Humidity	95% at 55°C	95% at 55°C	95% at 55°C	95% at 55°C	95% at 55°C
Radome Color	Gray-white	Gray-white	Gray	Gray-white	Gray-white
Radome Material	Fiber glass, UV Resistant	Fiber glass, UV Resistant	ABS, UV Resistant	PC, UV Resistant	PC, UV Resistant
Weight	340g	280g	70g	1.1kg	1.245kg
Dimensions (mm)	80 x 78 x 520	80 x 78 x 373	Ø22 x 183	320 x 320 x 18	320 x 320 x 20
Mount Kit	Included with antenna	Included with antenna	Directly mount, N jack	Pole & Wall mount	Pole & Wall mount

EZ Mesh

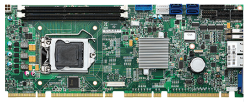
	
603ANT0010X00	603ANT0013X00
Directional Sector Antenna	Directional Sector Antenna
2400~2500 MHz	5150~5875 MHz
14±0.5 dBi	15±0.5 dBi
2.0 : 1 (Max.)	2.0 : 1 (Max.)
Linear, ±45°	Linear, ±45°
60°	60°
13°	6°
10W (cw)	6W (cw)
-25dB (Max)	-20dB (Max.)
20dB (Min.)	20dB (Min.)
50Ω	50Ω
N type, Female	N type, Female
216km/hr	216km/hr
-40°C to +80°C	-40°C to +80°C
95% at 55°C	95% at 55°C
Gray	Gray
ABS, UV Resistant	ABS, UV Resistant
970g	1060g
540 x 116 x 39	540 x 116 x 39
Pole & Wall mount	Pole & Wall mount

Model			Coming Soon
	IWF 300	IWF 310	IWF 311
Category	Industrail EZ Mesh AP	Industrail EZ Mesh AP	Rugged Industrial EZ Mesh AP
WLAN Standard	802.11an+b/g/n 2x2 MIMO	802.11an+b/g/n 2x2 MIMO	802.11an+a/b/g/n 2x2 MIMO
Number of Radios	2	2	2
Number of Antenna	2	2	4
Type of RF Connector	RP-SMA	RP-SMA	RP-SMA
Number of WAN Port	1	1	1
Number of LAN Port	4	4	4
Type of LAN	RJ45	RJ45	RJ45
Console Port	-	-	-
USB 2.0	-	-	-
IP Rating	IP30	IP30	IP30
Conformal Coating	-	-	-
Mounting Style	Wall mount	Wall mount	Wall mount
Temperature	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
Dimension (mm)	190 x 106 x 38.9	185 x 108 x 43	185 x 108 x 43
PoE Input	-	-	-
DC Input	12VDC	12VDC	12VDC
Certification	CE, FCC	CE, FCC	CE, FCC
Safty	EN60950-1	EN60950-1	EN60950-1
Operation Mode	AP/Router/EZ Mesh	AP/Router/EZ Mesh	AP/Router/EZ Mesh
Management Mode	SNMP/GUI Management	SNMP/GUI Management	SNMP/GUI Management

IWSN Gateway

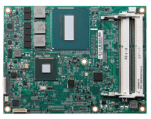
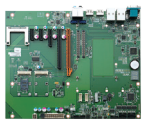
Model						
	NIO 200IDR	NIO 200IDG	NIO 200IAG	NIO 200HAG	NIO 50	NIO 51
Wi-Fi Interface	IEEE802.11an	IEEE802.11an	IEEE802.11an	IEEE802.11an	IEEE802.11b/g/n	IEEE802.11a/b/g/n
Number of Wi-Fi port	2	2	2	2	1	1
Type of Serial Interface	N/A	N/A	N/A	N/A	RS 232/422/485	RS 232/422/485
Ethernet Speed (Mbps)	10/100/1000	10/100/1000	10/100/1000	10/100/1000	10/100	10/100
Gateway Protocol	GSAP, Modbus TCP	GSAP, Modbus TCP	GSAP, Modbus TCP	HART-IP, Modbus TCP	Modbus RTU/ TCP/ASCII/MQTT	Modbus RTU/ TCP/ASCII/MQTT
Wi-Fi Operation Mode	Mesh/AP	Mesh/AP	Mesh/AP	Mesh/AP	Client	Mesh/Client router
Type of RF Connector	N-type	N-type	N-type	N-type	RP-SMA	RP-SMA
PoE Type	IEEE802.3at	IEEE802.3at	IEEE802.3at	IEEE802.3at	N/A	IEEE802.3at
DC Input Range	12~48 V	12~48 V	12~48 V	12~48 V	9~36 V	12~48 V
EMC Level-4	Yes	Yes	Yes	Yes	No	Yes
Network Management	Web-GUI, nCare	Web-GUI, nCare	Web-GUI, nCare	Web-GUI, nCare	Web-GUI, nCare	Web-GUI, nCare
Mounting	Wall/Pole	Wall/Pole	Wall/Pole	Wall/Pole	Wall/DIN	Wall/DIN
Operation Temperature	-40°C to +75°C	-40°C to +75°C	-40°C to +75°C	-40°C to +75°C	-20°C to +70°C	-40°C to +75°C
IP Rating	IP67	IP67	IP67	IP67	IP30	IP30
EMC Regulation	FCC/CE	FCC/CE	FCC/CE	FCC/CE	FCC/CE	FCC/CE
Safety	UL 60950-1; 60950-22	UL 60950-1; 60950-22	UL 60950-1; 60950-22	UL 60950-1; 60950-22	N/A	N/A
Anti-explosion	UL: Class I, Division 2, Groups A, B, C, D ATEX: Class I, Zone 2; Ex nA II, T5	UL: Class I, Division 2, Groups A, B, C, D ATEX: Class I, Zone 2; Ex nA II, T5	UL: Class I, Division 2, Groups A, B, C, D ATEX: Class I, Zone 2; Ex nA II, T5	UL: Class I, Division 2, Groups A, B, C, D ATEX: Class I, Zone 2; Ex nA II, T5	N/A	N/A

PICMG Single Board Computer

Model				
	PEAK 779VL2	**PEAK 886VL2**	**PEAK 887VL2**	**PEAK 888VL2**
Form Factor	Full-Size PICMG 1.0	Full-Size PICMG 1.3	Full-Size PICMG 1.3	Full-Size PICMG 1.3
CPU Type	Intel® LGA1155, Intel® Core™ i7/i5/i3	Intel® LGA1155, Intel® Core™ i7/i5/i3	Intel® LGA1155, Intel® Core™ i7/i5/i3	Intel® LGA1155, Intel® Core™ i7/i5/i3
Chipset	Intel® B75	Intel® Q77	Intel® Q87	Intel® Q170
PCIe	One x16 Four x1	One x16 Four x1	One x16 Four x1	One x16 Four x1
x16 PCIe configation	x16	x16	x16	One x16 Two x8 One x8 and Two x4
PCI	4	4	4	4
Max. Memory	Dual DDR3/DIMMs, support 1333/1600MHz non-ECC system memory up to 16GB	Dual DDR3/DIMMs, support 1333/1600MHz non-ECC system memory up to 16GB	Dual channel (non-ECC) DDR3 & DDR3L 1066/1333/1600 16GB 2 x 240 pin (DIMM)	Dual channel (non-ECC) DDR4 1866/2133 32GB 2 x 288 pin (DIMM)
Graphics Engine	Intel® HD Graphics with DX11	Intel® HD Graphics with DX11	Intel® HD Graphics	Intel® HD Graphics 530
Display	VGA and DVI/HDMI	VGA and DVI/HDMI/Display	VGA/HDMI/DVI	VGA/HDMI/DVI/DP
Ethernet (10/100/1000)	Intel® 82579LM Gigabit Ethernet Intel® 82574l Gigabit Ethernet	Intel® 82579LM Gigabit Ethernet Intel® 82574l Gigabit Ethernet	1 x Intel® I217LM GbE PHY 1 x Intel® I211 Gigabit Ethernet	1 x Intel® WGI219LM GbE PHY 1 x Intel® I211 Gigabit Ethernet
SATA	4 (1 x SATA 3.0/3 x SATA 2.0)	6	-	5
SW RAID	-	0,1,5,10	0,1,5,10	0,1,5,10
M.2 Type	-	-	-	PCIe x4 and SATA Interface
USB 3.0	4 (2 x Box Header)	2	4 (2 x Box Header)	4 (2 x Box Header)
USB 2.0	4	6 (2 x Box Header, 4 x Through BP)	6 (2 x Box Header, 4 x Through BP)	7 (2 x Box Header, 4 x Through BP, 1 x USB TYPE A)
Serier port	4	4	3	3
RS232/422/485	1	1	1	1
Parallel Port	1	1	1	1
PS2	1	1	1	1
TPM support	No	Yes	Yes	Yes

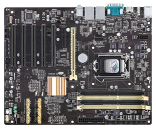
Computer-on-Modules

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) (mm^2)	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	-	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 PCIe x16	-	1 x PCIe x16 (Gen3.0)	-	-
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/ICEB 8050C	SATA2.0/ICEB 8050C	SATA2.0/ICEB 8050C	SATA2.0/ICEB 8050C	-	SATA2.0/ICEB 8050C
CFast	SATA2.0/ICEB 8050C	SATA2.0/ICEB 8050C	SATA2.0/ICEB 8050C	SATA2.0/ICEB 8050C	-	SATA2.0/ICEB 8050C
Hardware Monitor	W83792G	NCT 7802Y	NCT 7802Y	NCT 7802Y	Yes	NCT 7802Y
Super I/O	LPC to ICEB 8050C	LPC to ICEB 8050C	LPC to ICEB 8050C	LPC to ICEB 8050C	-	LPC to ICEB 8050C
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/ICEB 8050C	2 x COM/ICEB 8050C	2 x COM/ICEB 8050C	2 x COM/ICEB 8050C	2	2 x COM/ICEB 8050C
SPI	1	1	1	1	1	1
Audio	SPDIF/ICEB 8050C	SPDIF/ICEB 8050C	SPDIF/ICEB 8050C	SPDIF/ICEB 8050C	SPDIF/ICEB 8060	SPDIF/ICEB 8050C
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 673**	**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	i7-6600U/ i7-6500U/ i5-6300U/ i5-6200U/ i3-6100U, 4450U	-
-	QM77/HM76	QM77	QM87	-	-	-
DDR3L/SO-DIMM	DDR3/SO-DIMM	ECC-DDR3/SO-DIMM	ECC-DDR3/SO-DIMM	DDR3/SO-DIMM	16G DDR4	-
Dual Channels	2	2	2	2	Dual Channels	-
8GB, 1600MHz	16GB, 1333/1600MHz	16GB, 1333/1600MHz	16GB, 1333/1600MHz	16GB, 1333/1600MHz	DDR4 up to 32GB	-
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	-	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)	-	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)	3 x DDI (HDMI/DP/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	-	Intel® i219LM	2 x GbE/2 x RJ45
-	-	-	-	-	-	-
-	-	-	-	-	-	-
4 x PCIex1	7 x PCIex1	7 x PCIex1	7 x PCIex1	4 x PCIex1	5 x PCIe x1	7 x PCIex1
-	1 x PCIe x16 (Gen3.0)	1 x PCIe x16 (Gen3.0)	1 x PCIe x16 (Gen3.0)	-	-	1 x PCIe x16 (Gen3.0)
8/4	8/4	8/4	8/4	8/2	8/4	8/4
-	-	-	-	-	-	-
0/2	2/2	2/2	0/4	0/4	0/3	2/2
-	SATA2.0/ICEB 8060	SATA2.0/ICEB 8060	SATA2.0/ICEB 8060	SATA2.0/ICEB 8060	-	1
-	SATA2.0/ICEB 8060	SATA2.0/ICEB 8050C	SATA2.0/ICEB 8050C	SATA2.0/ICEB 8050C	-	1
-	NCT 7802Y	NCT 7802Y	NCT 7802Y	NCT 7802Y	Yes	-
ITE8528	LPC to ICEB 8060	F81216	LPC to ICEB 8060	LPC to ICEB 8060	LPC to ICEB8060	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/ICEB 8060	Optional 2 x COM + 6 x COM/ICEB 8060	Optional 2 x COM + 6 x COM/ICEB 8060	Optional 2 x COM + 6 x COM/ICEB 8060	Optional 2 x COM	6 x COM (incl. 1 x RS232/422/485)
1	1	1	1	1	1	1
HD Audio, SPDIF	SPDIF/ICEB 8060	SPDIF/ICEB 8060	SPDIF/ICEB 8060	SPDIF/ICEB 8060	HD Audio	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, +5Vsb, +3.3V (RTC)	ATX
AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX	AT/ATX
-15°C to 60°C	-15°C to 60°C	-15°C to 60°C	-15°C to 60°C	-15°C to 60°C	-15°C to 60°C	-15°C to 60°C
By requested	by requested	by requested	by requested	by requested	By reqeusted.	by requested

Embedded Pro

Model				Coming Soon
	EBC 355	**EBC 356**	**NEX 614**	**NEX 650**
Form Factor	3.5"	3.5"	mini-ITX	mini-ITX
PCB Size	146 x 102	146 x 102	170 x 170	170 x 170
Processors	Intel® Atom™ processor E3800 family (SoC)	Intel® Pentium®/Celeron® processor N3000 family	6th Gen. Intel® Core™ LGA1151 processor family	Intel® Celeron® processor J1900
CPU/Speed Cores/ Cache/TDP	E3826/2 x 1.46GHz/7W E3845/4 x 1.91GHz/10W	N3160/4 x 1.6GHz/6W N3700/4 x 1.6GHz/6W	i7-6700/4 x 3.4GHz/65W i5-6500/4 x 3.2GHz/65W i3-6100/2 x 3.7GHz/65W	4 x 2 GHz/10W
Chipset	SoC	SoC	Intel® H110 PCH/6W	SoC
Max. Memory	1 x DDR3L SO-DIMM 4GB Max	2 x DDR3L SO-DIMM 8GB Max	32GB DDR4 (2 x SO-DIMM)	2 x DDR3L SO-DIMM 8GB Max
Graphics Engine	Intel® Bay Trail Series Integrated Graphics, Gen7	Intel® Integrated Graphics, Gen8 (Braswell)	Intel® Integrated Graphics (Skylake)	Intel® Gen7 Intel® Graphics DX 11, OGL3.2
VGA Interface	Yes	-	Yes	Yes
LCD Interface (LVDS LCD)	Dual Channel 18/24-Bit LVDS	-	Dual channel 18/24-Bit LVDS	Dual channel 18/24-Bit LVDS
DVI/DP/HDMI	0/0/1	0/0/3	0/1/1	0/0/1
Ethernet (10/100/1000)	2 x Intel® I210 IT	1 x Intel® I210	1 x Intel® I219LM PHY 1 x Intel® I211-AT	2 x Realtek RTL8111G-CG
Wake on LAN	Yes	Yes	Yes	Yes
Audio	Realtek ALC886 CODEC	Realtek ALC886 CODEC	Realtek ALC886 CODEC	Realtek ALC886 CODEC
mini-PCIe	2	-	1 (Shared with mSATA)	2
SATA 2.0/3.0	2 x SATA 2.0	2 x SATA 3.0	3 x SATA 3.0	2 x SATA 2.0
USB 2.0/3.0	4 x USB 2.0	4 x USB 3.0	4 x USB 3.0 5 x USB 2.0	4 x USB 3.0 6 x USB 2.0
Serial Port	4	2	4	5
RS422/485 Support	Yes	No	Yes	Yes
Parallel Port	No	No	No	Yes
Power Input/Mode	AT/ATX mode	AT/ATX mode 12-24V DC-in (4-pin ATX PWR Con)	AT/ATX mode 12-24V DC-in (4-pin ATX PWR Con)	AT/ATX mode 12-24V DC-in (4-pin ATX PWR Con)
Operating Temp.	-20°C to 60°C	-20°C to 60°C	0°C to 60°C	0ºC to 60ºC
5Vsb Input	No	Yes	Yes	No
Expansion	2 x mini-PCI Express	1 x M. 2 (Key B)	1 x PCIe x16 1 x mini-PCIe	1 x mini-PCIe (F/S) 1 x mini-PCIe (H/S) 1 x PCIe x1

			Coming Soon		
NEX 885	**NEX 810**	**NEX 910**	**NEX 912**	**EBC 355X**	**EBC 357X**
microATX	microATX	ATX	ATX	3.5"	3.5"
244 x 244	244 x 244	305 x 244	305 x 244	146 x 102	146 x 102
4th Gen. Intel® Core™ LGA1150 processor family	3rd/2nd Gen. Intel® Core™ LGA1155 processor family	4th Gen. Intel® Core™ LGA1150 processor family	6th Gen. Intel® Core™ LGA1151 processor family	Intel® Atom™ processor E3800 family (SoC)	Intel® Atom™ processor E3900 family (SoC)
i7-4770S/ 4 x 3.1GHz/65W i5-4570S/ 4 x 2.9GHz/65W i3-4330TE/ 2 x 2.4 GHz/35W	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	i7-6700/ 4 x 3.4GHz/65W i5-6500/ 4 x 3.2GHz/65W i3-6100/ 2 x 3.7GHz/65W	E3845/ 4 x1.91GHz/10W	E3950/ 4 x 2.0GHz/12W E3930/ 2 x 1.8GHz/6.5W
Intel® Q87 PCH/4.1W	Intel® B75 PCH/6.7W	Intel® Q87 PCH/4.1W	Intel® Q170 PCH/6W	SoC	SoC
32GB DDR3 (4 x non-ECC)	32GB DDR3 (4 x non-ECC)	32GB DDR3 (4 x non-ECC)	64GB DDR4 (4 x non-ECC)	1 x DDR3L SO-DIMM 4GB Max	2 x DDR3L SO-DIMM 16GB Max
Intel® HD Graphics 4600	Intel® HD Graphics 4000	Intel® HD Graphics 4600	Intel® Integrated Graphics (Skylake)	Intel® Integrated Graphics, Gen7 (Bay Trail)	Intel® Integrated Graphics (Apollo Lake)
Yes	Yes	Yes	Yes	Yes	Yes
-	-	-	-	Dual channel 18/24-Bit LVDS	Dual channel 18/24-Bit LVDS
0/1/2	0/0/3	1/0/2	0/0/2	0/0/1	0/0/1
1 x Intel® I217LM PHY 1 x Intel® I211	2 x Realtek RTL8111F	1 x Intel® I217LM PHY 1 x Intel® I210AT	1 x Intel® I219LM PHY 1 x Intel® I211AT	2 x Intel® I210 IT	2 x Intel® I210-IT
Yes	Yes	Yes	Yes	Yes	Yes
Realtek ALC886 CODEC	Realtek ALC887 CODEC	Realtek ALC887 CODEC	Realtek ALC887 CODEC	Realtek ALC886 CODEC	Realtek ALC886 CODEC
-	-	-	-	2	1 (Shared with mSATA)
6 x SATA 3.0	4 x SATA 2.0/ 1 x SATA 3.0	6 x SATA 3.0	4 x SATA 3.0	2 x SATA 2.0	2 x SATA 3.0
3 x USB 3.0 7 x USB 2.0	4 x USB 3.0 6 x USB 2.0	4 x USB 3.0 10 x USB 2.0	10 x USB 3.0 4 x USB 2.0	4 x USB 2.0	4 x USB 3.0
4	5	6	6	4	4
Yes	Yes	Yes	Yes	Yes	Yes
No	Yes	Yes	No	No	No
AT/ATX mode 12V DC-in	ATX	ATX	ATX	AT/ATX mode	AT/ATX mode
-15°C to 60°C	0°C to 60°C	0°C to 60°C	0°C to 60°C	-40°C to 85°C	-40°C to 85°C
No	No	No	No	No	Yes
1 x PCIe x16 1 x PCIe x4 2 x PCIe x1	1 x PCIe x16 (Gen.3.0/Ivy) 1 x PCIe x4 2 x PCI	1 x PCIe x16 (Gen.3.0) 1 x PCIe x4 5 x PCI	1 x PCIe x16 (Gen.3.0) 2 x PCIe x4 4 x PCI	2 x mini-PCI Express	1 x mini-PCI Express 1 x M. 2 (Key B)

2017 New Products

NISE 50W

Intel® Atom™ Processor E3826
Dual Core Fanless System

- Onboard Intel® Atom™ processor E3826 dual core 1.46GHz
- 1 x HDMI display
- 2 x Intel® I120AT GbE LAN ports & 4 x USB 2.0
- 3 x mini-PCIe, 2x RS232 & 1 x RS422/485 with Auto Flow Control
- 1 x 2.5" Front Accessible HDD tray

NISE 106-N3160

Intel® Celeron® Processor N3160
Quad Core Fanless System

- Onboard Intel® Celeron® processor N3160 quad core 1.6GHz
- 3 x Display output: 1 x HDMI display + 1 x DVI-D + 1 x DP port
- 2 x Intel® I210AT GbE LAN ports & 4 x USB 3.0
- 2 x DB9 for RS232/422/485, 2 x DB9 for RS232
- 1 x Optional interface for optional Wi-Fi/3.5G/LTE modules

NISE 106-N3710

Intel® Pentium® Processor N3710
Quad Core Fanless System

- Onboard Intel® Pentium® processor N3710 quad core 1.6GHz
- 3 x Display output: 1 x HDMI display + 1 x DVI-D + 1 x DP port
- 2 x Intel® I210AT GbE LAN ports & 4 x USB 3.0
- 2 x DB9 for RS232/422/485, 2 x DB9 for RS232
- 1 x Optional interface for optional Wi-Fi/3.5G/LTE modules

NIFE 103

Palm Size Industrial Automation Controller

- Onboard Intel® Atom™ processor E3826 dual core 1.46GHz
- 2 x Intel® I210IT GbE LAN ports support WoL, teaming and PXE
- 1 x USB 2.0 & 1 x USB 3.0 & 1 x RS232/485 & 1 x Micro HDMI
- 2 x mini-PCIe sockets for optional Wi-Fi/3.5G/4G LTE/MSATA
- Support -5°C to 55°C operating temperature & 24V DC input

NIFE 105

Palm Size Industrial Automation Controller

- Onboard Intel® Atom™ x5-E3930 dual core 1.3GHz
- 2 x Intel® I210IT GbE LAN ports support WoL, teaming and PXE
- 4 x USB 3.0 & 2 x RS232/422/485 & 1 x HDMI
- 2 x mini-PCIe sockets for optional Wi-Fi/3.5G/4G LTE/MSATA
- Support -5°C to 55°C operating temperature & 24V DC input

NIFE 105W

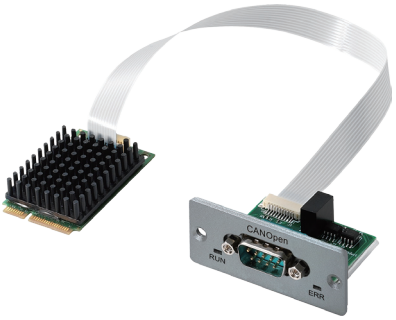
Palm Size Industrial Automation Controller with FBI Expansion

- Onboard Intel® Atom™ x5-E3930 dual core 1.3GHz
- 2 x Intel® I210IT GbE LAN ports support WoL, teaming and PXE
- 4 x USB 3.0 & 2 x RS232/422/485 & 1 x HDMI
- 2 x mini-PCIe sockets for optional Wi-Fi/3.5G/4G LTE/MSATA/ fieldbus modules
- Support -5°C to 55°C operating temperature & 24V DC input

FBI90E-COM

CANOpen Master/Slave, Universal FBI Module Kit

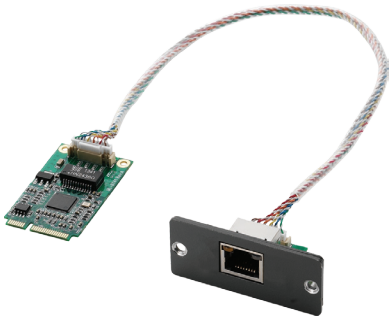
- Support CANOpen Master/Slave protocol
- mini-PCIe form factor with DB9 interface
- Fully compatible with CANOpen I/O modules and devices
- Driver support for Windows, WinCE, RTX, QNX, VxWorks, Linux
- User friendly configuration utility



NISKLAN03

Singal Gigabit LAN Module, Intel® I210-AT

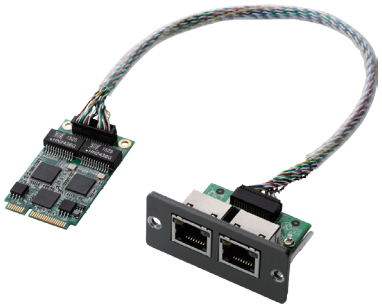
- mini-PCIe form factor
- Easy and user-friendly configurations
- One RJ45 Ethernet interface



NISKLAN04

Dual Gigabit LAN Module, Intel® I210-AT

- mini-PCIe form factor
- Easy and user-friendly configurations
- Dual RJ45 EtherNet interface



NISKBAT Power Pack

Din Rail Power Pack with Supercapacitors 24V DC Input, 22V DC Output

- Support emergency system shutdown during power loss
- Support both din rail mounting and wall mount mounting
- Support software application for continuous status monitoring via RS232
- Support -5°C to 55°C operating temperature
- Support 2 x DC input 24V and 1 x DC output 22V

NISKDIO-8I8O

8-Channels Isolated Digital I/O with mini-PCIe Interface

- mini-PCIe full size form factor (dimension: 51 x 30mm) revision 1.2 compliant
- Support adjustable input filter (10μs/1ms/3.2ms/10ms)
- Fast output response time (within 150μsec)
- High source current on isolated output channels (200mA/channel)
- Support factory automation system PC applications (NIFE/NISE)

eLite610

10.1” Widescreen WXGA HMI Panel PC with Intel® Atom™ x5-E3930

- 10.1” WSVGA 1024 x 600 LED backlight panel with 16.7M colors
- Front IP66 protection with resistive touchscreen
- 2 x Giga LAN, 2 x USB 3.0 and 1 x RS232/422/485 communication port
- Slim design, mounting depth less than 30mm
- System frame ground protection (GPE) design

TP-100

10.1” 16:10 WXGA P-Cap Multi-touch Teach Pendant with Intel® Atom™ Dual Core E3826

- Modern, ergonomic, user-friendly and operated comfortably
- multi channels deadman switch and E-Stop button
- 10.1” WXGA 1280 x 800 500 nits LED backlight panel
- Full IP65 protection with 10 points P-Cap touch
- Very light weight (≤1.5Kg) in fanless PC model

TP-100-VGA/DVI/DP

10.1" 16:10 WXGA P-Cap Multi-Touch Teach Pendant, VGA, DVI-D or DP Display Input

- Modern, ergonomic, user-friendly and operated comfortably
- Multi channels deadman switch and E-Stop button
- 10.1” WXGA 1280 x 800 500 nits LED backlight panel
- Full IP65 protection with 10 points P-Cap touch
- System frame ground protection (GPE) design

Coming Soon

IPPC A1570T/P

15" TFT XGA 4:3 Heavy Industrial Panel PC with 4th Gen. Intel® Core™ i Processor, Single/Multi-touch Screen, 4GB DDR3L, 5 x USB, 2 x COM

- Resistive or 5 points P-Cap multi-touch with zero bezel flush front design and robust aluminum IP66 compliant front bezel
- Optional 3.5G/ Wi-Fi module/ 2 x 2.5" HDD/ 2 x COMs/ DIO/ GPIO/ PCI or PCIe expansion
- Wide range power input 12~30V DC and remote power on/ off switch
- Inside USB port for software enable and battery pack supported
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)

IPPC A1770T/P

17" TFT SXGA 4:3 Heavy Industrial Panel PC with 4th Gen. Intel® Core™ i Processor, Single/Multi-touch Screen, 4GB DDR3L, 5 x USB, 2 x COM

- Resistive or 5 points P-Cap multi-touch with zero bezel flush front design and robust aluminum IP66 compliant front bezel
- Optional 3.5G/ Wi-Fi module/ 2 x 2.5" HDD/ 2 x COMs/ DIO/ GPIO/ PCI or PCIe expansion
- Wide range power input 12~30V DC or 100~240V AC and remote power on/off switch
- Inside USB port for software enable and battery pack supported
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)

IPPC A1970T/P

19" TFT SXGA 4:3 Heavy Industrial Panel PC with 4th Gen. Intel® Core™ i Processor, Single/Multi-touch Screen, 4GB DDR3L, 5 x USB, 2 x COM

- Resistive or 10 points P-Cap multi-touch with zero bezel flush front design and robust aluminum IP66 compliant front bezel
- Optional 3.5G/ Wi-Fi module/ 2 x 2.5" HDD/ 2 x COMs/ DIO/ GPIO/ PCI or PCIe expansion
- Wide range power input 12~30V DC and remote power on/ off switch
- Inside USB port for software enable and battery pack supported
- Support fieldbus module, JMobile HMI and CODESYS SoftLogic (optional)

NET 300-ECM

Front-Access High-Performance EtherCAT Controller

- EtherCAT technology with NexECM, Class A EtherCAT Master
- EtherCAT communication cycle up to 250 µs
- Support high-level API for CiA 402 profile
- Support 6th gen. Intel® Core™ i5-6500TE processor, Intel® Q170 PCH
- 1 x DVI-D, and 1 x HDMI for dual independent display support

NEIO-B1811/B1812

16ch Digital Input/Output EtherCAT Slave Module

- Finger-safe wiring cover
- Detachable screw terminals
- Rotational pin-assignment marks and user-friendly wiring label
- On-module LED indicators
- 16-ch DI/16-ch DO for NEIO-B1811 (sink type)
  16-ch DI/16-ch DO for NEIO-B1812 (source type)

NEIO-B1601/B1603

2/4 COM Ports EtherCAT Slave Module

- Finger-safe wiring cover
- Detachable screw terminals
- Rotational pin-assignment marks and user-friendly wiring label
- On-module LED indicators
- 1 x RS232/422/485, 1 x 422/485 for NEIO-B1601
  1 x RS232/422/485, 3 x 422/485 for NEIO-B1603

CPS 100

Industrial IoT Remote Gateway

- Seamless integration of field devices, web, database and cloud services
- Fieldbus (slave) PROFIBUS®, PROFINET® or EtherNet/IP™ support
- Modbus TCP/RTU, OPC UA support in parallel
- Intuitive visual flow-based programming paradigm
- Secure HTTPS/TLS encrypted data transmissions

CPS 200

Industrial IoT Edge Gateway

- Seamless integration of field devices, web, database and cloud services
- Fieldbus (slave) PROFIBUS®, PROFINET® or EtherNet/IP™ support
- Modbus TCP/RTU, OPC UA support in parallel
- Intuitive visual flow-based programming paradigm
- Secure HTTPS/TLS encrypted data transmissions

Coming Soon

IWF 311

Rugged Industrial EZ Mesh Access Point Dual RF, 1 x 802.11an+1 x 802.11 a/b/g/n 2x2 MIMO

- Dual radios up to 27dBm high RF power
- Compliant with 1 x 802.11an+1 x 802.11 a/b/g/n 2x2 MIMO
- Multiple functions: AP/Router/EZ Mesh
- Support -40°C to 80°C extended operating temperature
- 1+4 port GbE RJ45 ports, support 12V DC input

IWF 504D

IP55 Outdoor AP/CPE Dual Radio Dual Band, 802.11 ac+b/g/n

- Dual radio up to 27dBm high RF power
- Compliant with IEEE 802.11 ac+b/g/n 2x2 MIMO
- AP/Client Bridge/AP Router/Client Router/WDS mode
- Operating temperature range from -35°C to 75°C
- 1 WAN+1 LAN ports GbE Ethernet RJ45, 24Vdc PoE input

NIO 51

Industrial Mesh Wi-Fi Serial/Ethernet Device Server

- Support Serial, Ethernet and dual-band Wi-Fi interfaces
- Wi-Fi supports EZ Mesh and client router mode
- Multiple protocol conversion for Modbus TCP/RTU/ASCII
- EMC level-4 protection to Surge, ESD and EFT
- Support Web GUI and nCare remote management

NIO 200 Series

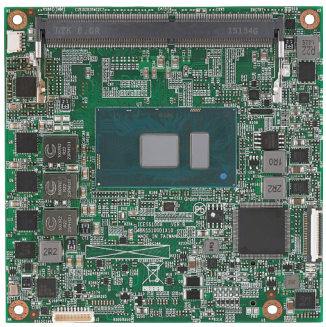
ISA100/WirelessHART Process Automation Wireless Gateway

- Support hybrid network of Wi-Fi Mesh and ISA100/ WirelessHART technology
- ISA100 supports distributed topology with backbone router
- Reliable field device communication with channel hopping and clear channel assessment
- Robust system with EMC Level-4/CID2 & ATEX Anti-explosion/ IP67/wide temp
- Support Web GUI and nCare remote management

ICES 673

COMe Type 6, Compact Size Module with 6th Gen. Intel® Core™ processor MCP solution, DDR4/ 5 x PCIe x1/4 x USB 3.0/3 x SATA 3.0 and GbE

- Onboard 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



NEX 614

Mini-ITX, 6th Gen. Intel® Core™ i7/ i5/ i3 & Celeron® Process Family

- Intel® H110 chipset supports LGA1151 socket for 6th gen. Intel® Core™ i7/i5/i3 and Celeron® processors (codenamed Skylake)
- 2 x 260-pin SO-DIMM DDR4 up to 32GB
- Triple display: HDMI/DP/VGA/LVDS
- PCIe x16, mini-PCIe, 2 GbE, 3 SATA 3.0, 4 COM, 7 USB, 8 GPIO
- DC +12V~24V input ±5%

Coming Soon

NEX 650

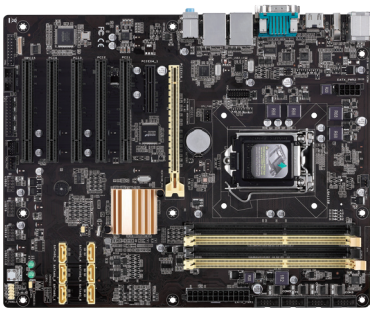
Mini-ITX Form Factor with Onboard Intel® Celeron® Processor J1900 Product Family

- Intel® Celeron® processor J1900
- 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
- 12~24 V DC-in power support

NEX 810

Micro-ATX, Socket LGA1155 3rd/2nd Gen. Intel® Core™ & Celeron® Processor Product Family with B75

- Support socket LGA1155 for 3rd/2nd gen. Intel® Core™ i7/i5/ i3 processors and Celeron® processors
- 4 x DDR3 DIMM socket up to 32GB
- Support dual/triple independent display: 3 x HDMI/VGA
- 2 x GbE, 5 x SATA 3.0/2.0, 10 x USB 3.0/2.0, 5 x COM, 4-in/4-out GPIO, HD audio
- 1 x PCIe x16, 1 x PCIe x4, 2 x PCI



NEX 910

ATX, Socket LGA1150 4th Gen. Intel® Core™ & Celeron® Processor Product Family with Q87

- Support socket LGA1150 for 4th gen. Intel® Core™ i7/i5/i3 processors and Celeron® processors
- 4 x DDR3 DIMM socket up to 32GB
- Support dual/triple independent display: 2 x HDMI/VGA/DVI-D
- 2 x Intel® GbE, 6 x SATA 3.0/2.0, 14 x USB 3.0/2.0, 6 x COM, 4-in/4-out GPIO, HD audio
- 1 x PCIe x16, 1 x PCIe x4, 5 x PCI

NEX 912

ATX, Socket LGA1151 6th Gen. Intel® Core™ & Celeron® Processor Product Family with Q170

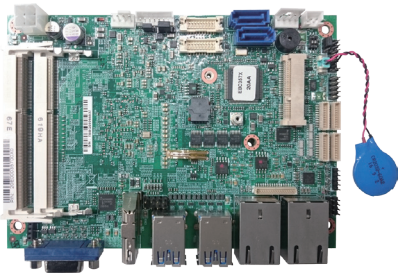
- Support socket LGA1151 for 6th gen. Intel® Core™ i7/i5/i3 and Celeron® processors (codenamed Skylake) or next gen. Intel® Core™/Celeron® processors
- 4 x DDR4 DIMM Socket, up to 64GB
- Support triple independent display: 2 x HDMI/VGA
- 2 x Intel® GbE, 4 x SATA 3.0, 14 x USB 3.0/2.0, 6 x COM, 4-in/4-out GPIO, HD audio
- 1 x PCIe x16, 2 x PCIe x4, 4 x PCI

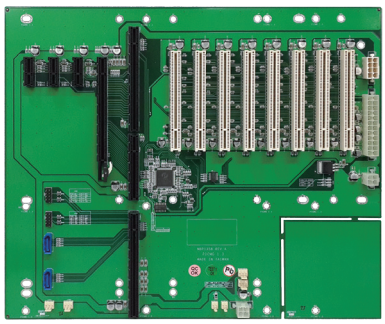
Coming Soon

EBC 357X

3.5” ECX Onboard Intel® Atom™ Processor E3900 Product Family

- CPU upside down design
- 2 x 204-pin SO-DIMM DDR3L
- Triplex display: HDMI/VGA/LVDS
- 1 x mini-PCIe/1 x NGFF, 2 x GbE, 4 x COM, 2 x SATA 2.0, 4 x USB 3.0, 4-in/4-out GPIO, Mic-in, Speak-out
- Support AT/ATX mode and single +12VDC input





NBP 1358

14-slot Backplane for 4U Chassis with 1 SHB Slot, Support PCIe x16/PCIe x1/PCI Slot

- Greater powers delivery capability, supports high performance
- Follows PICMG 1.3 mount holes and compatible with 4U chassis
- Supports 1 x PCIe by 16 , 3 x PCIe by1 and 8 x PCI slot
- Supports +12V, -12V, -5V, 3.3V power connector
- Compliance with PICMG1.3 CPU board - PEAK 886VL2, PEAK 887VL2, PEAK 888VL2

NISE 50

Intel® Atom™ Processor E3826 Dual Core Fanless System

Microsoft Azure Certified

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 mini-PCIe sockets for optional Wi-Fi/3.5G/LTE modules
- 1 x RS232, 1 x RS232 (only Tx/Rx/GND), 1 x RS422/485 with auto flow control
- Support -5~55 degree C 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 series positions at the intelligent IoT gateway for factory automation and for smart city applications. Up to 4G onboard DDR3L memory, the NISE 50 series support operating temperature from -5 up to 55 degree C with 24V DC input with +/-20% range. The NISE 50 series have strong connectivity - Ethernet-based LAN port and traditional RS485, mainly for Modbus TCP or Modbus RTU communication. For wireless connectivity, there are 3x mini-PCIe sockets which can support optional wireless modules for IoT applications, for example, Wi-Fi, Bluetooth, 3.5G and 4G LTE module. NISE 50 is definitely the best choice for M2M intelligent system as an intelligent IoT gateway.

Specifications

CPU Support

- Default: onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- Option: support Intel® Atom™ processor E3845 Quad Core, 1.91GHz (by request)

Main Memory

- Onboard 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
- 1 x Storage/2 x GPO programmable LED
- 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 Wi-Fi/3.5G antenna

I/O Interface-Rear

- 3 x 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 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

- Onboard 16GB EMMC
- Optional mSATA module

Expansion Slot

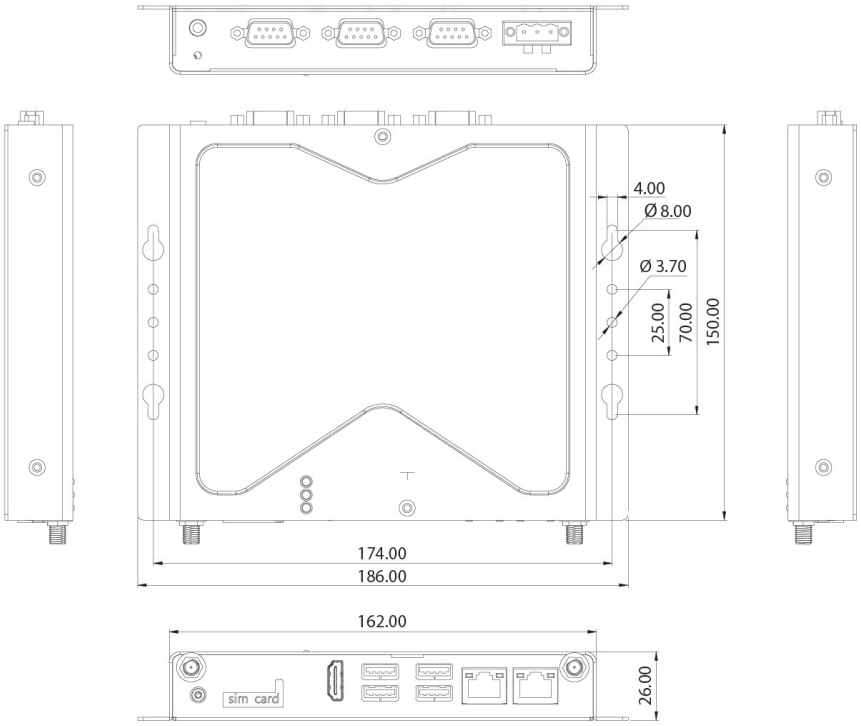
- 3 x mini-PCIe socket for optional Wi-Fi/3.5G modules

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 DC +/-20%
- 1 x Optional 24V, 60W power adapter

Dimension Drawing



Support OS

Model Name		NISE 50		NISE 50-4G-32G		NISE 50W
Storage		eMMC 16GB	mSATA	eMMC 32GB	mSATA	SSD
Memory		2GB		4GB		2GB
OS	Android4.4	64bit		64bit		
	WIN10 IOT Ent.			64bit	64bit	
	WES8	32bit	32bit	64bit	64bit	32bit
	WIN 7 PRO		32bit		64bit	32bit
	WES7E		32bit		64bit	32bit
	WEC7		32bit		32bit	32bit

* Note: only one LAN can be active under Android 4.4

Dimensions

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

Construction

- 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:
  - mSATA/EMMC: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/ mSATA or EMMC 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 50 (P/N: 10J00005000X0)**
  Intel® Atom™ processor E3826 Dual Core fanless system, with onboard 16GB EMMC and 2G DDR3L RAM
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**

NISE 50W

Intel® Atom™ Processor E3826 Dual Core Fanless System

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 mini-PCIe sockets for optional Wi-Fi/3.5G/LTE modules
- 1 x RS232, 1 x RS232 (only Tx/Rx/GND), 1 x RS422/485 with auto flow control
- Support -5~55 degree C operating temperature
- Support 24V DC input
- 1 x 2.5" front accessible HDD tray

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NISE 50 series positions at the intelligent IoT gateway for factory automation and for smart city applications. Up to 4G onboard DDR3L memory, the NISE 50 series support operating temperature from -5 up to 55 degree C with 24V DC input with +/-20% range. The NISE 50 series have strong connectivity - Ethernet-based LAN port and traditional RS485, mainly for Modbus TCP or Modbus RTU communication. For wireless connectivity, there are 3x mini-PCIe sockets which can support optional wireless modules for IoT applications, for example, Wi-Fi, Bluetooth, 3.5G and 4G LTE module. NISE 50 is definitely the best choice for M2M intelligent system as an intelligent IoT gateway.

Specifications

CPU Support

- Default: onboard Intel® Atom™ processor E3826 Dual Core, 1.46GHz
- Option: support Intel® Atom™ processor E3845 Quad Core,1.91GHz (by request)

Main Memory

- Onboard 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
- 1 x Storage/2 x GPO programmable LED
- 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 Wi-Fi/3.5G antenna

I/O Interface-Rear

- 3 x 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 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

- Onboard 16GB EMMC
- Optional mSATA module
- Optional 2.5" HDD/SSD in 7mm thickness

Expansion Slot

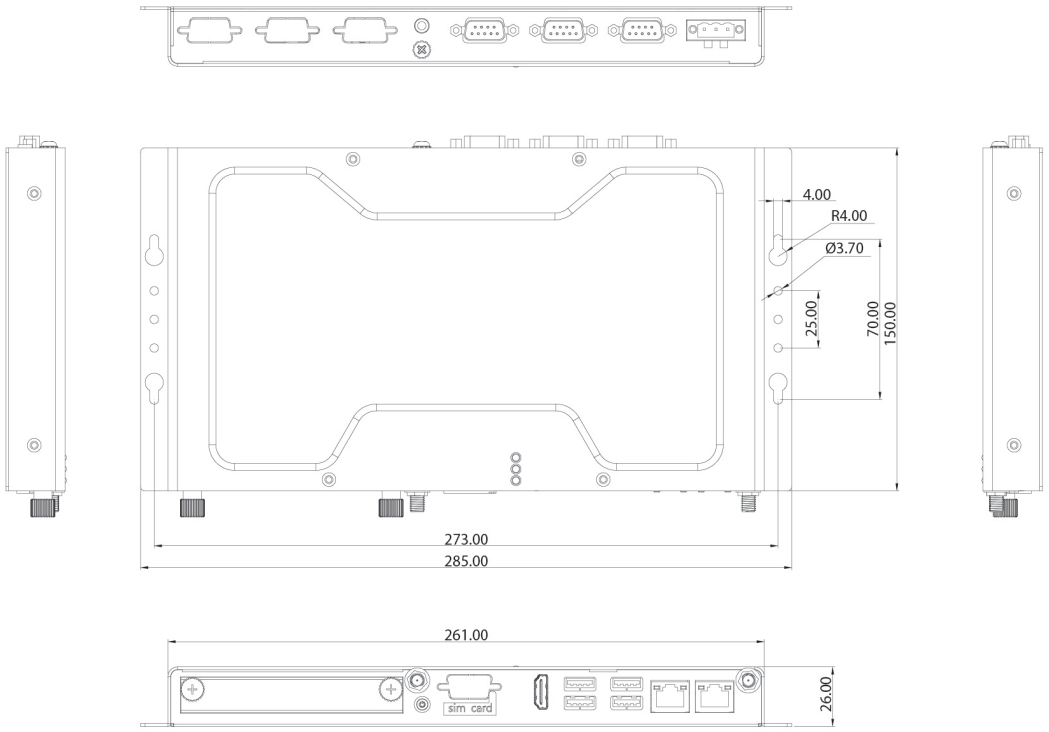
- 3 x mini-PCIe socket for optional Wi-Fi/3.5G modules

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 DC +/-20%
- 1 x Optional 24V, 60W power adapter

Dimension Drawing



Support OS

Model Name		NISE 50		NISE 50-4G-32G		NISE 50W
Storage		eMMC 16GB	mSATA	eMMC 32GB	mSATA	SSD
Memory		2GB		4GB		2GB
OS	Android4.4	64bit		64bit		
	WIN10 IOT Ent.			64bit	64bit	
	WES8	32bit	32bit	64bit	64bit	32bit
	WIN 7 PRO		32bit		64bit	32bit
	WES7E		32bit		64bit	32bit
	WEC7		32bit		32bit	32bit

* Note: only one LAN can be active under Android 4.4

Dimensions

- 261mm(W) x 26mm(H) x 150mm(D) without wall-mount bracket

Construction

- 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:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - SSD/mSATA: 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/ SSD or mSATA 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 50W (P/N:10J00005011X0)**
  Intel® Atom™ processor E3826 Dual Core fanless system, with onboard 16GB EMMC and 2G DDR3L RAM
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**

NISE 50C

Intel® Atom™ Processor E3826 Dual Core Fanless System

Microsoft Azure Certified

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 Wi-Fi/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 onboard 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

- Onboard 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 Wi-Fi/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 Wi-Fi/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

- Onboard 16GB EMMC

Expansion Slot

- 3 x mini-PCIe socket for optional Wi-Fi/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

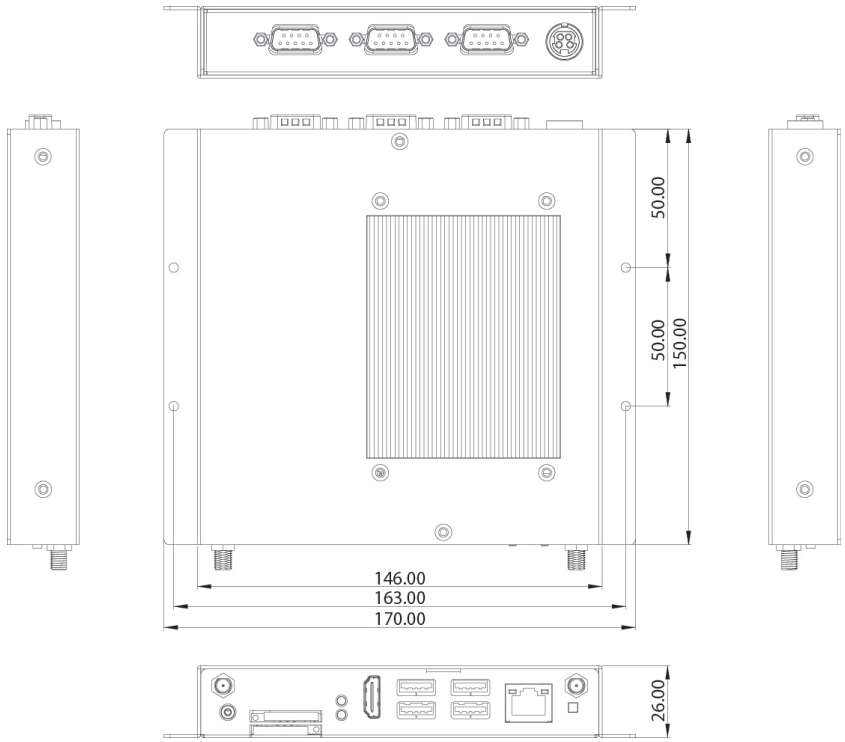
Dimensions

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

Construction

- Aluminum and metal chassis with fanless design

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)
- 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

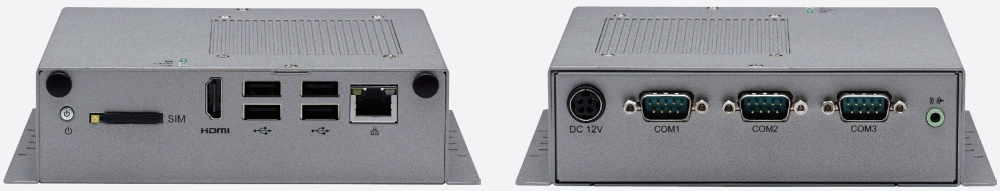
- CE
- FCC Class A

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 Wi-Fi/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 onboard 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

- Onboard 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 Wi-Fi/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 Wi-Fi/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 Wi-Fi/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

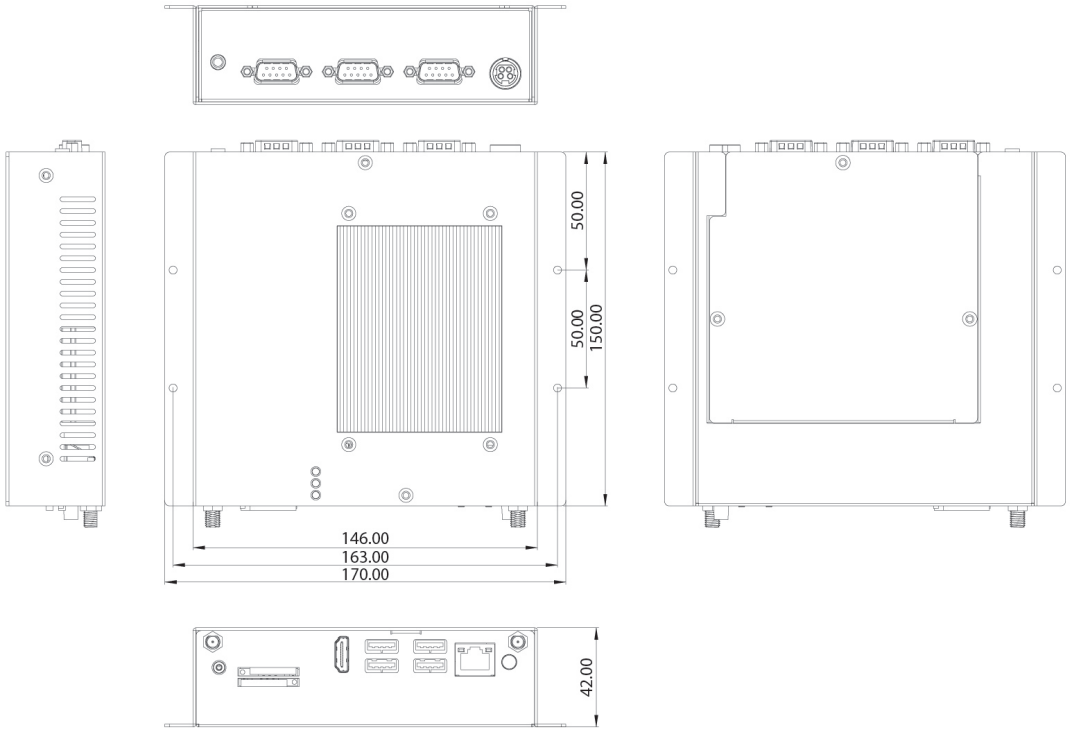
Dimensions

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

Construction

- Aluminum and metal chassis with fanless design

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

Intel® Atom™ D425 1.8GHz Fanless System

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

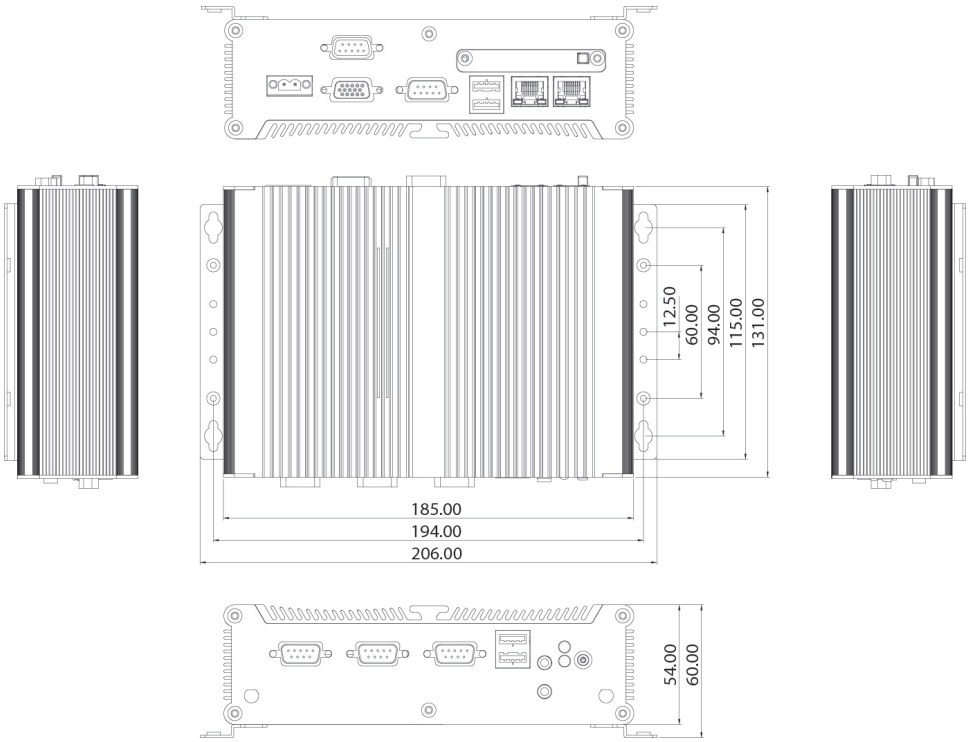
Digital Input & Output

- 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

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

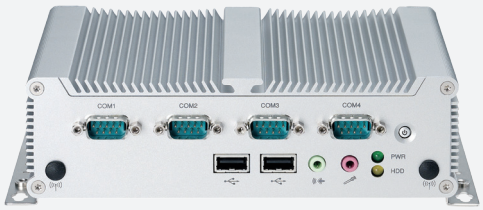
OS Support List
- Windows XP 32-bit
- Windows 7 32-bit
- WinCE 6.0

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

Intel® Atom™ Dual Core D2550 1.86GHz Fanless System



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")

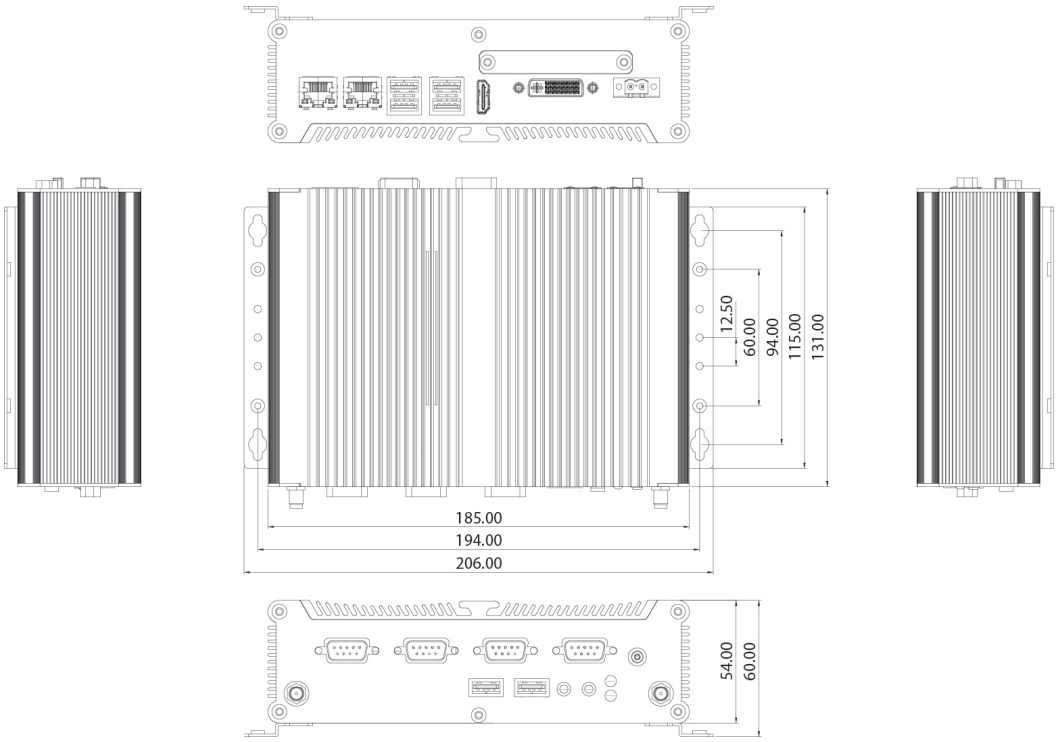
Construction

- 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 32-bit/64-bit
- Windows 7 32-bit
- 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)

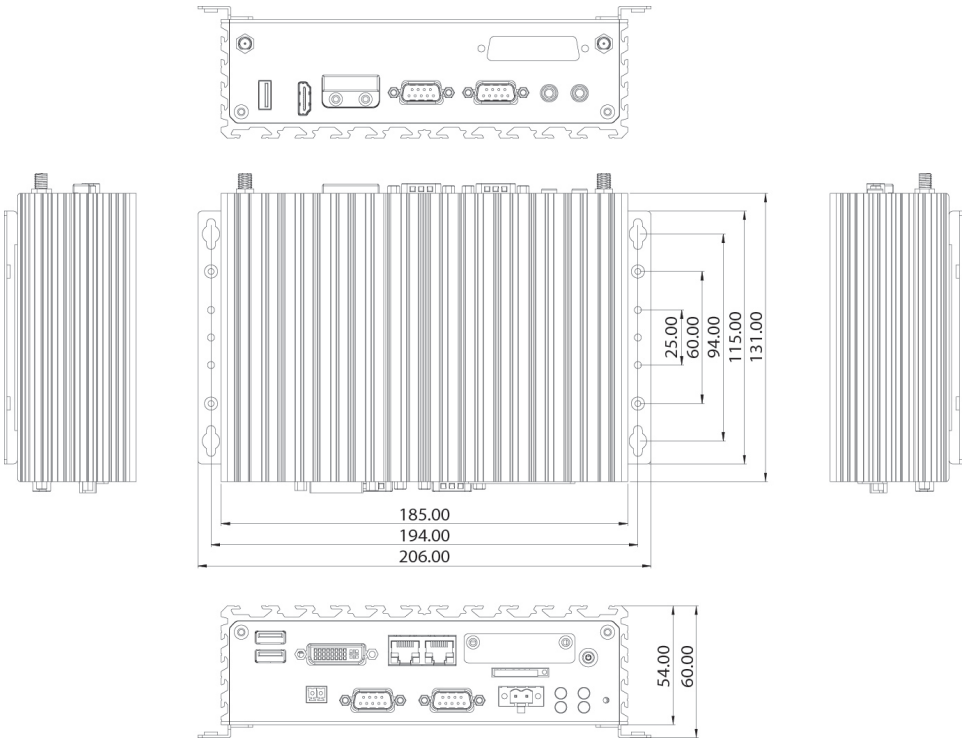
I/O Interface-Front

- 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

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

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°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:
  - 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

Intel® Atom™ Processor E3845 Quad Core Fanless System

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

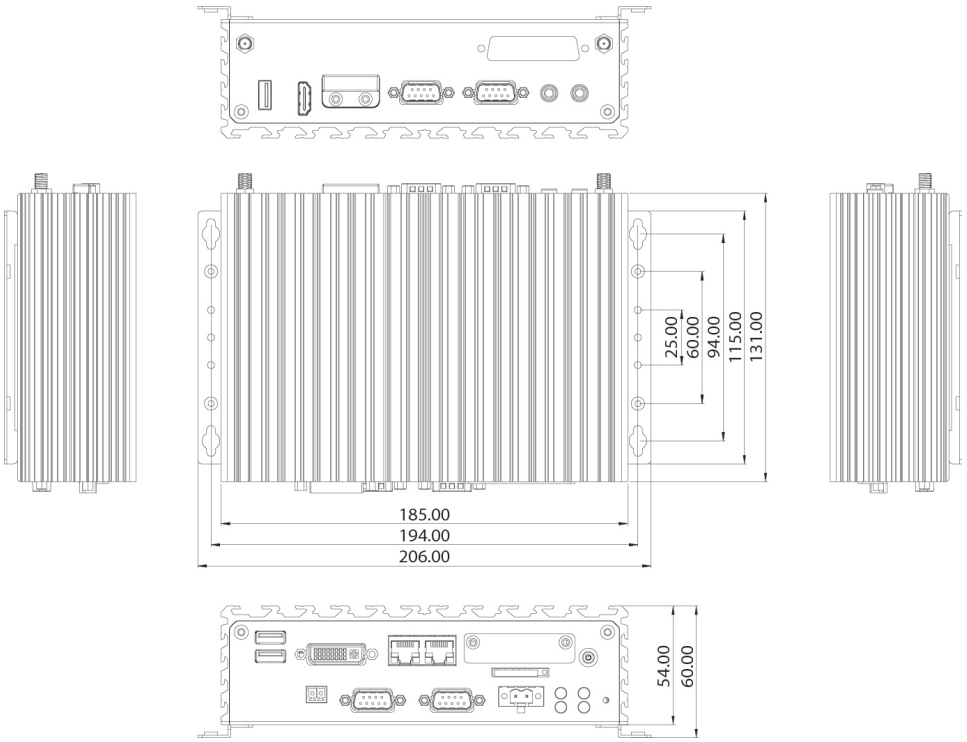
I/O Interface - Internal

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

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-N3160

Intel® Celeron® Processor N3160 Quad Core Fanless System

Main Features

- Onboard Intel® Celeron® processor N3160 Quad Core, 1.6GHz
- 3 x Display output: 1 x HDMI display + 1 x DVI-D + 1 x 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, 2 x 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® Celeron® Processor N3160 Quad Core, 1.6GHz (formerly codenamed "Braswell "), NISE 106 presents intelligent PC-based controller and IOT gateway for factory automation. Up to 4G 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® Celeron® Quad Core Processor N3160, 2M Cache, 1.6GHz

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)
- 2 x 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

- 4 x GPI and 4 x 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

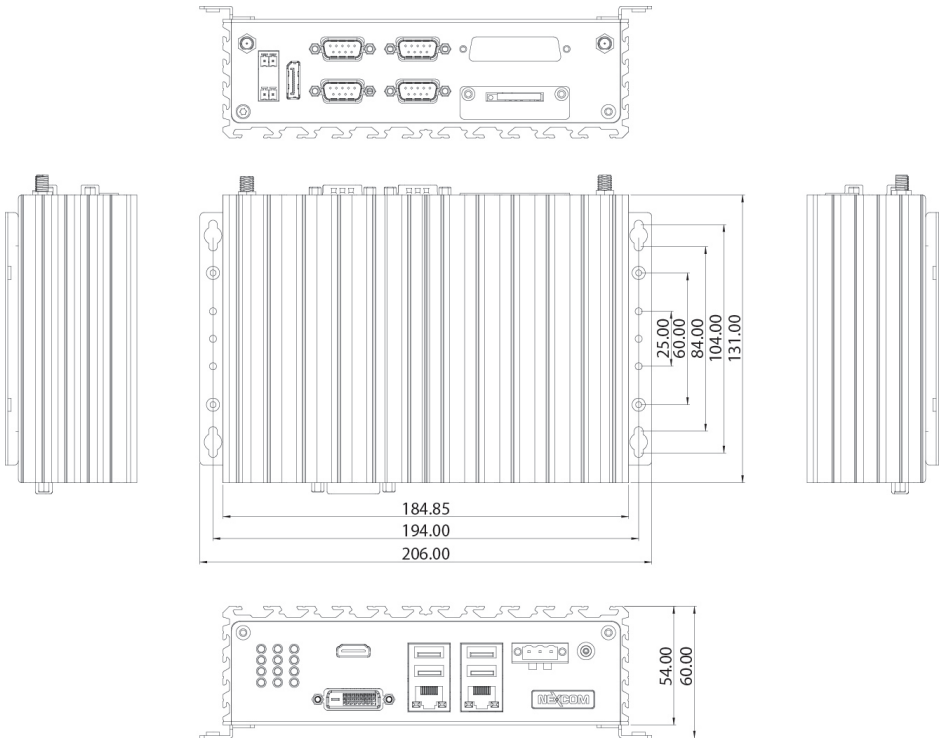
Power Requirement

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

Dimensions

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

Dimension Drawing



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: -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, 64-bit only
- Windows 8.1 , 64-bit only
- Windows Embedded Standard 7 , 32-bit and 64-bit
- Windows 10 IoT Enterprise, 64-bit only

Ordering Information

- **NISE 106-N3160 (P/N: 10J00010603X0)**
  Intel® Celeron® Processor N3160 Quad Core, 1.6GHz fanless system
- **24V, 60W AC/DC power adapter w/o power cord**
  (P/N: 7400060033X00)

NISE 106-N3710

Intel® Pentium® Processor N3710 Quad Core Fanless System

Main Features

- Onboard Intel® Pentium® processor N3710 Quad Core, 1.6GHz
- 3 x Display output: 1 x HDMI display + 1 x DVI-D + 1 x 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, 2 x 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 N3710 Quad Core, 1.6GHz (formerly codenamed "Braswell "), NISE 106 presents intelligent PC-based controller and IOT gateway for factory automation. Up to 4G 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® Quad Core processor N3710, 2M Cache, 1.6GHz

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)
- 2 x 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

- 4 x GPI and 4 x 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

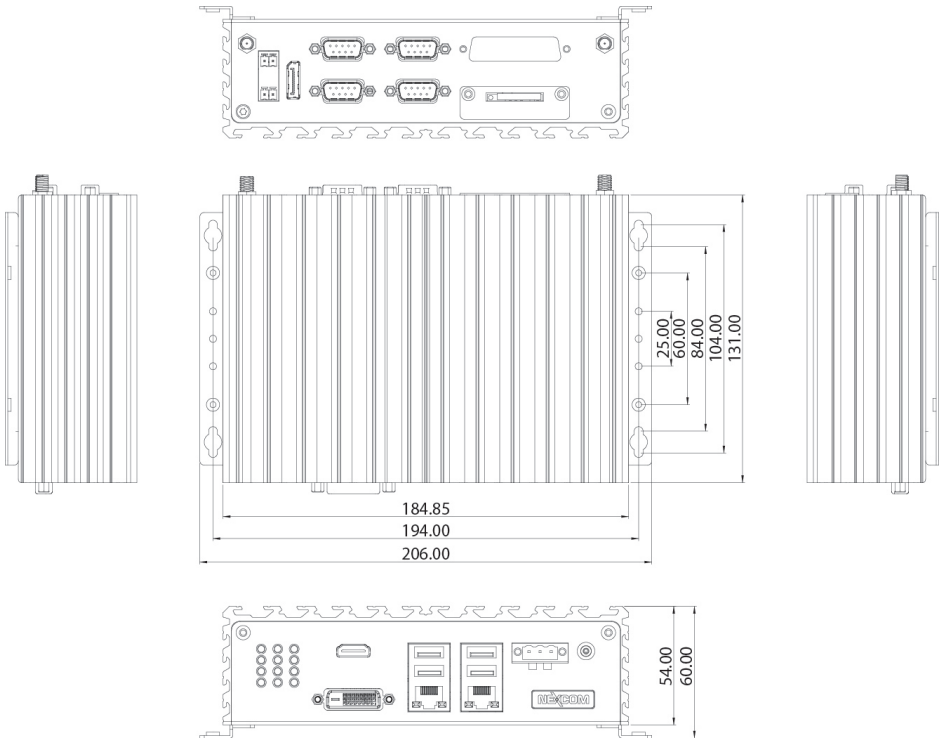
Power Requirement

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

Dimensions

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

Dimension Drawing



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: -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, 64-bit only
- Windows 8.1 , 64-bit only
- Windows Embedded Standard 7 , 32-bit and 64-bit
- Windows 10 IoT Enterprise, 64-bit only

Ordering Information

- **NISE 106-N3710 (P/N: 10J00010602X0)**
  Intel® Pentium® Processor N3710 Quad Core, 1.6GHz fanless system
- **24V, 60W AC/DC power adapter w/o power cord**
  (P/N: 7400060033X00)

NISE 2200

Intel® Atom™ Dual Core D2550 1.86GHz Fanless System
with 6 x COM Ports, 6 x USB 2.0, 2 x LANs

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 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)

Power Requirements

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

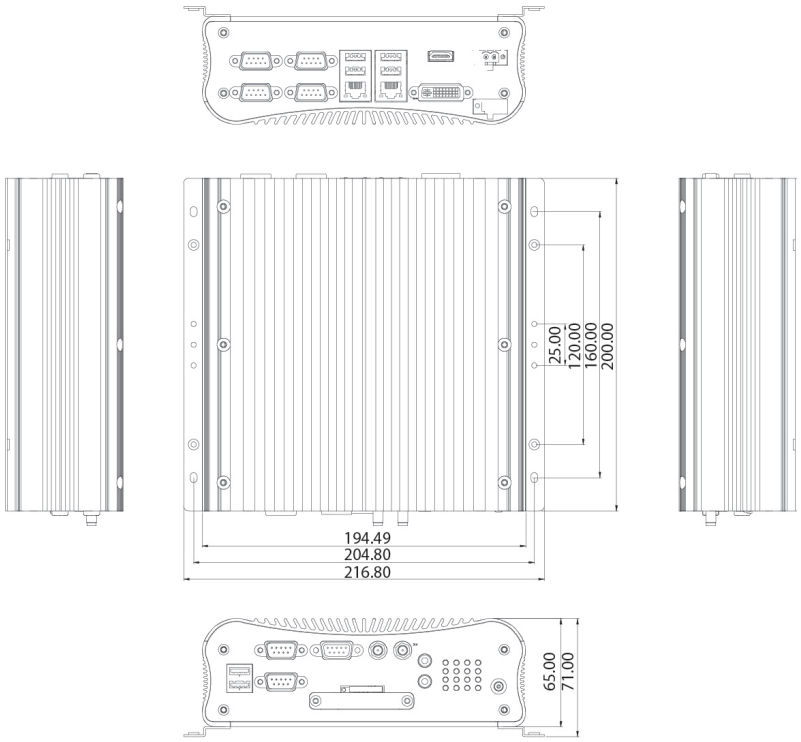
Dimensions

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

Construction

- Aluminum Chassis with fanless design

Dimension Drawing



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 32-bit
- Windows 7 32-bit
- 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

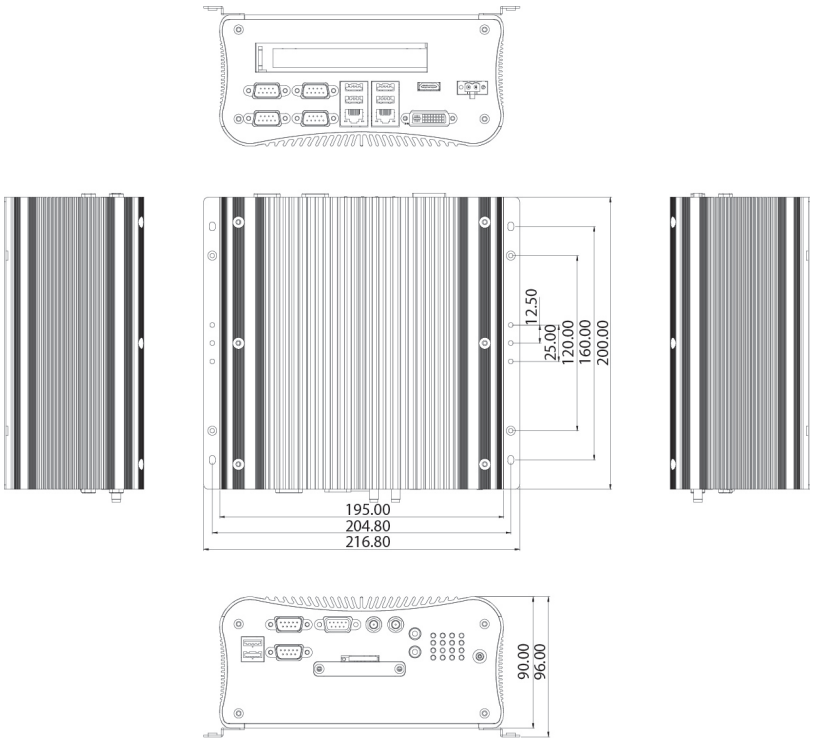
- NISE 2210: one PCI expansion
  - Add-on card length: 176mm max.
  - Power consumption: 10W/slot max.
- NISE 2210E: one PCIe x4 expansion (w/o mini-PCIe device)
  - Add-on card length: 176mm max.
  - Power consumption: 10W/slot max.

* Note: if mini-PCIe device is installed, only supports PCIe x1

Power Requirements

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

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 32-bit
- Windows 7 32-bit
- WinCE 7.0

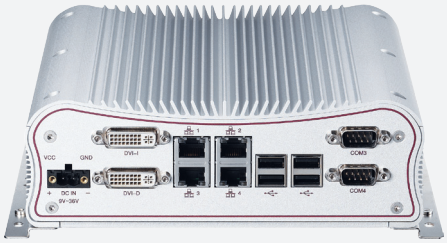
Ordering Information

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 PCIe x4 expansion
- **19V 65W AC/DC power adapter w/o power cord**
  (P/N: 7400065009X00)

NISE 2300

Intel® Atom™ Dual Core D2550 1.86GHz Fanless System with
4 x LAN Ports, 6 x USB 2.0 and 4 x COM Ports



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")

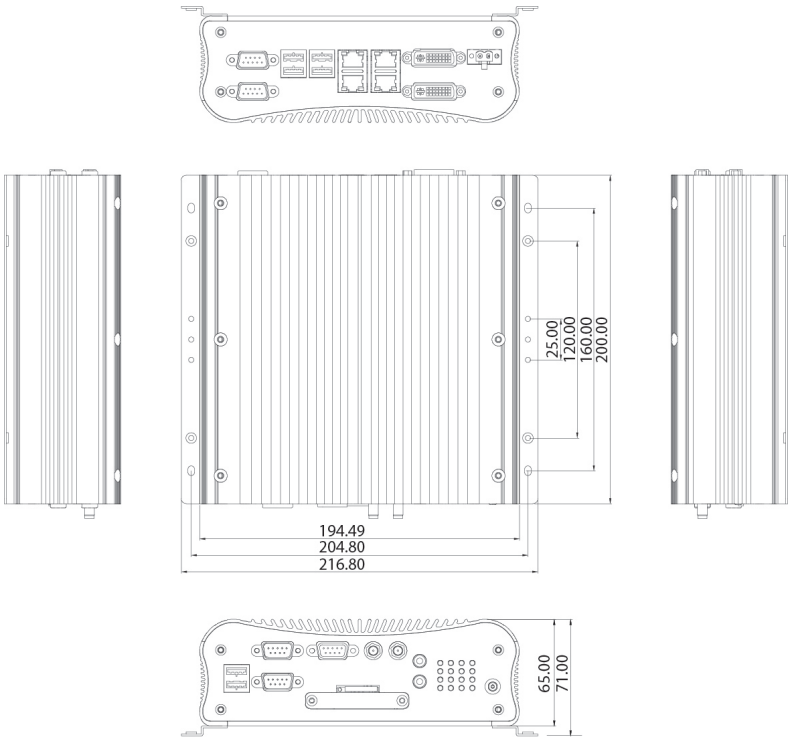
Construction

- 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 32-bit
- Windows 7 32-bit
- 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

Intel® Atom™ Dual Core D2550 1.86GHz Fanless System
w/ 4 x LAN Ports, 4 x COM Ports and One PCI/PCIe Expansion

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 PCIe x1 expansion
  Add-on card length: 176mm max.
  Power consumption: 10W/slot max.

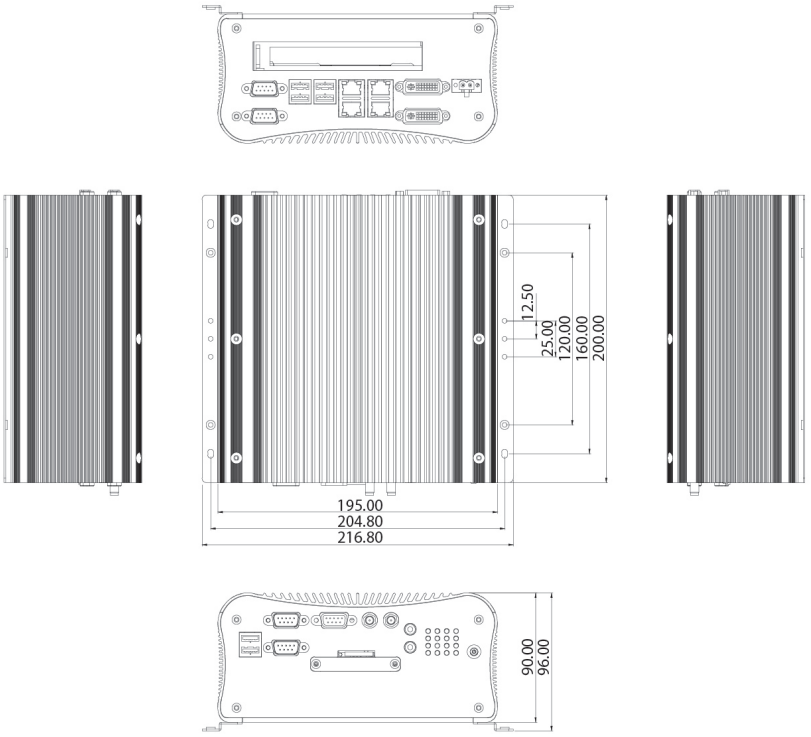
Power Requirements

- 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°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
  - 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 32-bit
- Windows 7 32-bit
- 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

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 RS232 & 2 x RS232/RS422/RS485 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 COM3 & COM4
- 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 COM1 & COM2, 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)

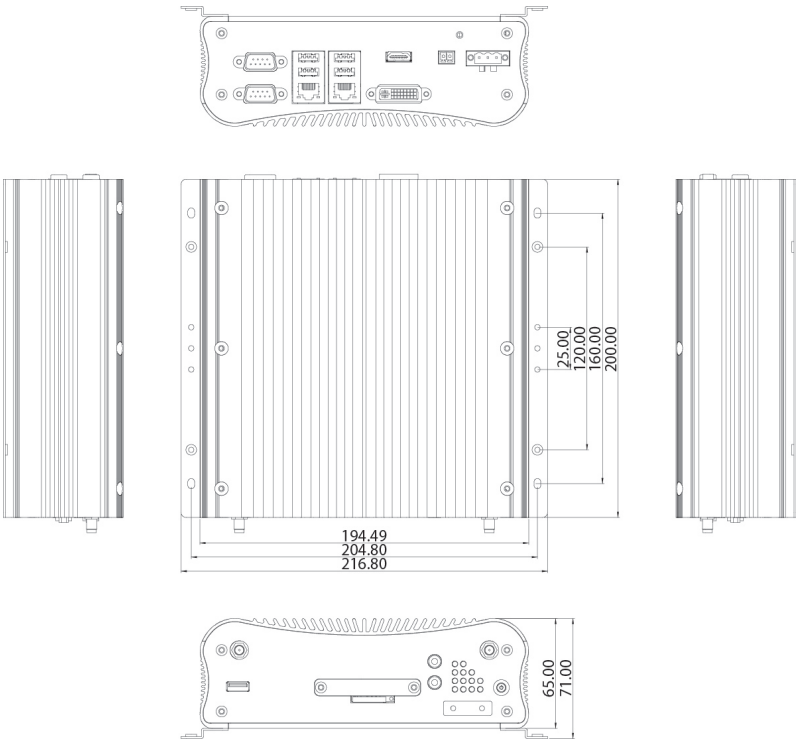
Storage Device

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

Intel® Celeron® Processor J1900 Quad Core Fanless System

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 RS232 & 2 x RS232/RS422/RS485 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 COM3 & COM4
- 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 COM1 & COM2, 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)

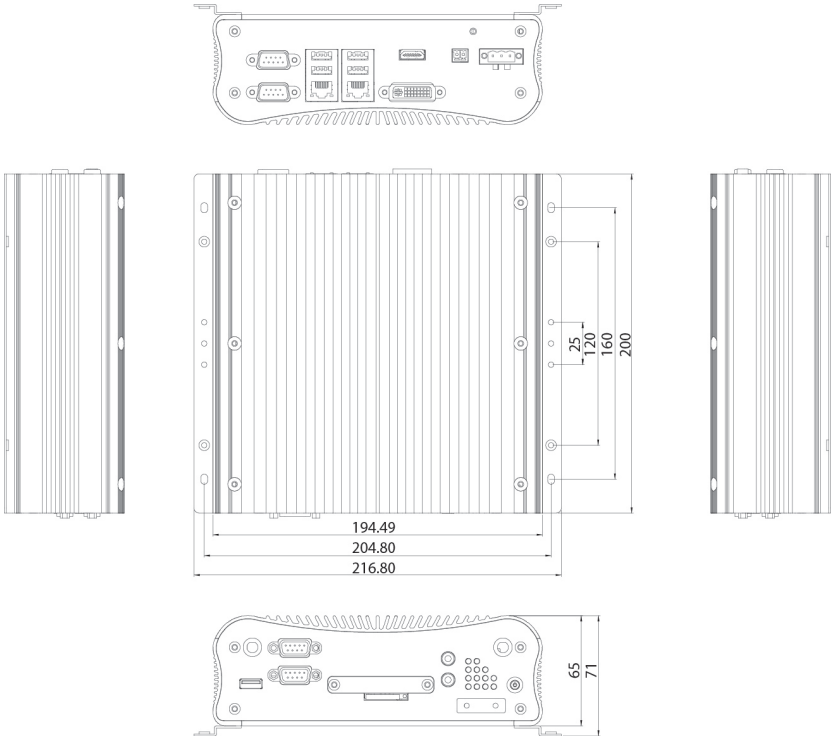
Storage Device

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

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
- 2 x RS232 & 2 x RS232/RS422/RS485 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 COM3 & COM4
- 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 COM1 & COM2, 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

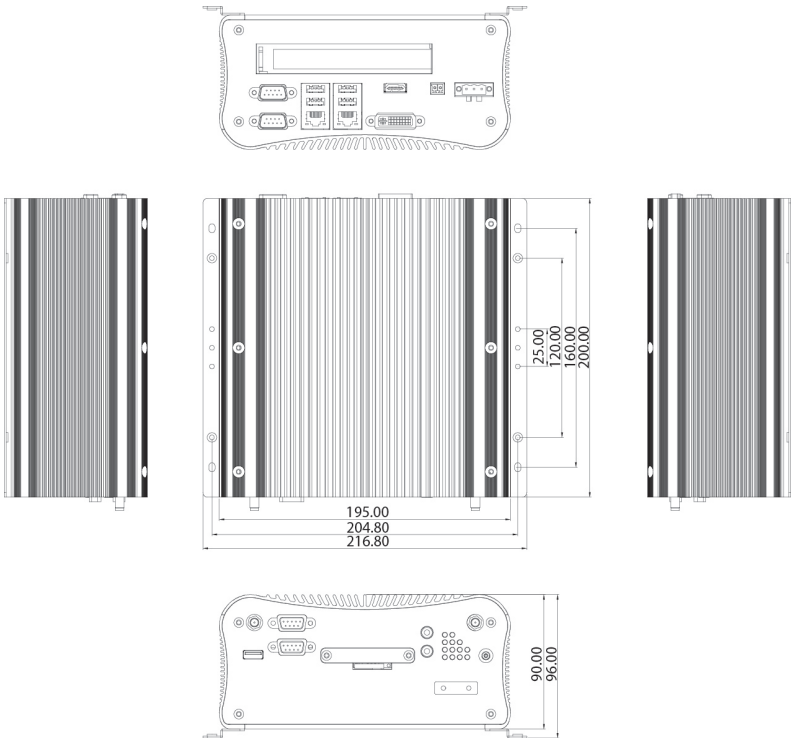
I/O Interface - Internal

- 4 x GPI and 4 GPO (5V, TTL type)

Storage Device

- 1 x CFast card socket (SATA 2.0)

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

Intel® Celeron® Processor J1900 Quad Core Fanless System

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
- 2 x RS232 & 2 x RS232/RS422/RS485 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 COM3 & COM4
- 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 COM1 & COM2, 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

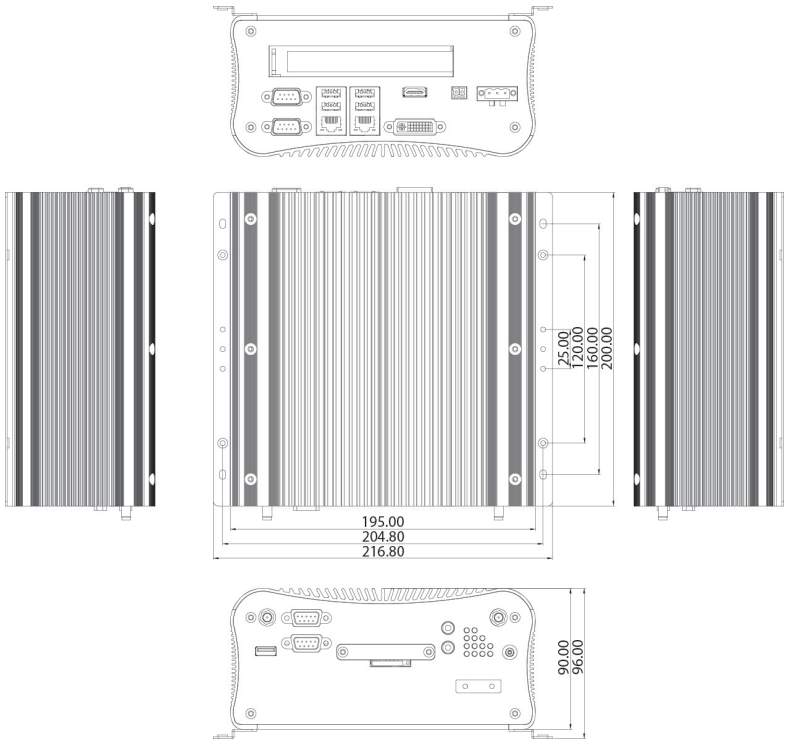
Expansion Slot

- 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
- 1 x Optional 24V, 60W power adapter

Dimension Drawing



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

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

Intel® Atom™ Processor E3845 Quad Core Fanless System

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
- 2 x RS232 & 2 x RS232/RS422/RS485 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 COM3 & COM4
- 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 COM1 & COM2, 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)

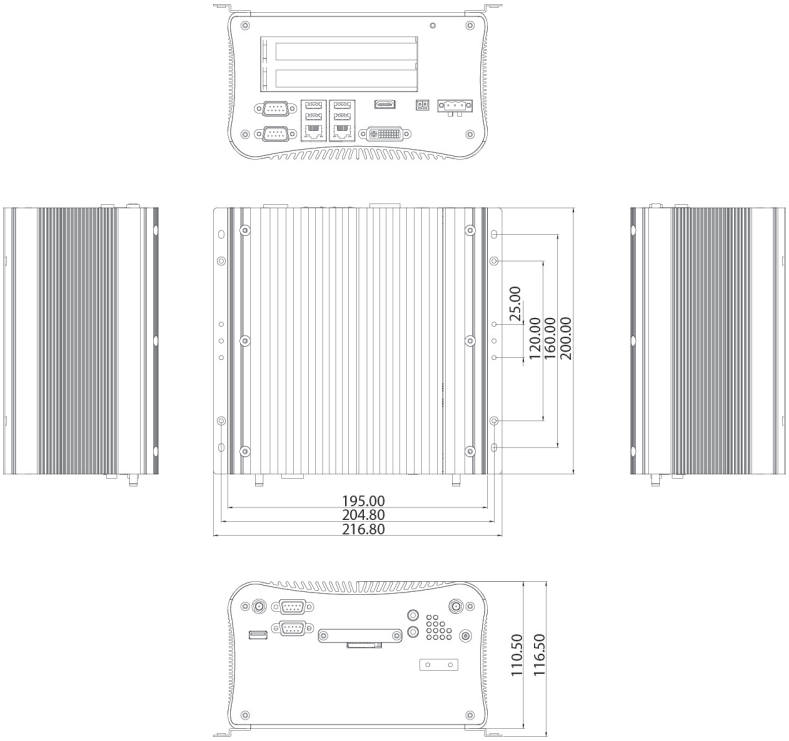
Storage Device

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

4th Generation Intel® Core™ i5 Fanless System with
6 mini-PCIe Expansion and User-Friendly Front I/O Design

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™, 2.3GHz, Max Turbo Frequency 3.3 GHz
  - Core™ i5-4402E, Dual Core™, 1.6GHz, Max Turbo Frequency 2.70 GHz (onboard default)
  - Core™ i3-4112E, Dual Core™, 1.8GHz
  - Celeron 2002E, Dual Core™, 1.5GHz
- Mobile Intel® QM87 PCH
- Turbo-boost disabled by default

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

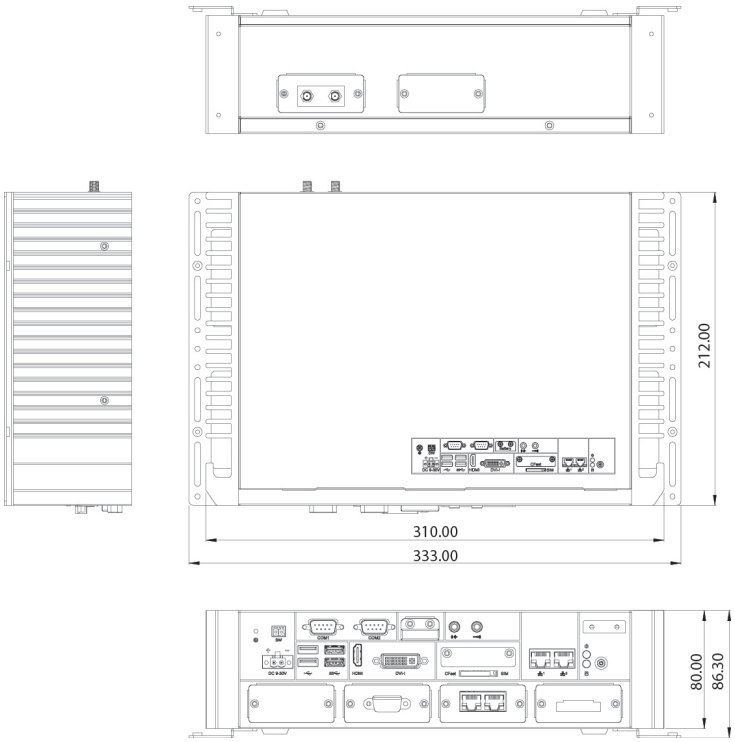
Internal I/O Interface

- 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)

Dimension Drawing



Expansion Slot
- 1 x mini-PCIe socket for GSM/Wi-Fi
  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 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

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)	EtherCAT Master 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)	SERCOS III 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 Wi-Fi module kit Intel: 7260.HMWWB.R	Dual band wireless-AC 7260, 2x2 AC+BT, HMC
88J00030002X0	NISE300 Wi-Fi 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

Intel® Atom ™ Quad Core E3845 Fanless System
with 2 x mini-PCIe Expansions

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 (2 x 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

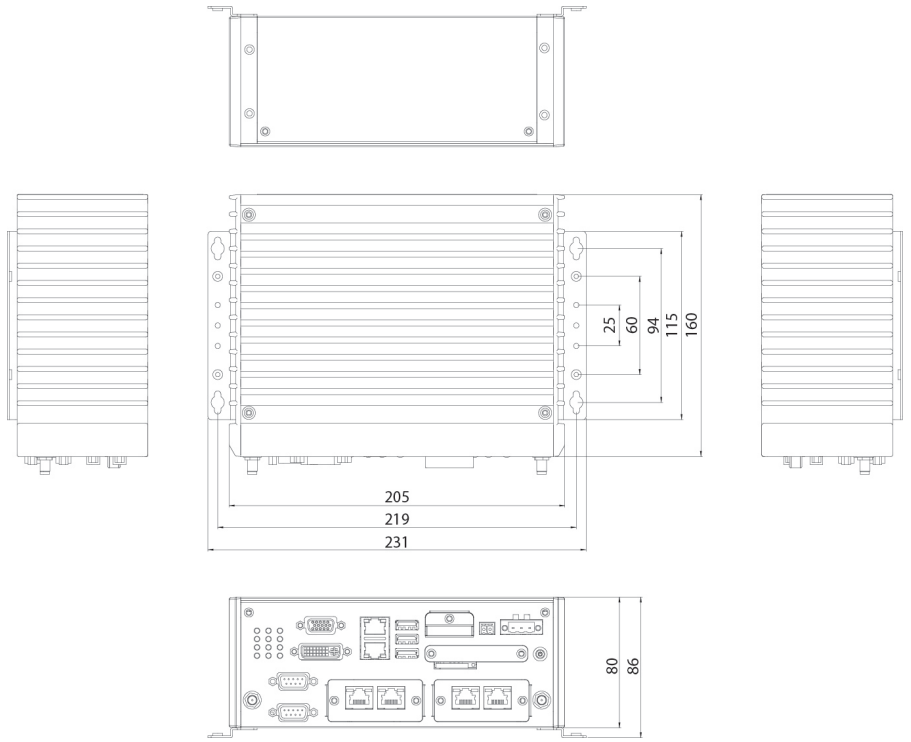
Storage Device
- 1 x CFast (SATA 2.0)
- 1 x 2.5" HDD (SATA 2.0)

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

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 85°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, IEC60068-2-64
  Sinusoidal: 0.5Grms @ 5~500Hz, IEC60068-2-6

Certifications

- CE Class A
- FCC Class A
- LVD

OS Support Lists

- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

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

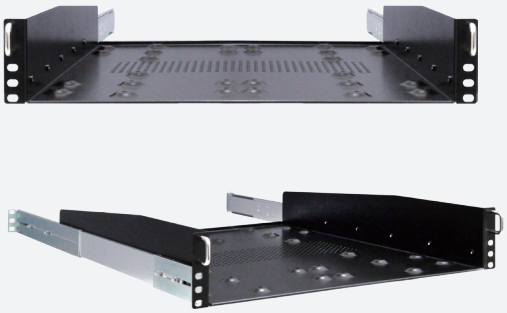
88J50090E05X0	FBI 90E-DNM kit w/ 15 cm cable)	DeviceNet Master module kit
88J50090E06X0	FBI 90E-ECM kit (w/ 15 cm cable)	EtherCAT Master module kit
88J50090E07X0	FBI 90E-EP kit (w/ 15 cm cable)	EtherNet/IP Master module kit
88J50090E08X0	FBI 90E-PBM Kkit (w/ 15 cm Cable)	PROFIBUS Master module kit
88J50090E09X0	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

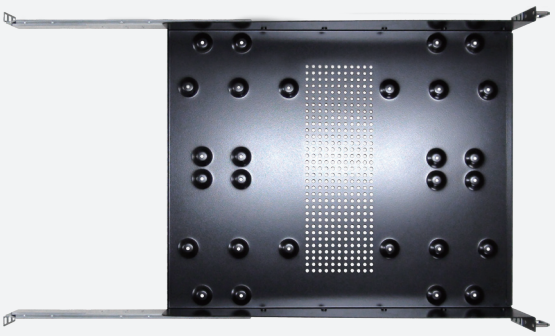
Optional Module kit

88J00030110X0	NISE301 3.5G module kit Intel: HE910-G	5 bands UMTS/HSPA w/ GPS and voice data
88J00030100X0	NISE301 Wi-Fi module kit Intel: 7260.HMWWB.R	Dual band wireless-AC 7260, 2x2 AC+BT,HMC
88J00030101X0	NISE301 Wi-Fi module kit Intel: 7260.HMWBNWB.R	WLAN + bluetooth combo module
88JK0ECOM02X0	NISKECOM3 universal kit (w/ 15 cm DB26 cable)	mini-PCIe to 4 x COM module w/ isolation RS232/422/485 auto flow control w/ universal bracket
88JK0ECOM03X0	NISKECOM3 universal kit (w/ 25 cm DB26 cable)	mini-PCIe to 4 x COM module w/ visolation 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

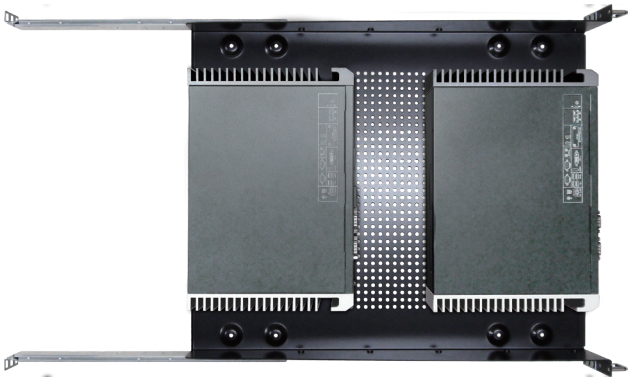
Form Factor

- 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)

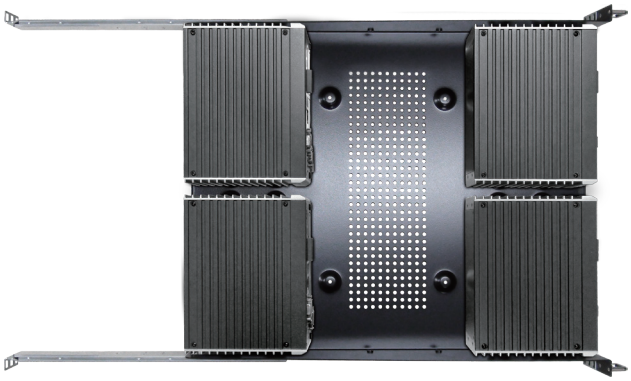
Dimensions

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

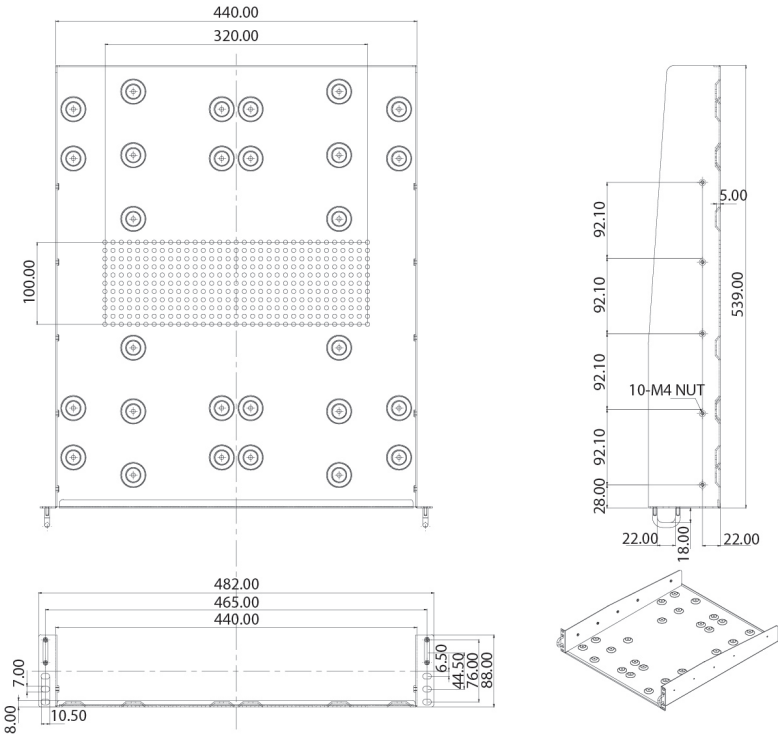
NISK2U Tray with NISE 300



NISK2U Tray with NISE 301



Dimension Drawing



Ordering Information

Barebone

- **NISK2U tray kit for NISE 300 and NISE 301 (P/N: 10J00030007X0)**

NISE 3600E

3rd Generation Intel® Core™ i7/i5/i3 Fanless System
with one PCIe x4 Expansion

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
- Support +9V to 30VDC input; support ATX power mode
- One PCIe x4 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 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, 2.2GHz, 6M Cache, Max Turbo Frequency 3.2 GHz
  - Core™ i7-3612QM, Quad Core, 2.1GHz, 6M Cache, Max Turbo Frequency 3.1 GHz
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache, Max Turbo Frequency 3.3 GHz
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support three independent display with above processors
- Turbo-boost disabled by default

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

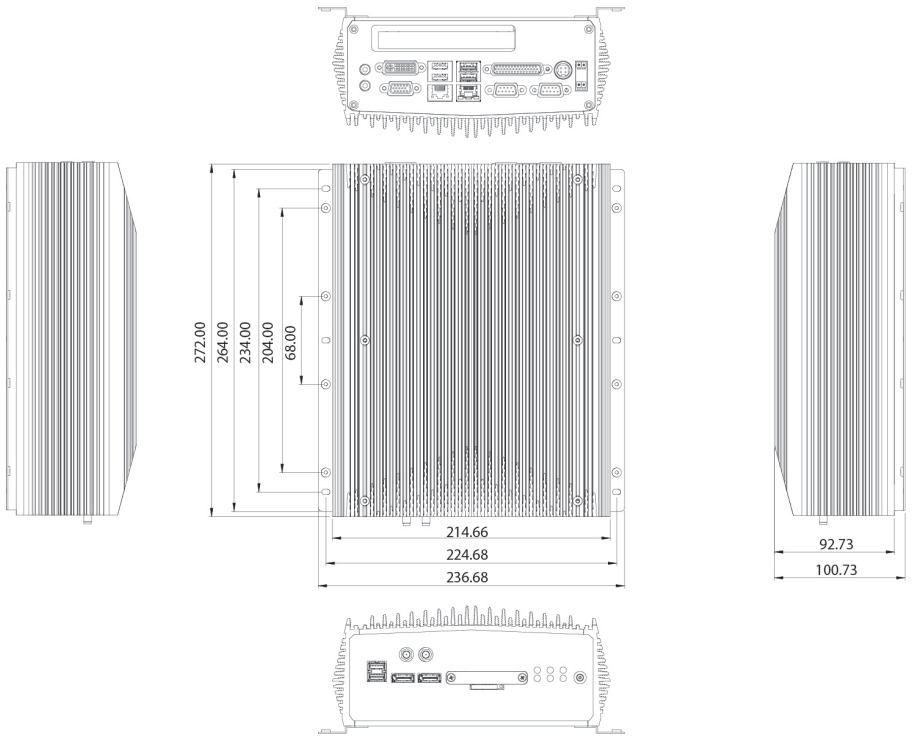
I/O Interface-Front

- 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

Dimension Drawing



- 1 x Line-out and 1 x Mic-in
- 2-pin remote power on/off switch
- +9V to 30VDC input

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 32-bit and 64-bit
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

Barebone

- **NISE 3600E (P/N: 10J00360000X0)**
  3rd generation Intel® Core™ i5/i3 rPGA fanless system with one PCIe x4 expansion
- **NISE 3600E2 (P/N: 10J00360001X2)**
  3rd generation Intel® Core™ i5/i3 rPGA fanless system with two PCIe x4 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 PCIe x4 expansion
- **19V, 120W AC/DC power adapter w/o power core (P/N: 7410120002X00)**

NISE 3600E2/P2/P2E

3rd Generation Intel® Core™ i7/i5/i3 rPGA
Fanless System with Expansion

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 PCIe x4 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, 2.2GHz, 6M Cache, Max Turbo Frequency 3.2 GHz
  - Core™ i7-3612QM, Quad Core, 2.1GHz, 6M Cache, Max Turbo Frequency 3.1 GHz
  - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache, Max Turbo Frequency 3.3 GHz
  - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
  - Support three independent display with above processors
- Turbo-boost disabled by default

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

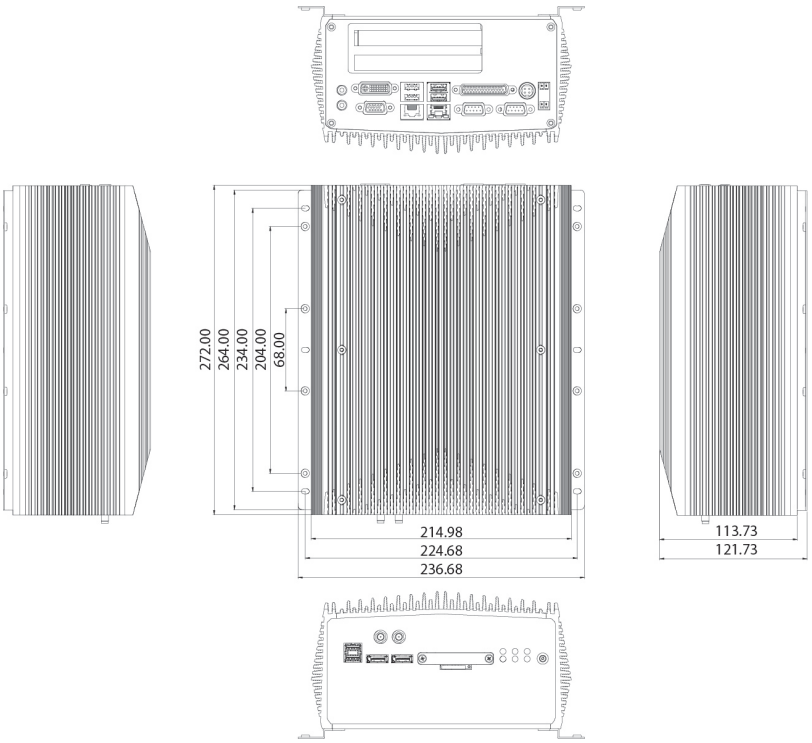
I/O Interface-Front

- 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 PCIe x4 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 PCIe x4 and one PCI expansion slot
  - Add-on card length: 169mm max. for PCIe x4 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 32-bit and 64-bit
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

Barebone

- **NISE 3600E (P/N: 10J00360000X0)**
  3rd generation Intel® Core™ i3/i5 rPGA fanless system with one PCIe x4 expansion
- **NISE 3600E2 (P/N: 10J00360001X2) RoHS Compliant**
  3rd generation Intel® Core™ i5/i3 fanless system with two PCIe x4 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 PCIe x4 expansion
- **19V, 120W AC/DC power adapter w/o power core (P/N: 7410120002X00)**

NISE 3640E

3rd Generation Intel® Core™ i7 Fanless System
with 4 x LANs, 6 x COMs and 3 x Independent Display

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 PCIe x4 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, Max Turbo Frequency 2.8 GHz (onboard default)
  - Core™ i5-3437U, Dual Core, 1.9GHz, 3M Cache, Max Turbo Frequency 2.9 GHz
  - Core™ i3-3217UE, Dual Core, 1.6GHz, 3M Cache
  - Celeron 1047UE, Dual Core, 1.4GHz, 2M Cache
- Mobile Intel® QM77 PCH
- Turbo-boost disabled by default

Main Memory

- Onboard 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

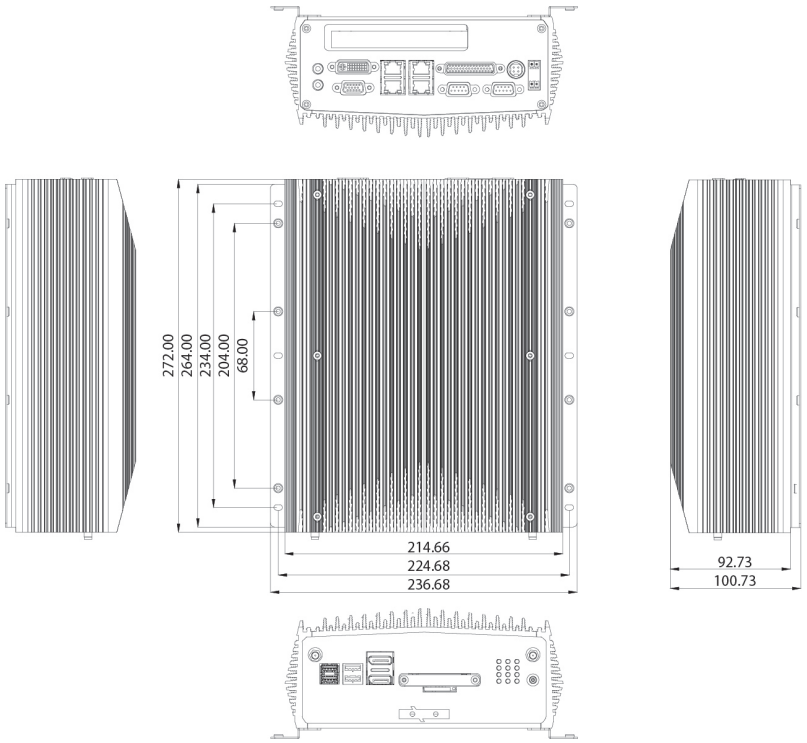
I/O Interface-Rear

- 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

Dimension Drawing



Expansion Slot
- One PCIe x4 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
- 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 32-bit and 64-bit
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

Barebone
- **NISE 3640E (P/N: 10J00364000X0)**
  3rd generation Intel® Core™ i7 fanless system with one PCIe x4 expansion
- **NISE 3640E2 (P/N: 10J00364001X0)**
  3rd generation Intel® Core™ i7 fanless system with two PCIe x4 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 PCIe x4 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, Max Turbo Frequency 2.8 GHz (onboard default)
  - Core™ i5-3437U, Dual Core, 1.9GHz, 3M Cache, Max Turbo Frequency 2.9 GHz
  - Core™ i3-3217UE, Dual Core, 1.6GHz, 3M Cache
  - Celeron 1047UE, Dual Core, 1.4GHz, 2M Cache
- Mobile Intel® QM77 PCH
- Turbo-boost disabled by default

Main Memory

- Onboard 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

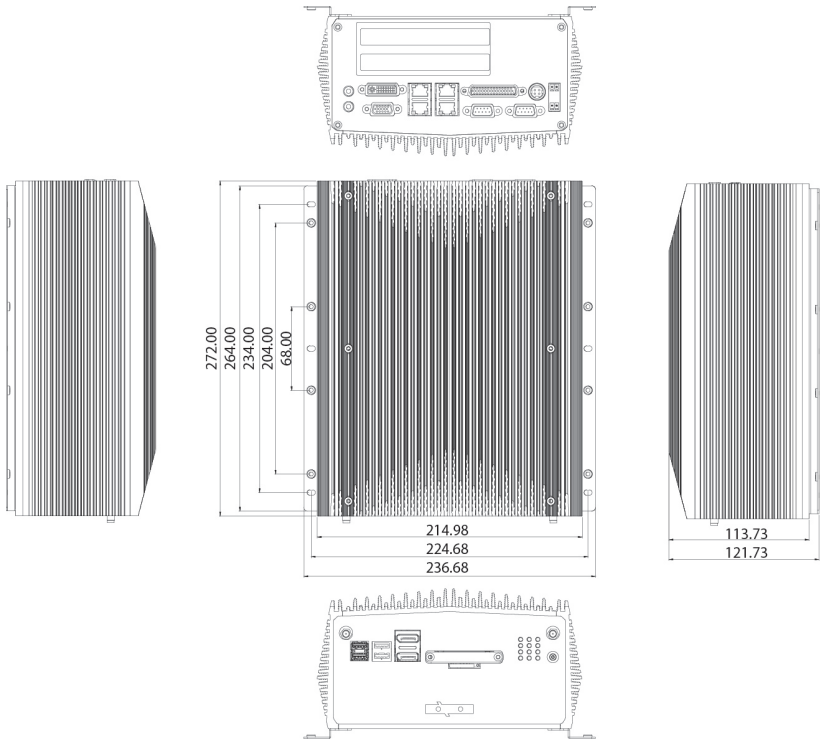
I/O Interface-Front

- 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

Dimension Drawing



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
- NISE 3640E2: two PCIe x4 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 PCIe x4 expansion
  - Add-on card length: 169mm max. for PCIe x4 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 32-bit and 64-bit
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

Barebone
- **NISE 3640E (P/N: 10J00364000X0)**
  3rd generation Intel® Core™ i7 fanless system with one PCIe x4 expansion
- **NISE 3640E2 (P/N: 10J00364001X0)**
  3rd generation Intel® Core™ i7 fanless Ssystem with two PCIe x4 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 PCIe x4 expansion
- **24V, 120W AC/DC power adapter w/o power cord (P/N: 7400120001X00)**

NISE 3640M

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 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
- 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, Max Turbo Frequency 2.8 GHz
- Mobile Intel® QM77 PCH
- Turbo-boost disabled by default

Main Memory

- Onboard 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 1 x VGA
  - Two display port and 1 x DVI-D
- Dual independent display
  - VGA and DVI-D
  - Display port and VGA

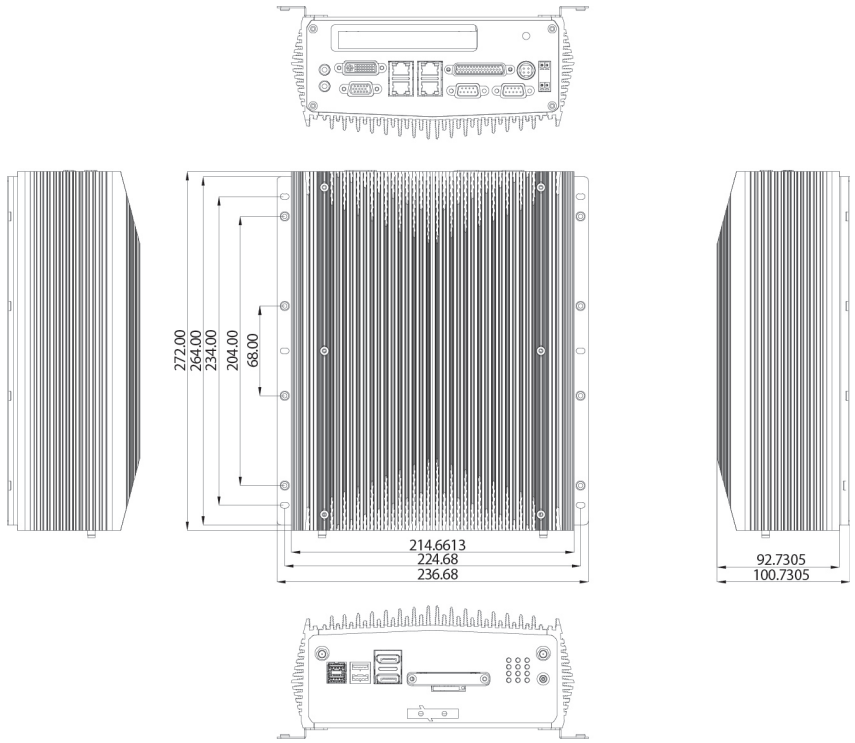
I/O Interface-Front

- 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 VGA and 1 x DVI-D
- 1 x Potential equalization connector (M6 type)
- 1 x Line-out and 1 x Mic-in
- 2-pin remote power on/off switch
- +24VDC input

Dimension Drawing



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 PCIe x4 expansion slot
  - Add-on card length: 169mm max.
  - 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 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 32-bit and 64-bit
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

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 ggeneration 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 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
- 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, Max Turbo Frequency 2.8 GHz
- Mobile Intel® QM77 PCH
- Turbo-boost disabled by default

Main Memory

- Onboard 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

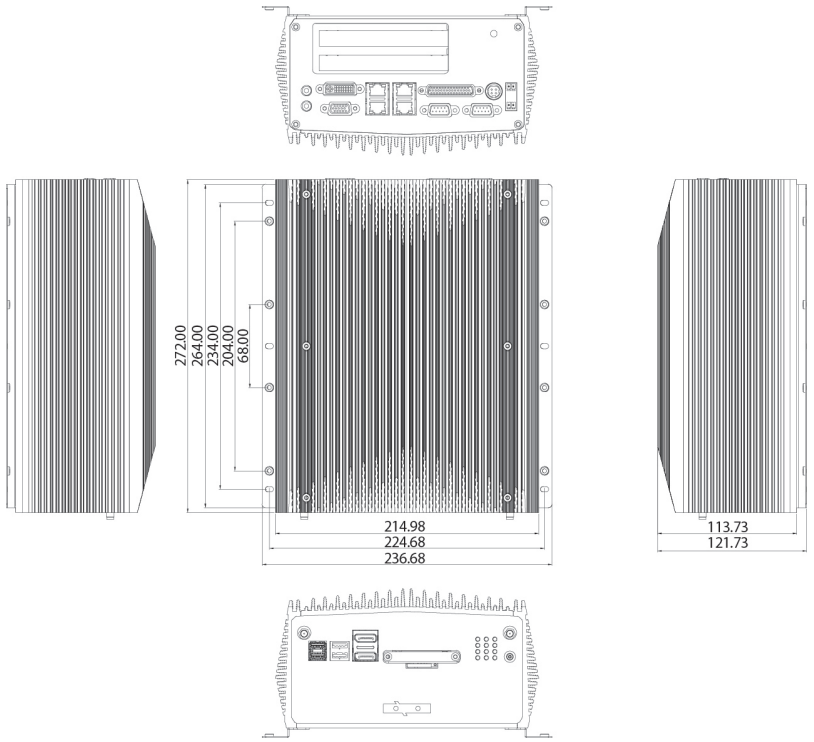
I/O Interface-Front

- ATX power on/off switch
- HDD access/power status/LAN status LEDs
- 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 VGA and 1 x DVI-D
- 1 x Potential equalization connector (M6 type)
- 1 x Line-out and 1x Mic-in
- 2-pin remote power on/off switch
- +24VDC input

Dimension Drawing



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

Expansion Slot
- NISE 3640ME2: two PCIe x4 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 PCIe x4 expansion
  - Add-on card length: 169mm max. for PCIe x4 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 32-bit and 64-bit
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

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

3rd Generation Intel® Core™ i7 System
with 2 x 3.5" SATA HDD, 4 x LAN, and 3 Independent Display

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, Max Turbo Frequency 2.8 GHz (onboard default)
  - Core™ i5-3437U, Dual Core, 1.9GHz, 3M Cache, Max Turbo Frequency 2.9 GHz
  - Core™ i3-3217UE, Dual Core, 1.6GHz, 3M Cache
  - Celeron 1047UE, Dual Core, 1.4GHz, 2M Cache
- Mobile Intel® QM77 PCH
- Turbo-boost disabled by default

Main Memory

- Onboard 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

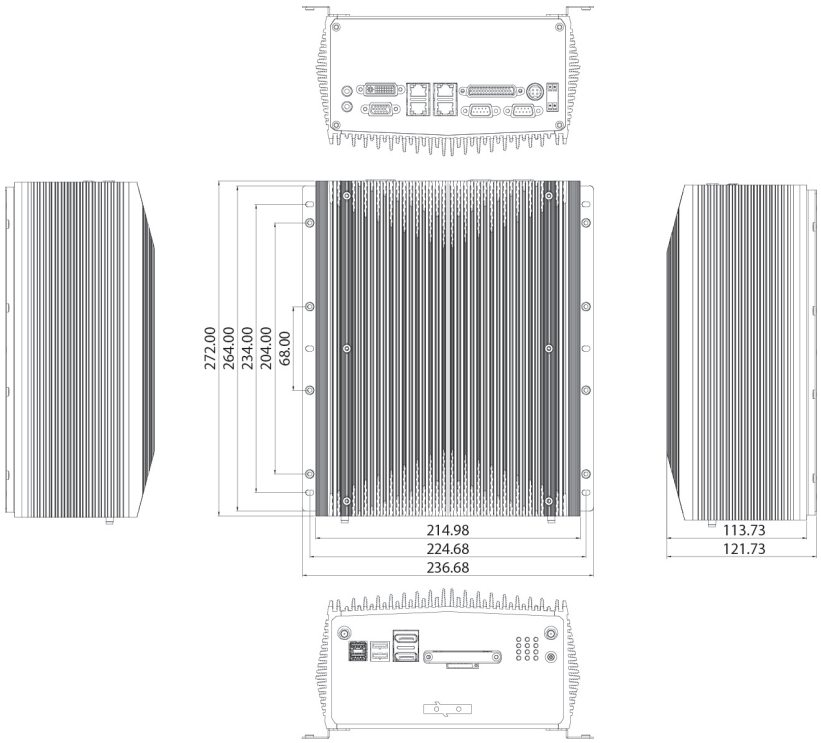
I/O Interface-Front

- 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

Dimension Drawing



Storage Device
- 2 x 3.5" SATA HDD
- 1 x CFast socket

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 32-bit and 64-bit
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

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

4th Generation Intel® Core™ i7/i5/i3
LGA Fanless System with Expansion

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
- 1 x External CFast socket and 1x SIM card socket
- 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
- 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, 2.3GHz, 8M Cache, Max Turbo Frequency 3.3 GHz
  - Core™ i5-4590T, Quad Core, 2.0GHz, 6M Cache, Max Turbo Frequency 3.0 GHz
  - 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
- Turbo-boost disabled by default

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

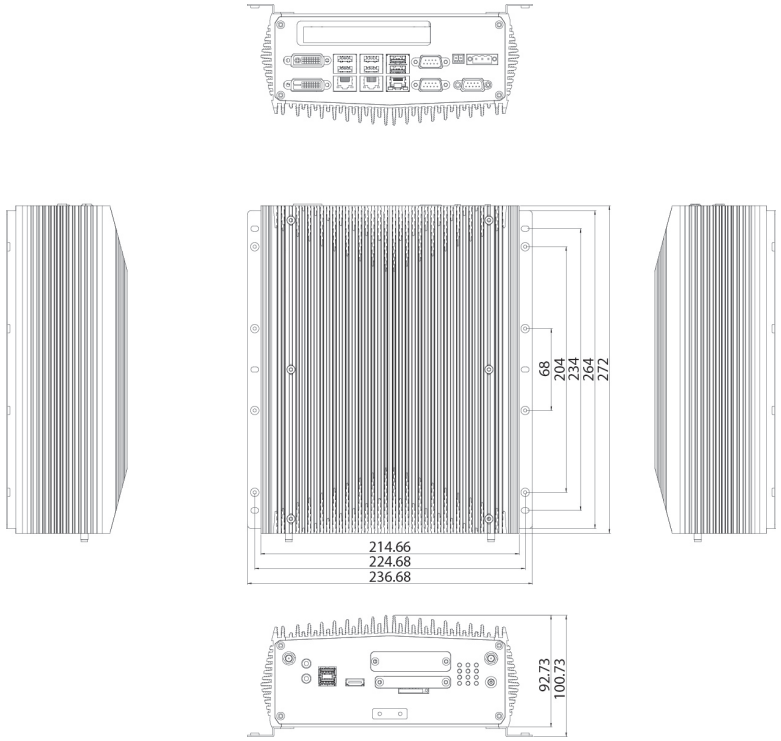
Front I/O Interface

- 1 x ATX power on/off switch
- 1 x HDMI
- 2 x USB 3.0 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® I210IT GbE LAN ports; support WoL, teaming and PXE
- 1 x 2-pin remote power on/off switch
- +9V to 30 V DC input

Dimension Drawing



Storage Device
- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (SATA 3.0)
- 1 x mSATA (internal mini-PCIe socket)

Expansion Slot
- One PCIe x4 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°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 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

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 PCIe x4 expansion
- **NISE 3700E2 System (P/N: 10J00370001X0)**
  4th generation Intel® Core™ i7/i5/i3 fanless system with two PCIe x4 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 PCIe x4 expansion
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120015X00)**

NISE 3700E2/P2/P2E

4th Generation Intel® Core™ i7/i5/i3 LGA
Fanless System with Expansion

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
- 1 x External CFast socket and 1 x SIM card socket
- 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
- 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, 2.3GHz, 8M Cache, Max Turbo Frequency 3.3 GHz
  - Core™ i5-4590T, Quad Core, 2.0GHz, 6M Cache, Max Turbo Frequency 3.0 GHz
  - 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
- Turbo-boost disabled by default

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

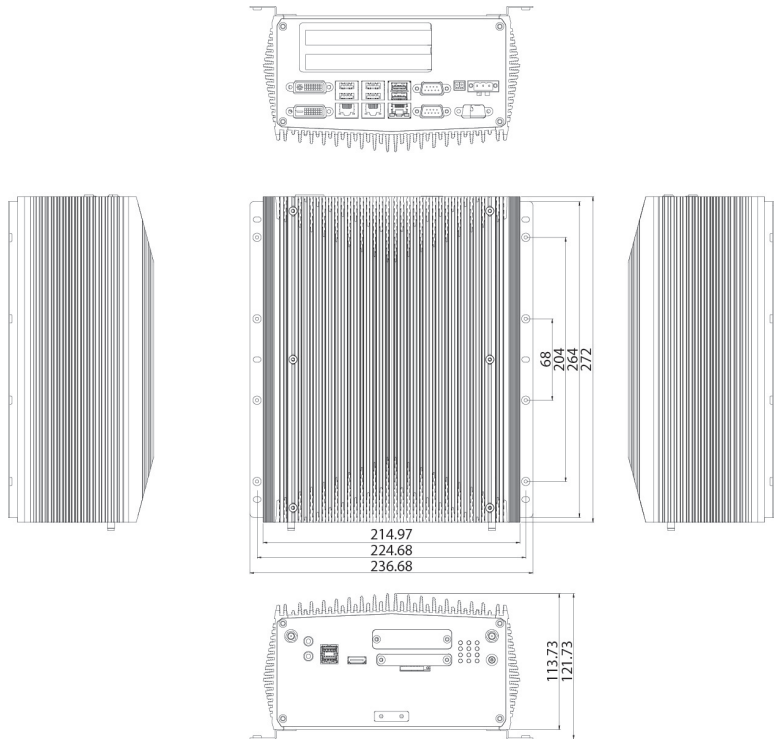
Front I/O Interface

- 1 x ATX power on/off switch
- 1 x HDMI
- 2 x USB 3.0 ports (900mA per each)
- 1 x Line-out and 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® I210IT GbE LAN ports; support WoL, teaming and PXE
- 1 x 2-pin remote power on/off switch
- +9V to 30V DC input

Dimension Drawing



Storage Device
- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (SATA 3.0)
- 1 x mSATA (internal mini-PCIe socket)

Expansion Slot
- NISE 3700E2: two PCIe x4 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 PCIe x4 and one PCI expansion slot
  - Add-on card length: one 169mm max for PCIe x4, 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 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

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 PCIe x4 expansion
- **NISE 3700E2 System (P/N: 10J00370001X0)**
  4th generation Intel® Core™ i7/i5/i3 fanless system with two PCIe x4 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 PCIe x4 expansion
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120015X00)**

NISE 3700E-C226

4th Generation Intel® Core™ i7/i5/i3 LGA
Fanless System with Expansion

Main Features

- Support 4th generation Intel® Core™ i7/i5/i3 LGA socket type embedded processor
- Intel® C226 PCH
- Support 1 x 2.5" SATA HDD
- 1 x DVI-I, 1 xDVI-D with independent display support
- Two Intel® GbE LAN ports; support WoL, teaming and PXE
- 1 x External CFast socket and 1x SIM card socket
- 4 x USB 3.0, 2 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
- 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, 2.3GHz, 8M Cache, Max Turbo Frequency 3.3 GHz
  - Core™ i5-4590T, Quad Core, 2.0GHz, 6M Cache, Max Turbo Frequency 3.0 GHz
  - 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
- Turbo-boost disabled by default

Main Memory

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

Display Option

- DVI-I + DVI-D

Front I/O Interface Status LEDs

- 2 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
- 2 x USB 3.0 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

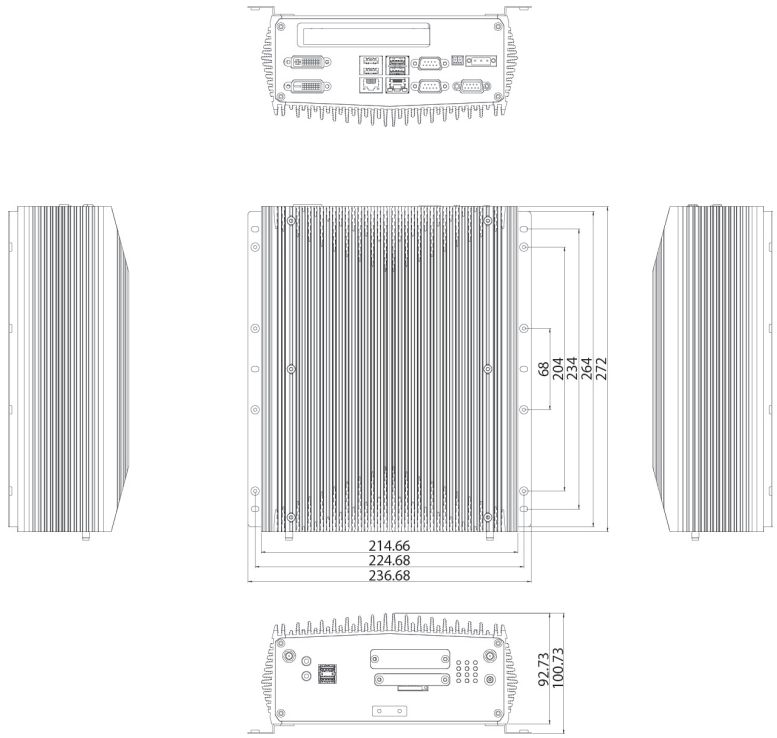
Rear I/O Interface

- 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)
- 2 x USB 2.0 ports (500mA per each)
- 1 x DVI-D port
- 1 x DVI-I port
- 2 x Intel® I210IT 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 PCIe x4 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°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 32-bits and 64-bits
- Windows 8.1 32-bits and 64-bits

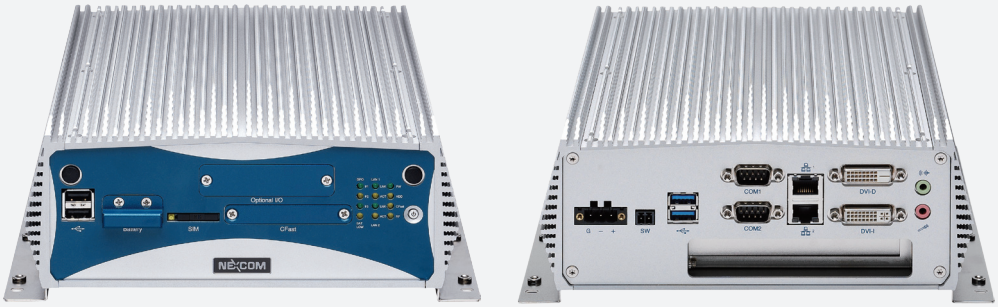
Weight Information
- Gross weight: 5.9kg
- Net weight: 4.5kg

Ordering Information

- **NISE 3700E-C226 System (P/N: 10J00370009X0)**
  4th generation Intel® Core™ i7/i5/i3 fanless system with one PCIe x4 expansion
- **NISE 3700E2-C226 System (P/N: 10J00370007X0)**
  4th generation Intel® Core™ i7/i5/i3 fanless system with two PCIe x4 expansions
- **NISE 3700P2-C226 System (P/N: 10J00370010X0)**
  4th generation Intel® Core™ i7/i5/i3 fanless system with two PCI expansions
- **NISE 3700P2E-C226 System (P/N: 10J00370008X0)**
  4th Generation Intel® Core™ i7/i5/i3 fanless system with one PCI and one PCIe x4 expansion
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120015X00)**

NISE 3720E

Intel® Core™ i7 Fanless System
with mSATA, mini-PCIe, and One Expansion Slot



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 Fieldbus module (by jumper switch)
- 1 x Internal mini-PCIe socket support optional Wi-Fi 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, 2.2GHz, 4M Cache, Max Turbo Frequency 3.1 GHz
- Onboard BGA type CPU is Core™ i7-4650U, Dual Core, 1.7GHz, 4M Cache, Max Turbo Frequency 3.3 GHz
- Support following onboard BGA type processors by project base
  - 5th generation Intel® core™ i5/i3/Celeron® MCP processors
  - Core™ i5-5350U, Dual core, 1.8GHz, 3M Cache, Max Turbo Frequency 2.9 GHz
  - Core™ i3-5010U, Dual core, 2.1GHz, 3M Cache
- Turbo-boost disabled by default

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

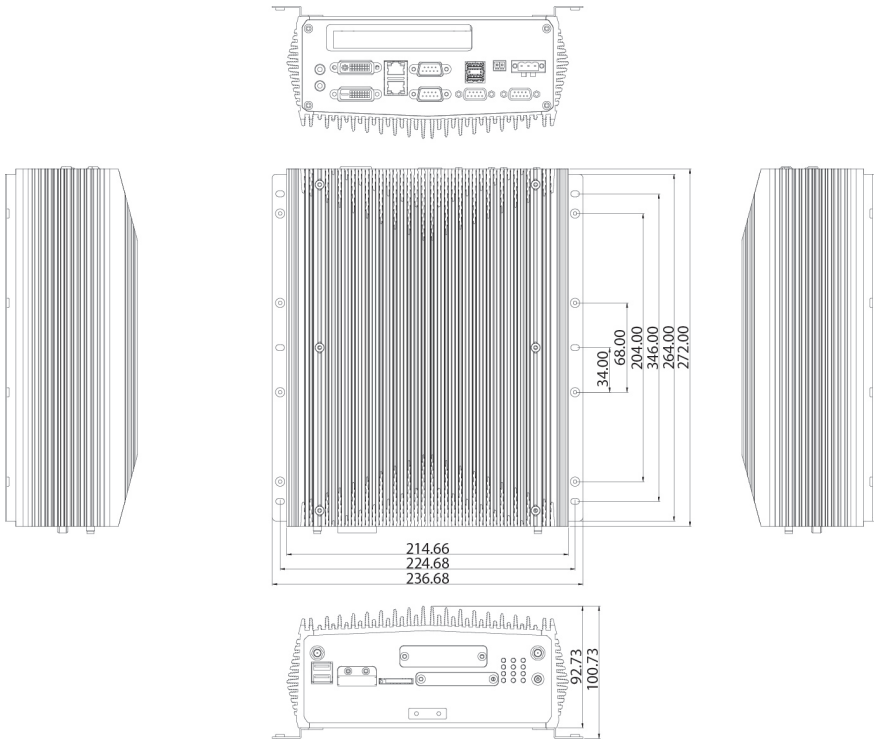
I/O Interface-Front

- ATX power on/off switch
- 1 x Power status/1 x HDD access LEDs
- 2 x LAN status/1 x 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/Fieldbus
    *Onboard JP8 jumper switch for mSATA/Fieldbus
- NISE 3720E: 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°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, IEC60068-2-27
  - 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 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

Barebone
- **NISE 3720E-5650U (P/N: 10J00372004X0)**
  Intel® Core™ i7-5650U fanless system with one PCIe expansion
- **NISE 3720E2-5650U (P/N: 10J00372005X0)**
  Intel® Core™ i7-5650U fanless system with two PCIe expansion
- **NISE 3720P2-5650U (P/N: 10J00372007X0)**
  Intel® Core™ i7-5650U fanless system with two PCI expansion
- **NISE 3720P2E-5650U (P/N: 10J00372008X0)**
  Intel® Core™ Core™ i7-5650U system with one PCI expansion and one PCIe expansion
- **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

Intel® Core™ i7 Fanless System
with mSATA, mini-PCIe, and Two Expansion Slots

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 Fieldbus module (by jumper switch)
- 1 x Internal mini-PCIe socket support optional Wi-Fi 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, 2.2GHz, 4M Cache, Max Turbo Frequency 3.1 GHz
- Onboard BGA type CPU is Core™ i7-4650U, Dual Core, 1.7GHz, 4M Cache, Max Turbo Frequency 3.3 GHz
- Support following onboard BGA type processors by project base
  - 5th generation Intel® Core™ i5/i3/Celeron® MCP processors
  - Core™ i5-5350U, Dual Core, 1.8GHz, 3M Cache, Max Turbo Frequency 2.9 GHz
  - Core™ i3-5010U, Dual Core, 2.1GHz, 3M Cache
- Turbo-boost disabled by default

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 sdsplay
  - DVI-I (DVI-D + VGA)
  - DVI-D

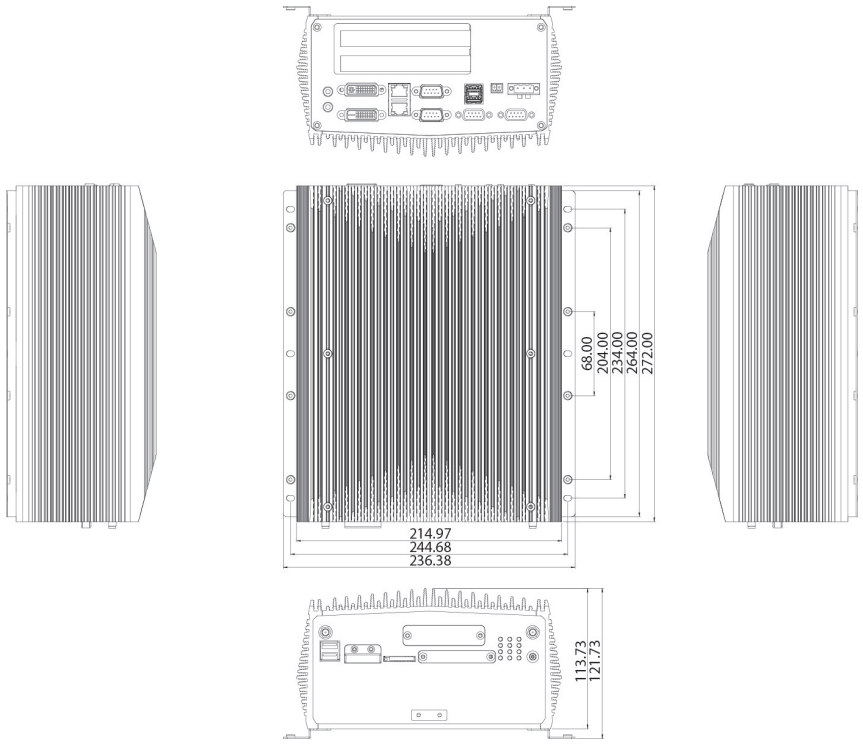
I/O Interface-Front

- ATX power on/off switch
- 1 x Power status/1 x HDD access LEDs
- 2 x LAN status/1 x 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/Fieldbus
    *Onboard JP8 jumper switch for mSATA/Fieldbus
- NISE 3720E2: 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.
- NISE 3720P2: two PCI expansion slot
  - Add-on card length: one 169mm max. and one 240mm max.
  - Power consumption: 10W/slot max.
- NISE 3720P2E: 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) x 272mm(D) x 114mm(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 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

Barebone
- **NISE 3720E-5650U (P/N: 10J00372004X0)**
  Intel® Core™ i7-5650U fanless system with one PCIe expansion
- **NISE 3720E2-5650U (P/N: 10J00372005X0)**
  Intel® Core™ i7-5650U fanless system with two PCIe expansion
- **NISE 3720P2-5650U (P/N: 10J00372007X0)**
  Intel® Core™ i7-5650U fanless system with two PCI expansion
- **NISE 3720P2E-5650U (P/N: 10J00372008X0)**
  Intel® Core™ Core™ i7-5650U system with one PCI expansion and one PCIe expansion
- **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)**

NIFE 100

Intel® Atom™ E3826 Dual Core Factory Automation Fanless System with Fieldbus Expansion Ability

Microsoft Azure Certified

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)

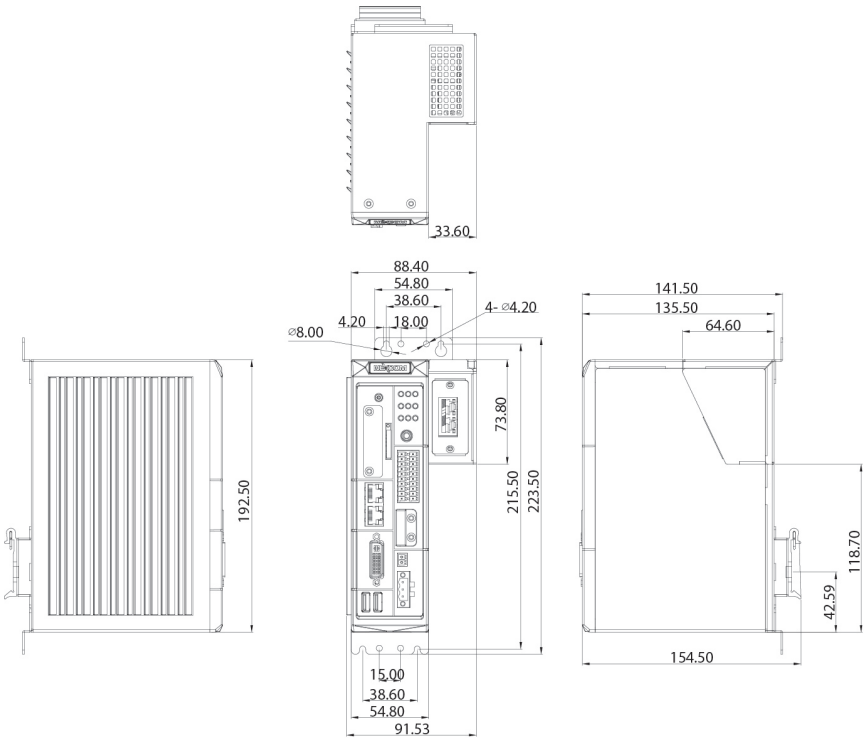
Expansion Slot
- 1 x mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/fieldbus modules

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

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, 32-bit/64-bit
- Windows Embedded Standard 8, 32-bit/64-bit
- Windows 7, 32-bit/64-bit
- Windows Embedded Standard 7, 32-bit/64-bit
- 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: 7400060033X00)**

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 (15 cm cable)	FBI 90E-COM KIT

Optional W-iFi/GSM module

88J70010004X0	NIFE100 3.5G module kit SIERRA: MC8705	-
88J70010005X0	NIFE 100 Wi-Fi module kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010006X0	NIFE 100 Wi-Fi 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

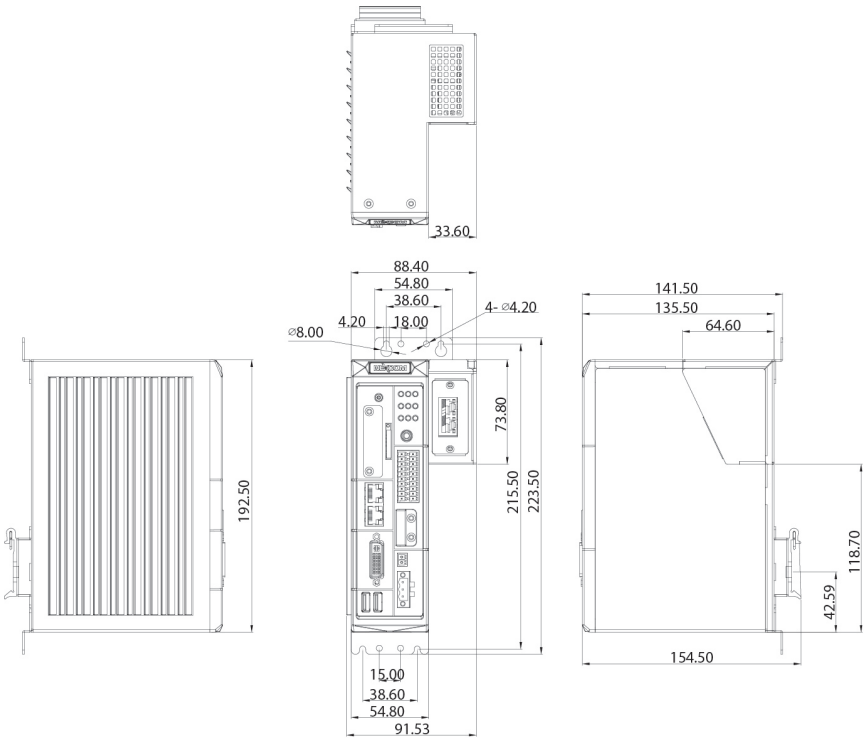
Dimensions

- 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, 32-bit/64-bit
- Windows Embedded Standard 8, 32-bit/64-bit
- Windows 7, 32-bit/64-bit
- Windows Embedded Standard 7, 32-bit/64-bit
- 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: 7400060033X00)**

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 Wi-Fi/GSM module

88J70010004X0	NIFE100 3.5G module kit SIERRA: MC8705	-
88J70010005X0	NIFE 100 Wi-Fi module kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010006X0	NIFE 100 Wi-Fi 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)

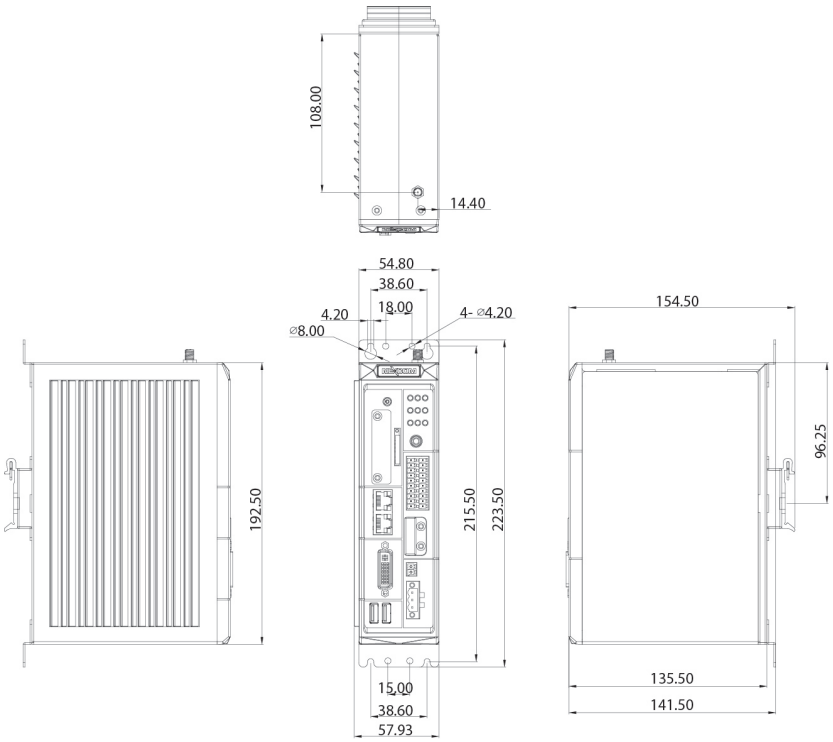
Construction

- 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, 32-bit/64-bit
- Windows Embedded Standard 8, 32-bit/64-bit
- Windows 7, 32-bit/64-bit
- Windows Embedded Standard 7, 32-bit/64-bit
- 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: 7400060033X00)**

Optional Wi-Fi/GSM module

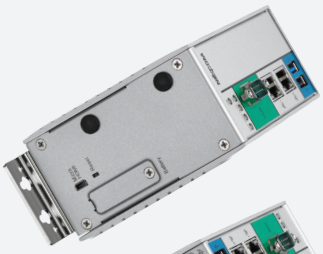
88J70010100X0	NIFE101 3.5G module kit SIERRA: MC8705	-
88J70010101X0	NIFE101 Wi-Fi module kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010102X0	NIFE101 Wi-Fi module kit INTEL: 7260.HMWBNWB.R	WLAN + Bluetooth COMBO MODULE

Optional Din Rail Kit

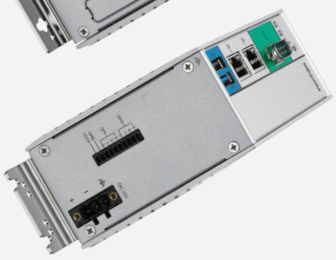
88J70010000X0	NIFE100/101 series DIN Rail kit	@Shock 20G

NIFE 103

Intel® Atom™ E3826 Dual Core Factory Automation Fanless System with Palm Size form Factor



Top View



Bottom View

- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
- 1 x Micro HDMI DisplayPort (type D)
- 2 x Intel® I210AT GbE LAN ports; support WoL, teaming and PXE
- 1 x USB 3.0 and 1x USB 2.0
- 1 x Full size mini-PCIe socket for optional mSATA/4G/3.5G/LTE modules
- 1 x Half size mini-PCIe socket for optional Wi-Fi module
- 1 x RS232/485 with auto flow control
- Support -5~50 °C operating temperature
- Support +24VDC input ±20%

Product Overview

NEXCOM's NIFE product line comes in a range of form factors and processor configurations including Intel® Atom™ and Intel® Core™ processors to suit different application requirements. For NIFE 103, it positions itself at the entry level of fieldbus controller, and suitable for M2M communication gateway and data server applications. Boosted by Intel® BayTrail-I E3826 Processor and the palm size form-factor, NIFE1 03 is suitable entry level automation system which satisfying the needs of steady system performance and installation in gateway field or a small controller cabinet.

NIFE 103 meets PLCopen® specifications and allows softlogic control programming. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC controller and M2M gateway.

Specifications

CPU Support
- Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz

Main Memory
- On-board type 2GB DDR3L RAM
  - Un-buffered and non-ECC

Display Option
- 1 x Micro HDMI DisplayPort (Type D)

I/O Interface-Front
- LEDs for power LED, battery low LED, WWAN LED, WLAN LED, 1 x programmable GPO LED
- 1 x RS232/485 support auto flow control
  - RS232 (Tx/Rx/CTS/RTS only)
  - RS485 support auto flow control
  - Support 2.5KV isolation protection
- 2 x Intel® I210AT GbE LAN ports, support WoL, teaming and PXE
- 1 x USB 3.0 (900mA per each)
- 1 x USB 2.0 (500mA per each)

I/O Interface-Top
- 1 x Micro HDMI DisplayPort (type D)
- 1 x System reset button
- 1 x RTC Battery socket

I/O Interface-Bottom
- 1 x 4-in/4-out 5V GPIO via 10-pin terminal block

Storage Device
- Onboard 16GB EMMC
- Optional mSATA module

Expansion Options
- 1 x Full size mini-PCIe socket for optional mSATA/4G/3.5G/LTE modules (USB signal only)
- 1 x Half size mini-PCIe socket for optional Wi-Fi module (PCIe and USB signal)

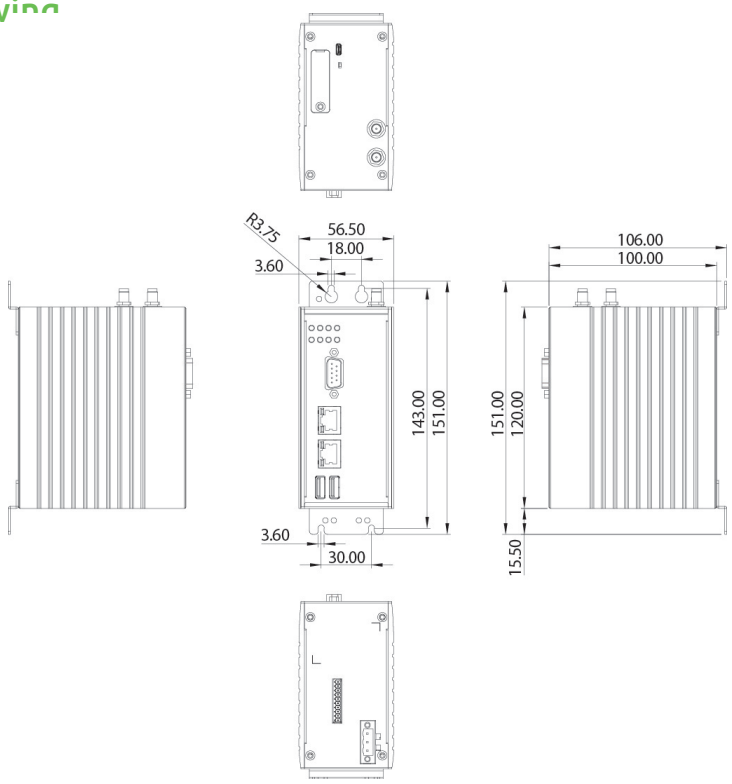
Power Requirement
- Power input: typical +24VDC ±20%
- 1 x Optional 24V, 60W power adapter

Dimensions
- 56.5mm (W) x 100mm (D) x 120mm (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 75°C
- Relative humidity: 10% to 93% (non-condensing)

Dimension Drawing



- Shock protection:
  - mSATA/EMMC: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/ mSATA or EMMC condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications

- CE Approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A

Support OS

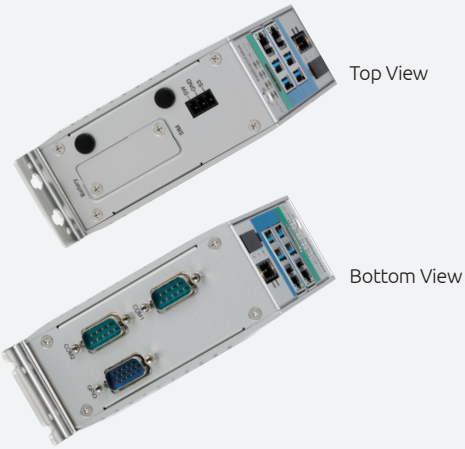
- Windows 8, 32-bit/64-bit
- Windows Embedded Standard 8, 32-bit/64-bit
- Windows 7, 32-bit/64-bit
- Windows Embedded Standard 7, 32-bit/64-bit
- Linux Kernel version 3.8.0

Ordering Information

- **NIFE 103 System (P/N: 10J70010300X0)**
  Intel® Atom™ processor E3826 Dual Core fanless system
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**

NIFE 105

Intel® Atom™x5-E3930 Dual Core Factory Automation Fanless System with Palm Size form Factor



Top View

Bottom View

- Onboard Intel® Atom™ x5-E3930 processor Dual Core 1.8GHz
- 1 x HDMI display
- 2 x Intel® I210IT GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 3.0
- 2 x mini-PCIe sockets for optional Wi-Fi/3.5G/LTE modules
- 2 x RS232/422/485 with auto flow control
- 1 x External SD card slot and 1 x SIM card socket
- Support -5~55 degree C operating temperature
- Support typical +24VDC ±20%

Product Overview

NEXCOM's NIFE product line comes in a range of form factors and processor configurations including Intel® Atom™ and Intel Core processors to suit different application requirements. For NIFE 105, it positions itself at the entry level of fieldbus controller, and suitable for M2M communication gateway and data server applications. Boosted by Intel® latest Atom™ x5-E3930 Processor and the palm size form-factor, NIFE 105 is the most suitable entry level automation system which satisfying the needs of steady system performance and installation in gateway field or a small controller cabinet.

NIFE 105 meets PLCopen® specifications and allows easy control programming via Softlogic Tool Kit. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC controller and M2M gateway.

Specifications

CPU Support
- Onboard Intel® Atom™ x5-E3930 processor Dual Core 1.8GHz

Main Memory
- On-board type 4GB DDR3L RAM
  - Un-buffered and non-ECC

Display Output
- 1 x HDMI display

I/O Interface-Front
- 2 x Intel® I210IT GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 3.0 (900mA)
- 1 x External SD card slot (data storage only)
- 1 x Power/1x HDD access LEDs
- 1 x Battery low/1x GP0 programming LED
- 2 x Tx/Rx LEDs
- 1 x ATX power on/off switch

I/O Interface-Top
- 1 x Remote switch/1 x S3
- 1 x SIM card slot
- 1 x RTC battery socket

I/O Interface-Bottom
- 2 x DB9, support RS232/422/485 with Auto Flow Control
  - Support 2.5KV isolation protection
- 1 x Optional DB9, support 4 x GPI and 4 x GPO

Storage Device
- On-board 16GB EMMC
- Optional mSATA module

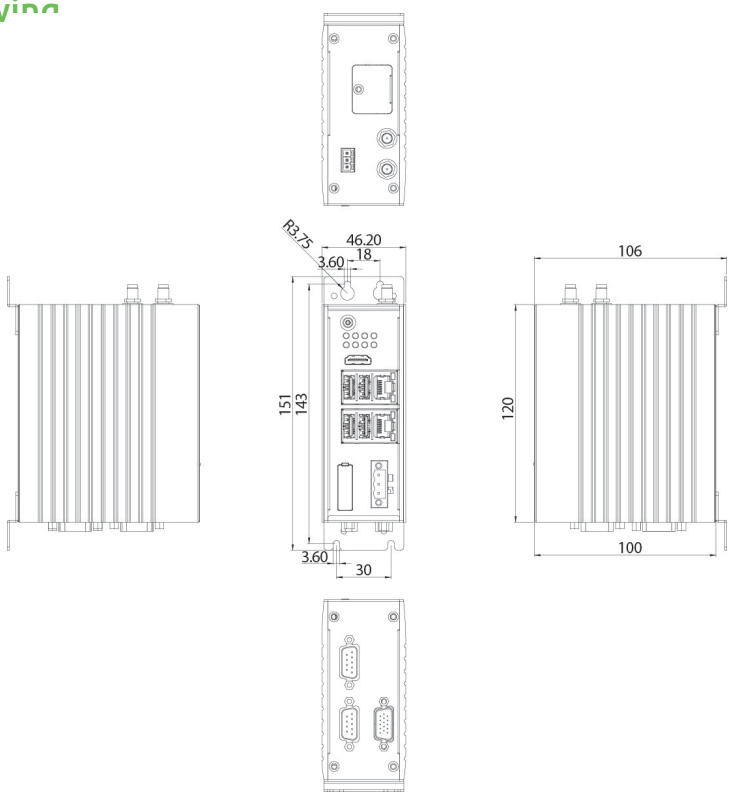
Power Requirement
- Power input: typical +24VDC ±20%
- 1 x Optional 24V, 60W power adapter

Dimensions
- 46.2mm (W) x 100mm (D) x 120mm (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 75°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  - mSATA/EMMC: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/ mSATA or EMMC condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Dimension Drawing



Certifications

- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A

Support OS

- Windows* 10 Enterprise (64-bit)

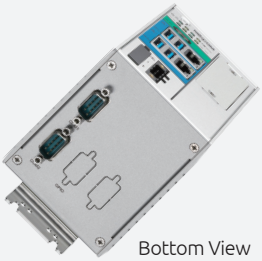
Ordering Information

- **NIFE 105 system (P/N: 10J70010500X0)**
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**

NIFE 105W

Dual Core Intel® Atom™ x5-E3930 Processor Automation System

Top View



Bottom View

- Onboard Intel® Atom™ x5-E3930 processor Dual Core 1.8GHz
- 1 x HDMI display
- 2 x Intel® I210IT GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 3.0
- 2 x mini-PCIe sockets for optional Wi-Fi/3.5G/LTE modules
- 2 x RS232/422/485 with auto flow control
- 1 x External SD card slot and 1 x SIM card socket
- Support -5°C~55 °C operating temperature
- Support +24VDC input

Product Overview

NEXCOM's NIFE product line comes in a range of form factors and processor configurations including Intel Atom and Intel Core processors to suit different application requirements. For NIFE 105, it positions itself at the entry level of fieldbus controller, and suitable for M2M communication gateway and data server applications. Boosted by Intel® latest Apollo Lake-I processors and the palm size form-factor, NIFE 105 is the most suitable entry level automation system which satisfying the needs of steady system performance and installation in gateway field or a small controller cabinet.

NIFE 105 meets PLCopen® specifications and allows easy control programming via Softlogic tool kit. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC controller and M2M gateway.

Specifications

CPU Support
- Onboard Intel® Atom™ x5-E3930 processor Dual Core 1.8GHz

Main Memory
- Onboard type 4GB DDR3L RAM
  - Un-buffered and non-ECC

Display Output
- 1 x HDMI display

I/O Interface-Front
- 2 x Intel® I210IT GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 3.0 (900mA)
- 1 x External SD card slot (data storage only)
- 1 x FBI expansion slot
- 1 x Power/1x HDD access LEDs
- 1 x Battery low/1x GP0 programming LED
- 2 x Tx/Rx LEDs
- 1 x ATX power on/off switch

I/O Interface-Top
- 1 x Remote switch/1 x S3
- 1 x SIM card slot
- 1 x RTC battery socket

I/O Interface-Bottom
- 2 x DB9, support RS232/422/485 with Auto Flow Control
  - Support 2.5KV isolation protection
- 1 x Optional DB9, support 4 x GPI and 4 x GPO

Storage Device
- Onboard 16GB EMMC
- Optional mSATA module

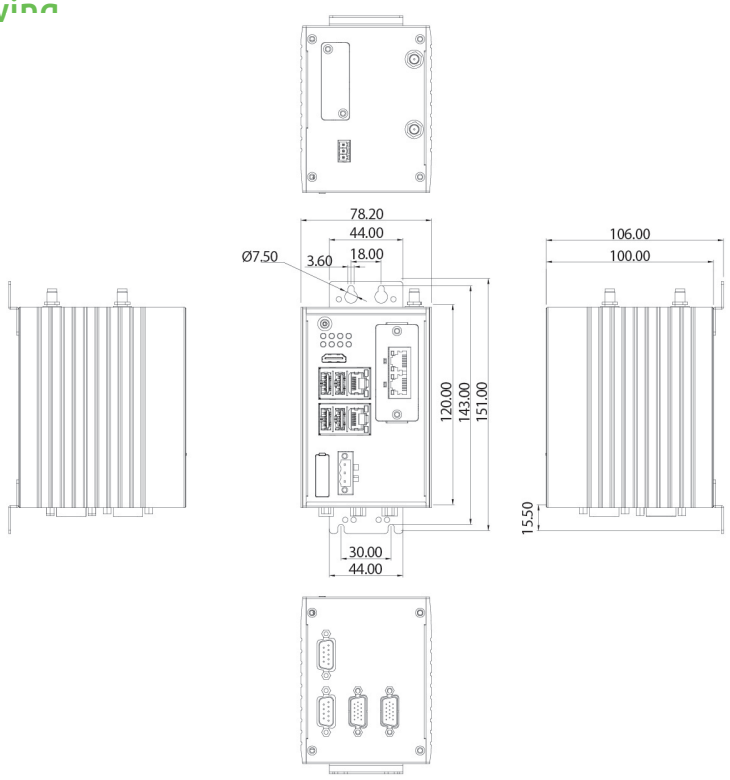
Power Requirement
- Power input: typical +24VDC ±20%
- 1 x Optional 24V, 60W power adapter

Dimensions
- 78.2mm (W) x 100mm (D) x 120mm (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 75°C
- Relative humidity: 10% to 93% (non-condensing)

Dimension Drawing



- Shock protection:
  - mSATA/EMMC: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/ mSATA or EMMC condition:
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications

- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A

Support OS

- Microsoft Windows 10 Enterprise 64-bit

Ordering Information

- **NIFE 105W System (P/N: 10J70010501X0)**
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**

NIFE 200

Intel® Celeron® J1900 Quad Core 2.0GHz Factory Automation Fanless System with Fieldbus Expansion Ability

Microsoft Azure Certified

- 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, with reverse polarity protection

Product Overview

Powered by the latest generation of Intel® Celeron® processor J1900 (formerly codenamed "Bay Trail-D"), NIFE 200 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). NIFE 200 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-pin 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

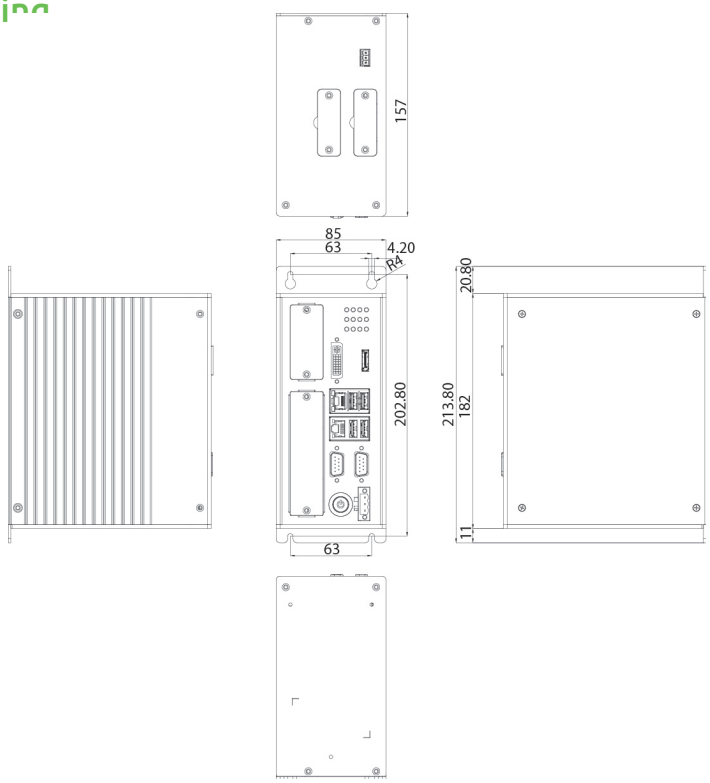
Power Requirement
- Typical 24V DC input with ±20% range, with reverse polarity protection
- 1 x Optional 24V, 60W power adapter

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
  (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)

Dimension Drawing



- 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, IEC60068-2-64

Certifications

- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A
- LVD
- UL60950

Support OS

- Windows 8, 32-bit/64-bit
- Windows Embedded Standard 8, 32-bit/64-bit
- Windows 7, 32-bit/64-bit
- Windows Embedded Standard 7, 32-bit/64-bit
- Linux Kernel version 3.8.0

Ordering Information

- **NIFE 200 (P/N: 10J70020000X0)**
  Intel® Atom™ processor J1900 Quad Core 2.0GHz fanless system
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**

NIFE 200P2/E2/P2E

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, with reverse polarity protection

Product Overview

Powered by the latest generation of Intel® Celeron® processor J1900 (formerly codenamed "Bay Trail-D"), NIFE 200P2 presents intelligent PC-based controller and IoT gateway for factory automation. NIFE 200P2/P2E supports up to 8G DDR3L memory and have several options on storage devices like SD, mSATA, HDD and SSD. The NIFE 200P2/P2E support operating temperature from -5 up to 55 degree C with typical DC input 24V ±20% range. The NIFE 200P2/P2E 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). NIFE 200P2 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-pin 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

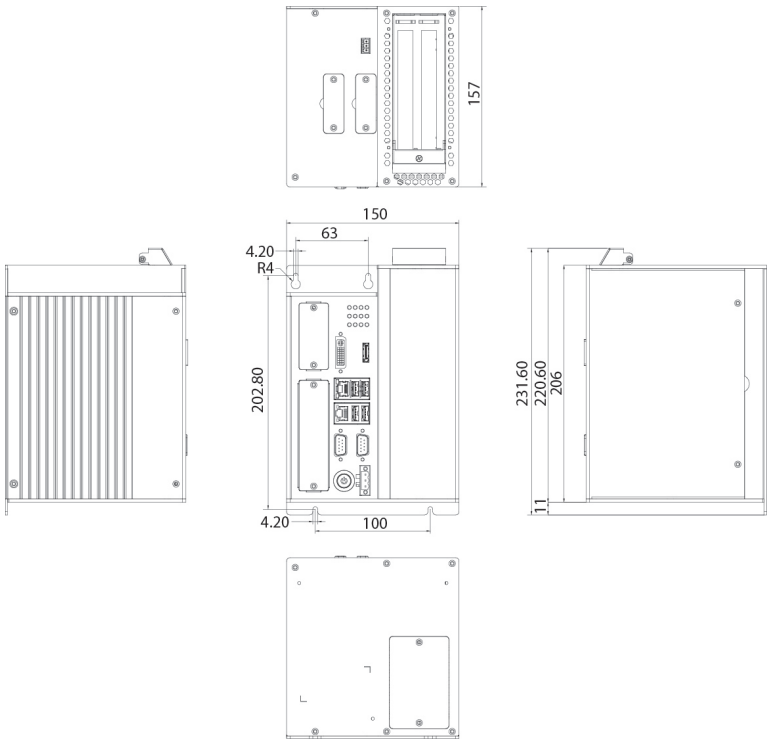
Expansion Slot

- NIFE 200P2: two PCI expansion
  - Add-on card length: 176mm max.
  - Power consumption: 10W/slot max.
- NIFE 200P2E: one PCI and one PCIe x4 expansion
  - Add-on card length: 176mm max.
  - Power consumption: 10W/slot max.
- NIFE 200E2: two PCIe x1 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, with reverse polarity protection
- 1 x Optional 24V, 60W power adapter

Dimension Drawing



Dimensions
- 151mm (W) x 157mm (D) x 230mm (H)

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 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, IEC60068-2-64

Certifications
- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A
- LVD
- UL60950

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

Ordering Information

- **NIFE 200P2 (P/N: 10J70020001X0)**
  Intel® Atom™ processor J1900 Quad Core 2.0GHz fanless system
- **NIFE 200P2E (P/N: 10J70020002X0)**
  Intel® Atom™ processor J1900 Quad Core 2.0GHz fanless system
- **NIFE 200E2 (P/N: 10J70020019X0)**
  Intel® Atom™ processor J1900 Quad Core 2.0GHz fanless system
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**

NIFE 300

6th Generation Intel® Core™ i7/i5/i3 LGA Automation System

- 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. NIFE 300 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 Softlogic 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, 2.4GHz, 8M Cache (maximum frequency 3.4GHz if turbo boost enabled)
  - Core™ i5-6500TE, Quad Core, 2.3GHz, 6M Cache (maximum frequency 3.3GHz if turbo boost enabled)
  - Core™ i3-6100TE, Quad Core, 2.7GHz, 4M Cache (no turbo boost)
  - Pentium G4400TE, Dual Core, 2.4GHz, 3M Cache (no turbo boost)
  - Celeron® G3900TE, Dual Core, 2.3GHz, 2M Cache (no turbo boost)

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
- 2 x RS232/422/485 auto with 2.5KV Isolation
- 3 x Intel® I210IT GbE LAN ports, support WoL, teaming and PXE

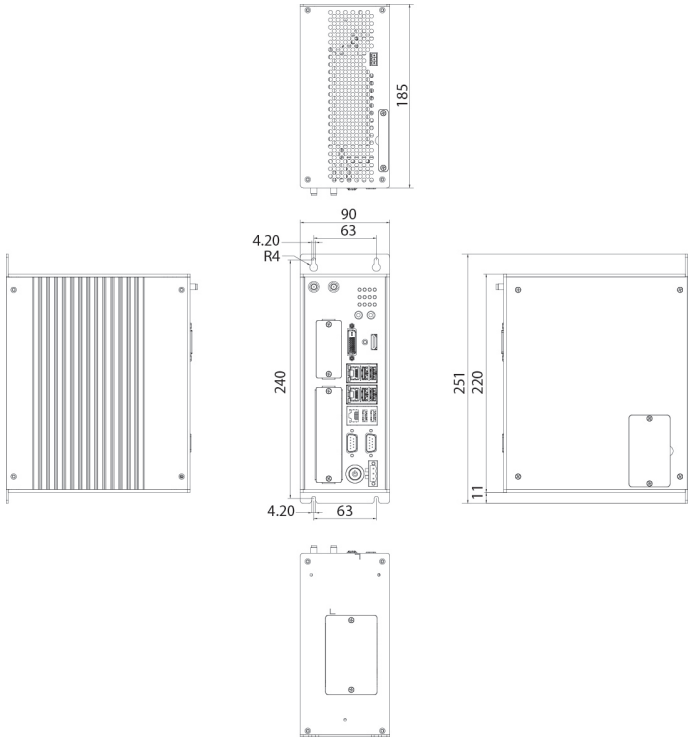
Top I/O Interface

- 1 x 3-pin 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)

Dimension Drawing



Expansion Slot
- NIFE 300: no expansion
- NIFE 300P2: two PCI expansion slots
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P2E: one PCI expansion slot, and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P3: two PCI expansion slots and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E3: one PCIe x8 and two PCIe x4 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E16: one PCIe x16 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%, with reverse polarity protection
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- NIFE 300: 90 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P2: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P2E: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300E16: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P3: 175 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300E3: 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, IEC60068-2-64

Certifications
- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A
- LVD

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

Ordering Information

- **NIFE 300 system (P/N: 10J70030000X0)**
- **NIFE 300P2 system (P/N: 10J70030001X0)**
- **NIFE 300P2E system (P/N: 10J70030002X0)**
- **NIFE 300P3 system (P/N: 10J70030003X0)**
- **NIFE 300E3 system (P/N: 10J70030008X0)**
- **NIFE 300E16 system (P/N: 10J70030004X0)**
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120015X00)**

NIFE 300P2/P2E/E16

6th Generation Intel® Core™ i7/i5/i3
LGA Automation System with PCI/PCIe Expansions

- 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

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. NIFE 300 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 Softlogic 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, 2.4GHz, 8M Cache (maximum frequency 3.4GHz if turbo boost enabled)
  - Core™ i5-6500TE, Quad Core, 2.3GHz, 6M Cache (maximum frequency 3.3GHz if turbo boost enabled)
  - Core™ i3-6100TE, Dual Core, 2.7GHz, 4M Cache (no turbo boost)
  - Pentium G4400TE, Dual Core, 2.4GHz, 3M Cache (no turbo boost)
  - Celeron® G3900TE, Dual Core, 2.3GHz, 2M Cache (no turbo boost)

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
- 2 x RS232/422/485 auto with 2.5KV Isolation
- 3 x Intel® I210IT GbE LAN ports, support WoL, teaming and PXE

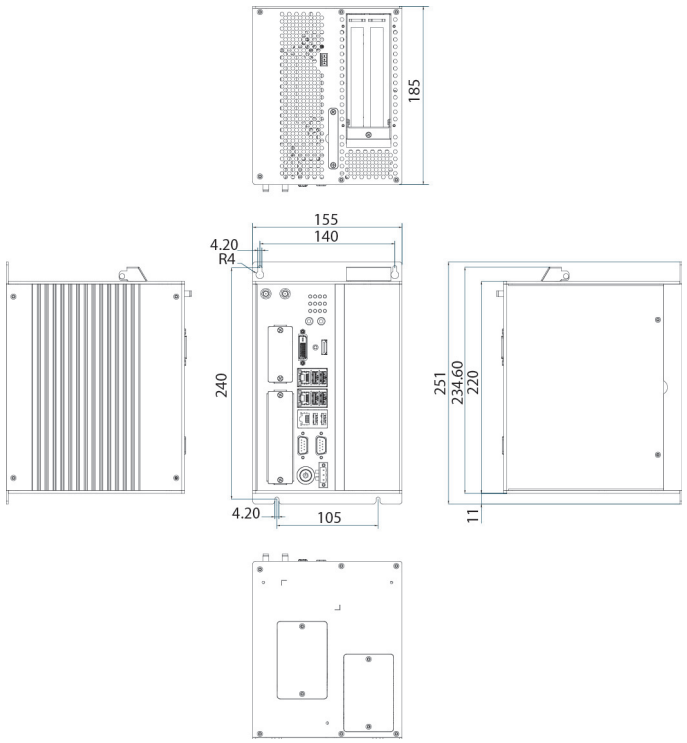
Top I/O Interface

- 1 x 3-pin 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)

Dimension Drawing



Expansion Slot
- NIFE 300: no expansion
- NIFE 300P2: two PCI expansion slots
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P2E: one PCI expansion slot, and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P3: two PCI expansion slots and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E3: one PCIe x8 and two PCIe x4 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E16: one PCIe x16 expansion slot (fan kit installed)
  - Add-on card length: 180mm
  - Power consumption: 60W/slot max

Power Requirement
- AT/ ATX power mode (default with ATX power mode)
- Power input: typical +24VDC ±20%, with reverse polarity protection
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- NIFE 300: 90 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P2: 155 mm(W) x 185mm (D) x 251mm (H)
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- NIFE 300E3: 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
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- Storage temperature: -20°C to 85°C
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- Shock protection:
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  - CFast: 50G, half sine, 11ms, IEC60068-27
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  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-64

Certifications
- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A
- LVD

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

Ordering Information

- **NIFE 300 system (P/N: 10J70030000X0)**
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- **NIFE 300E3 system (P/N: 10J70030008X0)**
- **NIFE 300E16 system (P/N: 10J70030004X0)**
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120015X00)**

NIFE 300P3/E3

6th Generation Intel® Core™ i7/i5/i3 LGA Automation System with Expansions

- 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.

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Display Option

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- 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
- 2 x RS232/422/485 auto with 2.5KV Isolation
- 3 x Intel® I210IT GbE LAN ports, support WoL, teaming and PXE

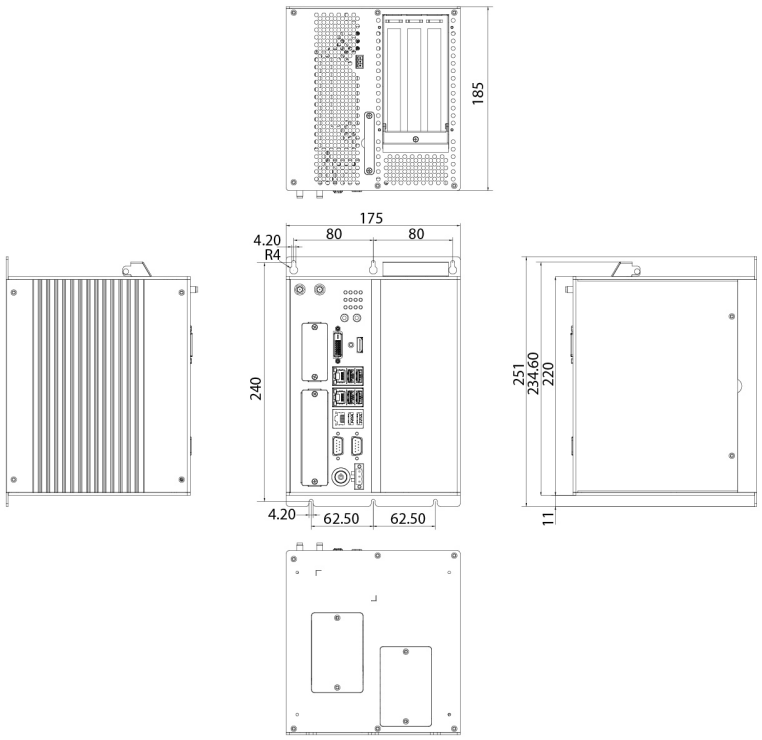
Top I/O Interface

- 1 x 3-pin 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)

Dimension Drawing



Expansion Slot
- NIFE 300: no expansion
- NIFE 300P2: two PCI expansion slots
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P2E: one PCI expansion slot, and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P3: two PCI expansion slots and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E3: one PCIe x8 and two PCIe x4 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E16: one PCIe x16 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%, with reverse polarity protection
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- NIFE 300: 90 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P2: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P2E: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300E16: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P3: 175 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300E3: 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, IEC60068-2-64

Certifications
- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A
- LVD

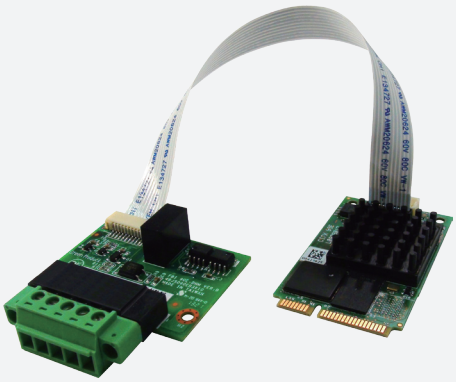
OS Support Lists
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

- **NIFE 300 system (P/N: 10J70030000X0)**
- **NIFE 300P2 system (P/N: 10J70030001X0)**
- **NIFE 300P2E system (P/N: 10J70030002X0)**
- **NIFE 300P3 system (P/N: 10J70030003X0)**
- **NIFE 300E3 system (P/N: 10J70030008X0)**
- **NIFE 300E16 system (P/N: 10J70030004X0)**
- **24V, 120W AC to DC power adapter w/o power cord (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

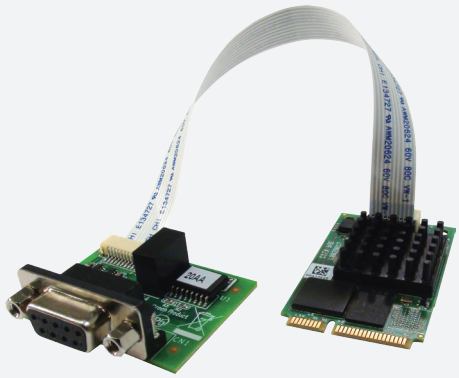
Functions
- Predefined master-slave
- Connection set
- UCMM supported

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

PROFIBUS Master/Slave, Universal FBI Module Kit



FBI90E-PBM (P/N: 10J50090E01X0)

FBI 90E-PBM Universal Kit (P/N:10J50090E09X0)

Main Features

- Support PROFIBUS 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

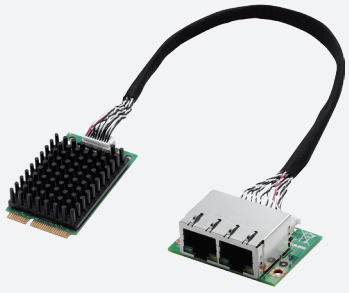
Appl. Specific Parameter
- 237 Bytes/slave

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

Industrial Real-Time EtherNet Fieldbus
Master mini-PCIe Interface Card



FBI90E-REM (P/N: 10J50090E00X0)

FBI90E-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

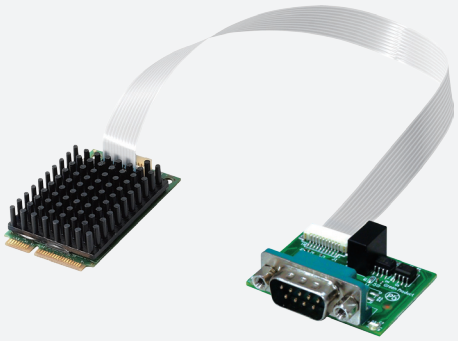
- Slaves max.: 200
- Cyclic data max.: 11520 bytes
- Acylic data: CoE (CANopen over EtherCAT)
  Up-/download max. 1500 bytes
- Functions:
  Get OD List
  Emergency
  Topology line

Ordering Information

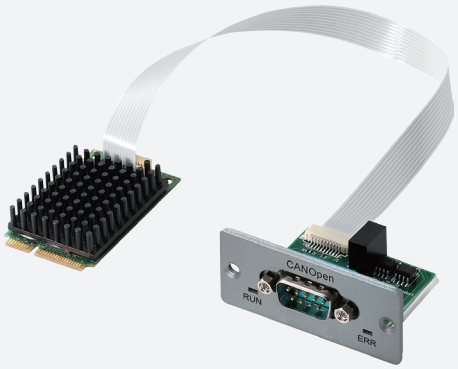
- **FBI90E-REM (P/N: 10J50090E00X0)**
  mini-PCIe PROFINET, EtherNet/IP, EtherCAT, SERCOS III Master, slave card cable length: 15cm
- **FBI 90E-REM universal kit (P/N:10J50090E08X0)**
  mini-PCIe PROFINET, EtherNet/IP, EtherCAT, SERCOS III Master, slave module kit w/ universal bracket cable length: 25cm

FBI90E-COM

CANOpen Master/Slave, Universal FBI Module Kit



FBI90E-COM (P/N: 10J50090E14X0)



FBI90E-COM Universal Kit (P/N: 10J50090E15X0)

Main Features

- Support CANOpen Master interface
- mini-PCIe form factor
- Fully compatible with CANOpen I/O modules and devices
- Driver support for Windows, WinCE, RTX, QNX, VxWorks, Linux
- 1 x DB9
- User friendly configuration utility

Product Overview

The FBI90E-COM is the fieldbus module supports industrial CANOpen protocol for industrial uses. This card equips with the required CANOpen firmware to make this card as the master or slave interface for CANOpen protocol. The CANOpen is one of the major communication protocols for industrial automation. In factory automation application system, FBI90E-COM allows the users to create a steady CANOpen I/O communication between devices via PC-based computer.

Specifications

Form Factor
- mini-PCIe card with separated connector board

I/O Devices Max.
- 126

Cyclic Data Max.
- 7168 bytes for master
- 1024 bytes for slave

SDO Up- und Download
- max 200 bytes/request for master only

PDO Communication
- max. 512 Rx/TxPDO for master
- max. 64 Rx/TxPDO for slave

CAN
- 11 bits for master and slave

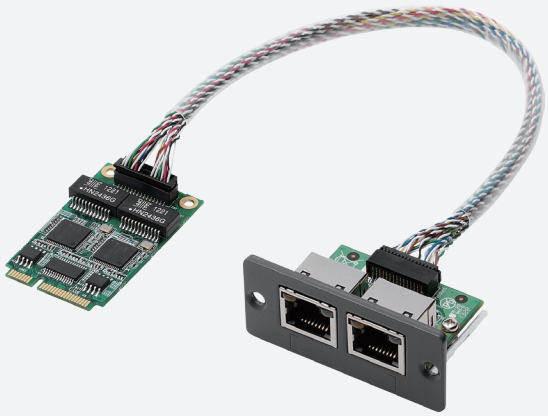
Support Functions
- Node-/life guard
- Heartbeat
- PDO mapping
- NMT magagement
- SYNC, emergency

Ordering Information

- **FBI90E-COM (P/N:10J50090E14X0)**
  mini-PCIe CANOpen Master card
  Cable Length: 25cm
- **FBI 90E-COM Universal Kit (P/N:10J50090E15X0)**
  mini-PCIe CANOpen Master module kit w/ universal bracket
  Cable length:25cm

NISK300LAN Kit

mini-PCIe 2 x Gigabit LAN Card
with Universal I/O Bracket



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 32-bit and 64-bit
- Windows 8 32-bit and 64-bit

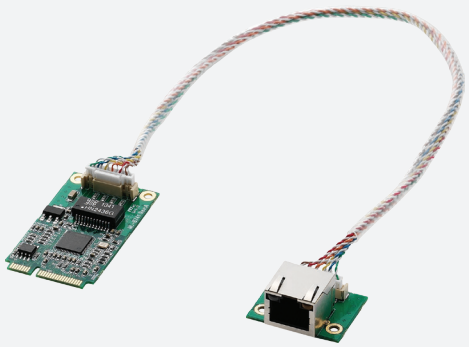
Ordering Information

Barebone

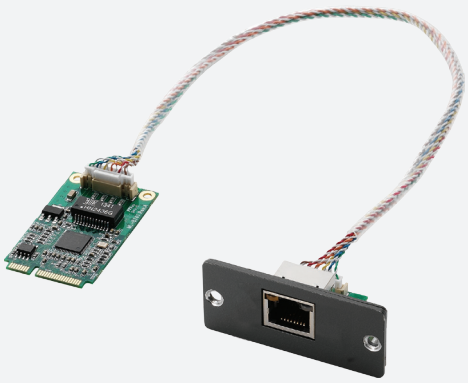
- **NISK300LAN kit with universal I/O bracket, cable length 25cm (P/N: 10JK0030000X0)**

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°C to 70°C
- Storage temperature: -20°C to 75°C

OS Support

- Windows 7 32-bit and 64-bit
- Windows 8 32-bit and 64-bit

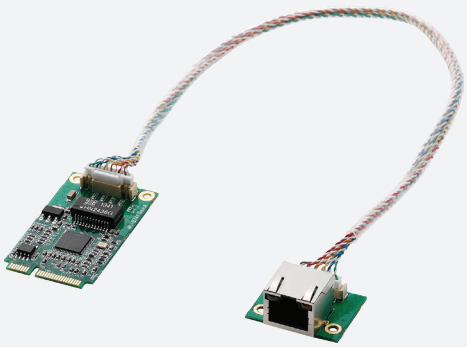
Ordering Information

Barebone

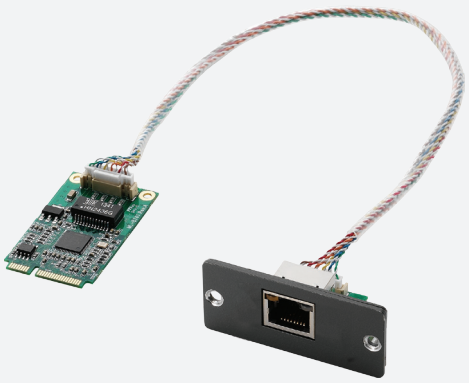
- **NISKLAN01 universal kit (P/N: 10JKLAN0101X0)**
  mini-PCIe to one GbE LAN module w/ universal bracket
  (cable length: 25cm, LAN controller: 82574L)
- **NISKLAN01 kit (P/N: 10JKLAN0100X0)**
  mini-PCIe to one GbE LAN module w/o bracket
  (cablelength: 25cm, LAN controller: 82574L)

NISKLAN03

mini-PCIe 1 x Gigabit Ethernet LAN Card
with Universal I/O Bracket



NISKLAN03 without bracket, cable length 250mm (P/N: 10JKLAN0300X0)



NISKLAN03 with universal I/O bracket, cable length 250mm (P/N: 10JKLAN0301X0)

Main Features

- mini-PCIe form factor
- Easy and user-friendly configurations
- One RJ45 Ethernet interface

Product Overview

NISKLAN03 with universal I/O bracket is specifically designed with NISE/NIFE models for network connectivity expansions. It provides one Intel® Gigabit Ethernet ports with I210AT 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 I210AT
- 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

- 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 32-bit and 64-bit
- Windows 8 32-bit and 64-bit

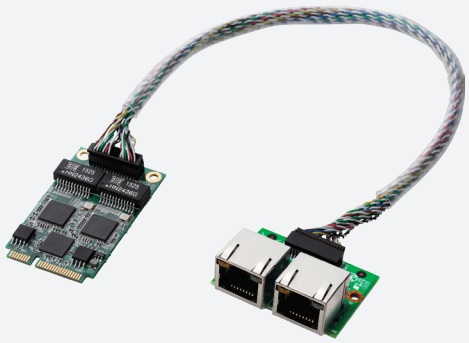
Ordering Information

Barebone

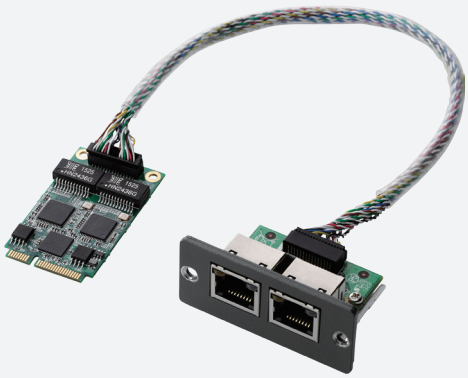
- **NISKLAN03 universal kit (P/N: 10JKLAN0301X0)**
  mini-PCIe to one GbE LAN module w/ universal bracket
  (cable length: 25cm, LAN controller: I210AT)
- **NISKLAN03 kit (P/N: 10JKLAN0300X0)**
  mini-PCIe to one GbE LAN module w/o bracket
  (cablelength: 25cm, LAN controller: I210AT)

NISKLAN04

Dual Gigabit LAN Module, Intel® I210-AT



NISKLAN04 without universal I/O bracket, cable length 250mm (P/N: 10JKLAN0400X0)



NISKLAN04 with universal I/O bracket, cable length 250mm (P/N: 10JKLAN0401X0)

Main Features

- mini-PCIe form factor
- Easy and user-friendly configurations
- Dual RJ45 EtherNet interface

Product Overview

NISKLAN04 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® I210-AT controllers. The dual LAN ports on NISKLAN04 supports WOL, PXE and teaming functions for managing network activities.

Specifications

Form Factor

- mini-PCIe form factor

Chipset

- Intel® EtherNet controller I210AT
- 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
  (When PXE function is enabled, please enter BIOS setting page by DEL key, not ESC key)

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

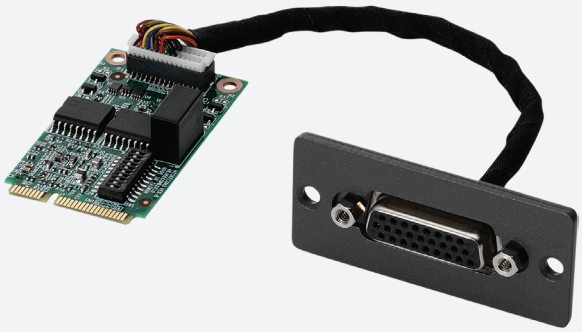
Ordering Information

Barebone

- **NISKLAN04 universal kit (P/N: 10JKLAN0401X0)**
  mini-PCIe to two GbE LAN module w/ universal bracket
  (cable length: 25cm, LAN controller: I210-AT)
- **NISKLAN04 kit (P/N: 10JKLAN0400X0)**
  mini-PCIe to two GbE LAN module w/o bracket
  (cable length: 25cm, LAN controller: I210-AT)

NISKECOM3

mini-PCIe to 4 Serial Ports with 2.5KV Isolation Protection



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°C to 70°C
- Storage temperature: -20°C to 75°C

OS Support

- Windows XP 32-bit and 64-bit
- Windows 7 32-bit and 64-bit

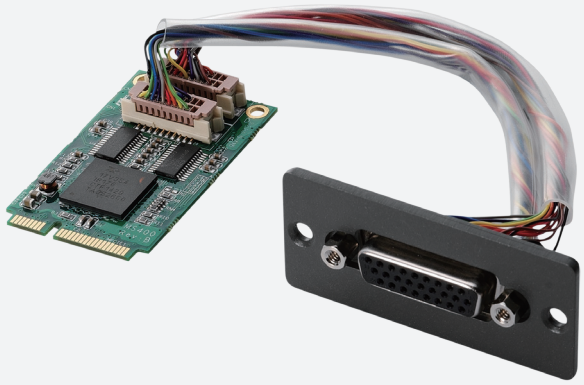
Ordering Information

Barebone

- **NISKECOM3 universal kit (DB26) (P/N: 10JK0ECOM04X0)**
  mini-PCIe to 4 x COM module (RS232/422/485 auto) w/ 2.5KV isolation via internal DB26 cable w/ universal bracket (cable length: 25cm)

NISKECOM4

4 x RS232 Module Kits



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°C to 70°C
- Storage temperature: -20°C to 75°C

OS Support

- Windows XP 32-bit and 64-bit
- Windows 7 32-bit and 64-bit

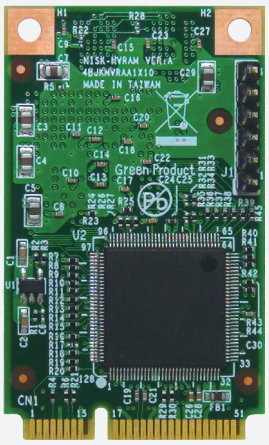
Ordering Information

Barebone

- **NISKECOM4 universal kit (DB26)(P/N: 10JK0ECOM06X0)**
  mini-PCIe to 4 port RS232 via internal DB26 connector w/ universal bracket (cable length:25cm)
- **NISKECOM4 universal kit (DB9) (P/N: 10JK0ECOM05X0)**
  mini-PCIe to 4 port RS232 module w/ universal bracket (cable length:25cm)

NISKNVRAM

1MB NVRAM mini-PCIe Module



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 (32 bits)

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

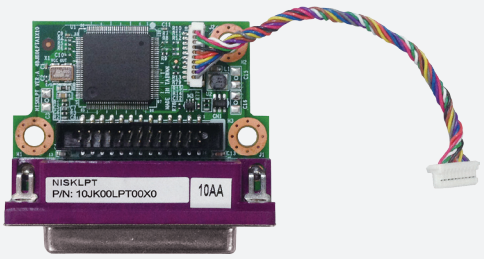
Driver OS Support Lists
- Windows 7 32-bit

Ordering Information

- **NISKNVRAM (P/N: 10JKNVRAM00X0)**

NISKLPT

mini-PCIe Parallel Port Module



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
- mini-PCIe Gen1, MiniCard full size

Dimensions
- 51 x 30mm

Power Consumption
- +3.3V

RoHS
- Compliance with RoHS

OS Support
- Windows 7 32-bit

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)

NISKBAT Power Pack

Din Rail Power Pack with Supercapacitors

24V DC Input, 22V DC Output

NISKBAT Power Pack

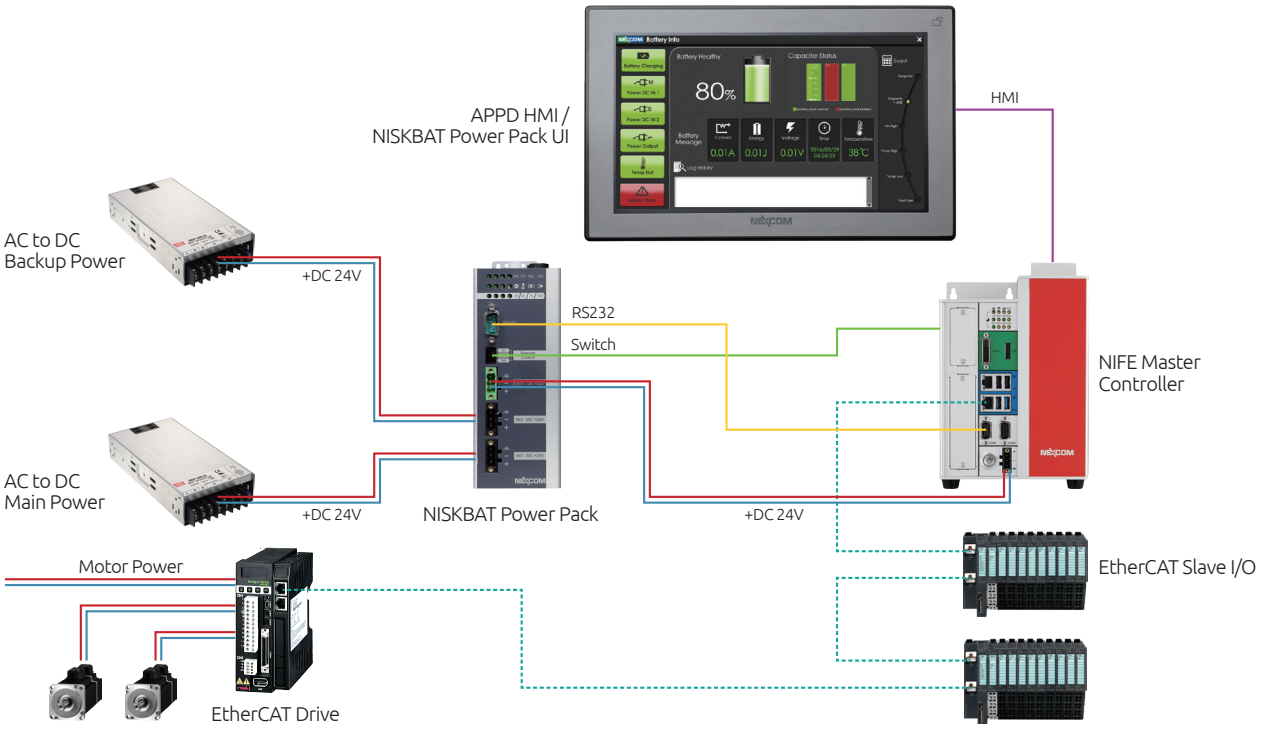
NISKBAT3 Power Pack

- Power Pack with maintenance-free supercapacitors
- Support Emergency System shutdown during power loss
- Support both din rail mounting and wall mount mounting
- Support software application for continuous status monitoring via RS232
- Support -5~55 degree C operating temperature
- Support 2 x DC input 24V and 1 x DC output 22V

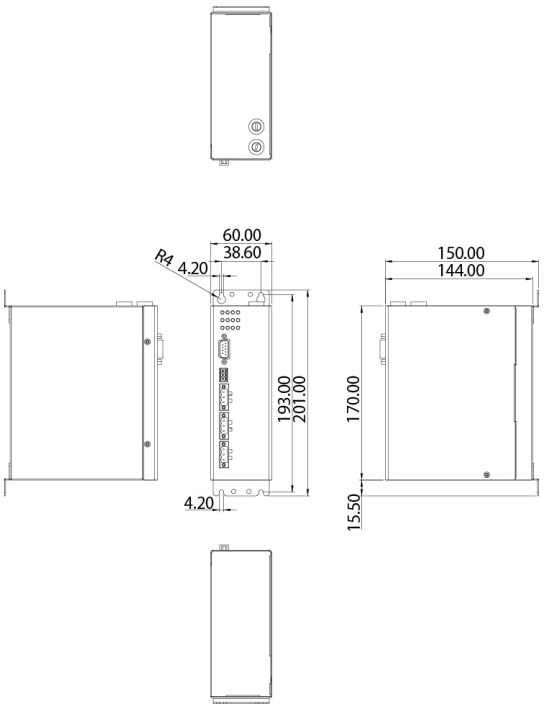
Product Overview

Power failure brings un-expected production outage and interrupted operations in factory automation. To prevent the production risk and business impact, the NISKBAT power pack offers a perfect protection for both power outage and critical data loss. The NISKBAT power pack is designed with reliable super capacitor and able to provide short term backup time for a safe system shutdown or critical data saving. The NISKBAT power pack supports software utility which allows the users to monitor the power pack charging status continuously on the system's HMI. The NISKBAT power pack is a reliable choice of DC +24V UPS configurations for powered embedded-computers, PLC and other electronic devices.

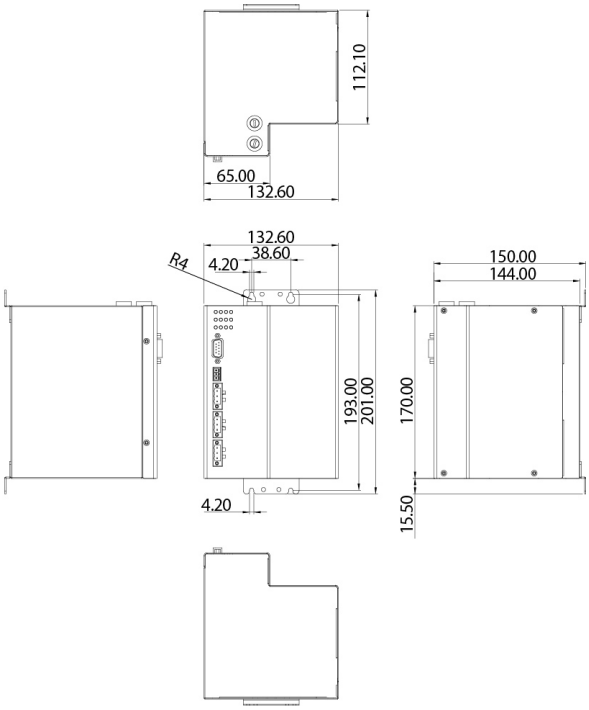
System Architecture with NISKBAT Power Pack



Dimension Drawing



NISKBAT Power Pack



NISKBAT3 Power Pack

Specifications

Power Requirement

- 2 x 3-pic DC input, typical 24V DC input with ±20% range
- 1 x 3-pic DC output, typical 22V DC output with ±20% range

Commutation I/O

- 1 x RS232 for NISKBAT utility communication with monitor
- 1 x S3 connector for remote control

LED Indicators

- 3 x Power LEDs for 2 x DC input and 1 x DC output
- 4 x Battery capacity LEDs for 25%, 50%, 75% and 100%
- 2 x RS232 LEDs for Tx, Rx status
- 1 x Temperature Hot LED
- 1 x Capacitor fail alarm LED
- 1 x Battery charger LED

Dimensions

- NISKBAT power pack: 60mm (W) x 144mm (D) x 170mm (H) without wallmount
- NISKBAT3 power pack: 132.6mm (W) x 144mm (D) x 170mm (H) without wallmount

Construction

- Aluminum and metal chassis

Environment

- Operating temperature:
  Ambient with air flow: -5°C to 55°C
  (according to EN60950-1, EN50178, EN60715)
- Storage temperature:
  -40°C to 60°C, relative humidity: 10% to 95% (non-condensing)

Certifications

- CE/FCC Class A
- IP20

Ordering Information

- **NISKBAT power pack (P/N: 10JK00BAT00X0)**
  NISKBAT power pack for NIFE series
- **NISKBAT3 power pack (P/N: 10JK00BAT01X0)**
  NISKBAT power pack with expansion for NIFE series
- **24V, 120W AC/DC power adapter w/o power cord (P/N: 7400120015X00)**

Power Pack Table

PowerConsumption / Configuration DC Input 24V	10W	20W	30W	40W	50W	60W	70W	80W
NISKBAT Time (Minutes)	9 Mins	5 Mins	3 Mins	-	-	-	-	-
NISKBAT Current (A)	0.45A	0.9A	1.25A	-	-	-	-	-
NISKBAT3 (Minutes)	26 Mins	15 Mins	11 Mins	8 Mins	6 Mins	5 Mins	4 Mins	3 Mins
NISKBAT3 Current (A)	0.45A	0.9A	1.25A	1.71A	2.2A	2.7A	3.2A	3.6A

NISKDIO-8I8O

8-Channels Isolated Digital I/O with mini-PCIe Interface

Main Features

- mini-PCIe full size form factor (dimension: 51 x 30mm) revision 1.2 compliant
- Support adjustable input filter (10μs/1ms/3.2ms/10ms)
- Fast output response time (within 150μsec)
- High over-voltage-protection (47 VDC) and voltage isolation (500 VDC)
- High source current on isolated output channels (200mA/channel)
- Support factory automation system PC applications (NIFE/NISE)
- Support -20~60 degree C operating temperature
- Provide NEXCOM Xcare™ utility 3.1 for NISK-DIO configuration & programming
- Support Microsoft Windows 7/8.1

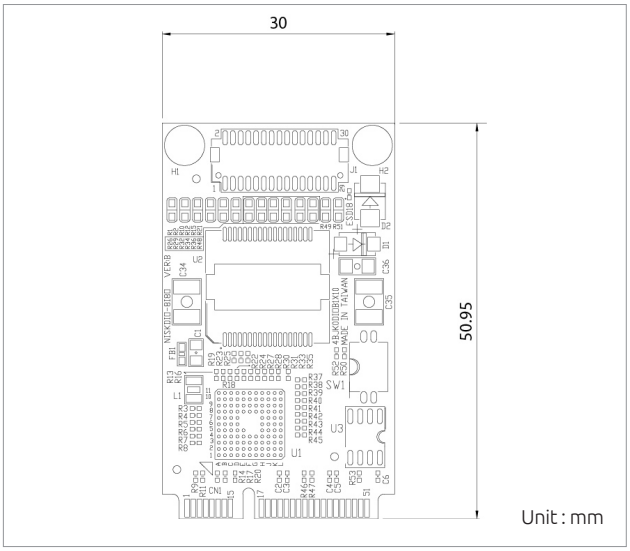
Product Overview

The NISK-DIO includes 8 channels of high-power MOSFET outputs with a 30VDC capability and 8 channels isolated digital inputs, 47V high-voltage protection and easy configuration and efficient programming of the software Xcare™ utility 3.1. For fast output response time and remove noise or chartering signal by adjustable input filter. The NISK-DIO is for industrial applications where factory automation system PC best choice.

Specifications

Isolated Digital Input	
Channels	8
Input OFF Voltage	0~7 VDC max
Input ON Voltage	11~24 VDC max
Input Format	Galvanic isolation input
Response Time	10μsec
Input Filter	10μs/1ms/3.2ms/10ms, select by switch, default 1ms
Isolated Digital Output	
Channels	8
Output Voltage	12~30 VDC
Output Current	200 mA max per channel
Output Format	Galvanic isolation output
Response Time	150μsec
General Specification	
Connector	1 x D-Sub 26pin female connector
Isolation Protection	500 VDC
External Power Supply	24 VDC (±10%)
Operating Temperature	-20°C to 60°C
Storage Temperature	-40°C to 85°C Relative humidity: 5% to 95% (non-condensing)
Dimensions	Full size mini-PCIe type: 51mm (W) x 30mm (D) x 1mm (H)
Certifications	CE approved (EN55022, EN55024) FCC Class A
OS Support	Microsoft® Windows® 7/8.1
Software	Tools & driver: Xcare™ 3.1 tools & API drivers

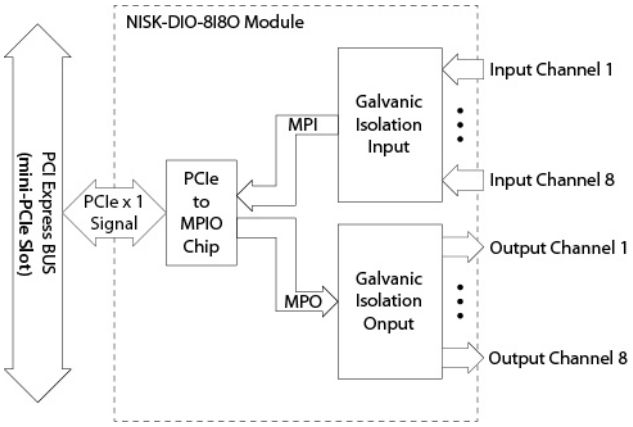
Dimension Drawing



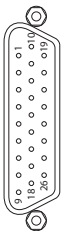
Ordering Information

- **NISKDIO-8I8O (P/N: 10JK00DIO00X0)**
  Digital 8-CH input/8-CH output with cable and bracket

Block Diagram



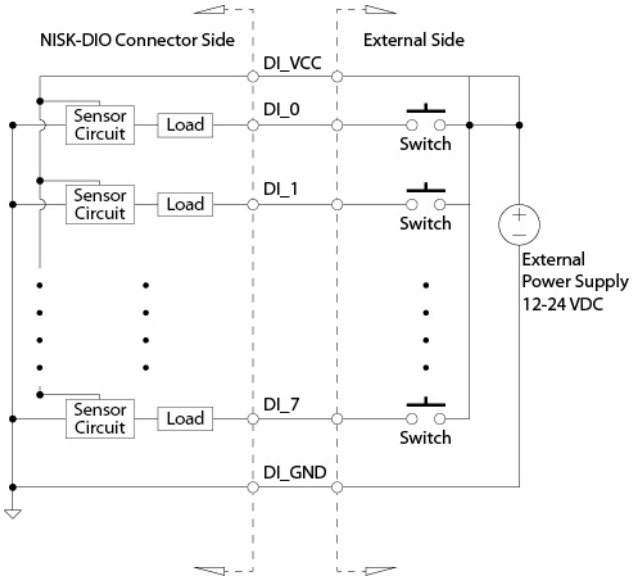
Connector Pin Assignment



Pin Definition					
Pin No.	Definition	Pin No.	Definition	Pin No.	Definition
1	DI_0	10	DO_0	19	DO_VCC
2	DI_1	11	DO_1	20	DO_VCC
3	DI_2	12	DO_2	21	DO_VCC
4	DI_3	13	DO_3	22	DO_VCC
5	DI_4	14	DO_4	23	DO_GND
6	DI_5	15	DO_5	24	DO_GND
7	DI_6	16	DO_6	25	DO_GND
8	DI_7	17	DO_7	26	DO_GND
9	DI_VCC	18	DI_GND		

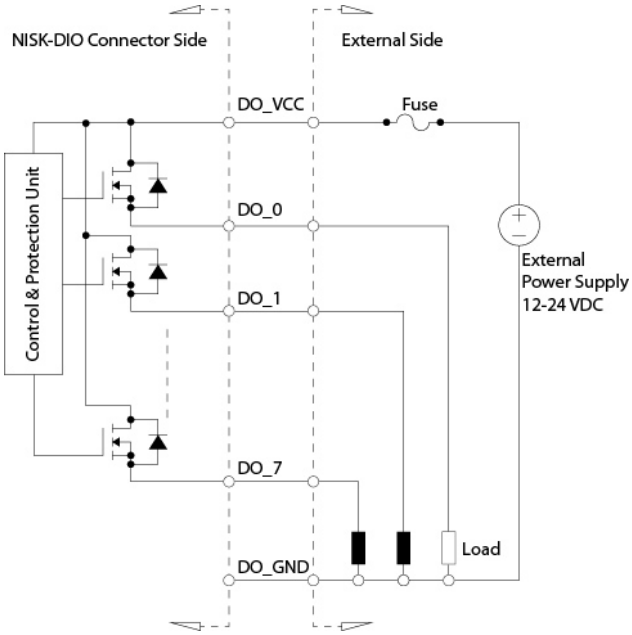
Connect Digital Input Signal

(Sink Type)

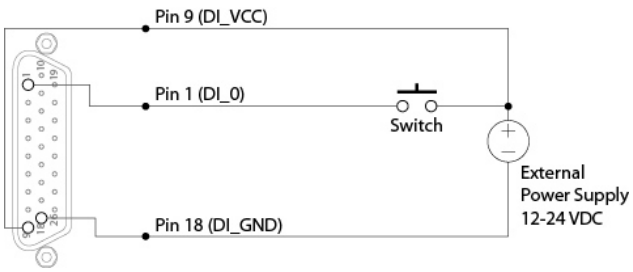


Connect Digital Output Signal

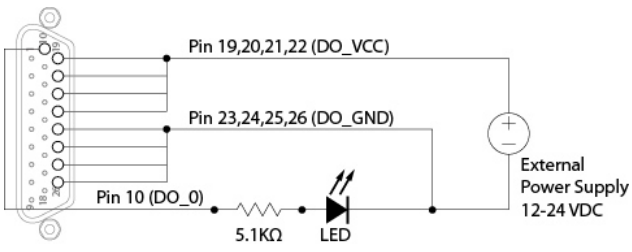
(Source Type)



Device Connect Example – Switch

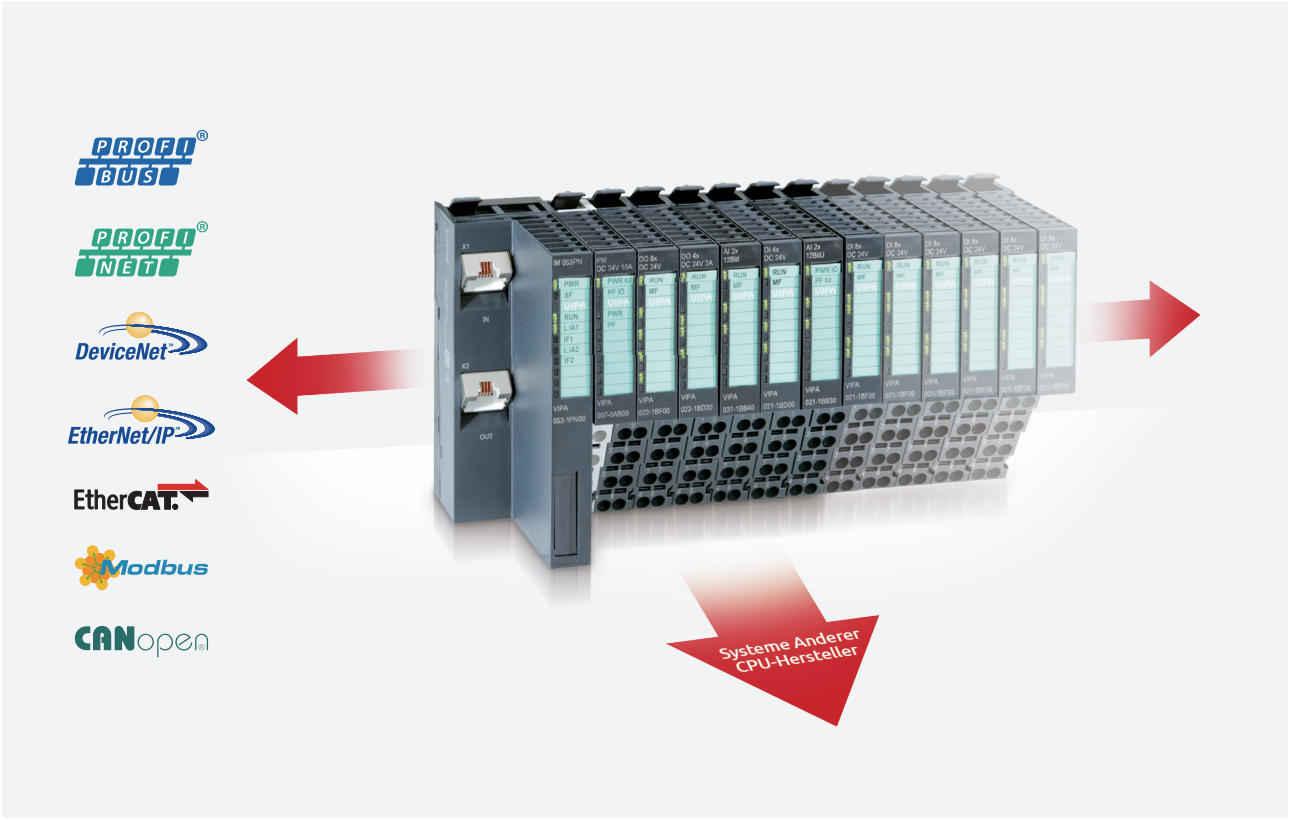


Device Connect Example - LED



* Suggest to connect all "DO_VCC" pin with power source to provide sufficient current.

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

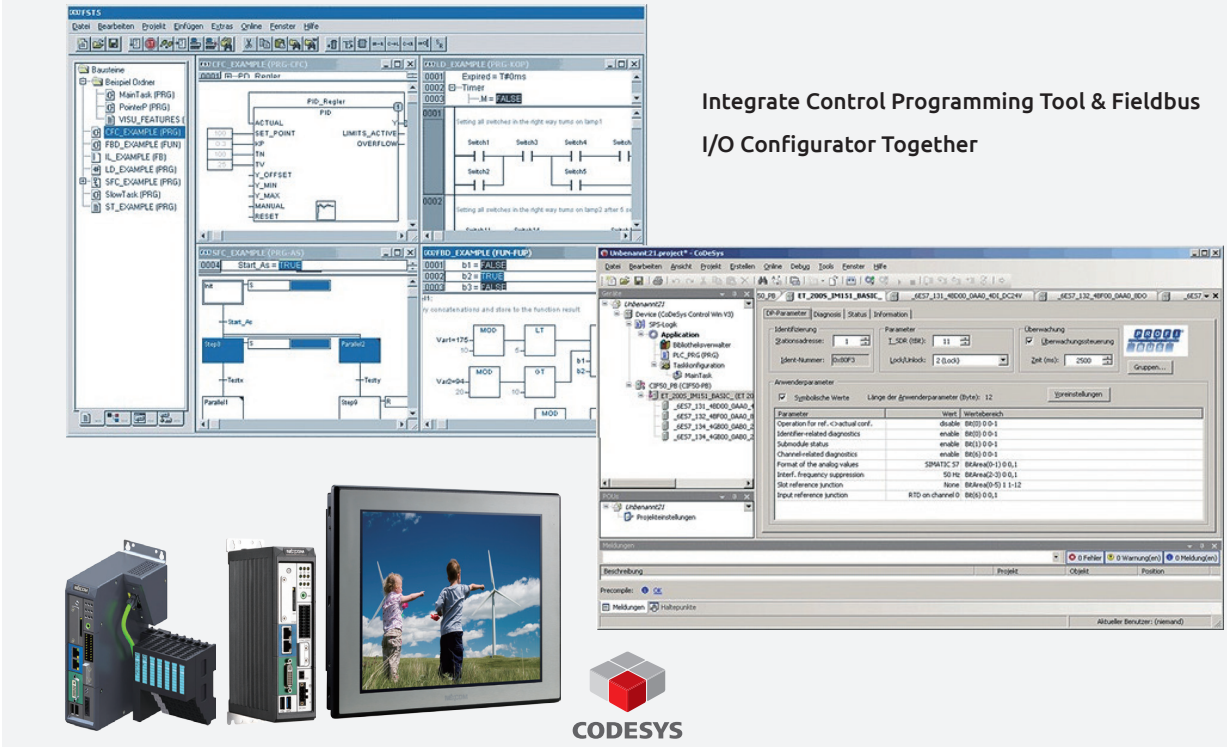
- Quick backplane bus concept of 48MBit/s
- With ETS modules it is possible to switch exactly up to ±1us independent of fieldbus

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 Encoder Master 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-VO, 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 4 x DC 24V, 0,5A), 1 x SM 031 analog input (AI 2 x 12Bit, 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 IM053-1DN00 contact 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.

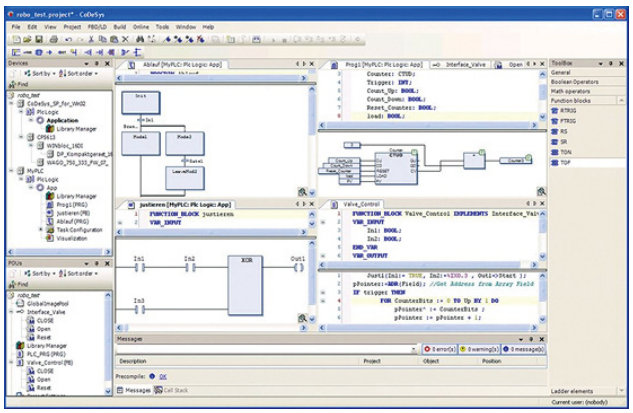
For Windows XP/7 (X86 platform)

- CODESYS SoftLogic RTE runtime
- CODESYS SoftMotion runtime

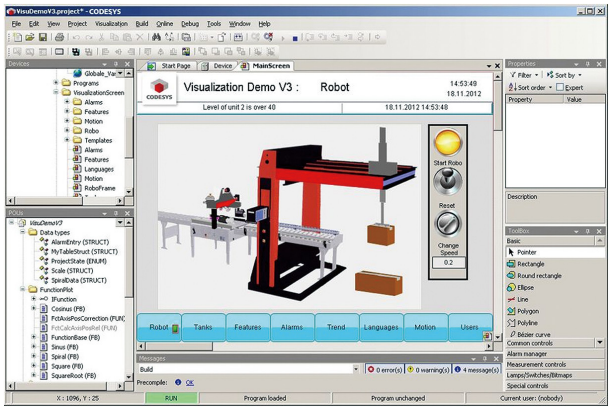
For Linux (X86 platform)

- CODESYS SoftLogic RTE runtime
- CODESYS SoftLogic+TargetVisu runtime
- CODESYS SoftMotion CNC runtime
- CODESYS SoftMotion CNC+TargetVisu runtime

CODESYS SoftLogic

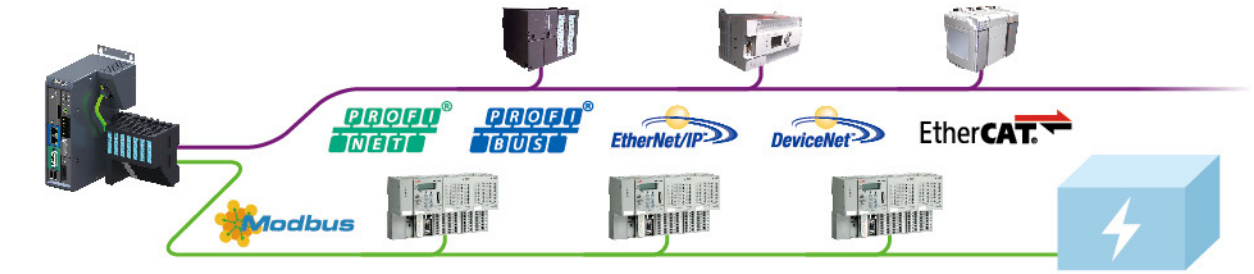


CODESYS SoftMotion CNC+TargetVisu

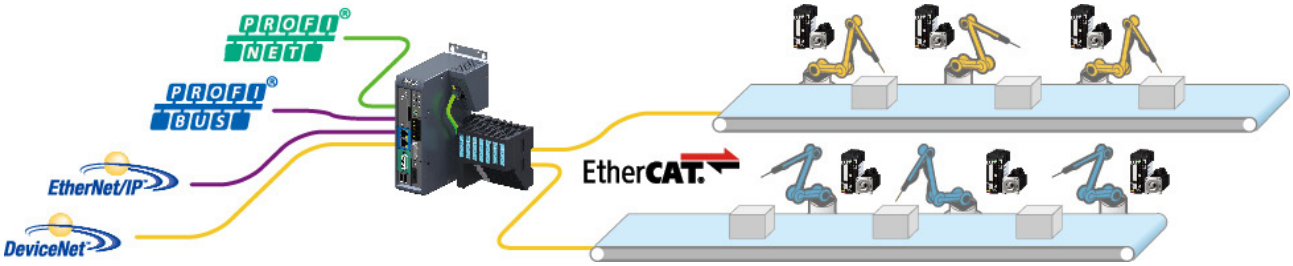


The PC-based controller is not only with the benefit of high computing capability but also is with rich communication interfaces. It is different from the typical controller like PLC can only use unique protocol to communicate with the slave device. It can control the slave devices crossover the different protocols. By using this feature for multiple fieldbus control, it can easily integrate the different scopes as one control station.

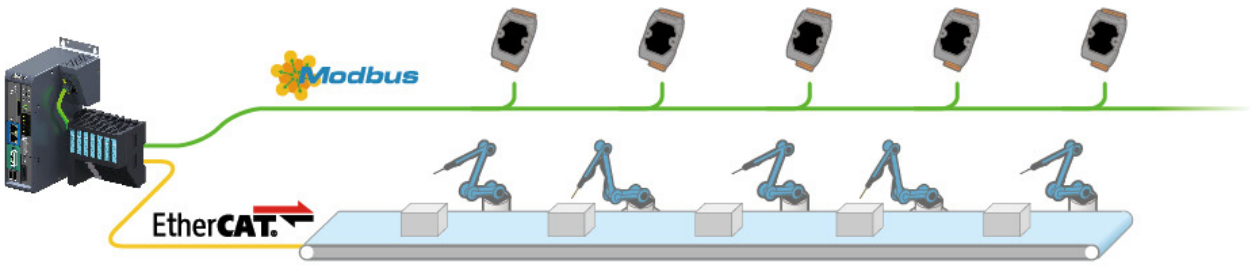
For example, the factory is with power system and factory automation system. The most popular power system is provided by Schneider or ABB but the factory automation system is something like Siemens or Rockwell. The popular network protocol for power system is MODBUS but the factory side is using the 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.



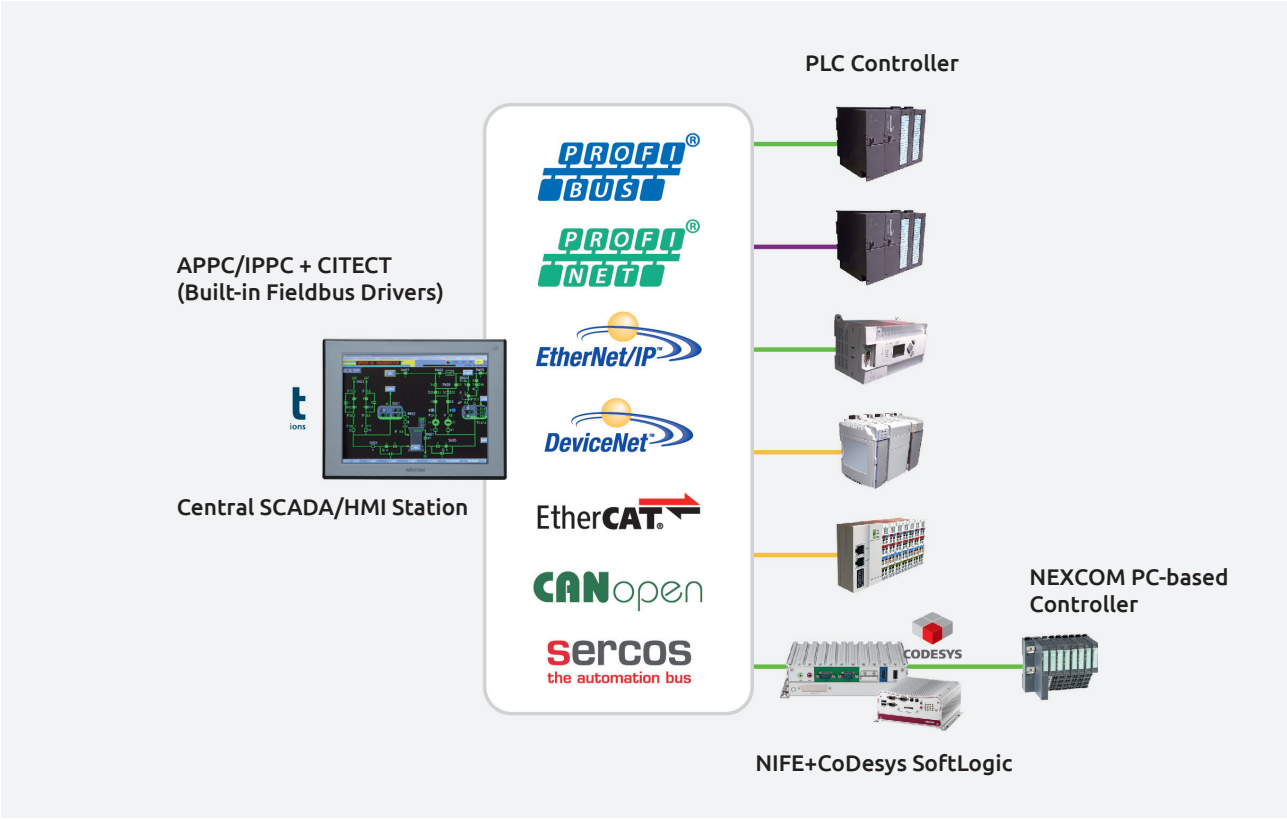
The same concept can be implemented in machine automation. The machine may be with EtherCAT network internally for its control system. But it is better to have another interface to be compatible with factory automation system. If so, the main factory automation system can easily integrate the machinery 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



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

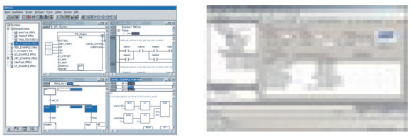
CODESYS SoftLogic

SCADA Schneider Electric Citect

NEXCOM Factory Automation Solution

APPC/IPPC 

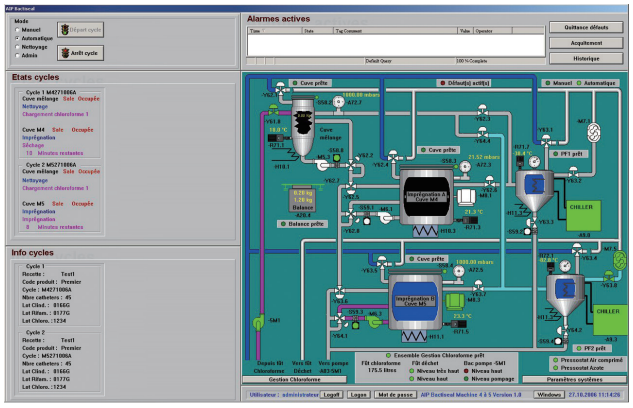
NIFE 

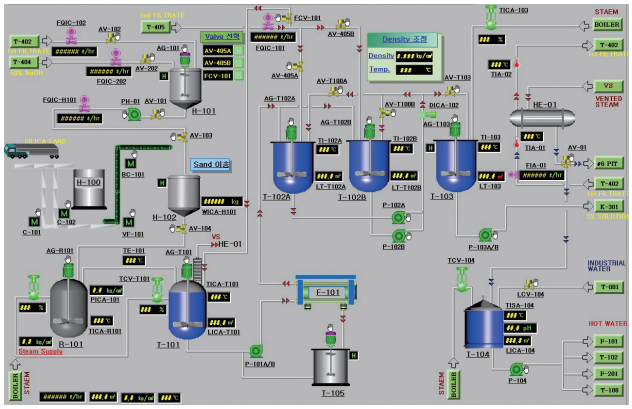
IEC61131-3 SoftPLC CODESYS 

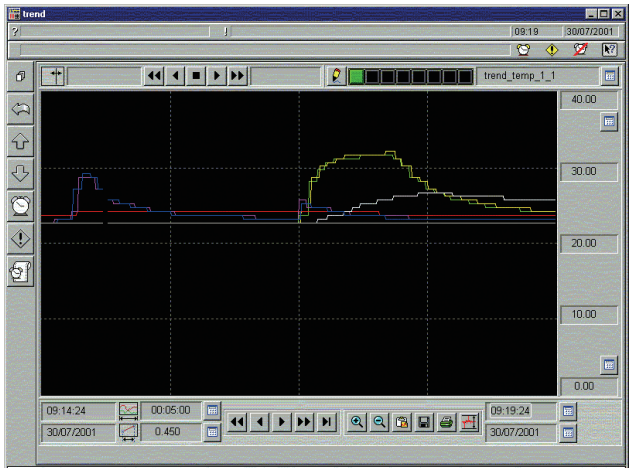
PROFIBUS PROFINET EtherNet/IP DeviceNet EtherCAT

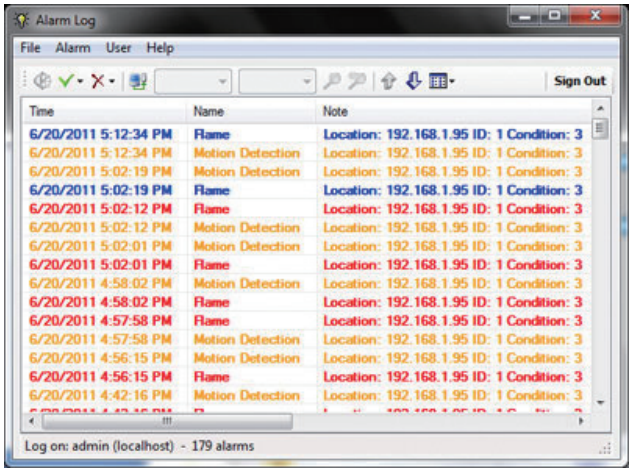
PLC & Remote I/O

SIEMENS, Allen-Bradley BECKHOFF, ABB Schneider Electric VIPA A YASKAWA COMPANY 









eTOP504

4.3" Widescreen TFT WQVGA HMI Panel PC with Touchscreen

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.

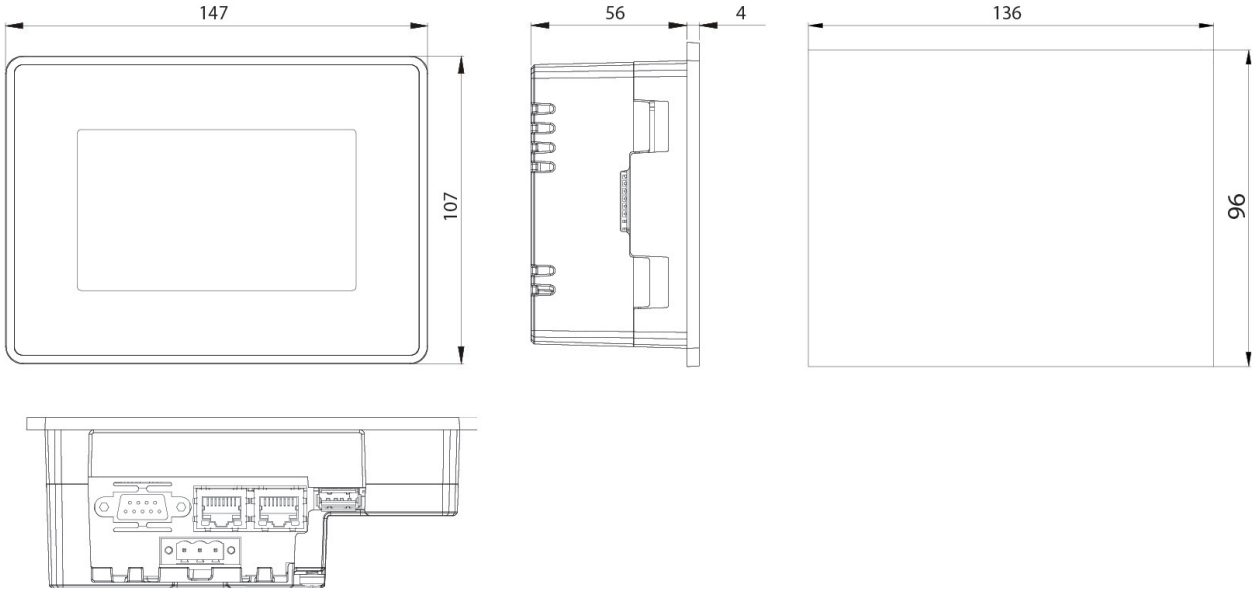
JMobile runtime included. Full compatibility with JMobile Studio.

- 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

Technical Data	eTOP504	Technical Data	eTOP504
Panel	- 4.3", 16:9, WQVGA, 480 x 272 - Luminance: 150 cd/m^2 typ. - LCD color: 64K - Active display area: 4.3" diagonal (95.4 x 53.9mm) - Backlight: LED	Functionality	- 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

Dimension Drawing



Technical Data	eTOP504	Technical Data	eTOP504
Operator Interface	- Touch: Resistive - LED indicators: 1 (dual color)	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
System Resources	- Operating system: Microsoft Windows CE 6.0 - User memory: 128 MB flash - RAM: 256MB DDR		
Interface	- Ethernet: 2 x 10/100Mbit with integrated switch - USB: 1 x host interface - Serial: 1 x RS232/422/485 software configuration - Expansion slot: 1 x optional plug-in - Memory card: 1 x SD card slot	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)
Functionality	- Vector graphic: Yes, includes SVG support - Object dynamics: Yes, visibility, opacity, position, size, rotation for most object types - 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	Dimensions	- Faceplate LxH: 147 x 107 mm - Cutout AxB: 136 x 96 mm - Depth D+T: 56 + 4 mm
		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

7" Widescreen TFT WVGA HMI Panel PC with Touchscreen

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.

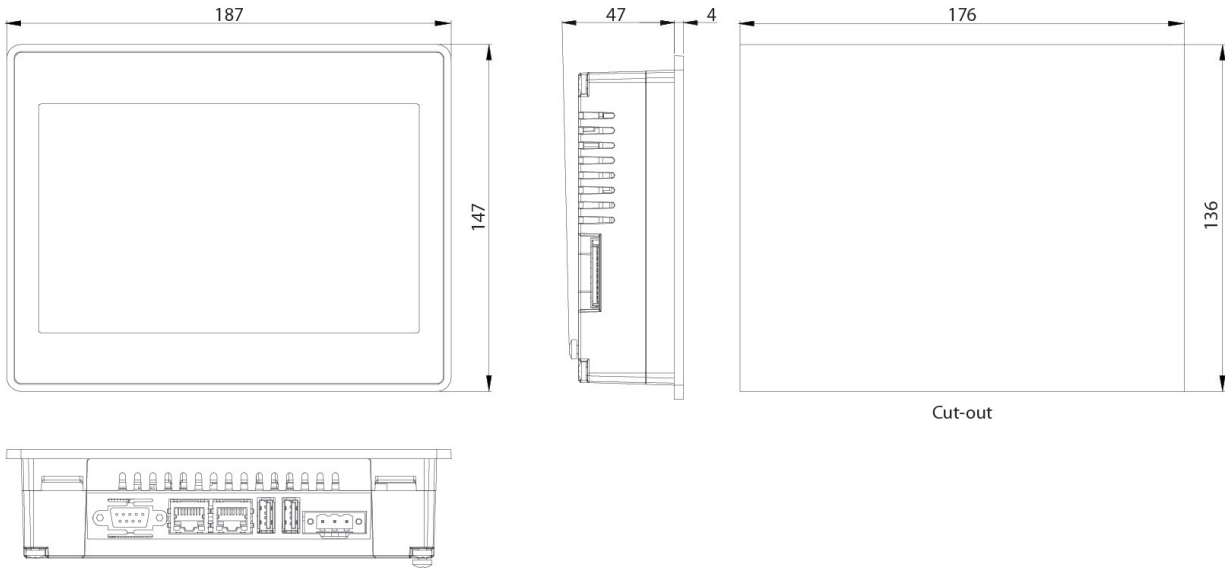
JMobile runtime included. Full compatibility with JMobile Studio.

- 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

Technical Data	eTOP507	Technical Data	eTOP507
Panel	- 7", 16:9, WVGA, 800 x 480 - Luminance: 300 cd/m² typ. - LCD color: 64K - Active display area: 7" diagonal - Backlight: LED	Functionality	- 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

Dimension Drawing



Technical Data	eTOP507	Technical Data	eTOP507
Operator Interface	- Touch: Resistive - LED indicators: 1 (dual color)	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
System Resources	- Operating system: Microsoft Windows CE 6.0 - User memory: 128 MB flash - RAM: 256MB DDR		
Interface	- Ethernet: 2 x 10/100Mbit with integrated switch - USB: 2 x host interface (1 version 2.0, 1 version 2.0 and 1.1) - Serial: 1 x RS232/422/485 software configuration - Expansion slot: 2 x optional plug-in - Memory card: 1 x SD card slot	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)
Functionality	- Vector graphic: Yes, includes SVG support - Object dynamics: Yes, visibility, opacity, position, size, rotation for most object types - 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	Dimensions	- Faceplate LxH: 187 x 147 mm - Cutout AxB: 176 x 136 mm - Depth D+T: 47 + 4 mm
		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 - GL (Germanischer Lloyd Type Approval Certificate)

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. (Made in Taiwan)

* 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 Touchscreen

ASIA ONLY

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.

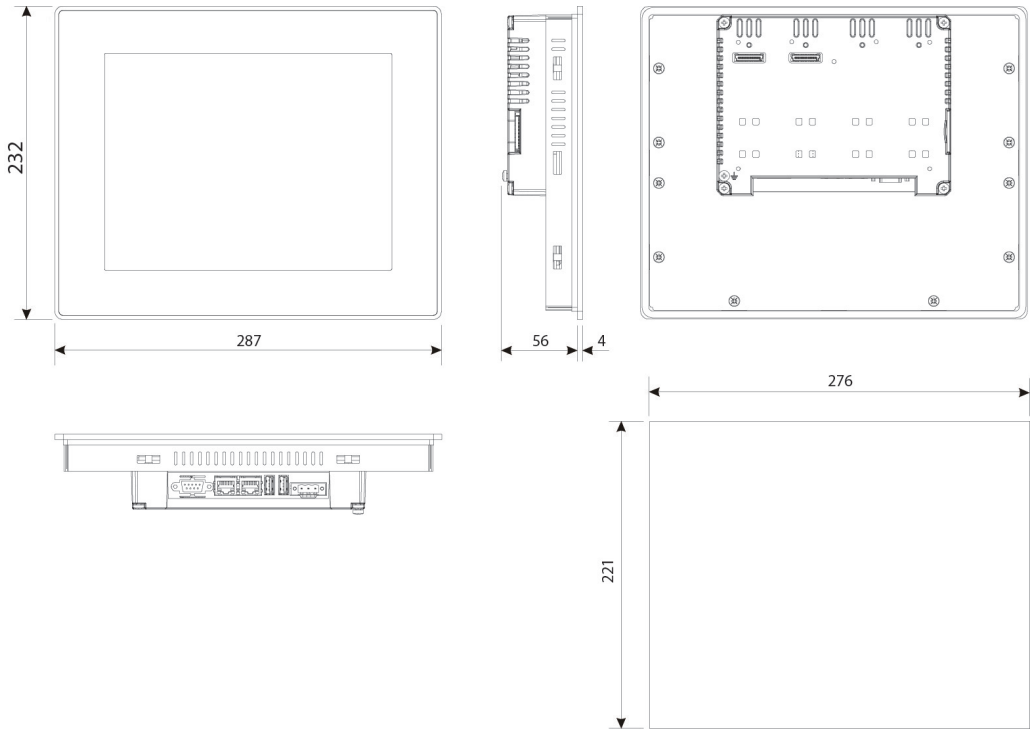
JMobile runtime included. Full compatibility with JMobile Studio.

- 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

Technical Data	eTOP510	Technical Data	eTOP510
Panel	- 10.4", 4:3, SVGA, 800 x 600 - Luminance: 300 cd/m² typ. - LCD Color: 64K - Active display area: 10.4" diagonal - Backlight: LED	Functionality	- 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

Dimension Drawing



Technical Data	eTOP510	Technical Data	eTOP510
Operator Interface	- Touch: Resistive - LED indicators: 1 (dual color)	Ratings	- Power supply voltage: 24Vdc (10 to 32 Vdc) - Current consumption: 0.95A at 24Vdc (max.) - Fuse: Automatic - Weight: Approx. 1Kg - Battery: Rechargeable Lithium battery, not user- replaceable
System Resources	- Operating system: Microsoft Windows CE 6.0 - User memory: 256 MB flash - RAM: 256MB DDR		
Interface	- Ethernet: 2 x 10/100Mbit with integrated switch - USB: 2 x host interface (1 version 2.0, 1 version 2.0 and 1.1) - Serial: 1 x RS232/422/485 software configuration - Expansion slot: 2 x optional plug-in - Memory card: 1 x SD card slot	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)
Functionality	- Vector graphic: Yes, includes SVG support - Object dynamics: Yes, visibility, opacity, position, size, rotation for most object types - Multiple driver communication: Yes, max 2 drivers - 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	Dimensions	- Faceplate LxH: 287 x 232 mm - Cutout AxB: 276 x 221 mm - Depth D+T: 56 + 4 mm
		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 Touchscreen

ASIA ONLY

Main Features

- 4.3" TFT color display, LED backlight
- 480 x 272 pixel (WQVGA) resolution, 64K 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.

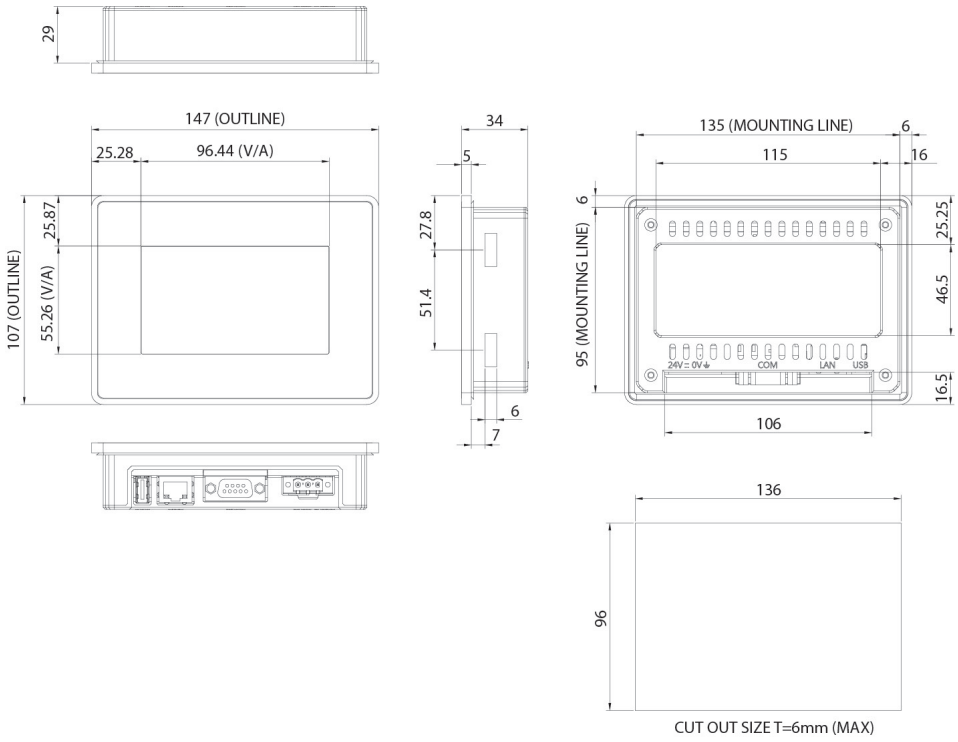
Hightlight

- 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

Technical Data	eSMART04N	Technical Data	eSMART04N
Panel	- 4.3”, 16:9, WQVGA, 480 x 272 - Luminance: 200 cd/m² typ. - LCD color: 64K - Active display area: 4.3” diagonal - Backlight: LED	Ratings	- Power supply voltage: 24Vdc (18 to 32 Vdc) - Current consumption: 0.3A at 24Vdc (max.) - Fuse: Automatic - Weight: Approx. 0.6Kg
Operator Interface	- Touch: Resistive		

Dimension Drawing



Technical Data	eSMART04N	Technical Data	eSMART04N
System Resources	- CPU: ARM Cortex A8 300 MHz - Operating system: Linux 3.12 - RAM: 256MB DDR - Flash: 2 GB - Application memory: 60MB - Real-time clock: Yes - RTC backup: Supercapacitor - Buzzer: Yes	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: 29 + 5mm
Interface	- Ethernet: 1 x 10/100Mbit - USB: 1 x host V2.0, max. 500 mA - Serial: 1 x RS232/422/485 software configuration	Certifications	- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments) - CE (Emission EN61000-6-3; Immunity EN61000-6-1 for installation in residential environments) - cULus (UL508 Listed)

Ordering Information

- **eSMART04N (P/N: 10IE0000408X0) +ESMA04AN301**
  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

7" Widescreen TFT WVGA HMI Panel PC
with Touchscreen

ASIA ONLY

Main Features

- 7" TFT color display, LED backlight
- 800 x 480 pixel (WVGA) resolution, 64K 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.

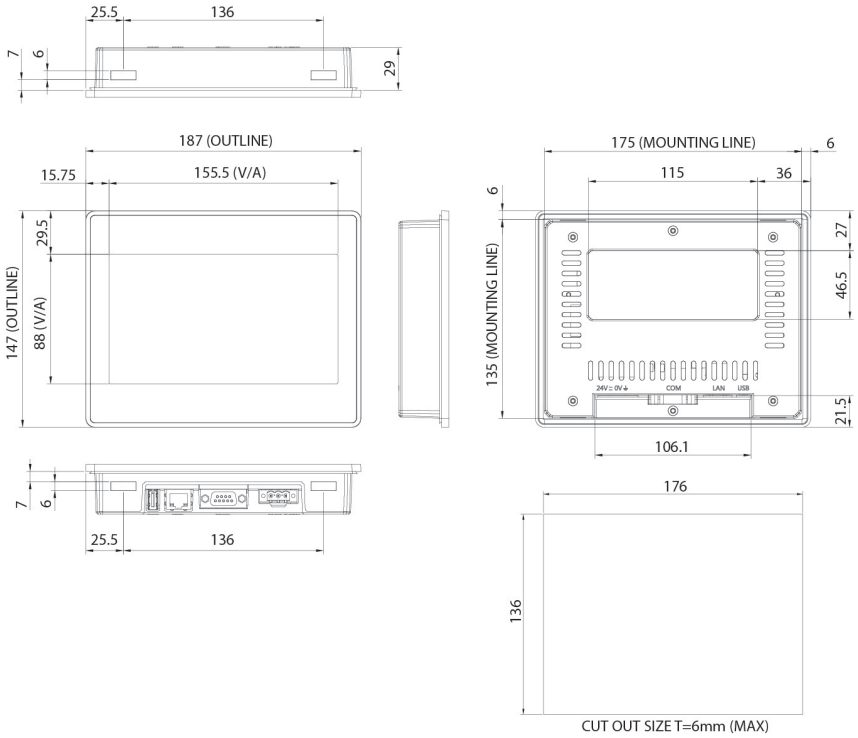
Hightlight

- 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

Technical Data	eSMART07N	Technical Data	eSMART07N
Panel	- 7”, 16:9, WVGA, 800 x 480 - Luminance: 200 cd/m² typ. - LCD color: 64K - Active display area: 7” diagonal - Backlight: LED	Ratings	- Power supply voltage: 24Vdc (18 to 32 Vdc) - Current consumption: 0.25A at 24Vdc (max.) - Fuse: Automatic - Weight: Approx. 0.4Kg
Operator Interface	- Touch: Resistive		

Dimension Drawing



Technical Data	eSMART07N	Technical Data	eSMART07N
System Resources	- CPU: ARM Cortex A8 300 MHz - Operating system: Linux 3.12 - RAM: 256MB DDR - Flash: 2 GB - Application memory: 60MB - Real-time clock: Yes - RTC backup: Supercapacitor - Buzzer: Yes	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 147 mm - Cutout AxB: 176 x 136 mm - Depth D+T: 29 + 5 mm
Interface	- Ethernet: 1 x 10/100Mbit - USB: 1 x host V2.0, max. 500 mA - Serial: 1 x RS232/422/485 software configuration	Certifications	- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments) - CE (Emission EN61000-6-3; Immunity EN61000-6-1 for installation in residential environments) - cULus (UL508 Listed)

Ordering Information

- **eSMART07N (P/N: 10IE0000708X0) +ESMA07AN301**
  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

10.1" Widescreen TFT WSVGA HMI Panel PC
with Touchscreen

ASIA ONLY

Main Features

- 10.1"TFT color display, LED backlight
- 1024 x 600 pixel (WSVGA) resolution, 64K 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.

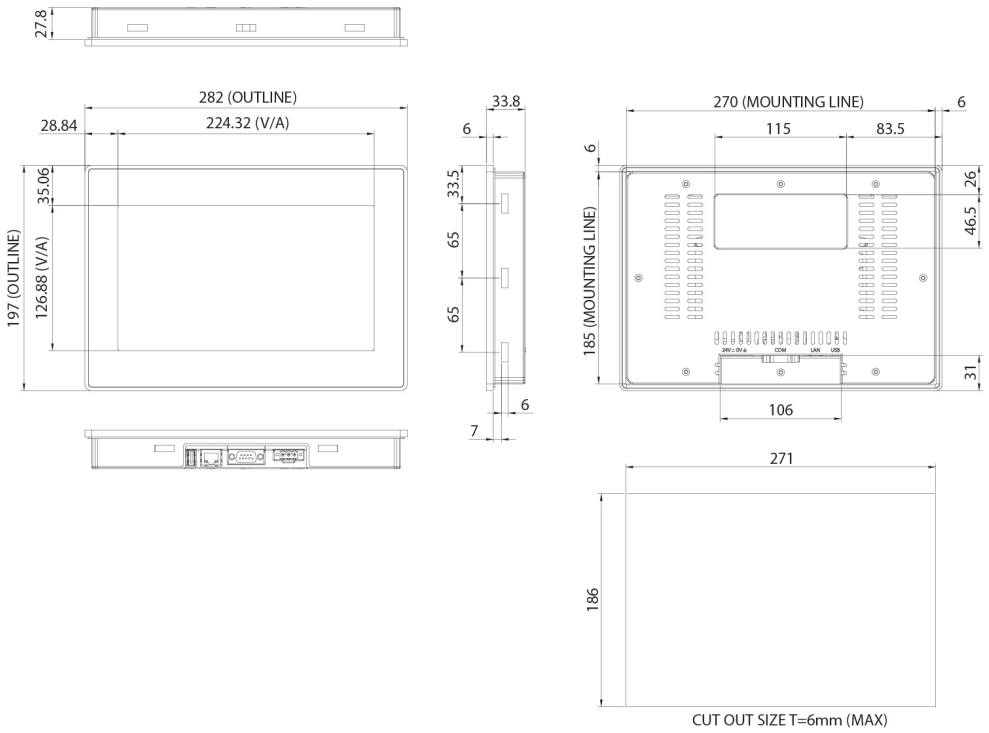
Hightlight

- 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

Technical Data	eSMART10N	Technical Data	eSMART10N
Panel	- 10.1", 16:9, WSVGA, 1024 x 600 - Luminance: 200 cd/m² typ. - LCD color: 64K - Active display area: 10.1" diagonal - Backlight: LED	Ratings	- Power supply voltage: 24Vdc (18 to 32 Vdc) - Current consumption: 0.38A at 24Vdc (max.) - Fuse: Automatic - Weight: Approx. 1.0Kg
Operator Interface	- Touch: Resistive		

Dimension Drawing



Technical Data	eSMART10N	Technical Data	eSMART10N
System Resources	- CPU: ARM Cortex A8 1 GHz - Operating system: Linux 3.12 - RAM: 512MB DDR - Flash: 4 GB - Application memory: 60MB - Real-time clock: Yes - RTC backup: Supercapacitor - Buzzer: Yes	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: 282 x 197mm - Cutout AxB: 271 x 186mm - Depth D+T: 29 + 6mm
Interface	- Ethernet: 1 x 10/100Mbit - USB: 1 x host V2.0, max. 500 mA - Serial: 1 x RS232/422/485 software configuration	Certifications	- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments) - CE (Emission EN61000-6-3; Immunity EN61000-6-1 for installation in residential environments) - cULus (UL508 Listed)

Ordering Information

- **eSMART10N (P/N: 10IE0001005X0) +ESMA010AN301**
  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.

eLite610

10.1" Widescreen WXGA HMI Panel PC
with Intel® Atom™ x5-E3930

Main Features

- 10.1"TFT color display, LED backlight
- 1024 x 600 pixel (WSVGA) resolution, 16.7M colors
- Resistive touchscreen
- 2 x Giga LAN and 2 x USB 3.0
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design, mounting depth less than 30mm
- System frame ground protection (GPE) design

Product Overview

The eLITE610 is Intel Atom x5-E3930 high performance HMI with the JMobile software offers full vector graphic capabilities and plenty of connectivity options. The eLITE610 features a bright 10.1" TFT widescreen (16:9) display with 2 Giga LAN and 2 USB 3.0.

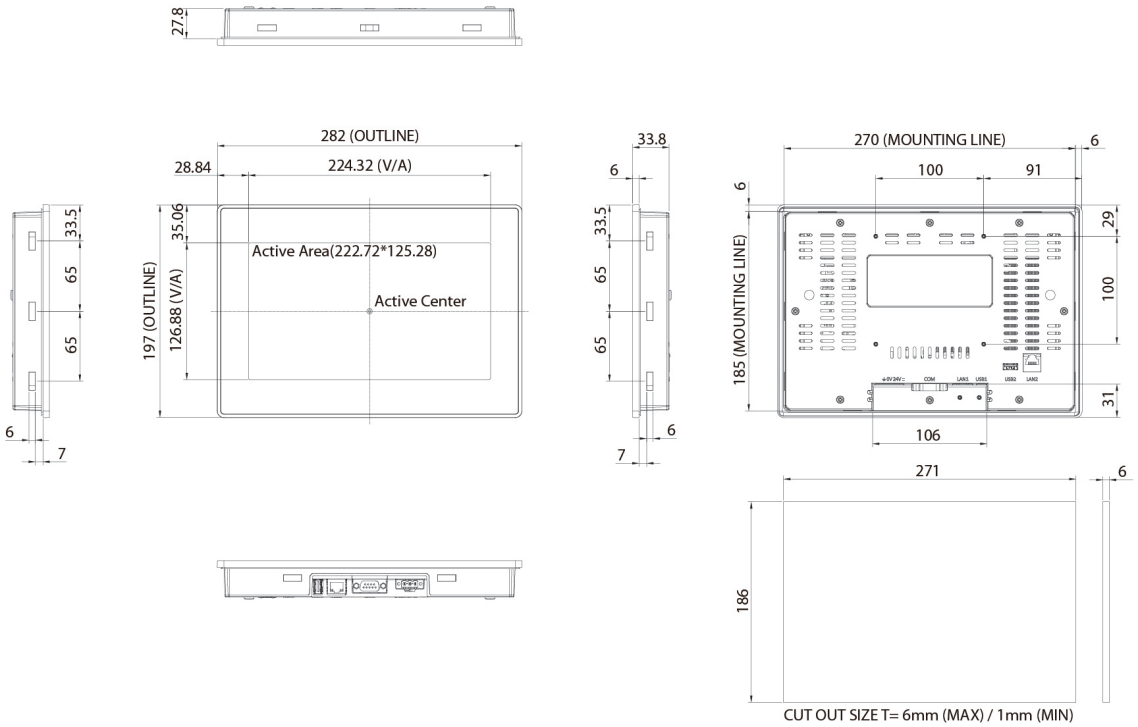
Hightlight

- 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

Technical Data	eLITE610	Technical Data	eLITE610
Panel	- 10.1", 16:9, WSVGA, 1024 x 600 - Luminance: 240 cd/m² typ. - LCD color: 16.7M - Active display area: 10.1" diagonal - Backlight: LED	Ratings	- Power supply voltage: 24 Vdc (19.2 to 28.8 Vdc) - Current consumption: 1.64A at 24Vdc (max.) - Weight: Approx. 1.37Kg

Dimension Drawing



Technical Data	eLITE610	Technical Data	eLITE610
Operator Interface	- Touch: resistive	Environmental Conditions	- Operating temperature: -5°C to 50°C - Storage temperature: -20°C to 75°C - Operating and storage humidity: 5%~90% relative humidity, noncondensing - Panel/VESA mounting - Protection class: IP66 (front), IP20 (rear)
System Resources	- CPU: Intel® Atom™ x5-E3930 processor - Operating System: Windows 10 Enterprise (64-bit) - RAM: 4GB DDR3L - Flash: 32 GB - Real time clock: Yes - Buzzer: Yes	Dimensions	- Faceplate LxH: 282 x 197mm - Cutout AxB: 271 x 186mm - Depth D+T: 29 + 6mm
Interface	- Ethernet: 2x 10/100/1000Mbit - USB: 2 x USB3.0 - Serial: 1 x RS232/422/485 BIOS configuration	Certifications	- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments) - FCC

Ordering Information

Barebone

- **eLITE610 (P/N: 10IE0061000X0)**
  10.1" widescreen WXGA with Intel® Atom™ x5-E3930, Ethernet and USB 3.0 interfaces, JMobile run-time

TP-100

10.1" 16:10 WXGA P-Cap Multi-Touch Teach Pendant,
with Intel® Atom™ Dual Core E3826

Main Features

- Modern, ergonomic, user-friendly and operated comfortably
- Multi channels deadman switch and E-Stop button
- Full IP65 protection
- 10.1" WXGA 1280 x 800 500 nits LED panel
- 10 points projected capacitive touch with full IP65 protection
- Two external USB 3.0 for data backup
- An emergency-stop button is available as further safety element
- Anti-vibration/shock IEC/EN 61131-2 compliance
- EMC (IEC/EN 61000-6-2/4, IEC/EN 61131-2) compliance
- Very light weight (≤1.5Kg) in fanless PC model

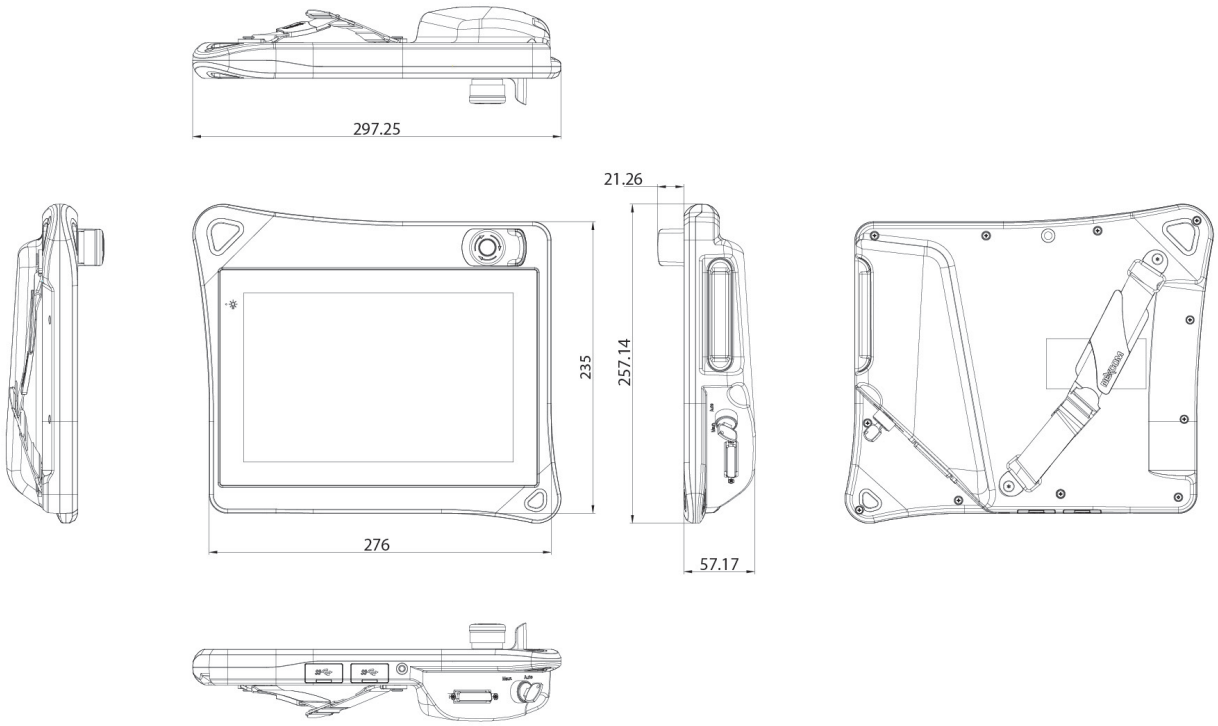
Product Overview

TP-100 is a handheld operating teach pendent features an ergonomic housing with a safety elements, 10.1" WXGA resolution panel, multi-touch P-Cap touch and high performance Intel® Atom™ processor computer. The handheld control unit is greatest comfortable to used and also support left-hander with optional shoulder strap.

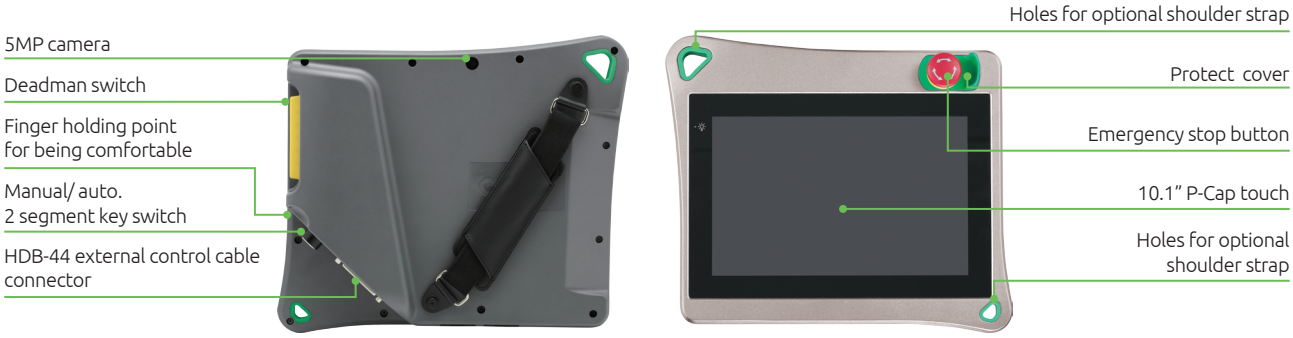
Specifications

Technical Data	TP-100	Technical Data	TP-100
Panel	- 10.1", 16:10, WXGA, 1280 x 800 - Luminance: 500cd/m² - Contrast ratio: 800:1 - LCD color: 16.7M - Viewing angle: 85 (U), 85 (D), 85 (L), 85 (R) - Backlight: LED	Interface	- Data back-up: 2x USB 3.0 - Controle connector: HDB-44 Female › Removable HDB-44 Control Cable (optional) › Including power, E-stop buttons, deadman switch, key switch and Giga LAN signals
Touch	- Touch: 10 points P-Cap - Touch light transmission: 87% - Touch interface: USB - Anti-scratch surface: 7H hardness	Ratings	- Power supply voltage: 24 Vdc (19.2 to 28.8 Vdc) - Current consumption: 0.76A at 24Vdc (max.)
Safety Elements	- Emergency stop button (2 NC channels, B10d=130,000) › Contact function: latching › Reset: by rotating - 3-position deadman switch (3 channels 2 NO &1 NC, B10d=100,000)	Mechanical	- Dimension: 297.3 x 257.2 x57.2 mm (78.5mm including E-stop button) - Weight (without external control cable): 1.45Kg - Front bezel: aluminum magnesium alloy; color: Pantone 8424C - Back cover: ABS+PC; color: Pantone 432C - IP protection class: Full IP65
Operating Elements	- 2-position key switch (2 channels)		
System	- Processer: Intel® Atom™ E3826 - Memory: 32GB eMMC - RAM: 4GB DDR3L Full IP65 protection - Communication interface: › Ethernet 10/100/1000 Mbit/s › LAN chip: dual Intel® I210IT Gigabit LAN - Expansion: 1 x mini-PCIe sockets (support optional Wi-Fi/NVRAM/mSATA storage) - 5MP camera - OS support list: Windows 8.1 32/64-bit, Windows 7 32/64-bit	Environment	- Operatng temperature: 0°C to 45°C - Storage temperature: -20°C to 75°C - Operating humidity: 5%~90% relative humidity, non-condensing - Vibration resistance/shock-proof/ free-fall according to EN 61131-2
		Certifications	- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments) - FCC Class A

Dimension Drawing



Function and Ergonomic Design



HDB-44 Pin Definition

44-Pin	Function	44-Pin	Function	44-Pin	Function	44-Pin	Function
1	Shielding	12	DS_NO_2-A	23	LAN_M2_N	34	Shielding
2	DC Power+	13	DS_NO_2-B	24	LAN_M3_N	35	LAN_M0_P
3	DC Power-	14	DS_NC_3-A	25	RESERVED	36	LAN_M1_P
4	ES_NC_1-A	15	DS_NC_3-B	26	RESERVED	37	LAN_M2_P
5	ES_NC_1-B	16	KS_NC_1-A	27	RESERVED	38	LAN_M3_P
6	ES_NC_2-A	17	KS_NC_1-B	28	RESERVED	39	RESERVED
7	ES_NC_2-B	18	KS_NC_2-A	29	RESERVED	40	RESERVED
8	RESERVED	19	KS_NC_2-B	30	RESERVED	41	RESERVED
9	RESERVED	20	RESERVED	31	RESERVED	42	RESERVED
10	DS_NO_1-A	21	LAN_M0_N	32	RESERVED	43	RESERVED
11	DS_NO_1-B	22	LAN_M1_N	33	Shielding	44	RESERVED

Ordering Information

Barebone

- **TP-100 (P/N: 10IH0010003X0)**
  10.1" 16:10 WXGA P-Cap multi-touch teach pendant, PC embedded, Intel® Atom™ Dual Core E3826

TP-100-VGA/DVI/DP

10.1" 16:10 WXGA P-Cap Multi-Touch Teach Pendant,
VGA, DVI-D or DP Display Input

Main Features

- Modern, ergonomic, user-friendly and operated comfortably
- Multi channels deadman switch and E-Stop button
- Full IP65 protectione
- 10.1" WXGA 1280 x 800 500 nits LED panel
- 10 points projected capacitive touch with Full IP65 protection
- Two external USB 3.0 for data backup
- An emergency-stop button is available as further safety element
- Anti-vibration/shock IEC/EN 61131-2 compliance
- EMC (IEC/EN 61000-6-2/4, IEC/EN 61131-2) compliance
- System frame ground protection (GPE) design

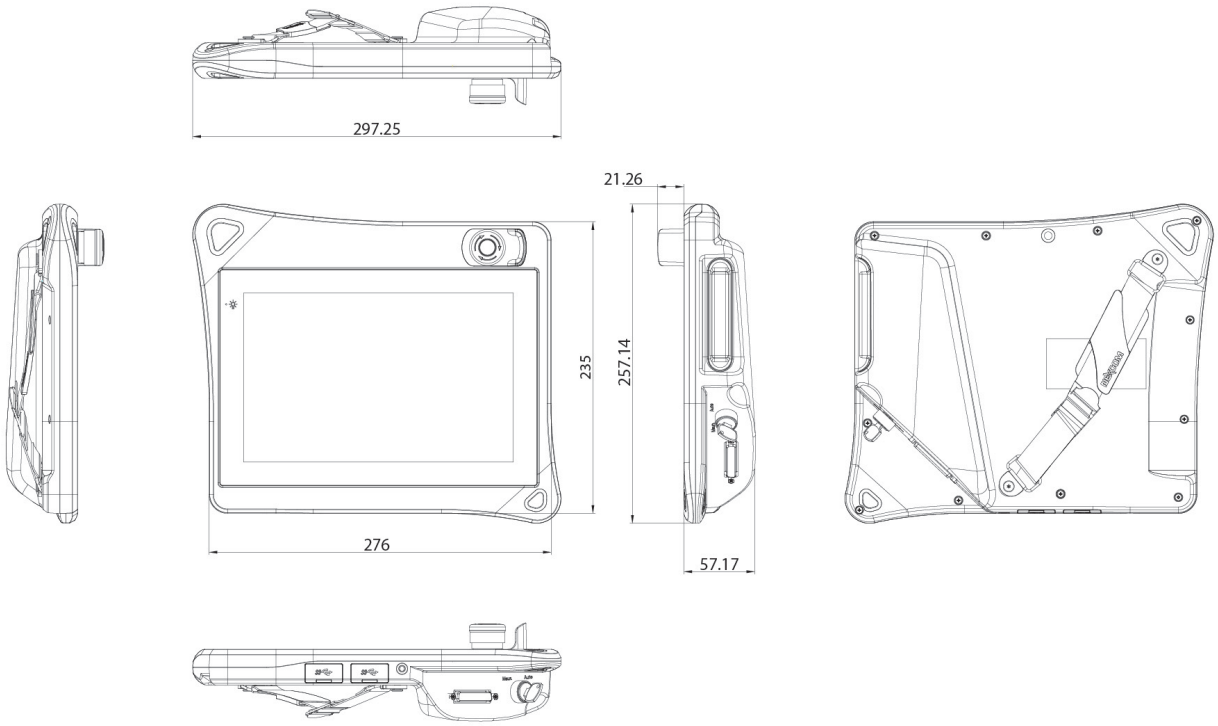
Product Overview

There are 3 models, TP-100-VGA/TP-100-DVI/TP-100-DP, with VGA, DVI-D or DisplayPort input. They are handheld operating teach pendent features an ergonomic housing with a safety elements, 10.1" WXGA resolution Panel and Multi-Touch P-Cap. The handheld control unit is greatest comfortable to used and also support left-hander with optional shoulder Strap.

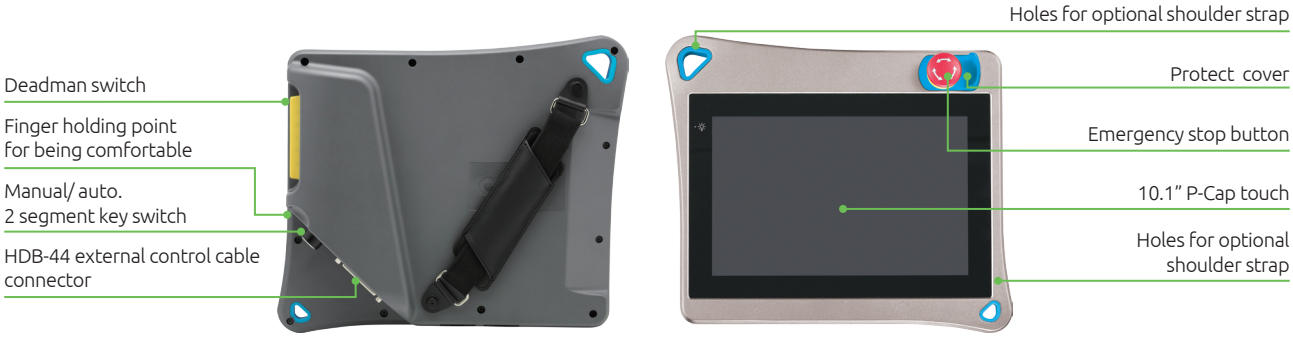
Specifications

Technical Data	TP-100-VGA/DVI/DP	Technical Data	TP-100-VGA/DVI/DP
Panel	- 10.1", 16:10, WXGA, 1280 x 800 - Luminance: 500 cd/m^2 - Contrast ratio: 800:1 - LCD color: 16.7M - Viewing angle: 85 (U), 85 (D), 85 (L), 85 (R) - Backlight: LED	Interface	- Data back-up: 2 x USB 3.0 - Controle connector: HDB-44 female › Removable HDB-44 control cable (optional) › Including power, E-stop buttons, deadman switch, key switch, USB 3.0 and one of VGA, DVI-D or DP signals
Touch	- Touch: 10 points P-Cap - Touch light transmission: 87% - Touch interface: USB - Anti-scratch surface: 7H hardness	Ratings	- Power supply voltage: 24 Vdc (19.2 to 28.8 Vdc) - Current consumption: › TP-100-VGA 0.625A at 24Vdc (max.) › TP-100-DVI/DP 0.635A at 24Vdc (max.)
Safety Elements	- Emergency stop button (2 NC channels, B10d=130,000) › Contact function: latching › Reset: by rotating - 3-position Deadman switch (3 channels 2 NO &1 NC, B10d=100,000)	Mechanical	- Dimension: 297.3 x 257.2 x57.2 mm (78.5mm including E-stop button) - Weight (without external control cable): › TP100-VGA 1.5Kg › TP-100-DVI/DP 1.49Kg - Front bezel: aluminum magnesium alloy; color: Pantone 8424C - Back cover: ABS+PC; color: Pantone 432C - IP protection class: Full IP65
Operating Elements	- 2-position key switch (2 channels)	Environment	- Operatng temperature: 0°C to 50°C - Storage temperature: -20°C to 75°C - Operating humidity: 5%~90% relative humidity, non-condensing - Vibration resistance/shock-proof/free-fall according to EN 61131-2
System	- TP-100-VGA: VGA input - TP-100-DVI: DVI-D input - TP-100-DP: DisplayPort input - USB upstream	Certifications	- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments) - FCC Class A

Dimension Drawing



Function and Ergonomic Design



HDB-44 Pin Definition

44-Pin	Function	44-Pin	Function	44-Pin	Function	44-Pin	Function
1	Shielding	12	DS_NO_2-A	23	VGA_BLUE_GND/LANE2-	34	Shielding
2	DC Power+	13	DS_NO_2-B	24	VGA_VSYNC/LANE3-	35	VGA_RED/LANE0+
3	DC Power-	14	DS_NC_3-A	25	VGA_DDCDAT/CTRL_DATA/AUX-	36	VGA_GREEN/LANE1+
4	ES_NC_1-A	15	DS_NC_3-B	26	VGA_5V/DVI_PWR/DP_PWR	37	VGA_BLUE/LANE2+
5	ES_NC_1-B	16	KS_NC_1-A	27	USB_5V	38	VGA_HSYNC/LANE3+
6	ES_NC_2-A	17	KS_NC_1-B	28	USB-	39	VGA_DDCCLK/CTRL_CLK/AUX+
7	ES_NC_2-B	18	KS_NC_2-A	29	USB3_RXN	40	VGA_GND/DVI_GND/DP_GND
8	RESERVED	19	KS_NC_2-B	30	USB3_TXN	41	USB_GND
9	RESERVED	20	RESERVED/HPD	31	RESERVED	42	USB+
10	DS_NO_1-A	21	VGA_RED_GND/LANE0-	32	RESERVED	43	USB3_RXP
11	DS_NO_1-B	22	VGA_GREEN_GND/LANE1-	33	Shielding	44	USB3_TXP

Ordering Information

Barebone

- **TP-100-VGA (P/N: 10IH0010001X0)**
  10.1" 16:10 WXGA P-Cap multi-touch teach pendant display, VGA input
- **TP-100-DVI (P/N: 10IH0010000X0)**
  10.1" 16:10 WXGA P-Cap multi-touch teach pendant display, DVI-D input
- **TP-100-DP (P/N: 10IH0010002X0)**
  10.1" 16:10 WXGA P-Cap multi-touch teach pendant display, DisplayPort input

APPC 0840T

8” TFT SVGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 4 x USB, 2 x 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 fieldbus module, 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

- LCD 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

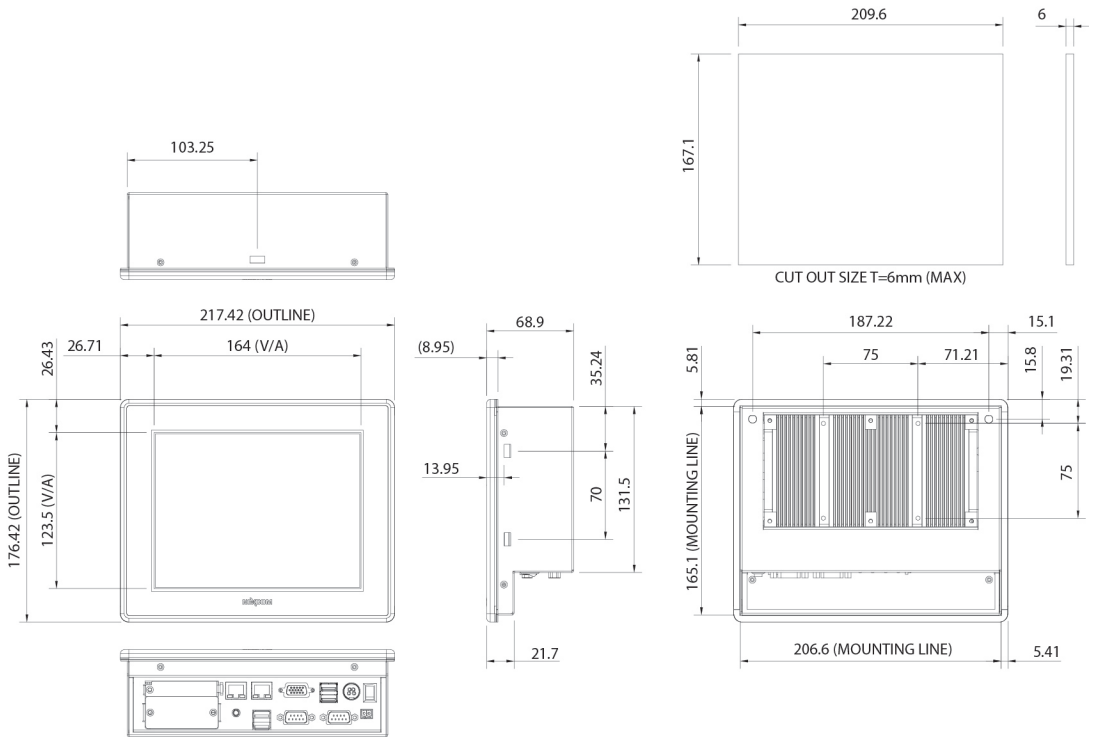
System

- 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 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: 1 x mini-PCIe socket1 (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: 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)

Dimension Drawing



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 audio jack

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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°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: 217.4x176.4x68.9mm
- Weight: 2.3Kg

Certifications
- CE approval
- FCC Class A

OS Support Lists
- Windows 8 32-bit/64-bit
- Windows 7 32-bit/64-bit
- 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: 7400060029X00)**
- **PROFINET, EtherNet/IP, EtherCAT, SERCOSIII master interface module: FBI 90E-REM (P/N: 10J50090E08X0)**
- **PROFINET master interface module: FBI 90E-PNM (P/N: 10J50090E21X0)**
- **PROFIBUS master interface module: FBI 90E-PBM (P/N: 10J50090E09X0)**
- **DeviceNet master interface module: FBI 90E-DNM (P/N: 10J50090E10X0)**
- **EtherCAT master interface module: FBI 90E-ECM (P/N: 10J50090E19X0)**

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
- 3 x USB/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 800 x 600 (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. APPC 1240T has two isolated RS232/422/485 ports, and fieldbus port.

Specifications

Panel

- LCD 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

System

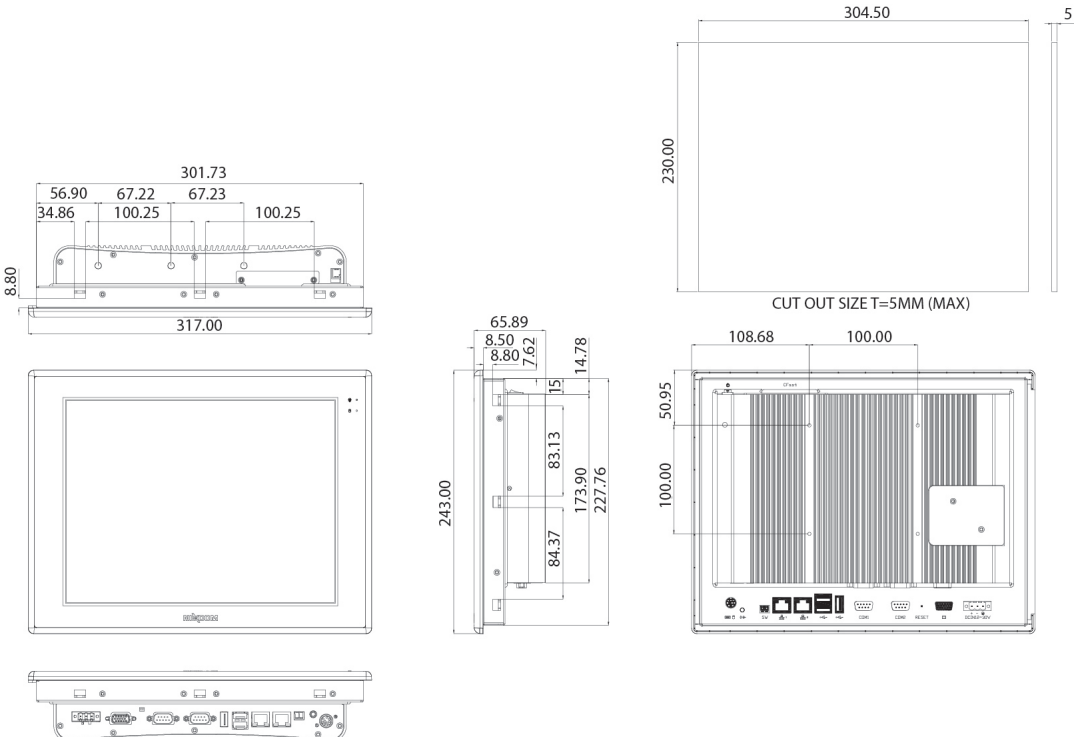
- CPU: on-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (default), support up to 8GB DDR3L-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: 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
- COM #1: RS232/422/485 w/ 2.5kv isolated
- 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

Dimension Drawing



Audio
- HD audio codec: realtek ALC886-GR
- Audio interface: Line-out

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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 32-bit/64-bit
- Windows 7 32-bit/64-bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC 1240T (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

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **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)**

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
- 3 x USB/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, and fieldbus port.

Specifications

Panel

- LCD 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

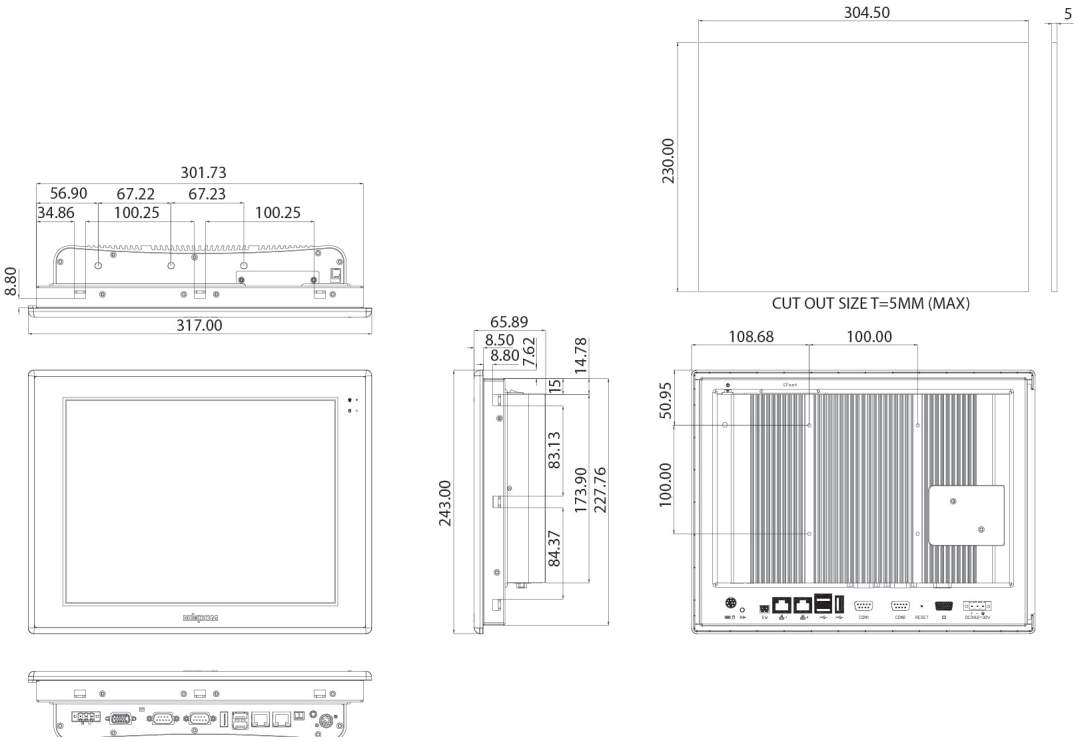
- CPU: on-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (default), support up to 8GB DDR3L-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: 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°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
- COM #1: RS232/422/485 w/ 2.5kv isolated
- COM #2: RS232/422/485 w/ 2.5kv isolated
- Fieldbus: (protocol interface optional)

Model	Protoc ol	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

Dimension Drawing



Audio
- HD audio codec: realtek ALC886-GR
- Audio interface: Line-out

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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 32-bit/64-bit
- Windows 7 32-bit/64-bit
- 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

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **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)**

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
- 3 x USB/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, and fieldbus port.

Specifications

Panel

- LCD size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 450cd/m^2
- Contrast ratio: 800
- LCD color: 16.2M
- Viewing angle: 70 (U), 80 (D), 80 (L), 80 (R)
- Backlight: LED

Touch Screen

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

System

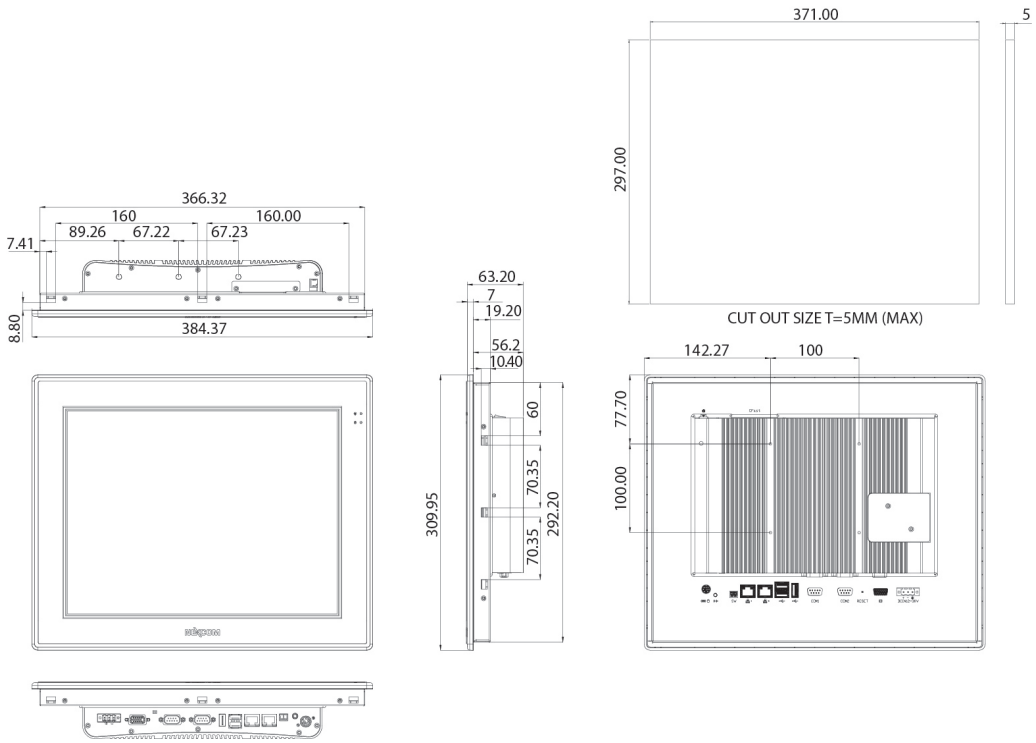
- CPU: on-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (default), support up to 8GB DDR3L-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: 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
- COM #1: RS232/422/485 w/ 2.5kv isolated
- 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

Dimension Drawing



Audio
- HD audio codec: realtek ALC886-GR
- Audio interface: Line-out

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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 32-bit/64-bit
- Windows 7 32-bit/64-bit
- WinCE 7.0

Ordering Information

Barebone
- **APPC 1540T (P/N: 10IA1540T08X0)**
  15" XGA LED backlight touch panel PC, Intel® Atom™ E3826 1.46GHz, touch screen, 2GB DDR3L, 2 x RS232/422/485, brightness adjustment buttons

Options
- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **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)**

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
- 3 x USB/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, and fieldbus port.

Specifications

Panel

- LCD 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 Screen

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

System

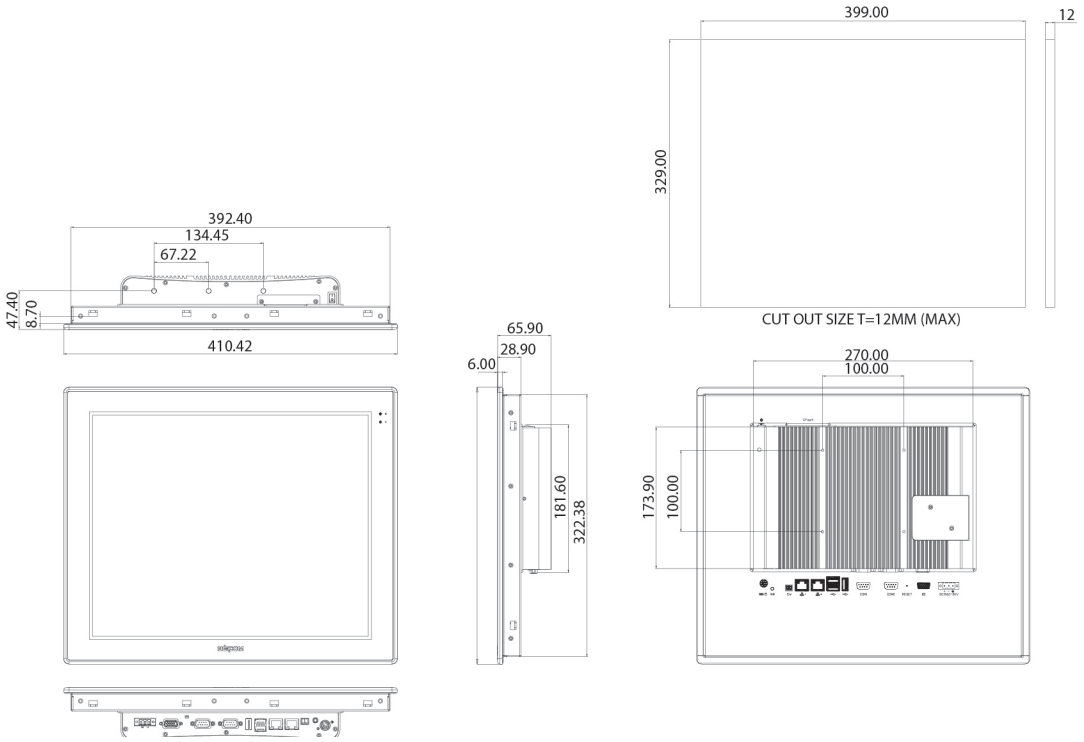
- CPU: on-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (default), support up to 8GB DDR3L-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: 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
- COM #1: RS232/422/485 w/ 2.5kv isolated
- 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

Dimension Drawing



Audio
- HD audio codec: realtek ALC886-GR
- Audio interface: Line-out

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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 32-bit/64-bit
- Windows 7 32-bit/64-bit
- 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

Options
- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **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)**

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
- 3 x USB/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, and fieldbus port.

Specifications

Panel

- LCD size: 19", 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 Screen

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

System

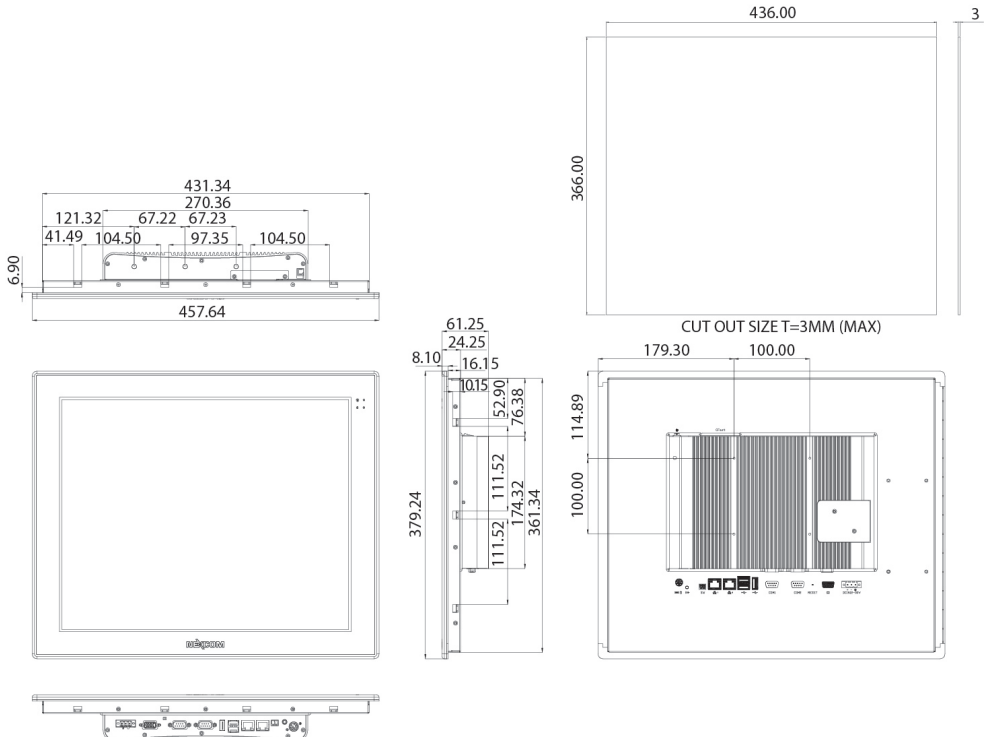
- CPU: on-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (default), support up to 8GB DDR3L-1066/1333, non-ECC and un-buffered
- Storage device:
  - 1 x external locked CFast socket
  - 1 x hard drive bay: 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
- COM #1: RS232/422/485 w/ 2.5kv isolated
- 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

Dimension Drawing



Audio
- HD audio codec: realtek ALC886-GR
- Audio interface: Line-out

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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 32-bit/64-bit
- Windows 7 32-bit/64-bit
- WinCE 7.0

Ordering Information

Barebone

- **APPC 1940T (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

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **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)**

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

- LCD 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

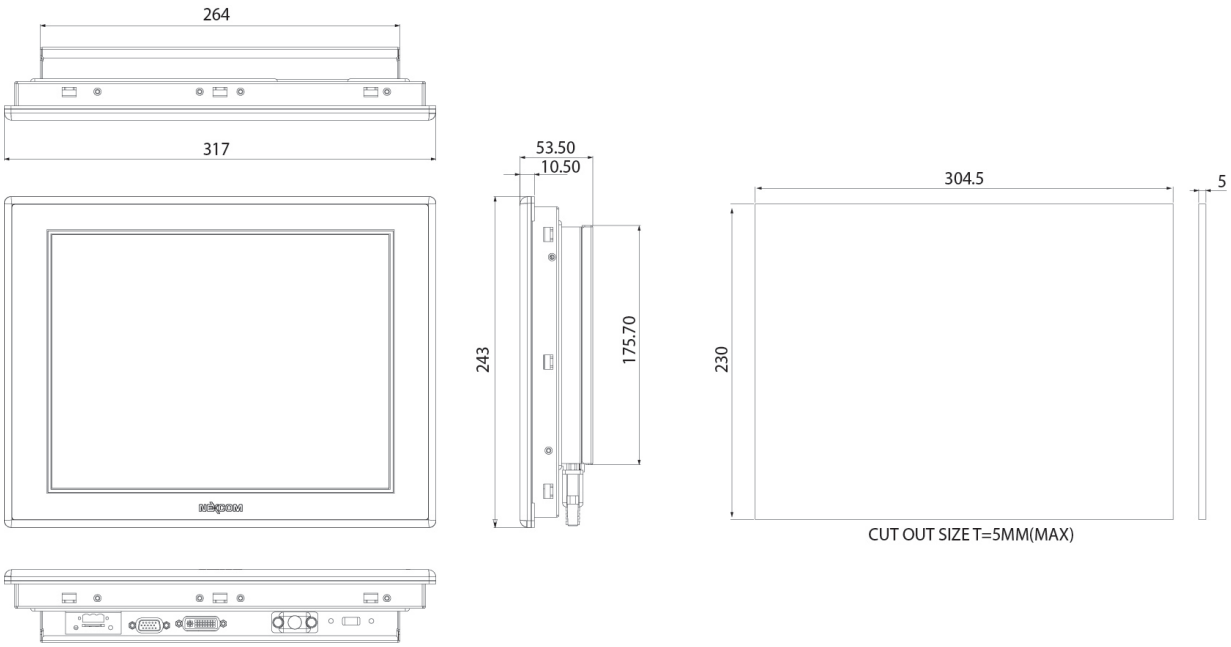
Mechanical & Environment

- 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

Dimension Drawing



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: 7400060031X00)
- **1.8m DVI-D male to DVI-D male cable**
  (P/N: 603DVI0007X00)

APPD 1205T

12.1" IP65 Industrial 4:3 XGA 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 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

- LCD 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

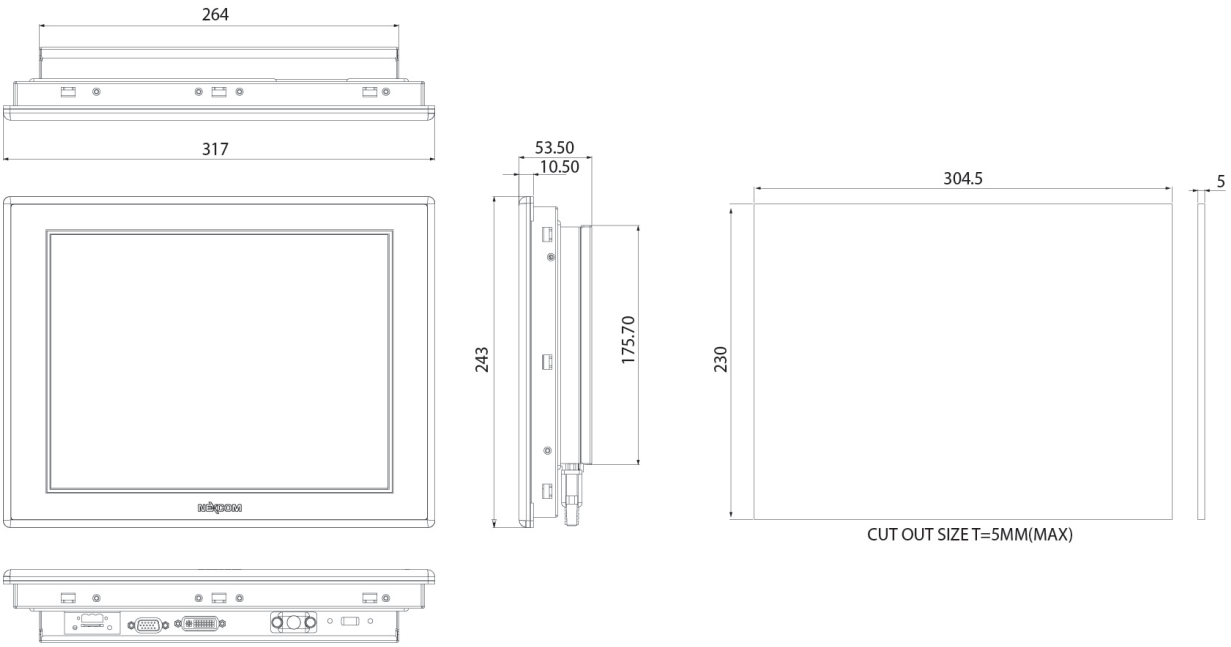
Mechanical & Environment

- 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



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: 7400060031X00)
- **1.8m DVI-D male to DVI-D male cable**
  (P/N: 603DVI0007X00)

APPD 1500T

15" IP65 Industrial 4:3 XGA 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

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

- LCD size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 450cd/m^2
- Contrast ratio: 800
- LCD color: 16.2M
- Viewing angle: 70 (U), 80 (D), 80 (L), 80 (R)
- Backlight: LED

Touch Screen

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- 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

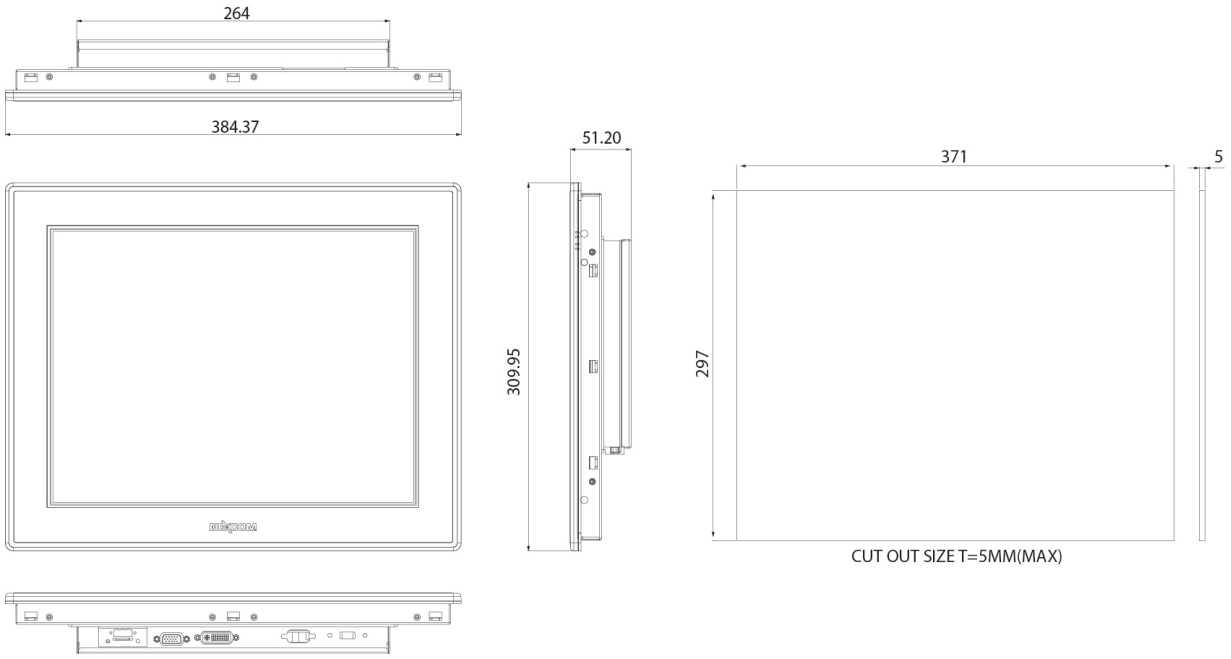
Mechanical & Environment

- 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



Ordering Information

- **APPD 1500T (P/N: 10IAD150004X0)**
  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: 7400060031X00)
- **1.8m DVI-D male to DVI-D male cable**
  (P/N: 603DVI0007X00)

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

- LCD size: 17", 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: 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

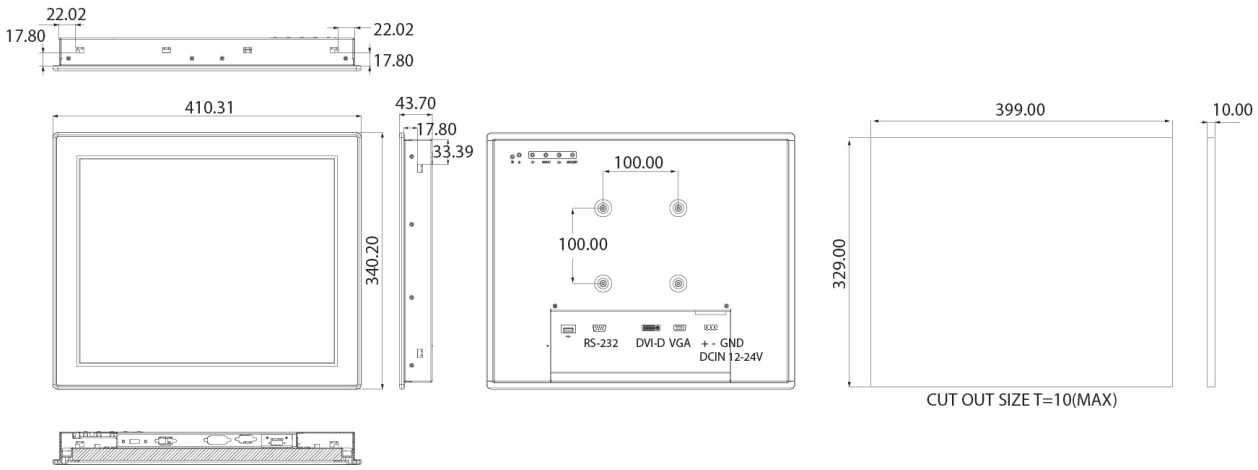
Mechanical & Environment

- 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°C to 50°C
  Storage temperature: -20°C to 75°C
- 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

Dimension Drawing



Ordering Information

- **APPD 1700T (P/N: 10IAD170002X0)**
  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

- **12V, 60W AC/DC power adapter w/o power cord**
  (P/N: 7400060031X00)
- **1.8m DVI-D male to DVI-D male cable**
  (P/N: 603DVI0007X00)

APPD 1900T

19" 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

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

- LCD size: 19", 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 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

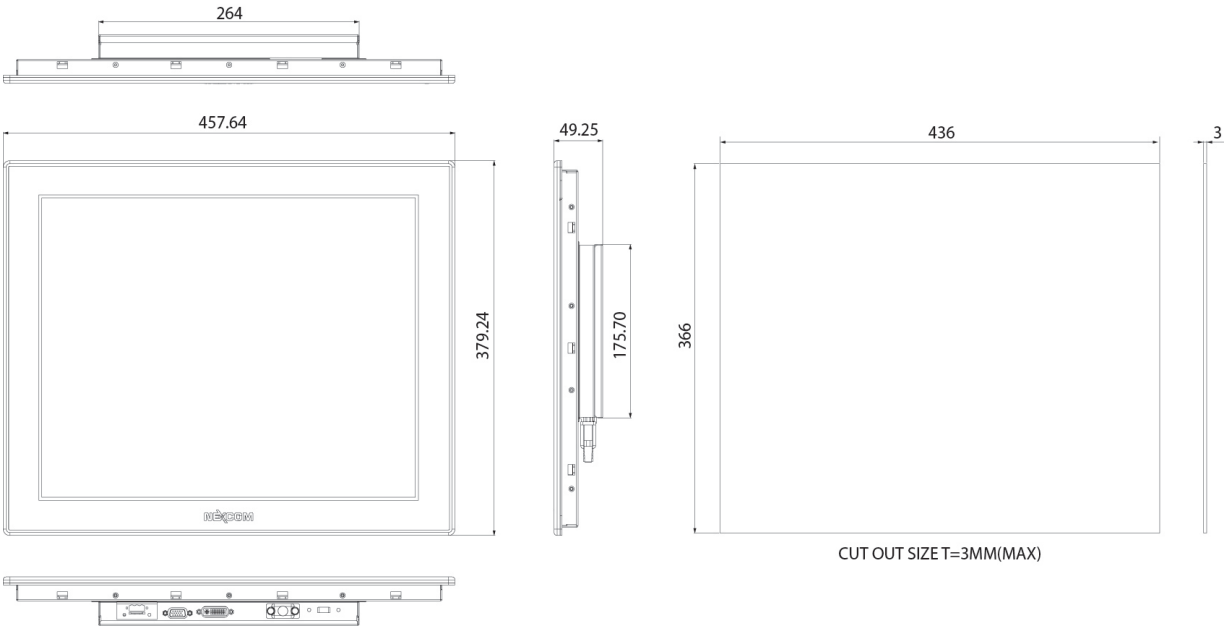
Mechanical & Environment

- 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°C to 50°C
  Storage temperature: -20°C to 75°C
- 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



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: 7400060031X00)
- **1.8m DVI-D male to DVI-D male cable**
  (P/N: 603DVI0007X00)

IPPC A1570T/P

15" TFT XGA 4:3 Heavy Industrial Panel PC
4th Generation Intel® Core™ i Processor

Coming soon

Main Features

- 4:3 15" XGA 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
- Front accessible USB 2.0 for easy of field maintenance
- Inside USB 2.0 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 A1570 series is a heavy industrial panel PC to support 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 A1570 series is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

Panel

- LCD Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 450cd/m²
- Contrast ratio: 800
- LCD color: 16.2M
- Viewing angle: 70 (U), 80 (D), 80 (L), 80 (R)
- Backlight: LED

Touch

For IPPC A1570T Series

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

For IPPC A1570P Series

- Five points P-Cap (projected capacitive touch)
- Light transmission: 87%
- Interface: USB
- Anti-scratch surface: >= 6H hardness

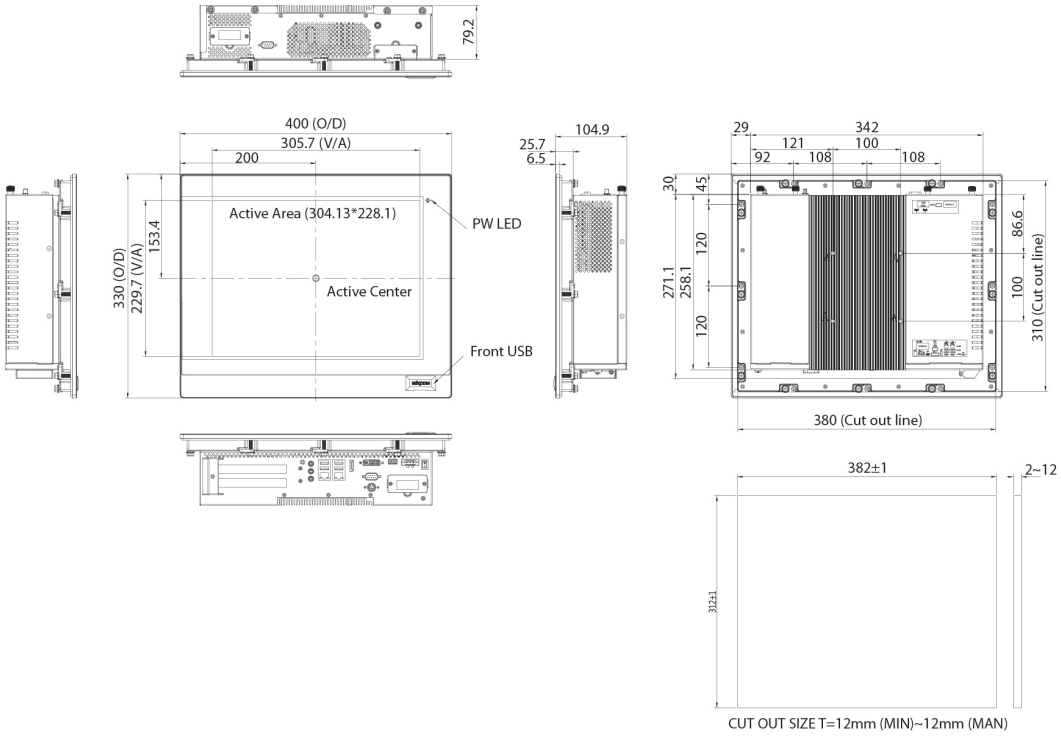
System

- CPU (optional): support 4th gen. Intel® Core™ i processor family, LGA1150 socket type
  - Core™ i5-4590T, Quad Core, 2.0GHz, 6M Cache (maximum frequency 3.0GHz if turbo boost enabled)
  - Core™ i5-4570TE, Dual Core, 2.7GHz, 4M Cache (maximum frequency 3.3GHz if turbo boost enabled)
  - Core™ i3-4350T, Dual Core, 3.1GHz, 4M Cache (no turbo boost)
  - Core™ i3-4340TE, Dual, Core, 2.6GHz, 4M Cache (no turbo boost)
  - Pentium® G3320TE, Dual Core, 2.3GHz, 3M Cache (no turbo boost)
  - Celeron® G1820TE, Dual Core, 2.2GHz, 2M Cache (no turbo boost)
- BIOS: AMI BIOS
- System chipset: Intel® Q87 PCH
- System memory (optional): 2 x 204-pin DDR3/DDR3L SO-DIMM socket, support up to 16GB DDR3/ DDR3L 1333/1600, non-ECC and unbuffered
- Storage device:
  - 1 x External locked CFast socket
  - 1 x mini-PCIe w/o SIM card holder slot to support mSATA storage
  - 1 x Hard drive bay: support 1 x 2.5" SATA HDD/SSD (optional)
- 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/ NVRAM/mSATA storage)
  - 2 x Expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIe x4 slots
  - 2 x PCIe x4 slots (default)
  - 2 x PCI slots
  - 1 x PCIe x16 slot
- 1 x Front accessible USB 2.0

Rear I/O

- 1 x PS2 for keyboard/mouse
- Ethernet: 2 x RJ45
- 2nd/3rd display: additional independent DisplayPort: 1 x DVI-I (DVI-D + DVI-A) and 1 x DisplayPort
- Audio port: 1 x Line-out; 1 x Line-in; 1 x Mic-in
- USB: 4 x USB 3.0
- 3-pin remote power on/off switch connector
- Reset button
- COM#1: RS232/422/485 w/ 5V or 12V selection
- ATX power switch

Dimension Drawing



Top I/O
- COM#2 RS232/422/485 w/ 5V or 12V selection

Audio
- HD codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/Mic-in audio jack

Ethernet
- LAN chip: dual Intel® I210IT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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:
  - Power input: 12~30 VDC
  - Power connector: 3-pin PHOENIX connector
- 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
  - Resistive: -10°C to 50°C
  - P-Cap: -20°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing (for IPPC A1570T series, limits to be at 90% RH at max 50°C)
- Dimension: 400 x 330 x 104.9 mm
- Weight: (barebone)
  IPPC A1570TE2-DC: 8.99kg
  IPPC A1570PE2-DC: 9.08kg

Certifications
- CE (including EN61000-6-2/EN61000-6-4), FCC Class A

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

Ordering Information

System
- **IPPC A1570TE2-DC (P/N: TBD)**
  15" XGA LED backlight fanless RTP touch panel PC, 2 x COM, DC power input, and optional fieldbus module
- **IPPC A1570PE2-DC (P/N: TBD)**
  15" XGA LED backlight fanless P-CAP touch panel PC, 2 x COM, DC power input, and optional fieldbus module

Optional
- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400120023X00)**
- **PROFINET, EtherNet/IP, EtherCAT, SERCOSIII master interface module: FBI90E-REM(P/N:10J50090E08X0)**
- **PROFINET master interface module: FBI90E-PNM (P/N: 10J50090E21X0)**
- **PROFIBUS master interface module: FBI90E-PBM (P/N:10J50090E09X0)**
- **DeviceNet master interface module: FBI90E-DNM (P/N:10J50090E10X0)**
- **EtherCAT master interface module: FBI90E-ECM (P/N:10J50090E19X0)**
- **EtherNet/IP master interface module: FBI90E-EPM (P/N:10J50090E20X0)**

IPPC A1770T/P

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

IPPCA 1770T/P-AC

IPPCA 1770T/P-DC

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
- Front accessible USB 2.0 for easy of field maintenance
- Inside USB 2.0 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)

Product Overview

IPPC A1770 series is a heavy industrial panel PC to support 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 A1770 series is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

Panel

- LCD size: 17", 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

For IPPC A1770T Series

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

For IPPC A1770P Series

- Five points P-Cap (projected capacitive touch)
- Light transmission: 87%
- Interface: USB
- Anti-scratch surface: 7H hardness

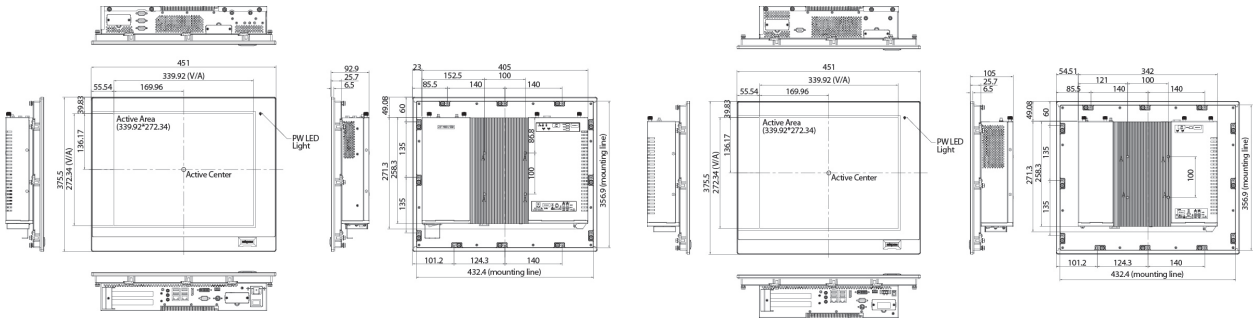
System

- CPU (optional): support 4th gen. Intel® Core™ i processor family, LGA1150 socket type
  - Core™ i5-4590T, Quad Core, 2.0GHz, 6M Cache (maximum frequency 3.0GHz if turbo boost enabled)
  - Core™ i5-4570TE, Dual Core, 2.7GHz, 4M Cache (maximum frequency 3.3GHz if turbo boost enabled)
  - Core™ i3-4350T, Dual Core, 3.1GHz, 4M Cache (no turbo boost)
  - Core™ i3-4340TE, Dual, Core, 2.6GHz, 4M Cache (no turbo boost)
  - Pentium® G3320TE, Dual Core, 2.3GHz, 3M Cache (no turbo boost)
  - Celeron® G1820TE, Dual Core, 2.2GHz, 2M Cache (no turbo boost)
- BIOS: AMI BIOS
- System chipset: Intel® Q87 PCH
- System memory (optional): 2 x 204-pin DDR3/DDR3L SO-DIMM socket, support up to 16GB DDR3/ DDR3L 1333/1600, non-ECC and unbuffered
- Storage device:
  - 1 x External locked CFast socket
  - 1 x mini-PCIe w/o SIM card holder slot to support mSATA storage
  - 1 x Hard drive bay: support 1 x 2.5" SATA HDD/SSD (optional) (for DC model only)
  - 2 x Hard drive bay: support 2 x 2.5" SATA HDD/SSD (optional) RAID 0, 1 (for AC model only)
- 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/ NVRAM/mSATA storage)
  - 2 x expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIe x4 slots
  - 2 x PCIe x4 slots (default)
  - 2 x PCI slots
  - 1 x PCIe x16 slot
- 1 x Front accessible USB 2.0
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off (for AC model only)

Rear I/O

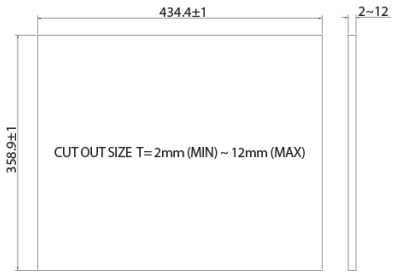
- 1 x PS2 for keyboard/mouse
- Ethernet: 2 x RJ45
- 2nd/3rd display: additional independent DisplayPort: 1 x DVI-I (DVI-D + DVI-A) and 1 x DisplayPort
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIic-in
- USB: 4 x USB3.0
- 3-pin remote power on/off switch connector
- Reset button
- COM#1: RS232/422/485 w/ 5V or 12V selection (for T/P-DC only)
- ATX power switch (for T/P-DC only)
- COM#1: RS232/422/485 w/ 2.5kv isolated protection (for T/P-AC only)
- AC power switch (for T/P-AC only)

Dimension Drawing



IPPCA 1770T/P-AC

IPPCA 1770T/P-DC



Top I/O
- COM#2 RS232/422/485 w/ 5V or 12V selection (for T/P-DC only)
- COM#2: RS232/422/485 w/ 2.5kv isolated protection (for T/P-AC only)
- DIO w/ 2.5kv isolated protection (for T/P-AC only):
  - 4 x Digital input (source type)
  - 4 x Digital output (sink type)
- GPIO: 4 x Digital-in/4 x Digital-out (for T/P-AC only)

Audio
- HD codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/Mic-in audio jack

Ethernet
- LAN chip: dual Intel® I210IT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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:

IPPC A1770TE2-DC/IPPC A1770PE2-DC
  - Power input: 12~30 VDC
  - Power connector: 3-pin PHOENIX connector

IPPC A1770TE2-AC/IPPC A1770PE2-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:
  Resistive: -10°C to 50°C
  P-Cap: -20°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing (for IPPC A1770T series, limits to be at 90% RH at max 50°C)
- Dimension
  - IPPC A1770TE2-DC/PE2-DC/TFE2-DC: 451 x 375.5 x 105mm
  - IPPC A1770TE2-AC/PE2-AC: 451 x 375.5 x 92.9mm
- Weight: (barebone)
  - IPPC A1770TE2-DC: 9.54kg
  - IPPC A1770PE2-DC: 9.6kg
  - IPPC A1770TE2-AC: 10.45kg
  - IPPC A1770PE2-AC: 10.51kg

Certifications
- CE (including EN61000-6-2/EN61000-6-4), FCC Class A

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

Ordering Information

System
- **IPPC A1770TE2-DC (P/N: 10II1770T00X0)**
  17" SXGA LED backlight fanless RTP touch panel PC, 2 x COM, DC power input, and optional fieldbus module
- **IPPC A1770PE2-DC (P/N: 10II1770P00X0)**
  17" SXGA LED backlight fanless P-CAP touch panel PC, 2 x COM, DC power input, and optional fieldbus module
- **IPPC A1770TE2-AC (P/N: 10II1770T01X0)**
  17" SXGA LED backlight fanless RTP touch panel PC, 2 x COM, AC power input, and optional fieldbus module
- **IPPC A1770PE2-AC (P/N: 10II1770P01X0)**
  17" SXGA LED backlight fanless P-CAP touch panel PC, 2 x COM, AC power input, and optional fieldbus module

Optional
- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400120023X00)**
- **PROFINET, EtherNet/IP, EtherCAT, SERCOSIII master interface module: FBI90E-REM(P/N:10J50090E08X0)**
- **PROFINET master interface module: FBI90E-PNM (P/N: 10J50090E21X0)**
- **PROFIBUS master interface module: FBI90E-PBM (P/N:10J50090E09X0)**
- **DeviceNet master interface module: FBI90E-DNM (P/N:10J50090E10X0)**
- **EtherCAT master interface module: FBI90E-ECM (P/N:10J50090E19X0)**
- **EtherNet/IP master interface module: FBI90E-EPM (P/N:10J50090E20X0)**

IPPC A1970T/P

19" TFT SXGA 4:3 Heavy Industrial Panel PC
4th Generation Intel® Core™ i Processor

Main Features

- 4:3 19" 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
- Front accessible USB 2.0 for easy of field maintenance
- Inside USB 2.0 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 A1970 series is a heavy industrial panel PC to support 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 A1970 series is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

Panel

- LCD 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

For IPPC A1970T Series

- 5-wire resistive (flush panel type)
- Light transmission: 80±3%
- Interface: USB

For IPPC A1970P Series

- Ten points P-Cap (projected capacitive touch)
- Light transmission: 87±2%
- Interface: USB
- Anti-scratch surface: >= 6H hardness

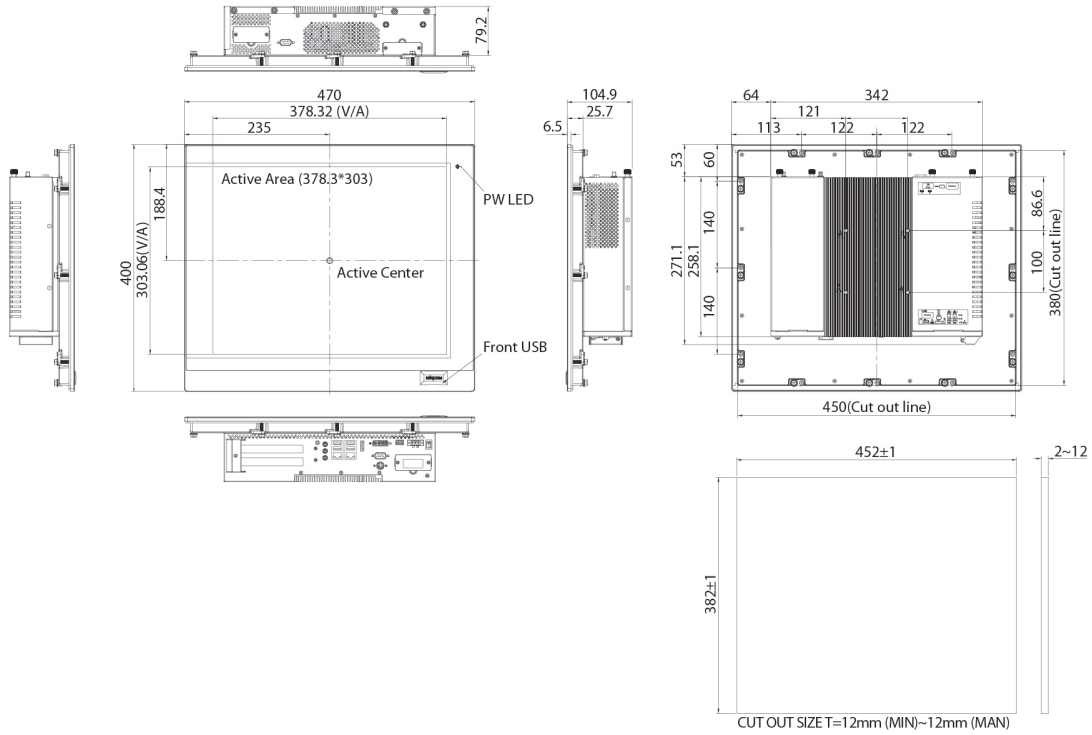
System

- CPU (optional): support 4th gen. Intel® Core™ i processor family, LGA1150 socket type
  - Core™ i5-4590T, Quad Core, 2.0GHz, 6M Cache (maximum frequency 3.0GHz if turbo boost enabled)
  - Core™ i5-4570TE, Dual Core, 2.7GHz, 4M Cache (maximum frequency 3.3GHz if turbo boost enabled)
  - Core™ i3-4350T, Dual Core, 3.1GHz, 4M Cache (no turbo boost)
  - Core™ i3-4340TE, Dual, Core, 2.6GHz, 4M Cache (no turbo boost)
  - Pentium® G3320TE, Dual Core, 2.3GHz, 3M Cache (no turbo boost)
  - Celeron® G1820TE, Dual Core, 2.2GHz, 2M Cache (no turbo boost)
- BIOS: AMI BIOS
- System chipset: Intel® Q87 PCH
- System memory (optional): 2 x 204-pin DDR3/DDR3L SO-DIMM socket, support up to 16GB DDR3/ DDR3L 1333/1600, non-ECC and unbuffered
- Storage device:
  - 1 x External locked CFast socket
  - 1 x mini-PCIe w/o SIM card holder slot to support mSATA storage
  - 1 x Hard drive bay: support 1 x 2.5" SATA HDD/SSD (optional)
- 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/ NVRAM/mSATA storage)
  - 2 x Expansion slots for add-on PCI or/and PCIe cards
  - 1 x PCI and 1 x PCIe x4 slots
  - 2 x PCIe x4 slots (default)
  - 2 x PCI slots
  - 1 x PCIe x16 slot
- 1 x Front accessible USB 2.0

Rear I/O

- 1 x PS2 for keyboard/mouse
- Ethernet: 2 x RJ45
- 2nd/3rd display: additional independent DisplayPort: 1 x DVI-I (DVI-D + DVI-A) and 1 x DisplayPort
- Audio port: 1 x Line-out; 1 x Line-in; 1 x Mic-in
- USB: 4 x USB 3.0

Dimension Drawing



- 3-pin remote power on/off switch connector
- Reset button
- COM#1: RS232/422/485 w/ 5V or 12V selection
- ATX power switch

Top I/O

- COM#2 RS232/422/485 w/ 5V or 12V selection

Audio

- HD codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/Mic-in audio jack

Ethernet

- LAN chip: dual Intel® I210IT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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:
  - Power input: 12~30 VDC
  - Power connector: 3-pin PHOENIX connector
- 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:
  Resistive: -10°C to 50°C
  P-Cap: -20°C to 50°C
- Storage temperature: -20°C to 75°C
- Operating humidity: 10%~90% relative humidity, non-condensing
  (for IPPC A1970T series, limits to be at 90% RH at max 50°C)
- Dimension: 470 x 400 x 104.9 mm
- Weight: (barebone)
  IPPC A1970TE2-DC: 10.25kg
  IPPC A1970PE2-DC: 10.34kg

Certifications

- CE (including EN61000-6-2/EN61000-6-4)
- FCC Class A

OS Support Lists

- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

System

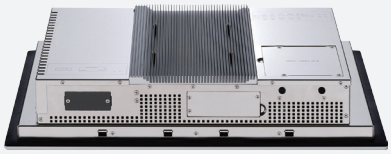
- **IPPC A1970TE2-DC (P/N: 10II0197001X0)**
  19" SXGA LED backlight fanless RTP touch panel PC, 2 x COM, DC power input, and optional fieldbus module
- **IPPC A1970PE2-DC (P/N: 10II0197000X0)**
  19" SXGA LED backlight fanless P-CAP touch panel PC, 2 x COM, DC power input, and optional fieldbus modul

Optional

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400120023X00)**
- **PROFINET, EtherNet/IP, EtherCAT, SERCOSIII master interface module: FBI90E-REM(P/N:10J50090E08X0)**
- **PROFINET master interface module: FBI90E-PNM (P/N: 10J50090E21X0)**
- **PROFIBUS master interface module: FBI90E-PBM (P/N:10J50090E09X0)**
- **DeviceNet master interface module: FBI90E-DNM (P/N:10J50090E10X0)**
- **EtherCAT master interface module: FBI90E-ECM (P/N:10J50090E19X0)**
- **EtherNet/IP master interface module: FBI90E-EPM (P/N:10J50090E20X0)**

IPPC 1560TE

15" TFT XGA 4:3 Heavy Industrial Panel PC with
3rd Generation Intel® Core™ i5, 2.7GHz



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
- 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

Panel

- LCD Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 400cd/m²
- Contrast ratio: 700
- LCD color: 16.7M
- Viewing angle: 60 (U), 80 (D), 80 (L), 80 (R)
- Backlight: LED

Touch

- 5-wire resistive (flush panel type)
- Light transmission: 81%
- Interface: USB

System

- CPU: support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
  - Intel® Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache (maximum frequency 3.3GHz if turbo boost enabled)
- 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
  - 1 x Hard drive bay
- 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 PCIe x4 slots (default)
  - 2 x PCIe x4 slots
  - 2 x PCI slots

Rear I/O

- 2nd display VGA port: 1 x DB15
- Ethernet: 2 x RJ45
- USB: 4 x USB 2.0 (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

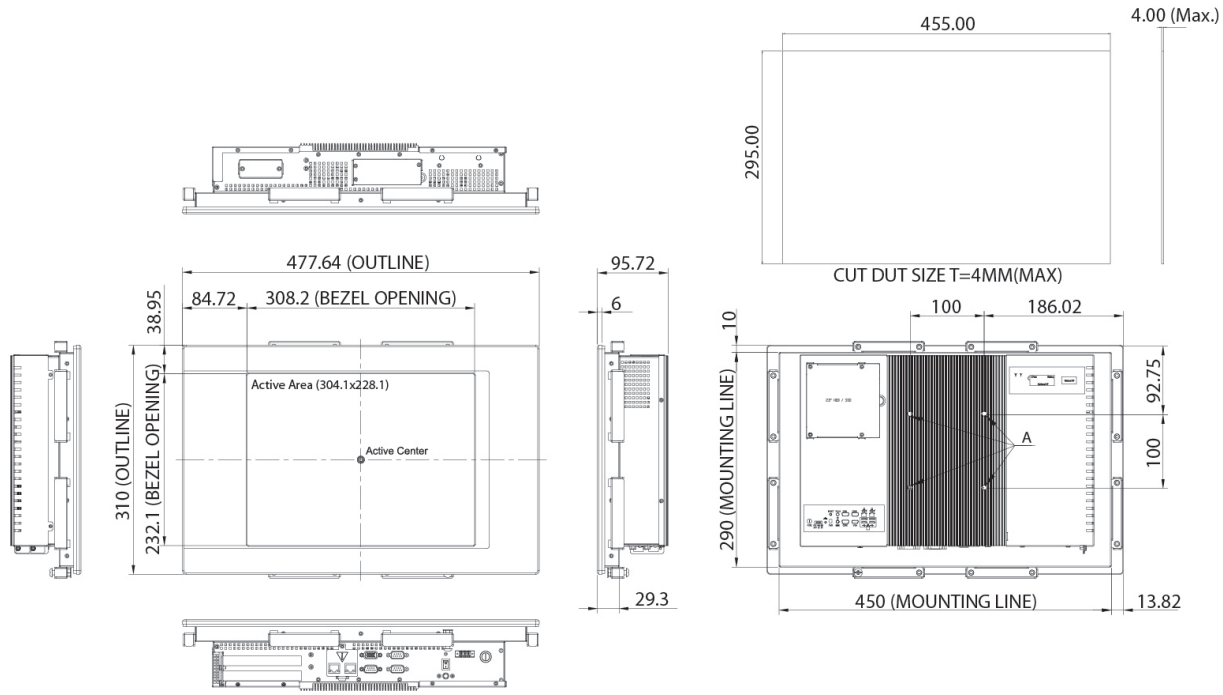
Ethernet

- LAN chip: dual Intel® 82574L Gigabit LAN
- Ethernet interface: 10/100/1000 Base-Tx Ethernet compatible

Fieldbus

- Support up to two fieldbus module (1 universal kit and 1 special kit)

Dimension Drawing



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:
  - 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)
  - 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
- 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: 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 32-bit/64-bit
- Windows 7 32-bit/64-bit
- WinCE 7.0
- Windows XP 32-bit

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 PCIe x4 slots (P/N: 20JK036E200X2)**
- **PROFINET, EtherNet/IP, EtherCAT, SERCOSIII master interface module: FBI90E-REM (P/N:10J50090E08X0)**
- **PROFINET master interface module: FBI90E-PNM (P/N: 10J50090E21X0)**
- **PROFIBUS master interface module: FBI90E-PBM (P/N:10J50090E09X0)**
- **DeviceNet master interface module: FBI90E-DNM (P/N:10J50090E10X0)**
- **EtherCAT master interface module: FBI90E-ECM (P/N:10J50090E19X0)**
- **EtherNet/IP master interface module: FBI90E-EPM (P/N:10J50090E20X0)**

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

- LCD 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

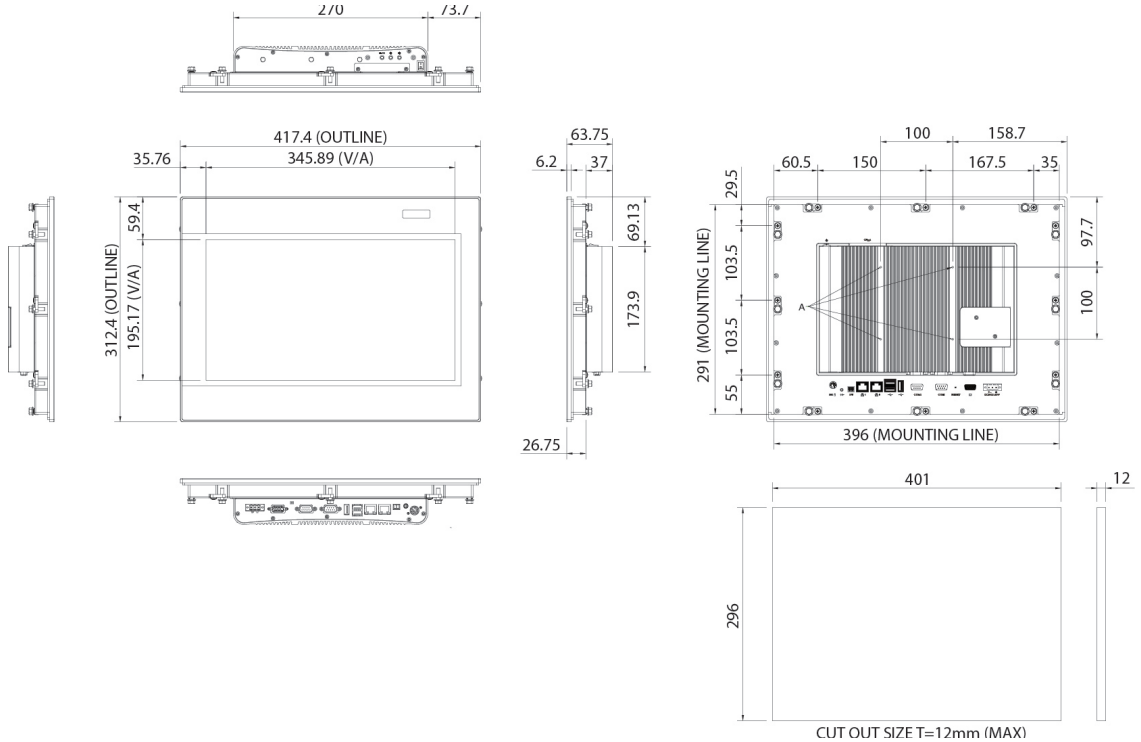
System

- CPU: onboard Intel® Celeron® Quad Core processor J1900, 2.0GHz, 2M L2 Cache (maximum frequency 2.42GHz if turbo boost enabled)
- 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: 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)

Dimension Drawing



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 audio jack

Ethernet

- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 based-Tx Ethernet compatible

Mechanical & Environment

- Color: Pantone 432C\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 32-bit/64-bit
- Windows 7 32-bit/64-bit
- 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: 7400060031X00)**
- **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 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
- 3 x USB/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

- LCD size: 18.5", 16:9
- Resolution: WXGA 1366 x 768
- 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

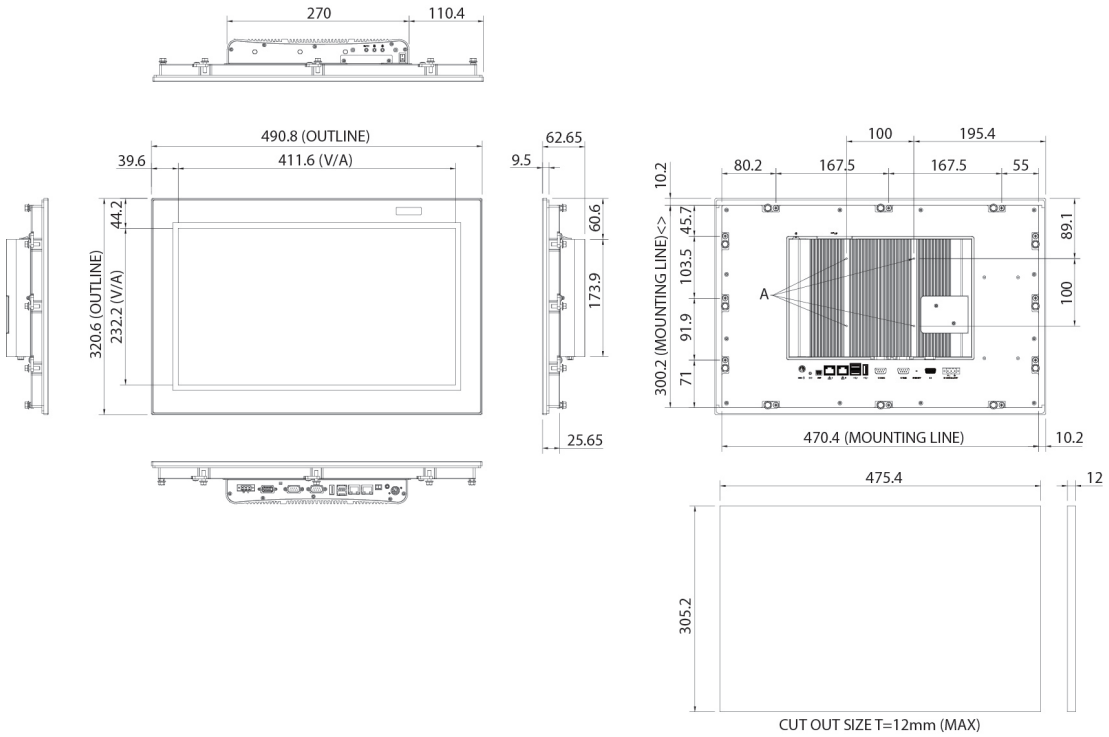
System

- CPU: onboard Intel® Celeron® Quad Core processor J1900, 2.0GHz, 2M L2 Cache (maximum frequency 2.42GHz if turbo boost enabled)
- 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:
  - 1x External locked CFast socket
  - 1x 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: 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



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 audio jack

Ethernet

- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Base-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: 490.8 x 320.6 x 62.65mm
- Weight: 8.2Kg

Certifications

- CE (including EN61000-6-2/EN61000-6-4)
- FCC class A

OS Support Lists

- Windows 8 32-bit/64-bit
- Windows 7 32-bit/64-bit
- 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: 7400060031X00)**
- **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 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

- LCD 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

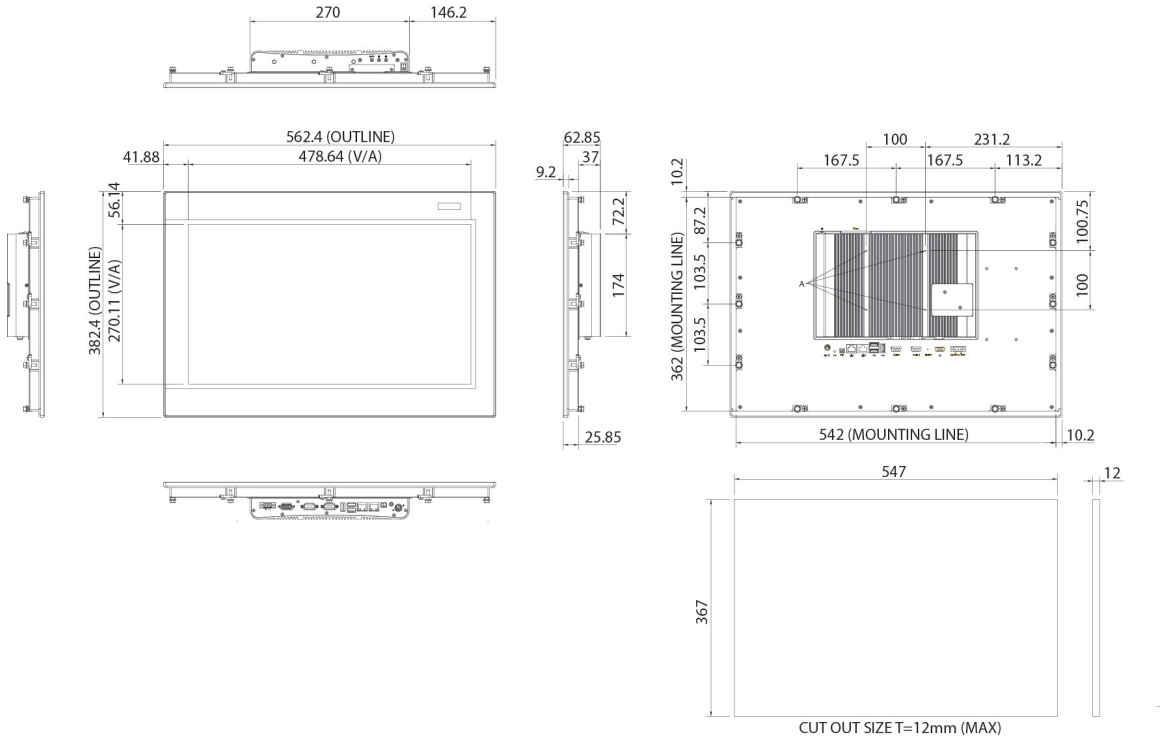
System

- CPU: onboard Intel® Celeron® Quad Core processor J1900, 2.0GHz, 2M L2 Cache (maximum frequency 2.42GHz if turbo boost enabled)
- 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)

Dimension Drawing



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 audio jack

Ethernet
- LAN chip: dual Intel® I210AT Gigabit LAN
- Ethernet interface: 10/100/1000 Based-Tx Ethernet compatible

Mechanical & Environment
- Color: Pantone 432C/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: 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, 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: 7400060031X00)**
- **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: 8IA1932T03X0)**
- **DeviceNet Master interface module: FBI90E-DNM for APPC (P/N: 88IA1932T04X0)**

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/DisplayPort
- 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 DisplayPort, 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

- LCD 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

Rear I/O

- Touch interface port: USB with Lock
- Video port: VGA (1 x DB15)/DVI-D (1 x DVI-D connector)/DisplayPort
- DC power input connector: 3-pin PHOENIX terminal Blocks

OSD Function

- OSD keypad
- Multilanguage OSD

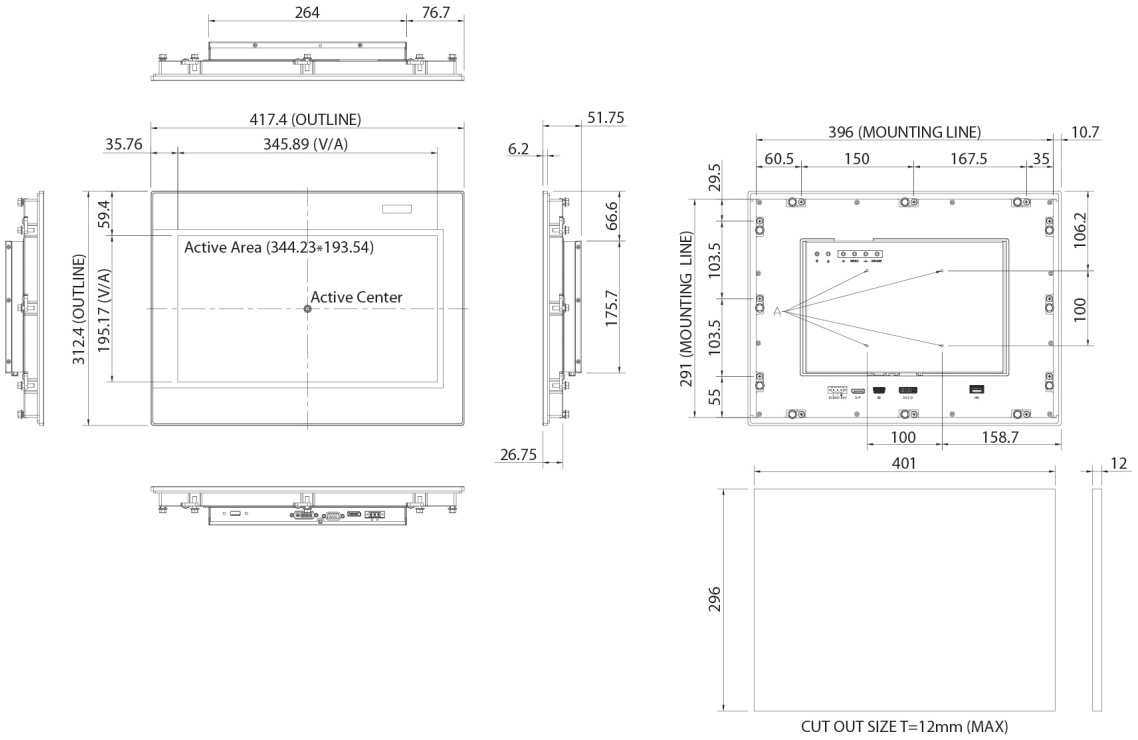
Mechanical & Environment

- Color: Pantone 432C/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

Dimension Drawing



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 DisplayPort input, 12~24VDC input

Option

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **1.8m DVI-D male to DVI-D male cable (P/N: 603DVI0007X00)**
- **1.8m DisplayPort 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/DisplayPort
- 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 DisplayPort, 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

- LCD 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 (1 x DB15)/DVI-D (1 x DVI-D connector)/DisplayPort
- DC power input connector: 3-pin PHOENIX terminal blocks

OSD Function

- OSD keypad
- Multilanguage OSD

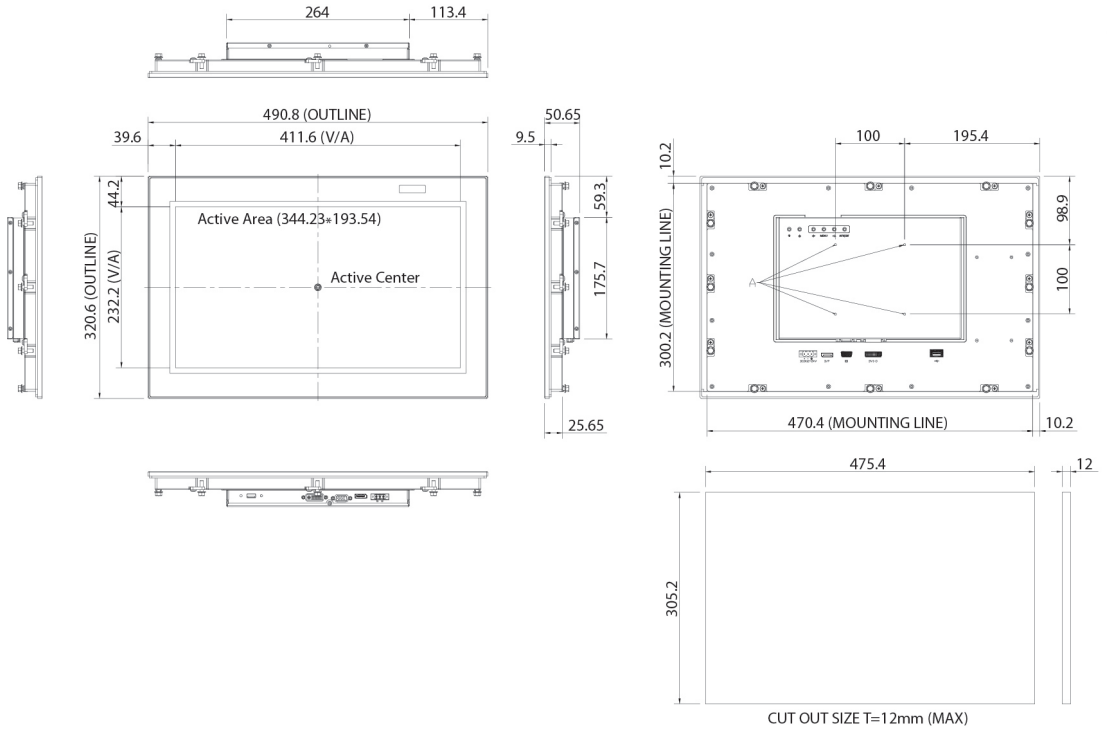
Mechanical & Environment

- Color: Pantone 432C/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

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 DisplayPort input, 12~24VDC input

Option

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **1.8m DVI-D male to DVI-D male cable (P/N: 603DVI0007X00)**
- **1.8m DisplayPort 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/DisplayPort
- 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 DisplayPort, 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

- LCD 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 (1 x DB15)/DVI-D (1x DVI-D connector)/DisplayPort
- DC power input connector: 3-pin PHOENIX terminal blocks

OSD Function

- OSD keypad
- Multilanguage OSD

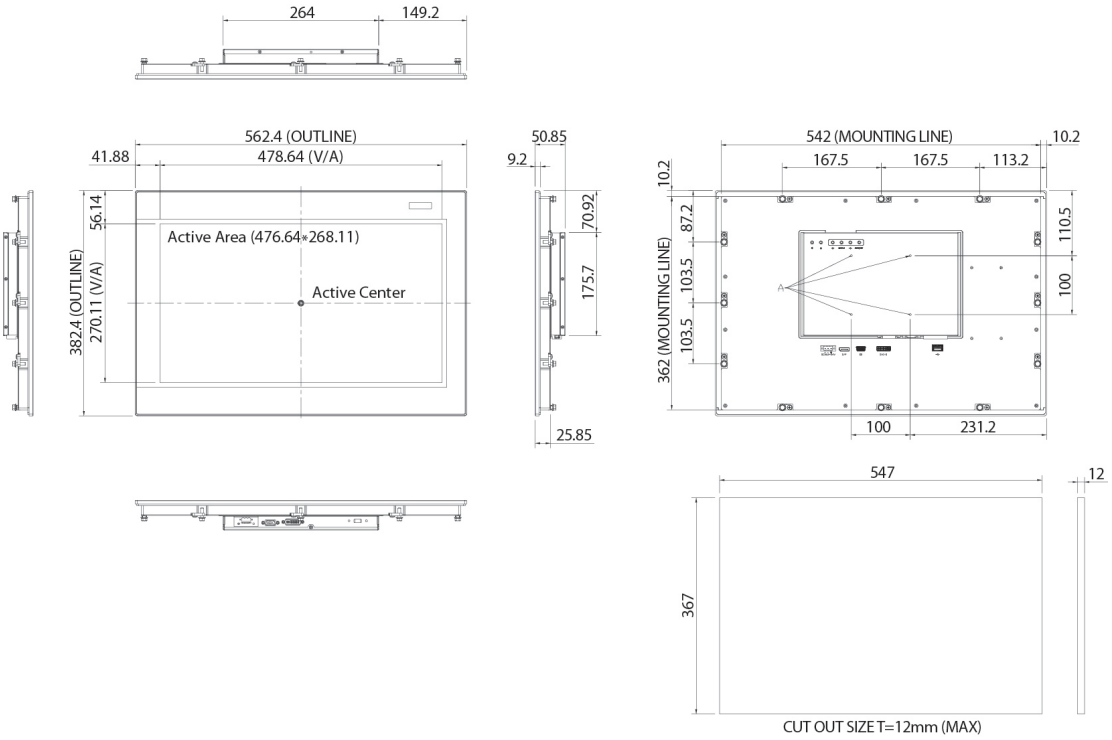
Mechanical & Environment

- Color: Pantone 432C\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: 562.4 x 382.4 x 50.85mm
- Weight: 7.87Kg

Certifications

- CE (including EN61000-6-1/EN61000-6-2/EN61000-6-3/EN61000-6-4)
- FCC Class B

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 DisplayPort input, 12~24VDC input

Option

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060031X00)**
- **1.8m DVI-D male to DVI-D male cable (P/N: 603DVI0007X00)**
- **1.8m DisplayPort cable (P/N: 6030000122X00)**

NIFE 100 Controller

Intel® Atom™ Dual Core
Automation PC-Based Controller

NIFE 100

NIFE 101

Main Features

- Distributed, modularized and open-architecture controller
- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 512 I/O points and maximum 12 axis for motion
- Support PLC handler APIs and OPC-UA server for Client/M2M communication
- Support industrial Ethernet Fieldbus protocols (EtherCAT, EtherNet/IP, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Available NEXCOM IoT Studio for cloud and data acquisition
- Support multi-core, multi-tasking powered by Intel® ATOM® Dual Core processor

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NIFE 100 presents intelligent PC-based controller and IoT gateway for smart factory automation. Up to 4G DDR3L memory, NIFE 100 have several options on storage devices like CFast and SSD. NIFE 100 support extended operating temperature from -20 up to 70°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 via EtherCAT protocol and IoT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module)

NIFE 100 also meets PLCopen® specifications and allows easy control programming via SoftPLC and 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. NIFE 100 also meets PLCopen® specifications and allows easy control programming via Control RTE and 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.

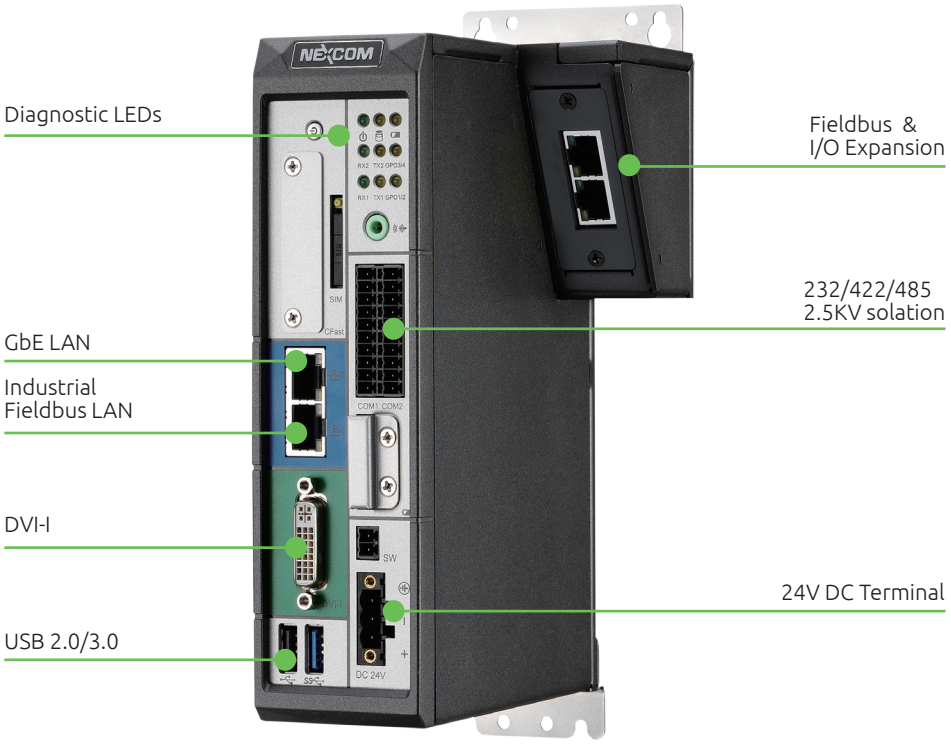
Controller Specifications

Specification	SoftPLC Controller	SoftMotion Controller
Performance Index	P10	M10
Real-Time	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET	
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen	
IEC61131-3 Language	Ladder diagram, function block diagram, instruction list, structured text, sequential function chart, continuous function chart	
Cycle Time (ms)	1	1
Max. I/O Points	512	512
Max. Axes	No support	12
Control Group	No support	No support
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option
High-Computing Applications Other Application Software	No support	No support
HMI (License Options)	No support	No support

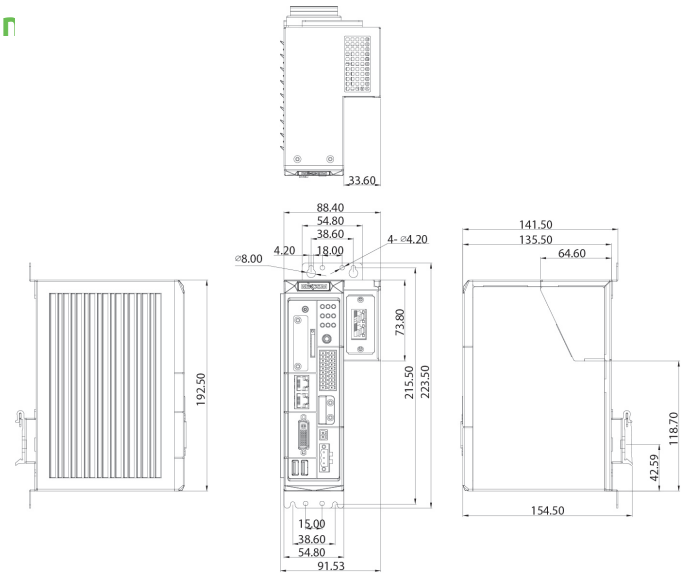
System Specification

Technical Data	NIFE 100/NIFE 101
Processor	Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
Main Memory	DDR3L 1600/1333MHz memory maximum up to 4GB
Storage Memory	Optional 2.5" SSD or HDD
Persistent Memory	Optional 1M-bit NVRAM via NISKNVRAM module
Power Backup	Optional battery pack, NISKBAT
General Interface	2 x GbE LAN (I210IT), 1 x DVI-I (DVI-D + VGA), 1 x USB 2.0, 1 x USB 3.0
Diagnostics LED	1 x Power, 1 x storage, 1 x CMOS battery low, 2 x Tx/Rx, 4 x programmable LEDs
Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit WEC7 Linux Kernel version 3.8.0
Control Software	P10: control RTE/M10 : SoftMotion RTE (optional)
Serial Ports	2 x RS232/422/485 with 2.5KV isolation protection
Power Requirement	Typical 24V DC input with ±20% range
Operating Temperature	Ambient with air flow: -20°C to 70°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 Resistance	50G, half sine, 11ms, IEC60068-27
Vibration Resistance	Random: 2Grms @ 5~500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
EMC Standard	CE Approval: EN55022 & EN55024 /FCC Class A/LVD

I/O Connectors

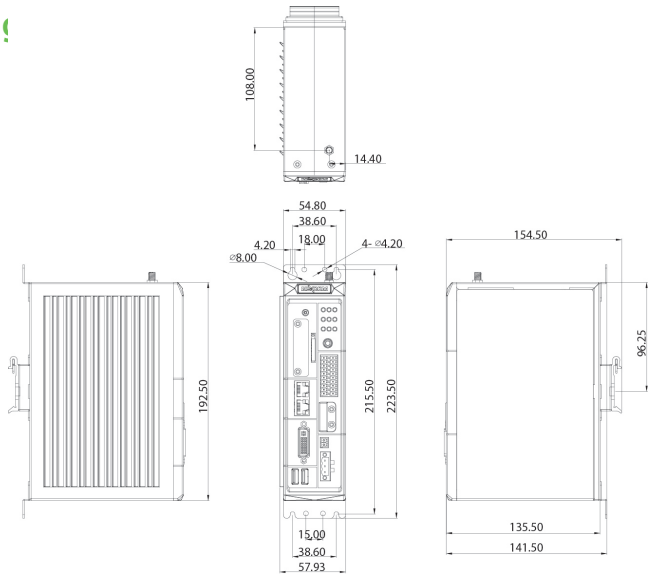


Dimension Drawin



NIFE 100

Dimension Drawin



NIFE 101

Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
NIFE100 P10 Controller A0J70010000X0	Atom E3826	4G	32G	♦ P10 Windows WES7 Package (P/N: 88J70010017X0) ♦ P10 Linux Ubuntu Package (P/N: TBC)	v	-	-	-	-
NIFE101 P10 Controller A0J70010100X0		4G	32G	♦ P10 Windows WES7 Package (P/N: 88J70010017X0) ♦ P10 Linux Ubuntu Package (P/N: TBC)	v	-	-	-	-
NIFE100 M10 Controller A0J70010000X0		4G	32G	♦ M10 Windows WES7 Package (P/N :88J70010018X0) ♦ M10 Linux Ubuntu Package (P/N: TBC)	v	v	-	-	-
NIFE101 M10 Controller A0J70010100X0		4G	32G	♦ M10 Windows WES7 Package (P/N: 8J70010018X0) ♦ M10 Linux Ubuntu Package (P/N: TBC)	v	v	-	-	-

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
NIFE 100 Bare-bone System 10J70010000X0	Atom E3826	Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-
NIFE 101 Bare-bone System 10J70010100X0		Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	60W 24V/2.5A w/ 3pin phoenix contact w/o power cord (P/N: 7400060033X00)

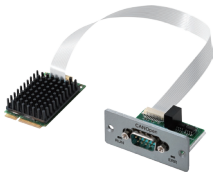
Optional Modules

FBI Fieldbus Module

P/N:10J50090E08X0
EtherCAT Protocol

P/N:10J50090E09X0
PROFIBUS Protocol

P/N:10J50090E10X0
DeviceNet Protocol



P/N:10J50090E15X0
CANopen Protocol

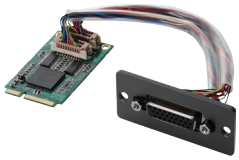
FBI Fieldbus Module

P/N:10J50090E20X0
EtherNet/IP Protocol

P/N:10J50090E21X0
PROFINET Protocol

COM Module

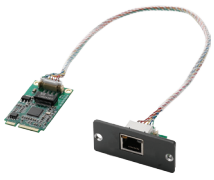
P/N:10JK0ECOM04X0
NISKECOM3 4xRS485



P/N:10JK0ECOM06X0
NISKECOM4 4xRS232

LAN Module

P/N:10JKLAN0401X0
NISKLAN04 2XI210AT



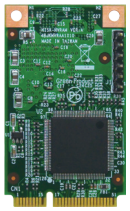
P/N:10JKLAN0101X0
NISKLAN01 1X82574L

Power Pack

P/N:10JK00BAT00X0
NISKBAT MAIN

P/N:10JK00BAT01X0
NISKBAT EXPANSION

Persistent Memory Module



P/N:10JKNVRAM00X0
NISK-NVRAM 1MB

NIFE 200 Controller

Intel® Celeron® Quad Core
Automation PC-Based Controller

Main Features

- Distributed, modularized and open-architecture controller
- Compliant with Industrial IEC61131-3 Programming Languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024+ I/O Points and maximum 24 Axis for motion
- Support PLC Handler APIs and OPC-UA server for Client/M2M communication
- Available HMI APIs for human-machine interface
- Support industrial Ethernet Fieldbus protocols (EtherCAT, EtherNet/IP, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Available NEXCOM IoT Studio for cloud and data acquisition
- Support Multi-Core, Multi-Tasking powered by Intel® Celeron® Quad Core processor

Product Overview

Powered by the Intel® Celeron® processor J1900 (formerly codenamed "Bay Trail-D"), NIFE 200 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, 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 fieldbus modules), IoT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485). NIFE 200 is the top choice for M2M intelligent system as a factory automation controller and IoT gateway.

NIFE 200 also meets PLCopen® specifications and allows easy control programming via Control RTE and 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.

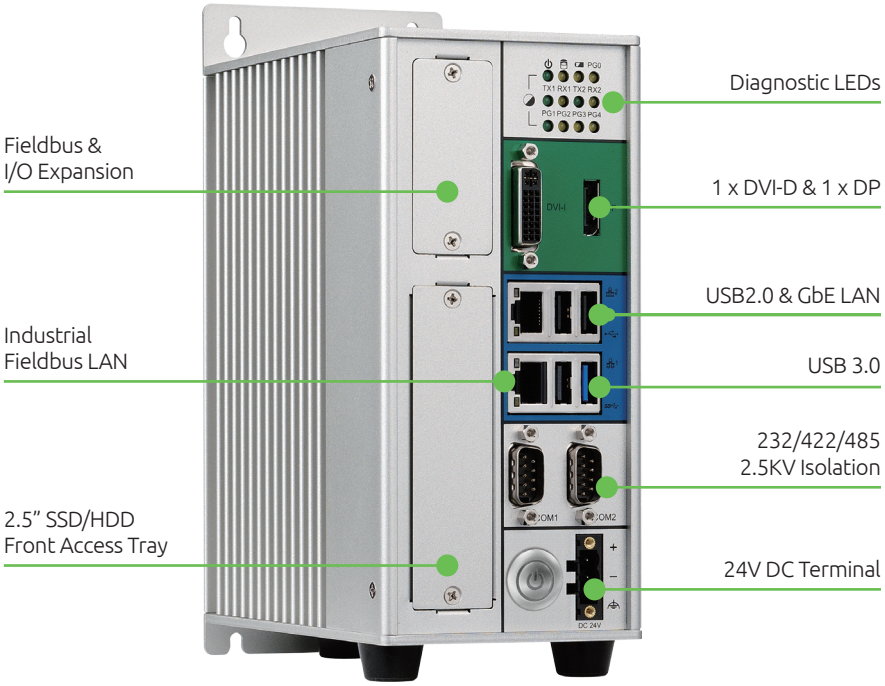
Controller Specifications

Specification	SoftPLC Controller		SoftMotion Controller	SoftMotion CNC Controller	
Performance Index	P20	P30	M20	R10	R20
Real-Time	Yes	Yes	Yes	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET				
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen				
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart				
Cycle Time (ms)	0.5	0.5	0.5	0.5	0.5
Max. I/O Points	1024	1024+	1024	512	1024
Max. Axes	No support	No support	24	12	24
Control Group	No support	No support	No support	1	2
Motion Features	No support	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration options		
High-Computing Applications Other Application Software	No support	Yes	No support	No support	No support
HMI (License Options)	JMobile Suite	JMobile Suite	TargetVisu	TargetVisu	TargetVisu

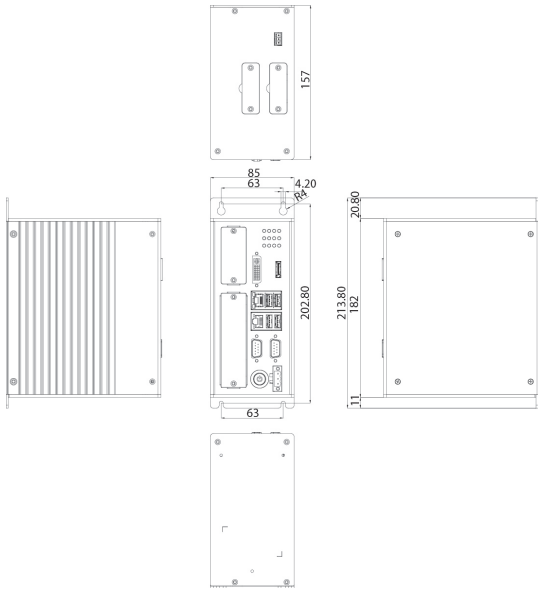
System Specification

Specification	NIFE 200 / NIFE 200P2E
Processor	Onboard Intel® Celeron® processor J1900 Quad Cord 2.0GHz
Main Memory	DDR3L 1600/1333MHz memory maximum up to 8GB
Storage Memory	Optional 2.5" SSD or HDD
Persistent Memory	Optional 1M-bit NVRAM via mini-PCIe
Power Backup	Optional battery pack, NISKBAT
General Interface	2 x GbE RJ45 (I210AT), 1 x DVI-I (DVI-D + VGA), 1 x DP, 3 x USB 2.0, 1 x USB 3.0
Diagnostics LED	1 x Power, 1 x storage, 1 x battery low, 2 x Tx/Rx, 5 x GPO LEDs
Operating System	Win8 32-bit/64-bit, WES8 32-bit/64-bit Win7 32-bit/64-bit, WES7 32-bit/64-bit WEC7 Linux Kernel version 3.8.0
Control Software	SoftPLC: P20, P30 (optional) SoftMotion: M20 (optional) SoftMotion CNC: R10, R20 (optional)
Serial Ports	2 x RS232/422/485 with 2.5KV Iisolation
Power Requirement	Typical 24V DC input with ±0% range
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 Resistance	50G, half sine, 11ms, IEC60068-27
Vibration Resistance	Random: 2Grms @ 5~500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
EMC Standard	CE Approval: EN61000-4-2 & EN61000-4-4/FCC Class A/UL60950/LVD

I/O Connectors

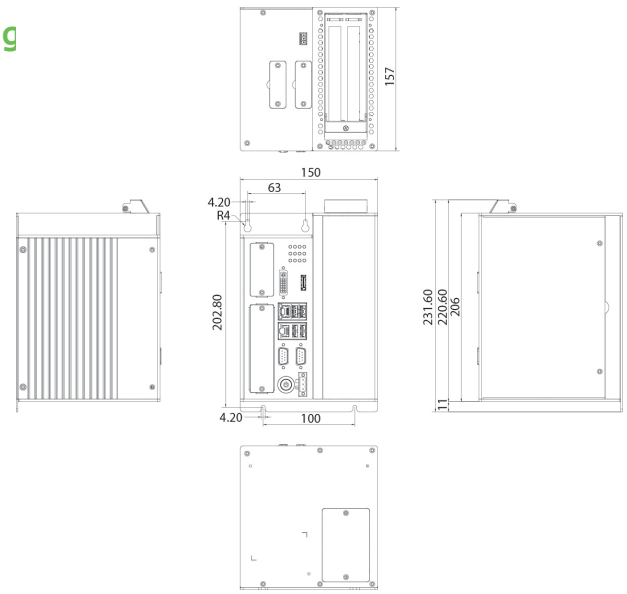


Dimension Drawing



NIFE 200

Dimension Drawing



NIFE 200P2E

Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
						SoftMotion CNC			TargetVisu
NIFE200 P20 Controller A0J70020000X0	Celeron J1900	4G	32G	♦ P20 Windows WES7 Package (P/N: 88J70020011X0) ♦ P20 Linux Ubuntu Package (P/N: TBC)	V	-	-	V	-
NIFE200 P30 Controller A0J70020000X0		4G	32G	♦ P30 Windows WES7 Package (P/N: 88J70020012X0) ♦ P30 Linux Ubuntu Package (P/N: TBC)	V	-	-	V	-
NIFE200 M20 Controller A0J70020000X0		4G	32G	♦ M20 Windows WES7 Package (P/N: 88J70020013X0) ♦ M20 Linux Ubuntu Package (P/N: TBC)	V	V	-	-	V
NIFE200 R10 Controller A0J70020000X0		8G	64G	♦ Windows 7 Pro Emb Package (P/N: 88J70020014X0) ♦ R10 Linux Ubuntu Package (P/N: TBC)	V	V	V	-	V

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
NIFE 200 R20 Controller A0J70020000X0	Celeron J1900	8G	64G	• R20 Windows 7 Pro Emb Package (P/N : 88J70020015X0) • R20 Linux Ubuntu Package (P/N: TBC)	V	V	V	-	V
NIFE 200P2E R20 Controller A0J70020002X0		8G	64G	• R20 Windows 7 Pro Emb Package (P/N: 88J70020015X0) • R20 Linux Ubuntu Package (P/N: TBC)	V	V	V	-	V
NIFE 200 Bare-bone System 10J70010000X0		Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bit/64-bit • Win7 32-bit/64-bit, WES7 32-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-
NIFE 200P2E Bare-bone System 10J70010100X0		Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bit/64-bit • Win7 32-bit/64-bit, WES7 32-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	60W 24V/2.5A w/3pin phoenix contact w/o power cord (P/N: 7400060033X00)

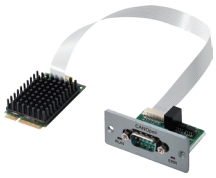
Optional Modules

FBI Fieldbus Module

P/N:10J50090E08X0
EtherCAT Protocol

P/N:10J50090E09X0
PROFIBUS Protocol

P/N:10J50090E10X0
DeviceNet Protocol



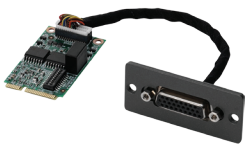
P/N:10J50090E15X0
CANopen Protocol

FBI Fieldbus Module

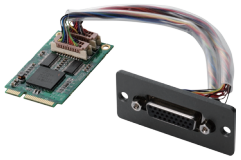
P/N:10J50090E20X0
EtherNet/IP Protocol

P/N:10J50090E21X0
PROFINET Protocol

COM Module

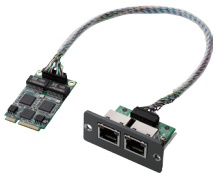


P/N:10JK0ECOM04X0
NISKECOM3 4xRS485



P/N:10JK0ECOM06X0
NISKECOM4 4xRS232

LAN Module



P/N:10JKLAN0401X0
NISKLAN04 2XI210AT

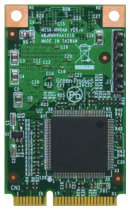
P/N:10JKLAN0101X0
NISKLAN01 1X82574L

Power Pack

P/N:10JK00BAT00X0
NISKBAT MAIN

P/N:10JK00BAT01X0
NISKBAT EXPANSION

Persistent Memory Module



P/N:10JKNVRAM00X0
NISK-NVRAM 1MB

NIFE 300 Controller

Intel® Core™-i Automation PC-Based Controller

Main Features

- Distributed, modularized and open-architecture controller
- Compliant with Industrial IEC61131-3 Programming Languages (LD/FBD/SFC/IL/ST/CFC)
- Support 1024+ I/O Points and maximum 64 Axis for motion control
- Support PLC Handler APIs and OPC-UA server for Client/M2M communication
- Available HMI APIs for human-machine interface
- Support industrial Ethernet Fieldbus protocols (EtherCAT, EtherNet/IP, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Available NEXCOM IoT Studio for cloud and data acquisition
- Support Multi-Core, Multi-Tasking powered by Intel® Core™-i processor

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 the 6th generation Intel® Core™ processors, 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 Control RTE and 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.

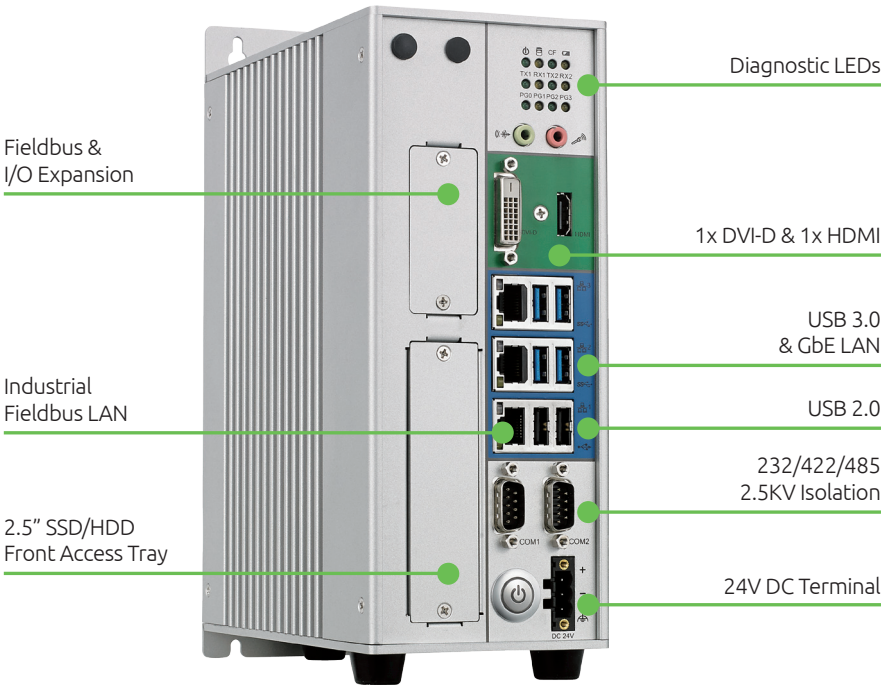
Controller Specifications

Specification	SoftPLC Controller	SoftMotion Controller	SoftMotion CNC Controller	
Performance Index	P30	M60	R20	R60
Real-Time	Yes	Yes	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET			
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen			
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart			
Cycle Time (ms)	0.5	0.5	0.5	0.5
Max. I/O Points	1024+	1024+	1024	1024+
Max. Axes	No support	64	24	64
Control Group	No support	No Support	2	6
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration options		
High-Computing Applications Other Application Software	Yes	Yes	No support	Yes
HMI (License Options)	JMobile Suite	TargetVisu	TargetVisu	TargetVisu

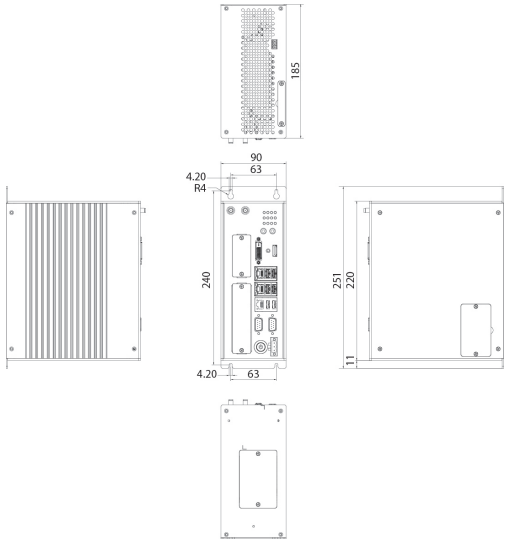
System Specification

Technical Data	NIFE 300 / NIFE 300P2
Processor	6th generation Intel Core i7/i5/i3 LGA Socket Type Processor - Core™ i7-6700TE, quad core, 2.4GHz, 8M cache - Core™ i5-6500TE, quad core, 2.3GHz, 6M cache - Core™ i3-6100TE, dual core, 2.7GHz, 4M cache
Main Memory	DDR4 2133MHz Memory Maximum up to 8GB
Storage Memory	Optional 2.5" SSD or HDD
Persistent Memory	Optional 1MBit NVRAM via mini-PCIe
Power Backup	Optional Battery Pack, NISKBAT
General Interface	3 x GbE RJ45 (I210IT), 1 x DVI-D, 1 x HDMI, 2 x USB 2.0, 4 x USB 3.0
Diagnostics LED	1 x Power, 1 x Storage, 1 x CFast, 1 x Battery Low, 2 x Tx/Rx, 4 x GPO LEDs
Operating System	Win8 32-bit/64-bit, WES8 32-bit/64-bit Win7 32-bit/64-bit, WES7 32-bit/64-bit Linux Kernel version 3.8.0
Control Software	SoftPLC: P30 (Optional) SoftMotion: M60 (Optional) SoftMotion CNC: R20, R60 (Optional)
Serial Ports	2 x RS232/422/485 with 2.5KV Isolation
Power Requirement	Typical 24V DC input with ±20% range
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 Resistance	50G, half sine, 11ms, IEC60068-27
Vibration Resistance	Random: 2Grms @ 5~500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
EMC Standard	CE Approval: EN61000-4-2 & EN61000-4-4/FCC Class A/LVD

I/O Connectors

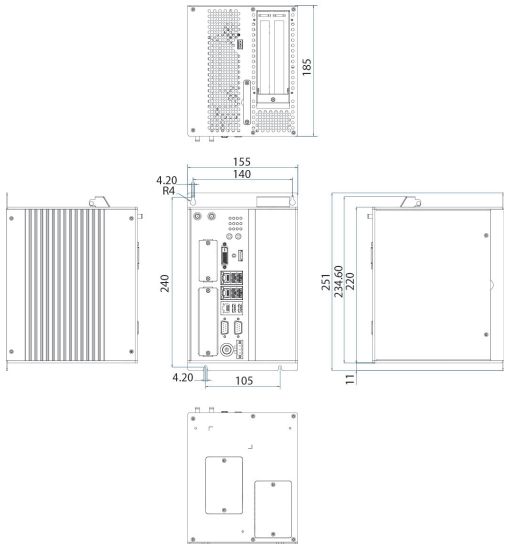


Dimension Drawing



NIFE 300

Dimension Drawing



NIFE 300P2E

Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC	SoftMotion	SoftMotion CNC	HMI (Optional) JMobile	HMI (Optional) TargetVisu
NIFE300 P30 Controller A0J70030000X0	Core-i i3-6100TE	4G	32G	• P30 Windows WES7 Package (P/N: 88J70030013X0) • P30 Linux Ubuntu Package (P/N: TBC)	V	-	-	V	-
NIFE300 M60 Controller A0J70030000X0	Core-i i3-6100TE	4G	32G	• M60 Windows WES7 Package (P/N: 88J70030014X0) • M60 Linux Ubuntu Package (P/N: TBC)	V	V	-	-	V
NIFE300 M60 Controller A0J70030000X0	Core-i i5-6500TE	4G	32G	• M60 Windows WES7 Package (P/N: 88J70030015X0) • M60 Linux Ubuntu Package (P/N: TBC)	V	V	-	-	V
NIFE300 R20 Controller A0J70030000X0	Core-i i3-6100TE	8G	64G	• R20 Windows 7 Pro Emb Package (P/N: 88J70030016X0) • R20 Linux Ubuntu Package (P/N: TBC)	V	V	V	-	V
NIFE300 R60 Controller A0J70030000X0	Core-i i3-6100TE	8G	64G	• R60 Windows 7 Pro Emb Package (P/N: 88J70030017X0) • R60 Linux Ubuntu Package (P/N: TBC)	V	V	V	-	V
NIFE300 R60 Controller A0J70030000X0	Core-i i5-6500TE	8G	64G	• R60 Windows 7 Pro Emb Package (P/N: 88J70030018X0) • R60 Linux Ubuntu Package (P/N: TBC)	V	V	V	-	V
NIFE300P2 R60 Controller A0J70030001X0	Core-i i7-7600TE	8G	64G	• R60 Windows 7 Pro Emb Package (P/N: 88J70030019X0) • R60 Linux Ubuntu Package (P/N: TBC)	V	V	V	-	V

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
NIFE300 Bare-bone System 10J70030000X0	Option	Option	Option	Support ♦ Win8 32-bit/64-bit, WES8 32-bit/64-bit ♦ Win7 32-bit/64-bit, WES7 32-bit/64-bit ♦ Linux Kernel version 3.8.0	-	-	-	-	-
NIFE300P2 Bare-bone System 10J70030001X0	Option	Option	Option	Support ♦ Win8 32-bit/64-bit, WES8 32-bit/64-bit ♦ Win7 32-bit/64-bit, WES7 32-bit/64-bit ♦ Linux Kernel version 3.8.0	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	24V, 120W AC to DC Power Adapter w/o power cord (P/N: 7400180005X00)

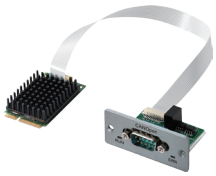
Optional Modules

FBI Fieldbus Module

P/N:10J50090E08X0
EtherCAT Protocol

P/N:10J50090E09X0
PROFIBUS Protocol

P/N:10J50090E10X0
DeviceNet Protocol



P/N:10J50090E15X0
CANopen Protocol

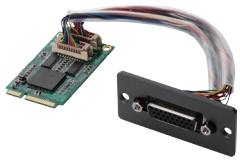
FBI Fieldbus Module

P/N:10J50090E20X0
EtherNet/IP Protocol

P/N:10J50090E21X0
PROFINET Protocol

COM Module

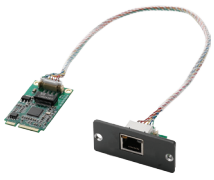
P/N:10JK0ECOM04X0
NISKECOM3 4xRS485



P/N:10JK0ECOM06X0
NISKECOM4 4xRS232

LAN Module

P/N:10JKLAN0401X0
NISKLAN04 2XI210AT



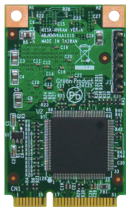
P/N:10JKLAN0101X0
NISKLAN01 1X82574L

Power Pack

P/N:10JK00BAT00X0
NISKBAT MAIN

P/N:10JK00BAT01X0
NISKBAT EXPANSION

Persistent Memory Module



P/N:10JKNVRAM00X0
NISK-NVRAM 1MB

APPC 0842T Controller

8” 4:3 Control Panel Computer

Main Features

- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024 I/O points
- Build-in HMI APIs for human-machine interface
- Support remote monitor, remote control and maintenance
- Support industrial Ethernet Fieldbus protocols (EtherCAT, EtherNet/IP, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Support Multi-Core, Multi-Tasking powered by Intel® ATOM® Dual Core processor

Product Overview

The 8” 4:3 SVGA control panel computer APPC 0842T comes with flush panel design and can have IP65 front for industrial applications, such as, access control, small automation machineries, forklift and truck etc. It supports fieldbus communication in automation market with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen fieldbus modules. It also meets PLCopen® specifications and allows easy control programming via SoftPLC tool kit. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC. It also supports JMobile PC runtime to become HMI.

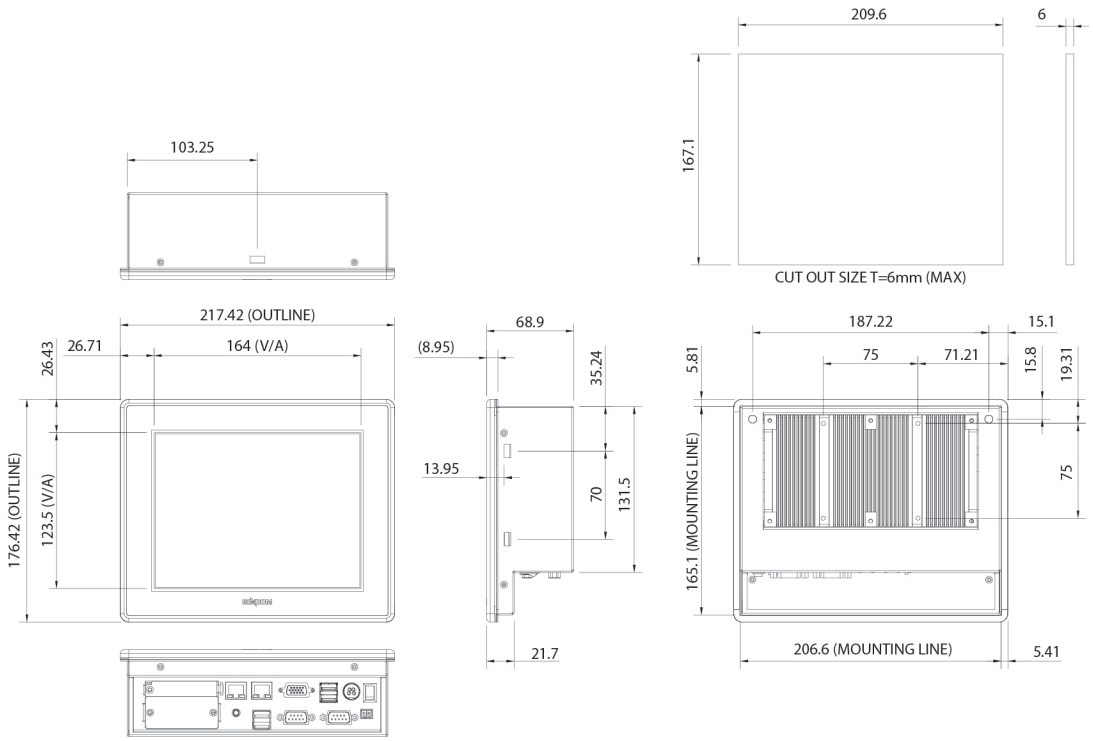
Controller Specifications

Specification	SoftPLC Controller	Specification	SoftPLC Controller
Performance Index	P20	IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List,Structured Text, Sequential Function Chart, Continuous Function Chart
Real-Time	Yes		
Software Protocols	EtherCAT, EtherNet/IP, PROFINET		
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen	Max. I/O Points	1024
Cycle Time (ms)	0.5	HMI (License Options)	JMobile Suite

System Specifications

Technical Data	APPC 0842T	Technical Data	APPC 0842T
Panel	8”, 4:3, SVGA 800 x 600	Expansion	2 x mini-PCIe (Optional Module refer to Page 45)
	Luminance: 400cd/m2	Power Requirement	12~30V DC Input
	Contrast ratio: 500	System Enclosure	Plastic front bezel with Metal housing
	LCD color: 262K		IP Protection: IP65 front
	Viewing angle: 50(U), 70(D), 70(L), 70(R)		Panel Mount/Wall Mount/VESA Mount
Touch screen	5-wire USB resistive (flush panel type)		Dimension: 217.4(W) x 176.4(H) x 68.9 (D)mm
	Touch light transmission: 82%		Weight: 2.3Kg
Processor	Intel® Atom™ processor E3826 Dual Core 1.46GHz	Operating Temperature	Ambient with air flow: -5°C to 50°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
Main Memory	DDR3L 1600/1333MHz Memory Maximum up to 8GB		
Storage Memory	Optional 2.5” SSD or HDD	Storage Temperature	-20°C to 75°C
Persistent Memory	Optional 1MBit NVRAM via NISKNVRAM module	Relative Humidity	10%~90% relative humidity, non-condensing
General Interface	2 x GbE LAN (I210IT), 1 x VGA, 3 x USB 2.0, 1 x USB 3.0, 1 x Line-out		Limits to be at 90% RH at max 50°C
Serial Ports	2 x RS232/422/485	Shock Resistance	20G, half sine, 11ms, IEC60068-27
Control Software	P20: Control RTE	Vibration Resistance	Random: 2Grms @ 5~500Hz, IEC60068-2-64
Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit, WEC7, Linux Kernel version 3.8.0		Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
		EMC	CE Approval: EN55022 & EN55024 FCC Class A

Dimension Drawing



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
APPC 0842T P20 HMI Controller A0IA0842T00X2	Atom E3826	4G	32G	• P20 Windows WES7 Package (P/N: 88IA0842T00X2)	v	-	-	-	-
APPC 0840T HMI Starter Kit 10IA0840T03X0		2G	32G	• Built-in WES7 Package with JMobile PC Runtime, • JMobile Studio, Control RTE, ACRONIS License	v	-	-	-	-
APPC 0840T Bare-bone System 10IA0840T00X0		2G	Option	• Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-
APPC 0840T-4G Bare-bone System 10IA0840T01X0		4G	Option	• Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	60W 12V/5A w/ Mini DIN 4pin w/o power cord (P/N: 7400060029X00)

APPC 1247T Controller

12.1" 4:3 Control Panel Computer

Main Features

- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024 I/O points
- Build-in HMI APIs for human-machine interface
- Support remote monitor, remote control and maintenance
- Support industrial Ethernet Fieldbus protocols (EtherCAT, Ethernet I/P, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Support Multi-Core, Multi-Tasking powered by Intel® Celeron® Dual Core processor

Product Overview

The 12.1" 4:3 XGA fanless Control Panel Computer APPC 1247T comes with industrial motherboard, flush panel design and can have IP65 front for industrial applications. It supports fieldbus communication in automation market with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen fieldbus modules. It also meets PLCopen® specifications and allows easy control programming via SoftPLC and SoftMotion tool kit. It also supports JMobile PC runtime to become HMI.

Controller Specifications

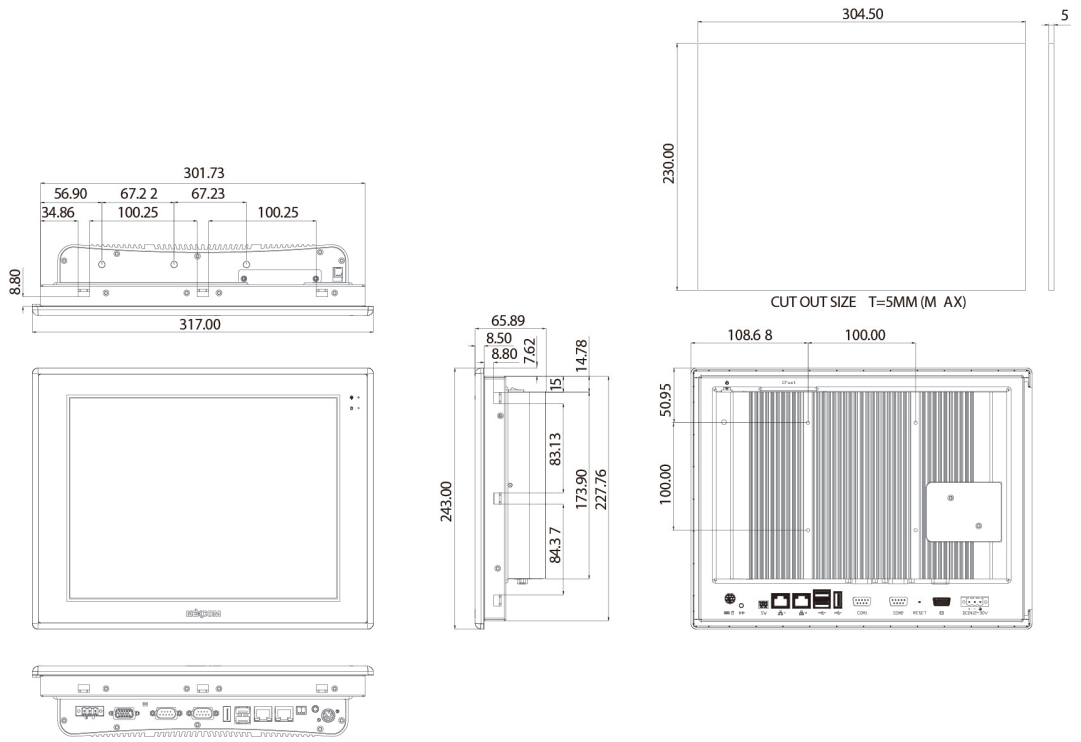
Specification	SoftPLC Controller	SoftMotion Controller
Performance Index	P20	M20
Real-Time	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET	
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen	
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart	
Cycle Time (ms)	0.5	0.5
Max. I/O Points	1024	1024
Max. Axes	No support	24
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option
HMI (License Options)	JMobile Suite	TargetVisu

System Specifications

Technical Data	APPC 1247T	Technical Data	APPC 1247T
Panel	12.1", 4:3, XGA 1024 x768	Expansion	2 x mini-PCIe (Optional Module refer to Page 45)
	Luminance: 500cd/m2	Power Requirement	12~30V DC Input
	Contrast ratio: 700	System Enclosure	Plastic front bezel with Metal housing
	LCD color: 16.2M		IP Protection: IP65 front
	Viewing angle: 80(U), 80(D), 80(L), 80(R)		Panel Mount/Wall Mount/VESA Mount
Touch screen	5-wire USB resistive (flush panel type) Touch light transmission: 80%		Weight: 4Kg
Processor	Intel® Celeron® processor J1900 quad core 2GHz	Operating Temperature	Ambient with air flow: -5°C to 60°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
Main Memory	DDR3L 1600/1333MHz Memory Maximum up to 8GB	Storage Temperature	-20°C to 75°C

Technical Data	APPC 1247T	Technical Data	APPC 1247T
Storage Memory	Optional 2.5” SSD or HDD	Relative Humidity	10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
Persistent Memory	Optional 1MBit NVRAM via NISKNVRAM module		
General Interface	2 x GbE LAN (I210IT), 1 x VGA, 2 x USB 2.0, 1 x USB 3.0, 1 x Line-out, 1 x PS/2 Keyboard & Mouse	Shock Resistance	20G, half sine, 11ms, IEC60068-27
Serial Ports	2 x RS232/422/485 w/ 2.5kv isolated	Vibration Resistance	Random: 2.2Grms @ 5~500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
Control Software	P20: Control RTE / M20 : SoftMotion RTE (Optional)		
Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit, WEC7, Linux Kernel version 3.8.0	EMC	CE Approval: EN55022 & EN55024, FCC Class A

Dimension Drawing



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
APPC 1247T P20 HMI Controller A0IA1247T00X2	Celeron J1900	4G	32G	• P20 Windows WES7 Package (P/N: 88IA1247T00X2)	v	-	-	v	-
APPC 1247T M20 HMI Controller A0IA1247T00X2		4G	32G	• M20 Windows WES7 Package (P/N: 88IA1247T01X2)	v	v	-	-	v
APPC 1245T Bare-bone System 10IA1245T00X0	Atom E3826	2G	Option	Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	60W 12V/5A w/ 3pin phoenix contact w/o power cord (P/N: 7400060031X00)

APPC 1542T Controller

15” 4:3 Control Panel Computer

Main Features

- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024 I/O points
- Build-in HMI APIs for human-machine interface
- Support remote monitor, remote control and maintenance
- Support industrial Ethernet Fieldbus protocols (EtherCAT, Ethernet I/P, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Support Multi-Core, Multi-Tasking powered by Intel® Celeron® Dual Core processor

Product Overview

The 15” 4:3 XGA fanless Control Panel Computer APPC 1542T comes with industrial motherboard, flush panel design and can have IP65 front for industrial applications. It supports fieldbus communication in automation market with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen fieldbus modules. It also meets PLCopen® specifications and allows easy control programming via SoftPLC and SoftMotion tool kit. It also supports JMobile PC runtime to become HMI.

Controller Specifications

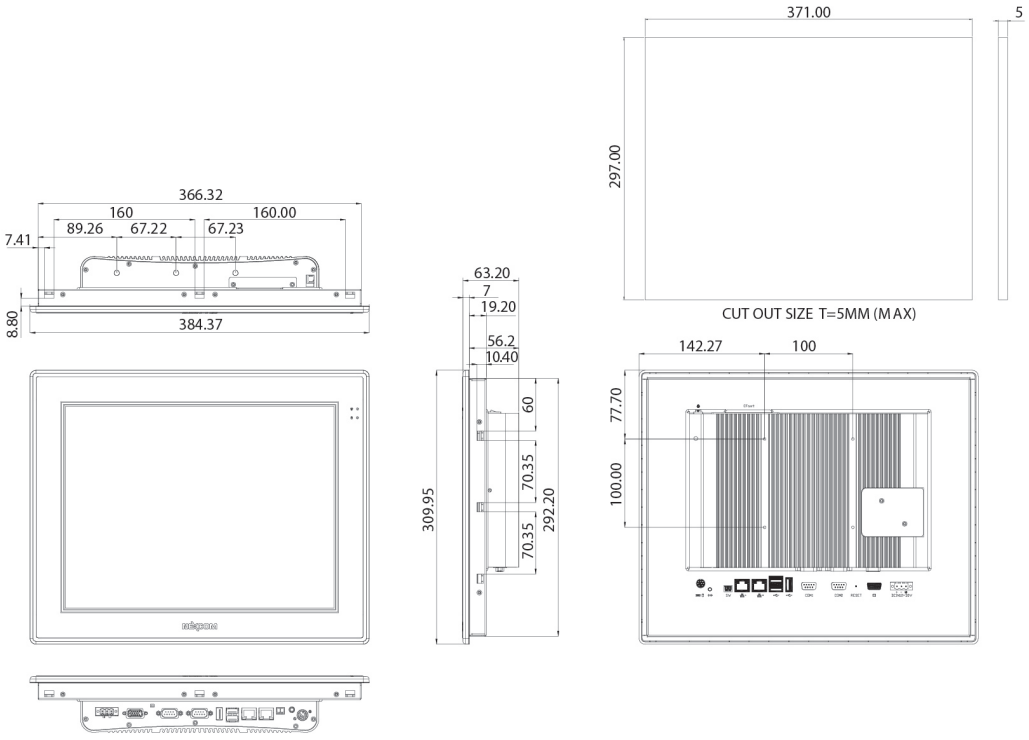
Specification	SoftPLC Controller	SoftMotion Controller	SoftMotion CNC Controller
Performance Index	P20	M20	R20
Real-Time	Yes	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET		
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen		
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart		
Cycle Time (ms)	0.5	0.5	0.5
Max. I/O Points	1024	1024	1024
Max. Axes	No support	24	24
Control Group	No support	No support	2
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option	
HMI (License Options)	JMobile Suite	TargetVisu	TargetVisu

System Specifications

Technical Data	APPC 1542T	Technical Data	APPC 1542T
Panel	15”, 4:3, XGA 1024 x768	Expansion	2x mini-PCIe (Optional Module refer to Page 45)
	Luminance: 400cd/m2	Power Requirement	12~30V DC Input
	Contrast ratio: 700	System Enclosure	Plastic front bezel with Metal housing
	LCD color: 16.2M		IP Protection: IP65 front
	Viewing angle: 60(U), 80(D), 80(L), 80(R)		Panel Mount/Wall Mount/VESA Mount
Touch screen	5-wire USB resistive (flush panel type)		Dimension: 384.37 x 309.95 x 63.2 mm
	Touch light transmission: 80%		Weight: 5.1Kg

Technical Data	APPC 1542T	Technical Data	APPC 1542T
Processor	Intel® Celeron® processor J1900 quad core 2GHz	Operating Temperature	Ambient with air flow: -5°C to 60°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
Main Memory	DDR3L 1600/1333MHz Memory Maximum up to 8GB		
Storage Memory	Optional 2.5" SSD or HDD	Storage Temperature	-20°C to 75°C
Persistent Memory	Optional 1MBit NVRAM via NISKNVRAM module	Relative Humidity	10%~90% relative humidity, non-condensing
General Interface	2 x GbE LAN (I210IT), 1 x VGA, 2 x USB 2.0, 1 x USB 3.0, 1 x Line-out,1 x PS/2 Keyboard & Mouse		Limits to be at 90% RH at max 50°C
Serial Ports	2x RS232/422/485 w/ 2.5kv isolated	Shock Resistance	20G, half sine, 11ms, IEC60068-27
Control Software	P20: Control RTE/M20 : SoftMotion RTE/R20: SoftMotion CNC (Optional)	Vibration Resistance	Random: 2.2Grms @ 5~500Hz, IEC60068-2-64
Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit, WEC7, Linux Kernel version 3.8.0	EMC	CE Approval: EN55022 & EN55024, FCC Class A

Dimension Drawing



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
APPC 1542T P20 HMI Controller A0IA1542T00X2	Celeron J1900	4G	32G	• P20 Windows WES7 Package (P/N: 88IA1247T00X2)	v	-	-	v	-
APPC 1542T M20 HMI Controller A0IA1542T00X2		4G	32G	• M20 Windows WES7 Package (P/N: 88IA1247T01X2)	v	v	-	-	v
APPC 1542T R20 HMI Controller A0IA1542T00X2		8G	32G	• R20 Windows Win7ProEmb Package (P/N: 88IA1542T00X2)	v	v	v	-	v
APPC 1540T Bare-bone System 10IA1540T00X0	Atom E3826	2G	Option	Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	60W 12V/5A w/ 3pin phoenix contact w/o power cord (P/N: 7400060031X00)

APPC 1562TP2E-DC Controller

15” 4:3
Control Panel Computer

Main Features

- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024+ I/O points and maximum 64 axis for motion control
- Build-in HMI APIs for human-machine interface
- Support remote monitor, remote control and maintenance
- Support industrial Ethernet Fieldbus protocols (EtherCAT, Ethernet I/P, PROFINET)
- Support industrial Fieldbus protocols (PROFINET/PROFIBUS/DeviceNET) by optional FBI
- Support Multi-Core, Multi-Tasking powered by Intel® Core™ i5/i3 processor

Product Overview

The 15” 4:3 XGA fanless Control Panel Computer APPC 1562T comes with industrial motherboard, flush panel design and can have IP65 front for industrial applications. It supports fieldbus communication in automation market with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen fieldbus modules. It also meets PLCopen® specifications and allows easy control programming via SoftPLC and SoftMotion tool kit. It also supports JMobile PC runtime to become HMI.

Controller Specifications

Specification	SoftPLC Controller	SoftMotion Controller	SoftMotion CNC Controller
Performance Index	P30	M60	R60
Real-Time	Yes	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET		
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen		
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart		
Cycle Time (ms)	0.5	0.5	0.5
Max. I/O Points	1024+	1024+	1024+
Max. Axes	No support	64	64
Control Group	No support	No support	6
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option	
High-Computing Applications	Yes	Yes	Yes
Other Application Software			
HMI (License Options)	JMobile Suite	TargetVisu	TargetVisu

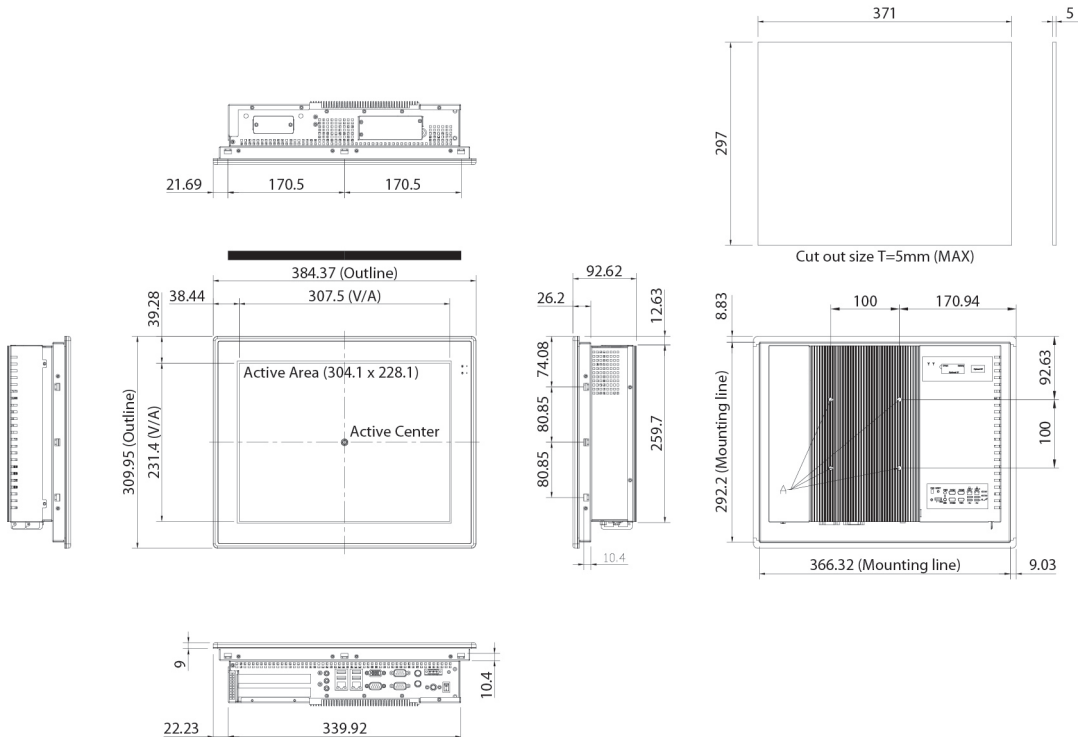
System Specifications

Technical Data	APPC1562TP2E-DC	Technical Data	APPC1562TP2E-DC
Panel	15”, 4:3, XGA 1024 x768	Power Requirement	12~30V DC Input
	Luminance: 400cd/m2	System Enclosure	Plastic front bezel with Metal housing
	Contrast ratio: 700		IP Protection: IP66 front
	LCD color: 16.2M		Panel Mount/Wall Mount/VESA Mount
	Viewing angle: 60(U), 80(D), 80(L), 80(R)		Dimension: 384.37 x 309.95 x 92.62 mm

Technical Data	APPC1562TP2E-DC
Touch screen	5-wire USB resistive (flush panel type) Touch light transmission: 80%
Processor	3th generation Intel Core i5/i3 LGA Socket Type Processor - Core™ i5-3610ME, dual core, 2.7GHz, 3M cache - Core™ i3-3120ME, dual core, 2.47GHz, 3M cache
Main Memory	DDR3 1333/1066MHz Memory Maximum up to 8GB
Storage Memory	Optional 2.5" SSD or HDD
General Interface	2x GbE LAN (82574L), 1x VGA, 4x USB2.0, 1x PS/2 Keyboard, 1x PS/2 Mouse, 1 x Line-out; 1 x Line-in; 1 x MIC-in
Serial Ports	2x RS232/422/485 w/ 2.5kv isolated; 1x RS232
Control Software	P30: Control RTE / M60 : SoftMotion RTE / R60: SoftMotion CNC (Optional)
Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit
Expansion	2x mini-PCIe (Optional Module refer to Page 45)

Technical Data	APPC1562TP2E-DC
System Enclosure	Weight: 7.8Kg
Operating Temperature	Ambient with air flow: -5°C to 50°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
Storage Temperature	-20°C to 75°C
Relative Humidity	10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
Shock Resistance	20G, half sine, 11ms, IEC60068-27
Vibration Resistance	Random: 2.2Grms @ 5 ~ 500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5 ~ 500Hz, IEC60068-2-64
EMC	CE Approval: EN55022 & EN55024, FCC Class A

Dimension Drawing



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
APPC 1562TP2E-DC P30 HMI Controller A0IA1562T00X2	Core-i i5-3610ME	4G	32G	P30 Windows WES7 Package (P/N: 88IA1562T00X2)	v	-	-	v	-
APPC 1562TP2E-DC M60 HMI Controller A0IA1562T00X2		4G	32G	M60 Windows WES7 Package (P/N: 88IA1562T01X2)	v	v	-	-	v
APPC 1562TP2E-DC R60 HMI Controller A0IA1562T00X2		4G	32G	R60 Windows Win7ProEmb Package (P/N: 88IA1562T02X2)	v	v	v	-	v

IPPC A1772PE2-DC Controller

17” 4:3
Control Panel Computer

Main Features

- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024+ I/O points and maximum 64 axis for motion control
- Support remote monitor, remote control and maintenance
- Support industrial Ethernet Fieldbus protocols (EtherCAT, Ethernet I/P, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Support Multi-Core, Multi-Tasking powered by Intel® Core™ i5/i3 processor

Product Overview

The 17” 4:3 SXGA fanless Control Panel Computer IPPC A1772P comes with industrial motherboard, flush panel design and can have IP66 front for industrial applications. It supports fieldbus communication in automation market with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen fi eldbus modules. It also meets PLCopen® specifi cations and allows easy control programming via SoftPLC and SoftMotion tool kit. It also supports JMobile PC runtime to become HMI.

Controller Specifications

Specification	SoftMotion Controller	SoftMotion CNC Controller
Performance Index	M60	R60
Real-Time	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET	
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen	
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart	
Cycle Time (ms)	0.5	0.5
Max. I/O Points	1024+	1024+
Max. Axes	64	64
Control Group	No support	6
Motion Features	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option	
High-Computing Applications	Yes	Yes
Other Application Software		
HMI (License Options)	TargetVisu	TargetVisu

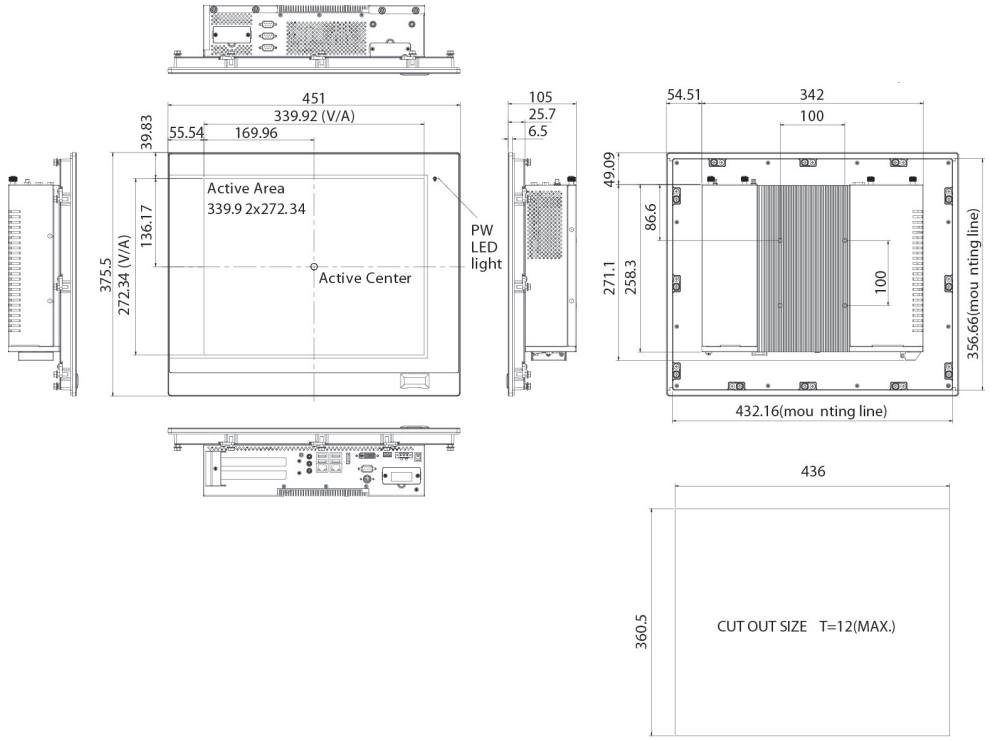
System Specifications

Technical Data	IPPC A1772PE2-DC	Technical Data	IPPC A1772PE2-DC
Panel	17”, 4:3, SXGA 1280 x 1024 Luminance: 350cd/m2 Contrast ratio: 1000 LCD color: 16.7M Viewing angle: 80(U), 80(D), 85 (L), 85(R)	Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit
		Expansion	2x mini-PCIe (Optional Module refer to Page 45)
		Power Requirement	12~30V DC Input
Touch screen	Ten points P-Cap (Projected Capacitive Touch) Touch light transmission: 87%	System Enclosure	Aluminum front bezel with Metal housing IP Protection: IP66 front Panel Mount/Wall Mount/VESA Mount

Technical Data	IPPC A1772PE2-DC
Processor	3th generation Intel Core i5/i3 LGA Socket Type Processor - Core™ i5-4570TE, dual core, 2.7GHz, 4M cache - Core™ i5-4590T, quad core, 2GHz, 6M cache - Core™ i3-4340TE, dual core, 2.6GHz, 4M cache - Core™ i3-4350T, dual core, 3.1GHz, 4M cache
Main Memory	DDR3/DDR3L 1600/1333MHz Memory Maximum up to 16GB
Storage Memory	Optional 2.5" SSD or HDD
General Interface	2x GbE LAN (I210IT), 1 x DVI-I, 1 x DisplayPort, 4 x USB 3.0, 1 x PS/2 Keyboard & Mouse, 1 x Line-out; 1 x Line-in; 1 x MIC-in
Serial Ports	2 x RS232/422/485
Control Software	M60 : SoftMotion RTE/R60: SoftMotion CNC (Optional)

Technical Data	IPPC A1772PE2-DC
System Enclosure	Dimension: 451 x 375.5 x 105 mm Weight: 9.6 Kg
Operating Temperature	Ambient with air flow: -20°C to 50°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
Storage Temperature	-20°C to 75°C
Relative Humidity	10%~90% relative humidity, non-condensing
Shock Resistance	20G, half sine, 11ms, IEC60068-27
Vibration Resistance	Random: 2.2Grms @ 5~500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
EMC	CE Approval: EN61000-6-2 & EN61000-6-4, FCC Class A

Dimension Drawing



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
IPPC A1772PE2-DC M60 HMI Controller A0II1772P00X2	Core-i i5-4570TE	4G	32G	M60 Windows WES7 Package (P/N: 88II1772P00X2)	v	v	-	-	v
IPPC A1772PE2-DC R60 HMI Controller A0II1772P00X2		8G	32G	R60 Windows Win7ProEmb Package (P/N: 88II1772P01X2)	v	v	v	-	v
IPPC A1770PE2-DC Bare-bone System 10II1770P00X0	Option	4G	Option	Support ♦ Win8 32-bit/64-bit, WES8 32-bt/64-bit ♦ Win7 32-bit/64-bit, WES732-bit/64-bit	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	120W 24V/5A w/ 3pin phoenix contact w/o power cord (P/N: 7400120023X00)

IPPC A1772TFE2-DC Controller

17" 4:3
Control Panel Computer

Main Features

- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024+ I/O points and maximum 64 axis for motion control
- Support remote monitor, remote control and maintenance
- Support industrial Ethernet Fieldbus protocols (EtherCAT, Ethernet I/P, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Support Multi-Core, Multi-Tasking powered by Intel® Core™ i7/i5/i3 processor

Product Overview

The 17" 4:3 SXGA fanless Control Panel Computer IPPC A1772TF comes with Fan, industrial motherboard, flush panel design and can have IP66 front for industrial applications. It supports fieldbus communication in automation market with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen fieldbus modules. It also meets PLCopen® specifications and allows easy control programming via SoftPLC and SoftMotion tool kit. It also supports JMobile PC runtime to become HMI.

Controller Specifications

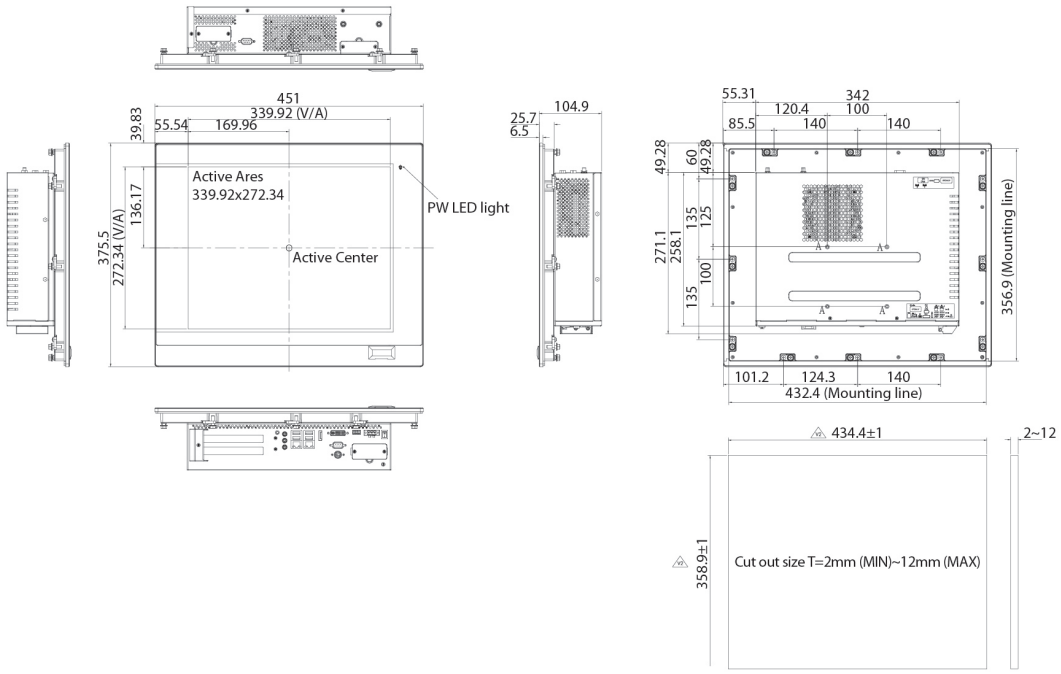
Specification	SoftMotion Controller	SoftMotion CNC Controller
Performance Index	M60	R60
Real-Time	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET	
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen	
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart	
Cycle Time (ms)	0.5	0.5
Max. I/O Points	1024+	1024+
Max. Axes	64	64
Control Group	No support	6
Motion Features	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option	
High-Computing Applications	Yes	Yes
Other Application Software		
HMI (License Options)	TargetVisu	TargetVisu

System Specifications

Technical Data	IPPC A1772TFE2-DC	Technical Data	IPPC A1772TFE2-DC
Panel	17", 4:3, SXGA 1280 x 1024	Control Software	M60 : SoftMotion RTE/R60: SoftMotion CNC (Optional)
	Luminance: 350cd/m2	Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit
	Contrast ratio: 1000	Expansion	2x mini-PCIe (Optional Module refer to Page 45)
	LCD color: 16.7M	Power Requirement	12~30V DC Input
	Viewing angle: 80(U), 80(D), 85(L), 85(R)	System Enclosure	Aluminum front bezel with Metal housing (FAN Optional)

Technical Data	IPPC A1772TFE2-DC	Technical Data	IPPC A1772TFE2-DC
Touch screen	5-wire USB resistive (flush panel type) Touch light transmission: 87%	System Enclosure	IP Protection: IP66 front Panel Mount/Wall Mount/VESA Mount Dimension: 451 x 375.5 x 104.9 mm Weight: 9 Kg
Processor	3th generation Intel Core i7/i5/i3 LGA Socket Type Processor - Core™ i7-4770TE, quad core, 2.3GHz, 8M cache - Core™ i7-4785T, quad core, 2.2GHz, 8M cache - Core™ i5-4570TE, dual core, 2.7GHz, 4M cache - Core™ i5-4590T, quad core, 2.GHz, 6M cache - Core™ i3-4340TE, dual core, 2.6GHz, 4M cache - Core™ i3-4350T, dual core, 3.1GHz, 4M cache	Operating Temperature	Ambient with air flow: -20°C to 50°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
		Storage Temperature	-20°C to 75°C
Main Memory	DDR3/DDR3L 1600/1333MHz Memory Maximum up to 16GB	Relative Humidity	10%~90% relative humidity, non-condensing Limits to be at 90% RH at max 50°C
Storage Memory	Optional 2.5" SSD or HDD	Shock Resistance	20G, half sine, 11ms, IEC60068-27
General Interface	2x GbE LAN (I210IT), 1 x DVI-I, 1 x DisplayPort, 4x USB3.0, 1x PS/2 Keyboard & Mouse, 1 x Line-out; 1 x Line-in; 1 x MIC-in	Vibration Resistance	Random: 2.2Grms @ 5~500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
Serial Ports	2x RS232/422/485	EMC	CE Approval: EN61000-6-2 & EN61000-6-4, FCC Class A

Dimension Drawing



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
IPPC A1772TFE2-DC M60 HMI Controller A0II1772T00X2	Core-i i7-4770TE	4G	32G	M60 Windows WES7 Package (P/N: 88II1772T00X2)	v	v	-	-	v
IPPC A1772TFE2-DC R60 HMI Controller A0II1772T00X2		8G	32G	R60 Windows Win7ProEmb Package (P/N: 88II1772T01X2)	v	v	v	-	v
IPPC A1770PE2-DC Bare-bone System 10II1770P00X0	Option	4G	Option	Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit	-	-	-	-	-
System	Optional Power Adapter								
Power Adapter	120W 24V/5A w/ 3pin phoenix contact w/o power cord (P/N: 7400120023X00)								

IPPC 1642P Controller

15.6” 16:9 Control Panel Computer

Main Features

- Compliant with industrial IEC61131-3 programminglanguages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 1024 I/O points
- Build-in HMI APIs for human-machine interface
- Support remote monitor, remote control and maintenance
- Support industrial Ethernet Fieldbus protocols (EtherCAT, Ethernet I/P, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Support Multi-Core, Multi-Tasking powered by Intel® Celeron® Dual Core processor

Product Overview

The 15.6” 16:9 WXGA fanless Control Panel Computer IPPC 1642P comes with industrial motherboard, flush panel design and can have IP66 front for industrial applications. It supports fieldbus communication in automation market with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen Fieldbus modules. It also meets PLCopen® specifications and allows easy control programming via SoftPLC and SoftMotion tool kit. It also supports JMobile PC runtime to become HMI.

Controller Specifications

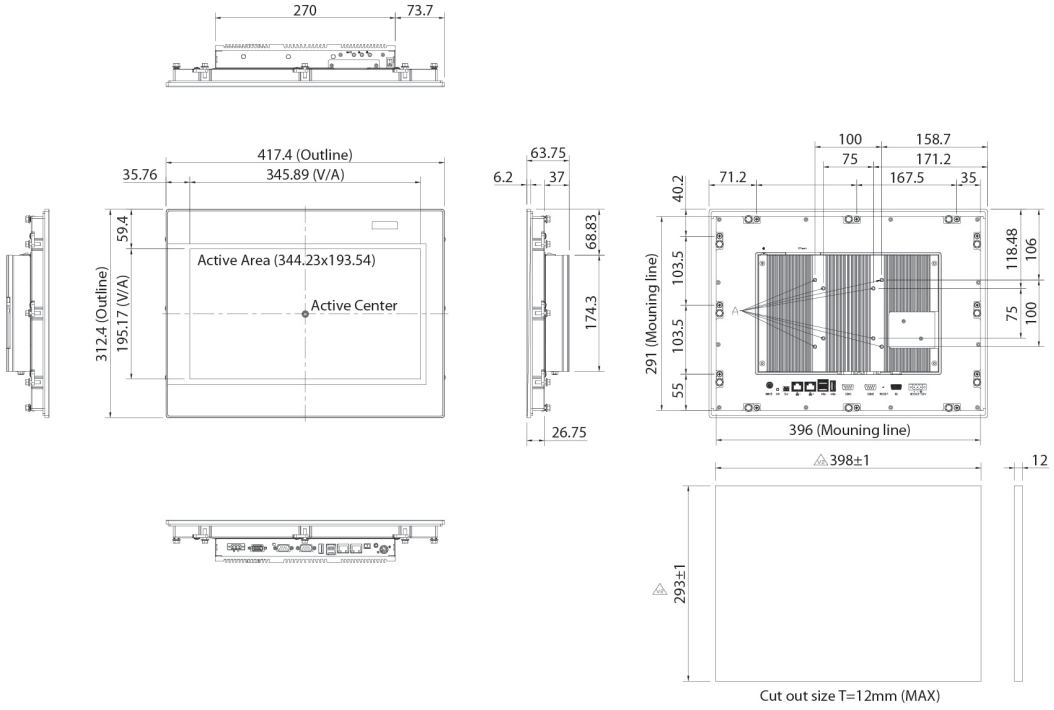
Specification	SoftPLC Controller	SoftMotion Controller	SoftMotion CNC Controller
Performance Index	P20	M20	R20
Real-Time	Yes	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET		
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen		
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart		
Cycle Time (ms)	0.5	0.5	0.5
Max. I/O Points	1024	1024	1024
Max. Axes	No support	24	24
Control Group	No support	No support	2
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option	
HMI (License Options)	JMobile Suite	TargetVisu	TargetVisu

System Specifications

Technical Data	IPPC 1642P	Technical Data	IPPC 1642P
Panel	15.6”, 16:9, WXGA 1366 x 768 Luminance: 300cd/m2 Contrast ratio: 500 LCD color: 16.7M Viewing angle: 80(U), 80(D), 85(L), 85(R)	Expansion	2x mini-PCIe (Optional Module refer to Page 45)
		Power Requirement	12~30V DC Input
Touch screen	Ten points P-Cap (Projected Capacitive Touch) Touch light transmission: 87%	System Enclosure	Aluminum front bezel with Metal housing IP Protection: IP66 front Panel Mount/ Wall Mount/ VESA Mount Dimension: 417.4 x 312.4 x 63.75 mm Weight: 6.4 Kg
Processor	Intel® Celeron® processor J1900 quad core 2GHz	Operating Temperature	Ambient with air flow: -10°C to 60°C

Technical Data	IPPC 1642P	Technical Data	IPPC 1642P
Main Memory	DDR3L 1600/1333MHz Memory Maximum up to 8GB	Operating Temperature	According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14
Storage Memory	Optional 2.5" SSD or HDD	Storage Temperature	-20°C to 75°C
Persistent Memory	Optional 1MBit NVRAM via NISKNVRAM module	Relative Humidity	10%~90% relative humidity, non-condensing
General Interface	2 x GbE LAN (I210IT), 1 x VGA, 2x USB2.0, 1 x USB3.0, 1 x Line-out, 1 x PS/2 Keyboard & Mouse	Shock Resistance	20G, half sine, 11ms, IEC60068-27
Serial Ports	2 x RS232/422/485 w/ 2.5kv isolated	Vibration Resistance	Random: 2.2Grms @ 5~500Hz, IEC60068-2-64
Control Software	P20: Control RTE/M20 : SoftMotion RTE/ R20: SoftMotion CNC (Optional)		Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
Operating System	Win8 32-bit/64-bit, WES8 32-bt/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit, WEC7 Linux Kernel version 3.8.0	EMC	CE Approval: EN55022 & EN55024, FCC Class A

Dimension Drawing



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion			JMobile	
					SoftMotion CNC				TargetVisu
IPPC 1642P P20 HMI Controller A0II1642P00X2	Celeron J1900	4G	32G	P20 Windows WES7 Package (P/N: 88II1642P00X2)	v	-	-	v	-
IPPC 1642P M20 HMI Controller A0II1642P00X2		4G	32G	M20 Windows WES7 Package (P/N: 88II1642P01X2)	v	v	-	-	v
IPPC 1642P R20 HMI Controller A0II1642P00X2		8G	32G	R20 Windows Win7ProEmb Package (P/N: 88II1642P02X2)	v	v	v	-	v
IPPC1640P SoftMotion HMI Starter Kit 10II1640P01X0		4G	32G	Build-in WES7	v	-	-	v	-
IPPC 1640P Bare-bone System 10II1640P00X0		4G	Option	Support • Win8 32-bit/64-bit, WES8 32-bt/64-bit • Win7 32-bit/64-bit WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-

System	Optional Power Adapter
Power Adapter	60W 12V/5A w/ 3pin phoenix contact w/o power cord (P/N: 7400060031X00)

Articulated Robot Solution

Open and Modular Solution
For Articulated Robot

Main Features

- Standard EtherCAT communication
- Robotic function APIs provided
- 1 ms control cycle time

Product Overview

NexROBO solution provides an open programming environment for users to develop their own robot applications. It consists of robot body and NEXCOM's robot controller in the control cabinet. Motor drives, I/O signals and related circuits are all integrated based on EtherCAT control network. I/O and motor control can easily be expandded through EtherCAT communication. Beside general system configuration, NexROBO solution always allows the flexibility to change components in the robot system for unlimited possibilites.

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 DisplayPorts and 1 x VGA or 2 x DisplayPorts 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

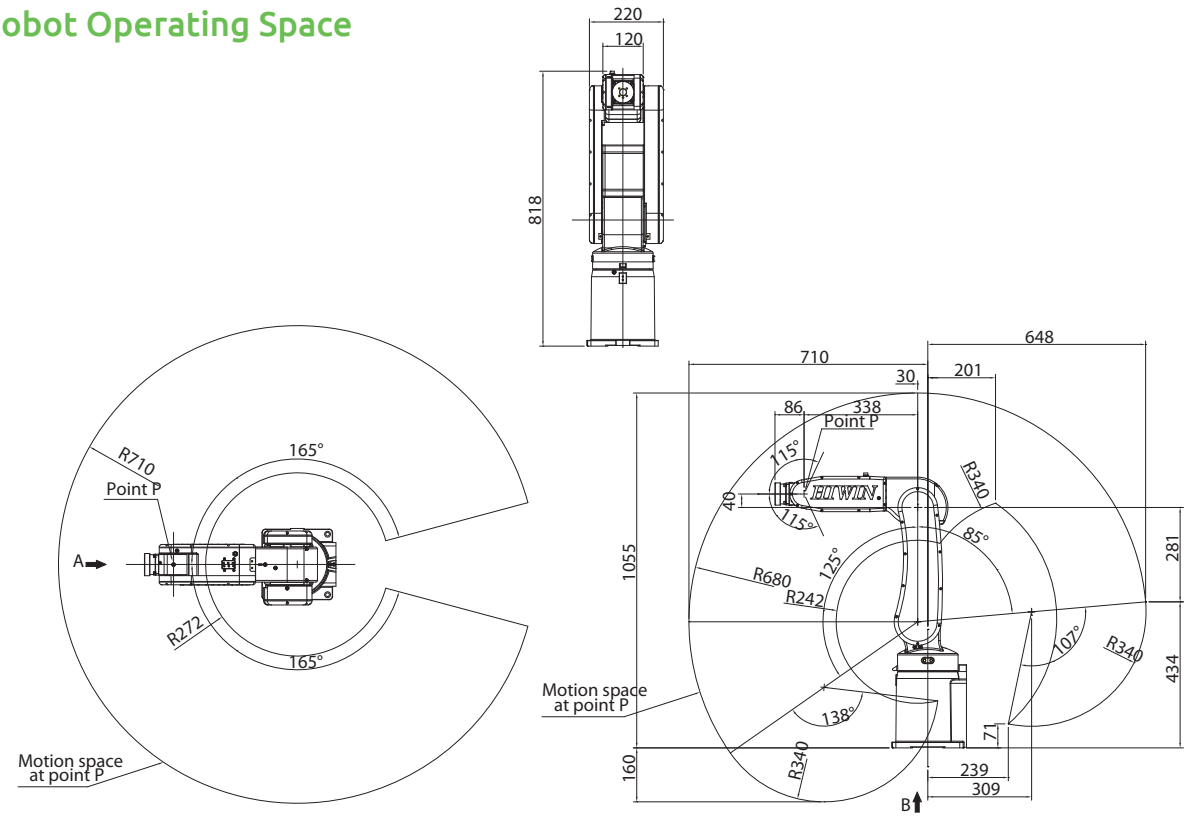
Robot Package

- **NexROBO 6R Edu package (P/N: 7900000115X00)**

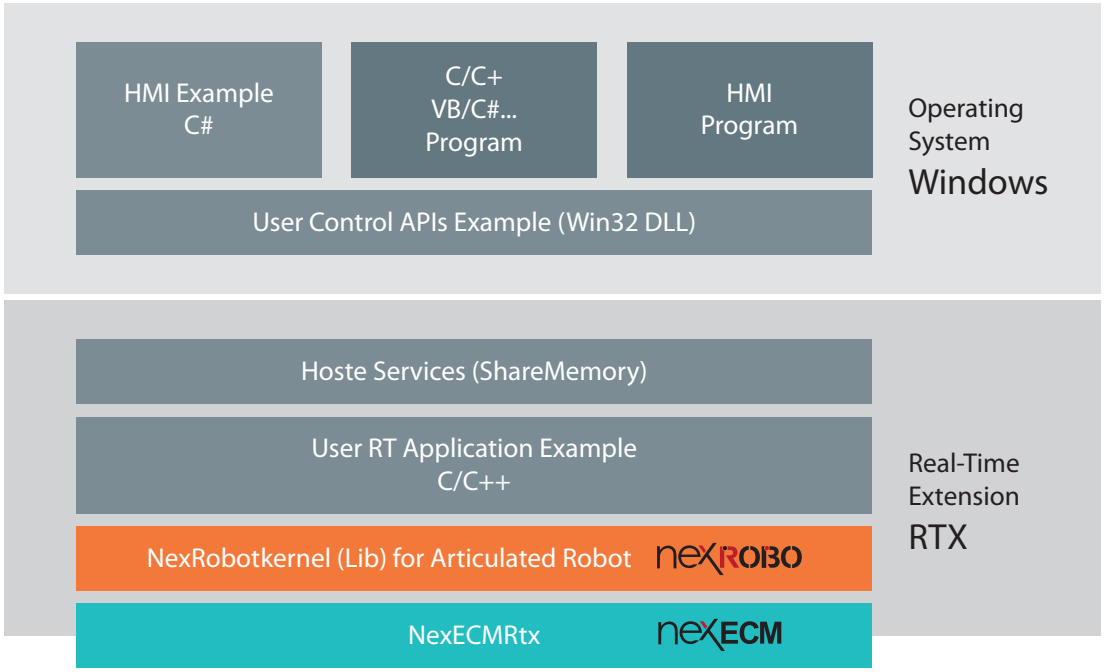
Optional

- **Robot stand (P/N: 7900000160X00)**
- **Teach pendant (P/N: 10IH0010001X0)**

Robot Operating Space



Software Architecture



Delta Robot Solution

Open and Modular Solution
For Delta Robot

Main Features

- Standard EtherCAT communication
- Robotic function APIs provided
- 1 ms control cycle time

Product Overview

NexROBO solution provides an open programming environment for users to develop their own robot applications. It consists of robot body and NEXCOM's robot controller in the control cabinet. Motor drives, I/O signals and related circuits are all integrated based on EtherCAT control network. I/O and motor control can easily be expanded through EtherCAT communication. Beside general system configuration, NexROBO solution always allows the flexibility to change components in the robot system for unlimited possibilities.

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

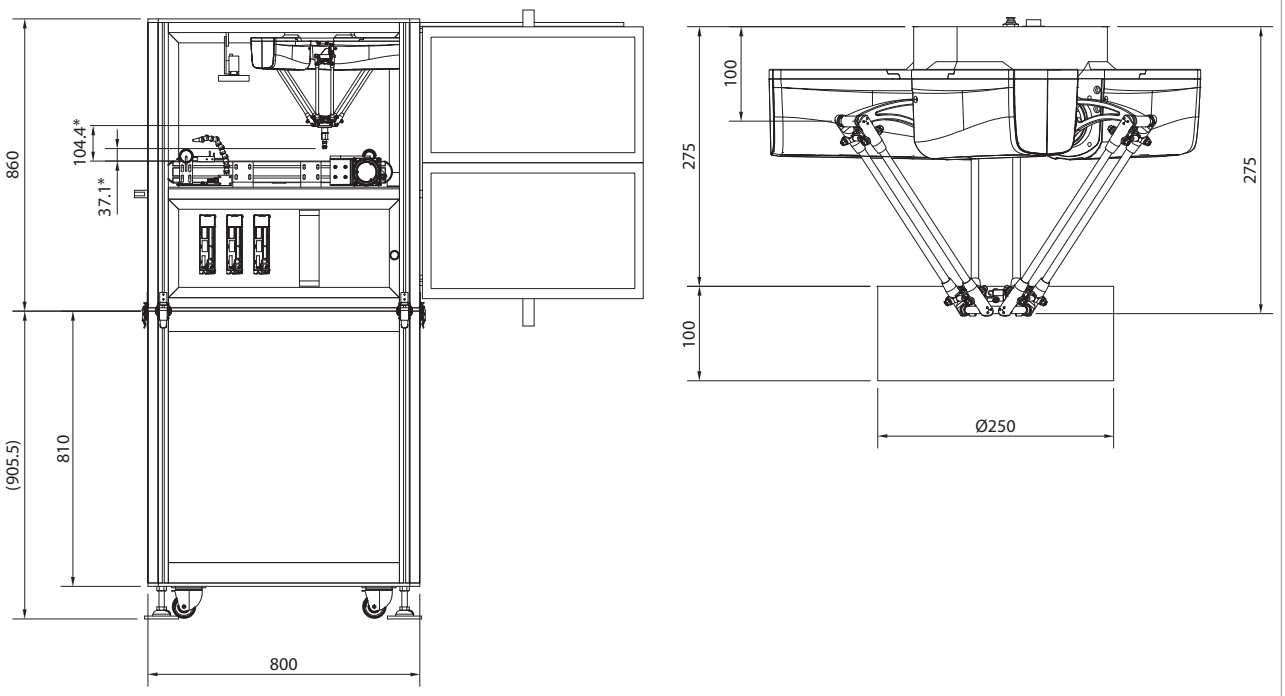
Robot Package

- **NexROBO miniDelta Edu package (P/N: TBC)**

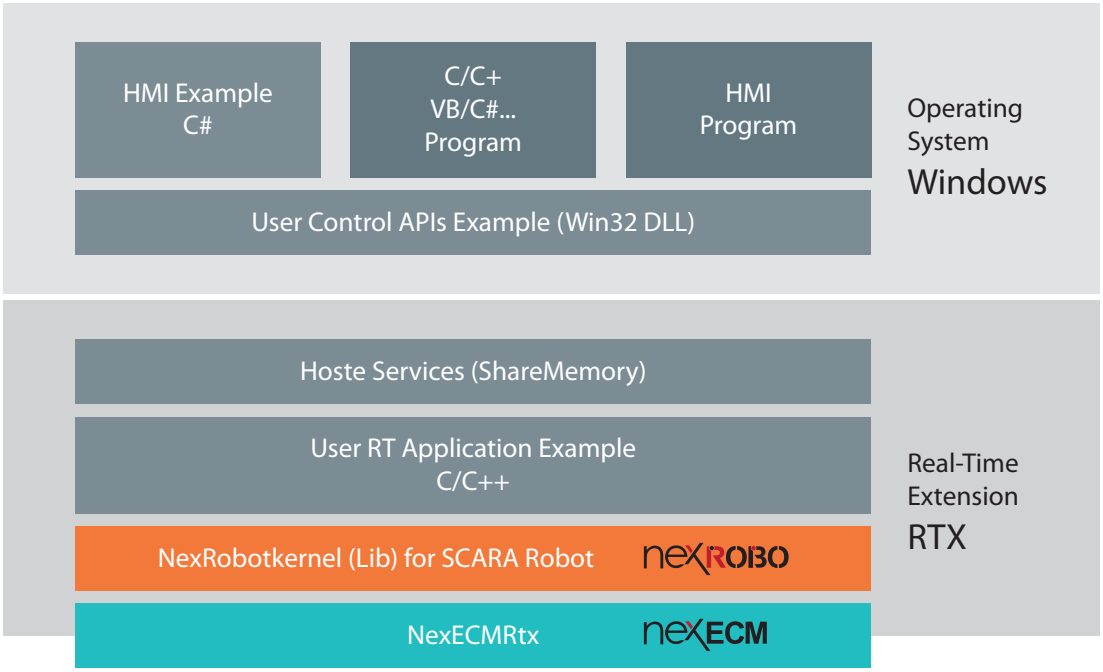
Optional

- **Conveyor system (P/N: TBC)**
- **Vision inspection system (P/N: TBC)**
- **Teach pendant (P/N: 10IH0010001X0)**

Robot Operating Space



Software Architecture



SCARA Robot Solution

Open and Modular Solution
For SCARA Robot

Main Features

- Standard EtherCAT communication
- Robotic function APIs provided
- 1 ms control cycle time

Product Overview

NexROBO solution provides an open programming environment for users to develop their own robot applications. It consists of robot body and NEXCOM's robot controller in the control cabinet. Motor drives, I/O signals and related circuits are all integrated based on EtherCAT control network. I/O and motor control can easily be expanded through EtherCAT communication. Beside general system configuration, NexROBO solution always allows the flexibility to change components in the robot system for unlimited possibilities.

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

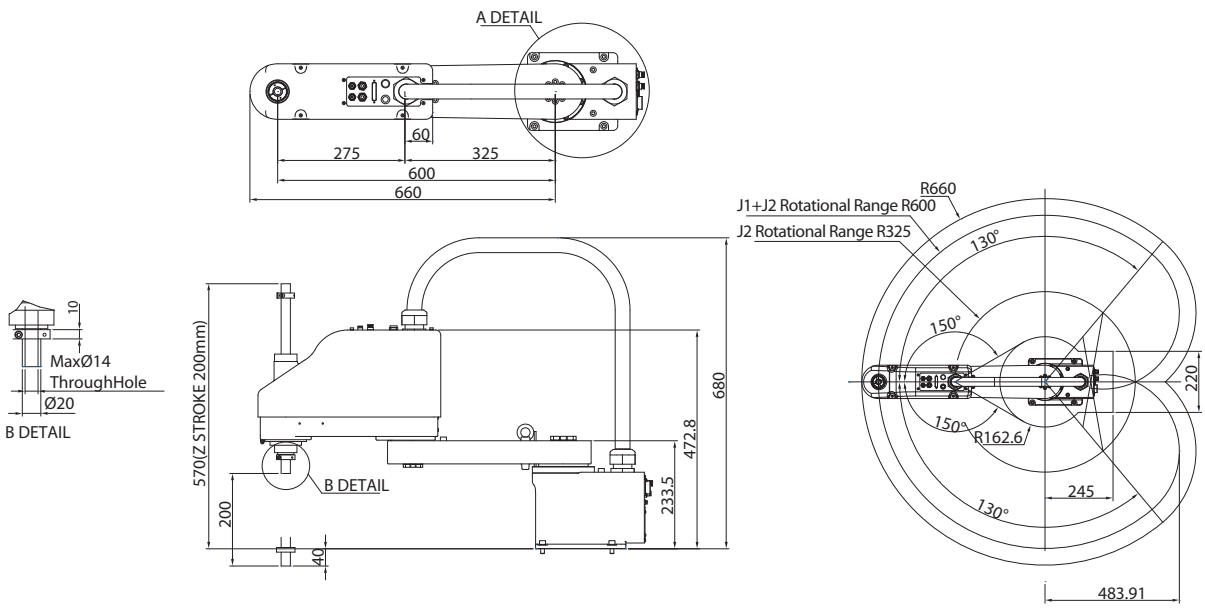
Robot Package

- **NexROBO SCARA Edu package (P/N: 7900000163X00)**

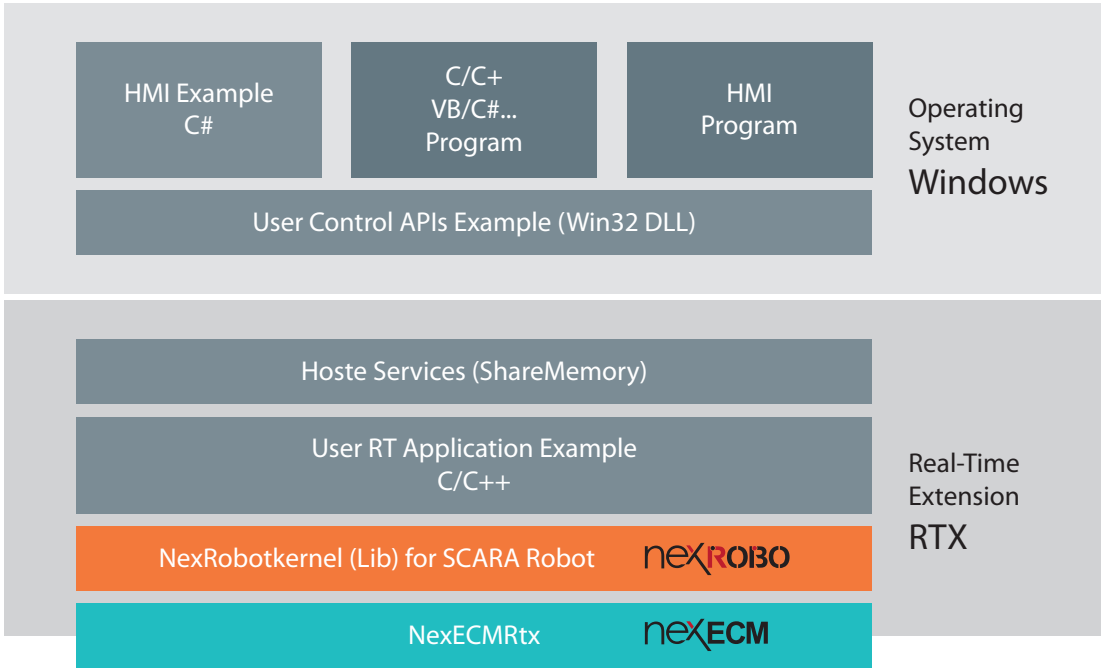
Optional

- **Robot stand (P/N: 7900000164X00)**
- **Teach pendant (P/N: 10IH0010001X0)**

Robot Operating Space



Software Architecture



NET 101-ECM

Front-Access Compact EtherCAT Master

Main Features

- EtherCAT technology with NexECM, Class A 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 1 x 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"), NET 101-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. NET 101-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, NET 101-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. NET 101-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, 4 x 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)

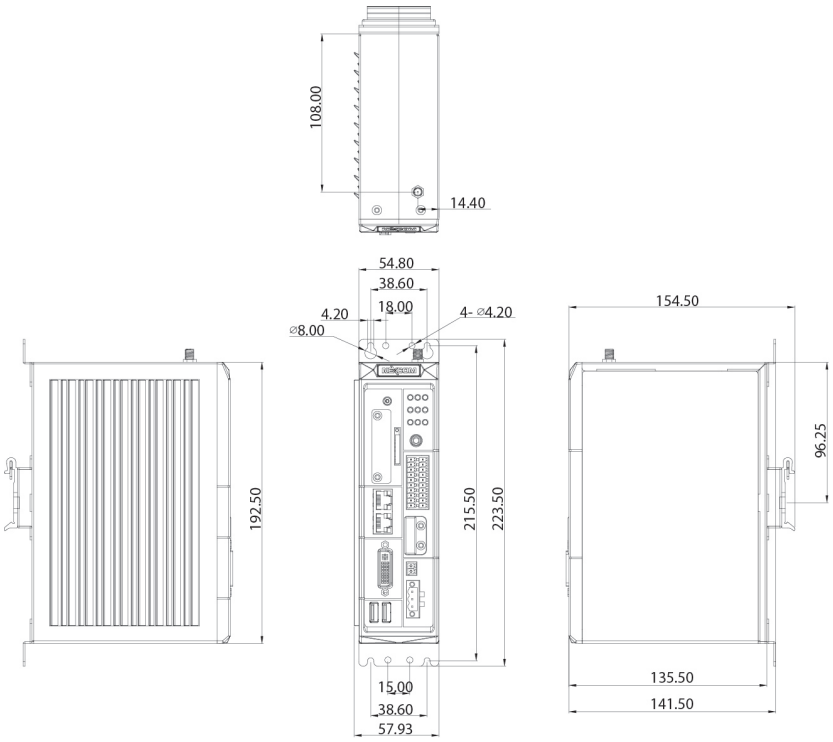
Construction

- Aluminum and metal chassis with fanless design

Environment

- Operating temperature:
  Ambient with air flow: -20°C to 70°C with industrial grade device (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)

Dimension Drawing



- 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

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension
  - RTX2012/RTX2016 for 32-bit OS
  - RTX2014/RTX64 3.0 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

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

Ordering Information

- **NET 101 (P/N: A0J10010101X0)**
  Front-access compact EtherCAT controller

  Image Selection

  NET 101-ECM WES7 32-bit & RTX2012 (P/N:88J10010100X0)
  NET 101-ECM WES7 32-bit & RTX2016 (P/N:88J10010101X0)
  NET 101-ECM WES7 64-bit & RTX2014 (P/N:88J10010102X0)
  NET 101-ECM WES7 64-bit & RTX64 3.0 (P/N:88J10010103X0)

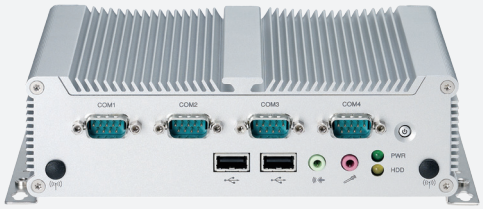
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060024X00)**

Optional din rail kit

88J70010000X0	NIFE 100/101 series din rail kit	@shock 20G

NET 104-ECM

Compact EtherCAT Controller



Main Features

- OnBoard Intel® Atom™ Dual Core D2550 processor, 1.86GHz
- EtherCAT technology with NexECM, Class A EtherCAT Master
- 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
- 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, NET 104-ECM has higher graphic and computing performance, but less power consumption! With performance enhance, NET 104-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 NET 104-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.

NET 104-ECM's support for +10 to 28V_{DC} input enhances its reliability in different power condition in factory automation or machinery automation. NET 104-ECM offers comprehensive and easy-to-use application configurator for system development and debugging to speed up development period.

Specifications

EtherCAT Master

- Slave module no.:up to 64
- Cycle time: up to 250 µs
- Synchronization error: ±50ns
- Support CiA 402 standard protocol

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 28V_{DC} 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)

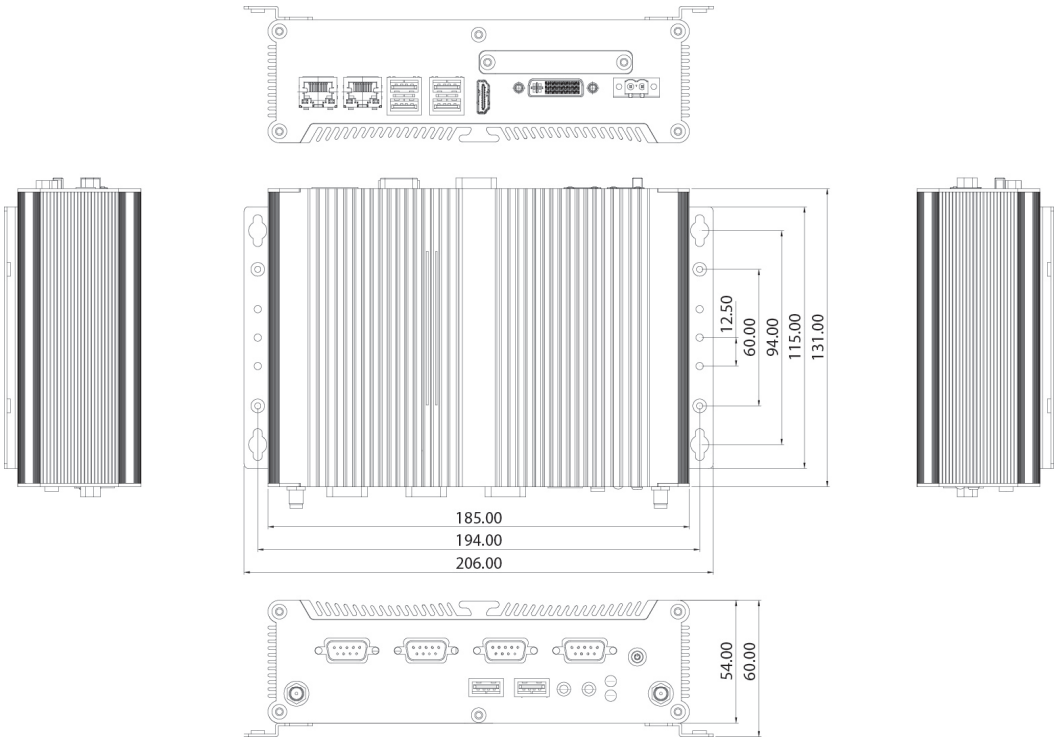
Dimensions

- 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

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension:
  - RTX2012/ RTX2016 for 32-bit OS
  - RTX2014 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

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

Ordering Information

- **NET 104-ECM (P/N: 10J10010400X0)**
  Compact EtherCAT controller
- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060018X00)**

NET 200-ECM

Front-Access EtherCAT Controller

Main Features

- EtherCAT technology with NexECM, Class A 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"), NET 200-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. NET 200-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, NET 200-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 fieldbus devices. With the provided features, NET 200-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, 5 x 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)

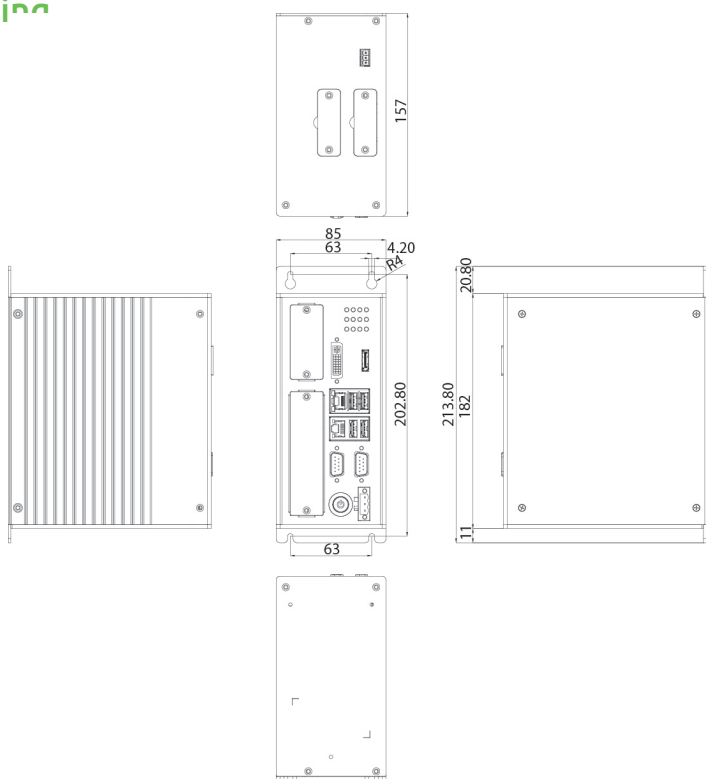
Construction

- Aluminum and metal chassis with fanless design

Environment

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

Dimension Drawing



- 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 A

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension:
  - RTX2012/RTX2016 for 32-bit OS
  - RTX2014/RTX64 3.0 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

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

Ordering Information

- **NET 200 (P/N: A0J10020003X0)**
  Front-access EtherCAT controller

  Image Selection

  NET 200-ECM WES7 32-bit & RTX2012 (P/N:88J10020000X0)
  NET 200-ECM WES7 32-bit & RTX2016 (P/N:88J10020001X0)
  NET 200-ECM WES7 64-bit & RTX2014 (P/N:88J10020002X0)
  NET 200-ECM WES7 64-bit & RTX64 3.0 (P/N:88J10020003X0)

- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060024X00)**

NET 300-ECM

Front-Access High-Performance EtherCAT Controller

Main Features

- EtherCAT technology with NexECM, Class A EtherCAT Master
- EtherCAT communication cycle up to 250 µs
- Support high-level API for CiA 402 profile
- Support 6th generation Intel® Core™ i5-6500TE processor
- Intel® Q170 PCH
- 1 x DVI-D, and 1 x HDMI for dual independent display support
- 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

Product Overview

NET 300-ECM is a high-performance EtherCAT controller, built in 6th generation Intel® Core™ i5-6500TE processor (Skylake-S). Based on a real-time operating system, NET 300-ECM's communication cycle time can be up to 250 µs, and also offers EtherCAT distributed clocks functions. The EtherCAT controller supports up to 64 slave modules which could be a wide variety of third-party devices, such as servo motors/drives and I/O modules.

NET 300-ECM is the ideal intelligence system for machine applications. Its front-access I/O Design simplifies the wiring, and it provides expansion mini-PCIe slot which can integrate other fieldbus devices for more application possibilities.

Specifications

EtherCAT Master

- Slave module no.: up to 64
- Cycle time: up to 250µs
- Synchronization error: ±50ns
- Support CiA 402 standard protocol

CPU Support

- Support 6th generation Intel® Core™ i5-6500TE, Quad Core, 2.3GHz, 6M Cache

Main Memory

- 1 x 4GB DDR4 SO-DIMM

Display Option

- Dual independent display
  - HDMI + DVI-D

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
- 2 x RS232/422/485 auto with 2.5KV Isolation
- 3 x Intel® I210IT GbE LAN ports, support WoL, teaming and PXE

Top I/O Interface

- 1 x 3-pin 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

- 2 x mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power Requirement

- AT/ATX power mode (default with ATX power mode)
- Power input: typical +24V_{DC} ±20%, with reverse polarity protection
- Power adapter: optional AC to DC power adapter (+24V_{DC}, 120W)

Dimensions

- 90 mm(W) x 185mm (D) x 251mm (H)

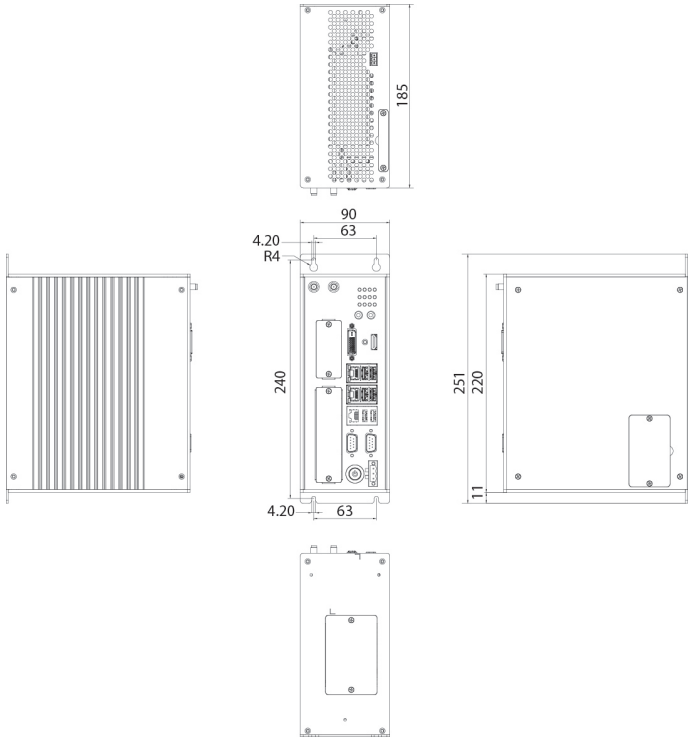
Construction

- 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)

Dimension Drawing



- 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, IEC60068-2-64

Certifications

- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A
- LVD

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension:
  - RTX2012/RTX2016 for 32-bit OS
  - RTX2014/RTX64 3.0 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

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

Ordering Information

- **NET 300 (P/N: A0J10030000X0)**
  Front-access high-performance EtherCAT controller

  Image Selection

  NET 300-ECM WES7 32-bit & RTX2012 (P/N:88J10030000X0)
  NET 300-ECM WES7 32-bit & RTX2016 (P/N:88J10030001X0)
  NET 300-ECM WES7 64-bit & RTX64 3.0 (P/N:88J10030002X0)

- **24V, 120W AC to DC power adapter w/o power core (P/N: 7400120015X00)**

NET 3140P2E-ECM

EtherCAT Controller with PCI and PCIe Expansion Slots

Main Features

- Support Intel® Core™ 2 Duo/Celeron® processor
- EtherCAT technology with NexECM, Class A EtherCAT Master
- 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
- 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 30V$_{DC}$ power input

Product Overview

Utilizing the Intel® GM45 chipsets, NET 3140P2E-ECM is highly scalable supporting a wide variety of Intel® Core™ 2 Duo and Celeron® processors. With pre-installed NexECM EtherCAT Master software, NET 3140P2E-ECM delivers exceptional performance with notable stability. NET 3140P2E-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. NET 3140P2E-ECM offers comprehensive and easy-to-use application configurator for system development and debugging to speed up development period.

Specifications

EtherCAT Master

- Slave module no.: up to 64
- Cycle time: up to 250 µs
- Synchronization error: ±50ns
- Support CiA 402 standard protocol

CPU support

- Support Intel® Core™ 2 Duo P8400

Main Memory

- 2 x 2GB DDR3 SDRAM

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 30V$_{DC}$ 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

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 30V$_{DC}$

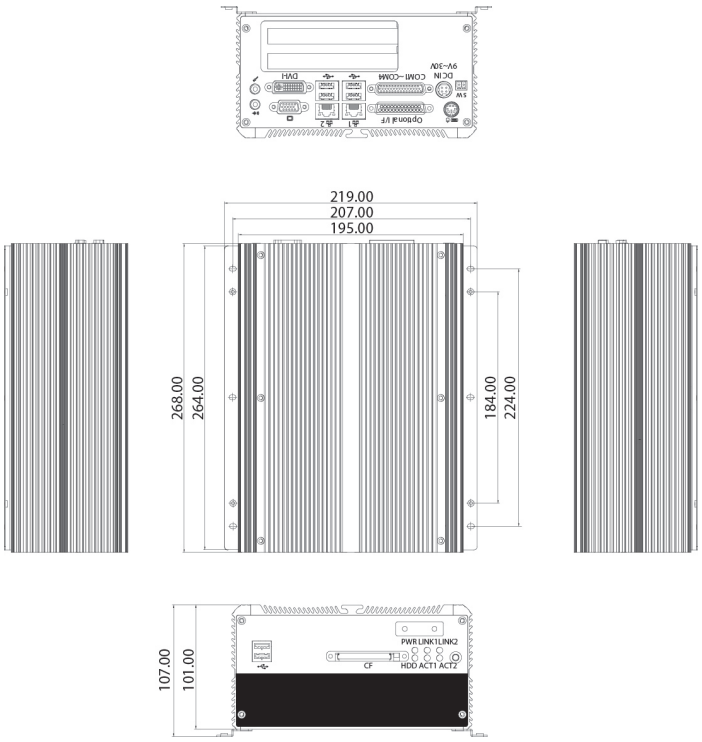
Dimensions

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

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
  - 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

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension:
  - RTX2012/RTX2016 for 32-bit OS
  - RTX2014 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

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

Ordering Information

- **NET 3140P2E-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)**

NET 3500-ECM

EtherCAT Controller with one PCI Expansion Slot

Main Features

- Support Intel® Core™ i5-520M PGA processor
- EtherCAT technology with NexECM, Class A EtherCAT Master
- 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
- 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 30V$_{DC}$ power input; support ATX power mode

Product Overview

NET 3500-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, NET 3500-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. NET 3500-ECM is designed for a broad range of applications which demand an EtherCAT controller to handle advanced motion & I/O control.

Specifications

EtherCAT Master

- Slave module no.: up to 64
- Cycle time: up to 250 µs
- Synchronization error: ±50ns
- Support CiA 402 standard protocol

CPU support

- Support Intel® Core™ i5-520M PGA processor (2.4GHz, 3M Cache)

Main Memory

- 2 x 2GB DDR3 SDRAM

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 30V$_{DC}$ 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 30V$_{DC}$
- Optional power adapter

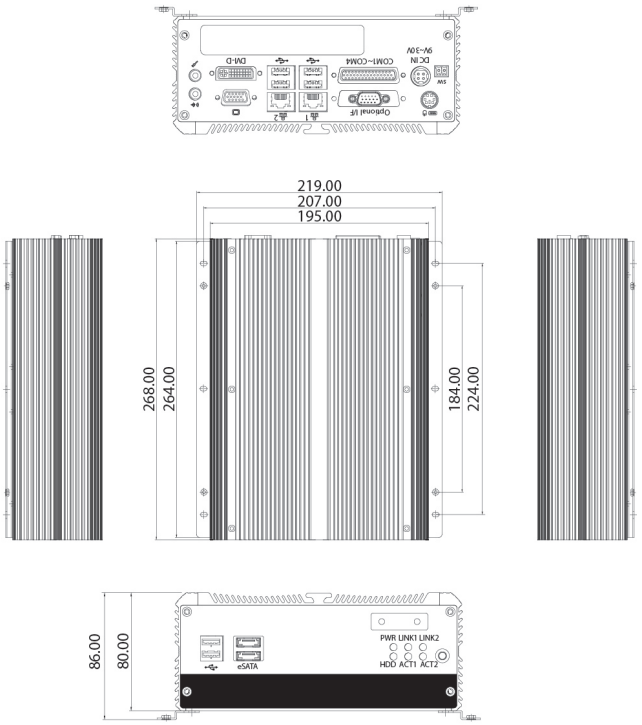
Dimensions

- 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:
  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

Dimension Drawing



Certifications

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

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension:
  - RTX2012/RTX2016 for 32-bit OS
  - RTX2014/RTX64 3.0 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

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

Ordering Information

- **NET 3500 (P/N: A0J10350001X0)**
  EtherCAT controller with one PCI expansion slot

  Image Selection

  NET 3500-ECM WES7 32-bit & RTX2012 (P/N:88J10350000X0)
  NET 3500-ECM WES7 32-bit & RTX2016 (P/N:88J10350001X0)
  NET 3500-ECM WES7 64-bit & RTX2014 (P/N:88J10350002X0)
  NET 3500-ECM WES7 64-bit & RTX64 3.0 (P/N:88J10350003X0)

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

NET 3600E-ECM

High Performance EtherCAT Controller

Main Features

- Support 3rd generation Intel® Core™ i5-3610ME processor with Intel® QM77 PCH
- EtherCAT technology with NexECM, Class A EtherCAT Master
- 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
- Management of real-time task SDK
- I/O access API for Windows user mode and RTX subsystem

Product Overview

NET 3600E-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 NET 3600E-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, NET 3600E-ECM offers comprehensive and easy-to-use application configurator for system development and debugging to speed up development period.

Specifications

EtherCAT Master

- Slave module no.: up to 64
- Cycle time: up to 250 µs
- Synchronization error: ±50ns
- Support CiA 402 standard protocol

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 DisplayPorts and 1 x VGA or 2 x DisplayPorts 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

Power Requirements

- DC input range: +9 to 30V_{DC} 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

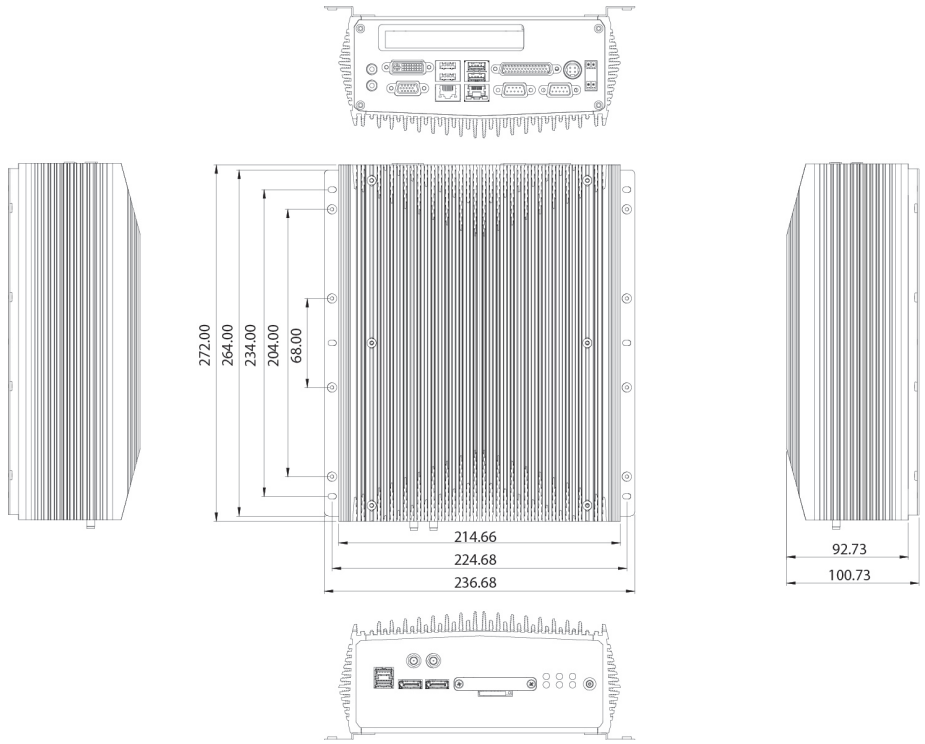
Certifications

- CE
- FCC Class A

Pre-Installed Software Package

- Operating system: Windows Embedded Standard 7
- Real-time extension:
  - RTX2012/RTX2016 for 32-bit OS
  - RTX2014/RTX64 3.0 for 64-bit OS
- EtherCAT Master: NexECM
- EtherCAT configurator

Dimension Drawing



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

Ordering Information

- **NET 3600E (P/N: A0J10360005X0)**
  High performance EtherCAT controller

  Image Selection

  NET 3600E-ECM WES7 32-bit & RTX2012 (P/N:88J10360001X0)
  NET 3600E-ECM WES7 32-bit & RTX2016 (P/N:88J10360002X0)
  NET 3600E-ECM WES7 64-bit & RTX2014 (P/N:88J10360003X0)
  NET 3600E-ECM WES7 64-bit & RTX64 3.0 (P/N:88J10360004X0)

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

NEIO-B1101/B1102

32ch Digital Input EtherCAT Slave Module

Main Features

- Finger-safe wiring cover
- Detachable screw terminals
- Rotational pin-assignment marks
- On-module LED indicators
- User-friendly wiring label
- Multiple mounting methods

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial applications. 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

Model Name	NEIO-B1101	NEIO-B1102
Type	Sink	Sink/Source
Input Voltage	24V_{DC}	24V_{DC}
On-State Voltag, "1"	15~30V_{DC} (IEC 61131-2 type 1) 11~30V_{DC} (IEC 61131-2 type 2/3)	9~24V_{DC}/0~15V_{DC}
Off-State Voltag, "0"	0~5V_{DC} (IEC 61131-2 type 1/2/3)	0~8V_{DC}/16~24V_{DC}
Inpurt Filter	3 ms	1 ms

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 ±20% with over-voltage and reversed-voltage protection

Model Name	NEIO-B1101	NEIO-B1102
Power Consumption	2 W	2.5 W

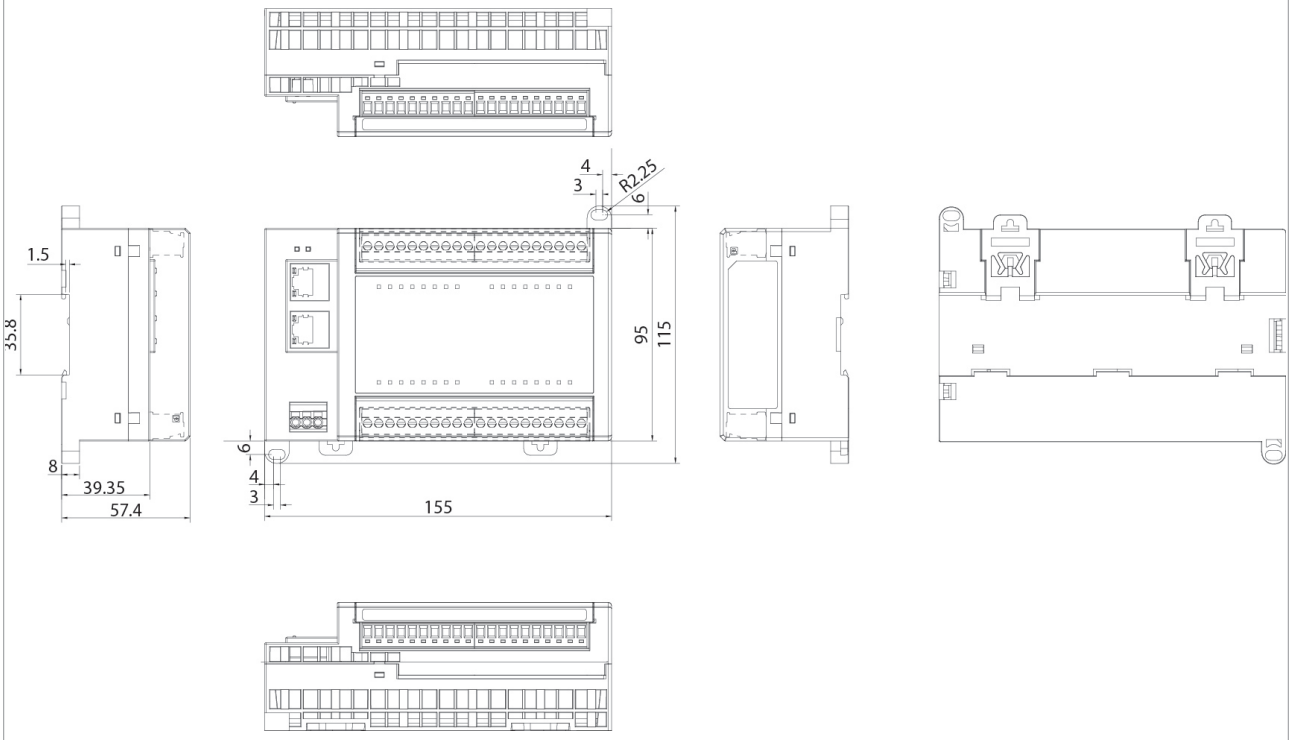
Common Section

- Electrical isolation: 2.5 KV (power contact)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 60068-2-27
- Vibration: IEC 60068-2-6, IEC 60068-2-64
- Enclosure type rating: IP20
- Mounting type: din-rail (35mm), wall-mount
- Dimesions (mm): 155 (W) x 115 (H) x 57.4 (D)

Certifications

- CE
- FCC Class A

Dimension Drawing



Ordering Information

- **NEIO-B1101 (P/N:10J80110100X0)**
  32ch digital input (sink) EtherCAT slave module
- **NEIO-B1102 (P/N:10J80110200X0)**
  32ch digital input (sink/source) EtherCAT slave module
- **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

- Finger-safe wiring cover
- Detachable screw terminals
- Rotational pin-assignment marks
- On-module LED indicators
- User-friendly wiring label
- Multiple mounting methods

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial applications. 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

Model Name	NEIO-B1201	NEIO-B1202
Type	Sink	Source
Output Voltage	24V_{DC}	24V_{DC}
Load Type	Resistive, Inductive	Resistive, Inductive, Capacitive
Max. Output Current	500 mA/ch	500 mA/ch
Switching Times	Off to On: 100 µs On to Off:150 µs	Off to On: 100 µs On to Off: 150 µs

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 ±20% with over-voltage and reversed-voltage protection

Model Name	NEIO-B1201	NEIO-B1202
Power Consumption	2~2.3 W	1.7~2.2 W
Input Current without Load	83 mA	72 mA
Input Current with full Load	96 mA	91 mA

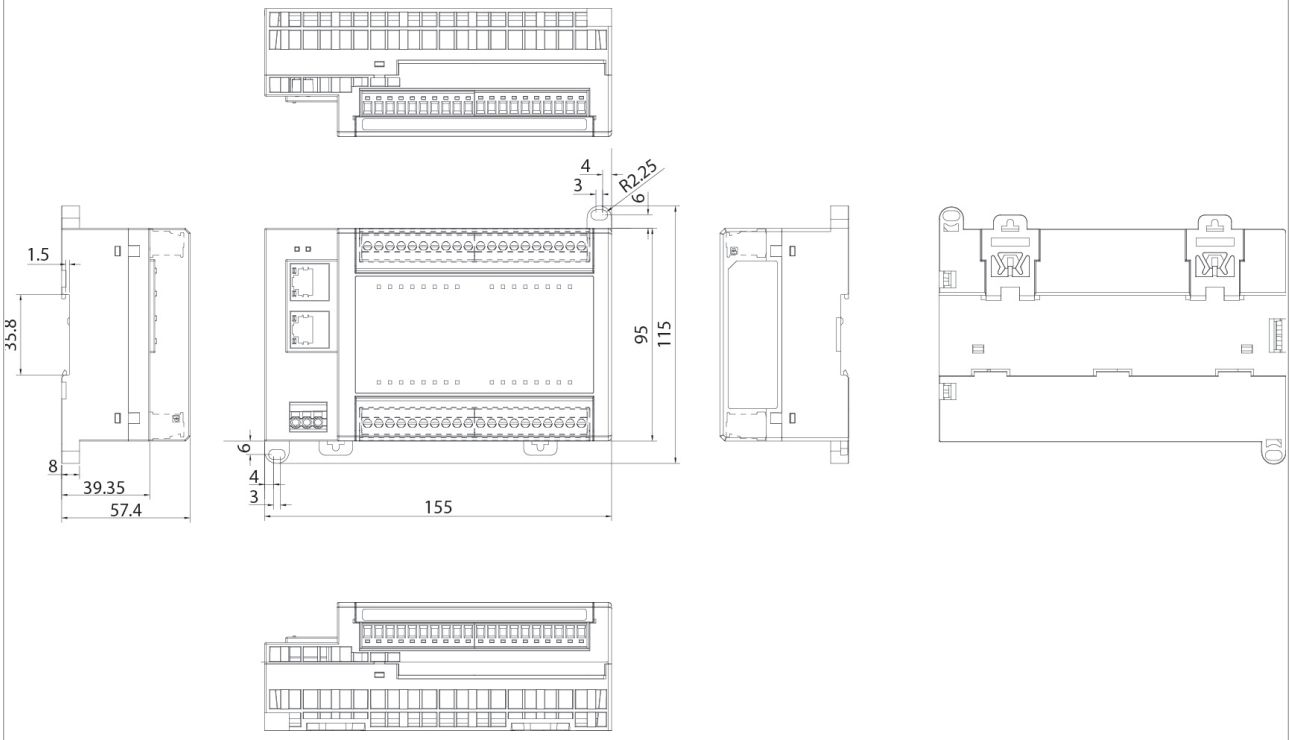
Common Section

- Electrical isolation: 2.5 KV (power contact)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 60068-2-27
- Vibration: IEC 60068-2-6, IEC 60068-2-64
- Enclosure type rating: IP20
- Mounting type: din-rail (35mm), wall-mount
- Dimesions (mm): 155 (W) x 115 (H) x 57.4 (D)

Certifications

- CE
- FCC Class A

Dimension Drawing



Ordering Information

- **NEIO-B1201 (P/N: 10J80120100X0)**
  32ch digital output (sink) EtherCAT slave module
- **NEIO-B1202 (P/N: 10J80120200X0)**
  32ch digital output (source) EtherCAT slave module
- **AC to DC din rail power supply (P/N: 7440060001X00)**
  60W 24V/2.5A for NISE

NEIO-B1811/B1812

16ch Digital Input/Output EtherCAT Slave Module

Main Features

- Finger-safe wiring cover
- Detachable screw terminals
- Rotational pin-assignment marks
- On-module LED indicators
- User-friendly wiring label
- Multiple mounting methods
- 16ch digital input
- 16ch digital output

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial applications. 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

Model Name	NEIO-B1811	NEIO-B1812
Type	Sink	Sink/Source
Input Voltage	24V_{DC}	24V_{DC}
On-State Voltage, "1"	15~30V_{DC} (IEC 61131-2 type 1) 11~30V_{DC} (IEC 61131-2 type 2/3)	9~24V_{DC}/0~15V_{DC}
Off-State Voltage, "0"	0~5V_{DC} (IEC 61131-2 type 1/2/3)	0~8V_{DC}/16~24V_{DC}
Inpurt Filter	3 ms	1 ms

Digital Output

Model Name	NEIO-B1811	NEIO-B1812
Type	Sink	Source
Output Voltage	24V_{DC}	24V_{DC}
Load Type	Resistive,inductive	Resistive,inductive, capacitive
Max. Output Current	500 mA/ch	500 mA/ch
Switching Times	Off to On: 100 µs On to Off:150 µs	Off to On: 100 µs On to Off: 150 µs

Communication

- Protocol : EtherCAT
- Bus interface: 2 x RJ-45
- Media: Ethernet cable (min. CAT5), shielded
- Distance between stations: maixmum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements

- DC input range: DC 24V ±20% with over-voltage and reversed-voltage protection

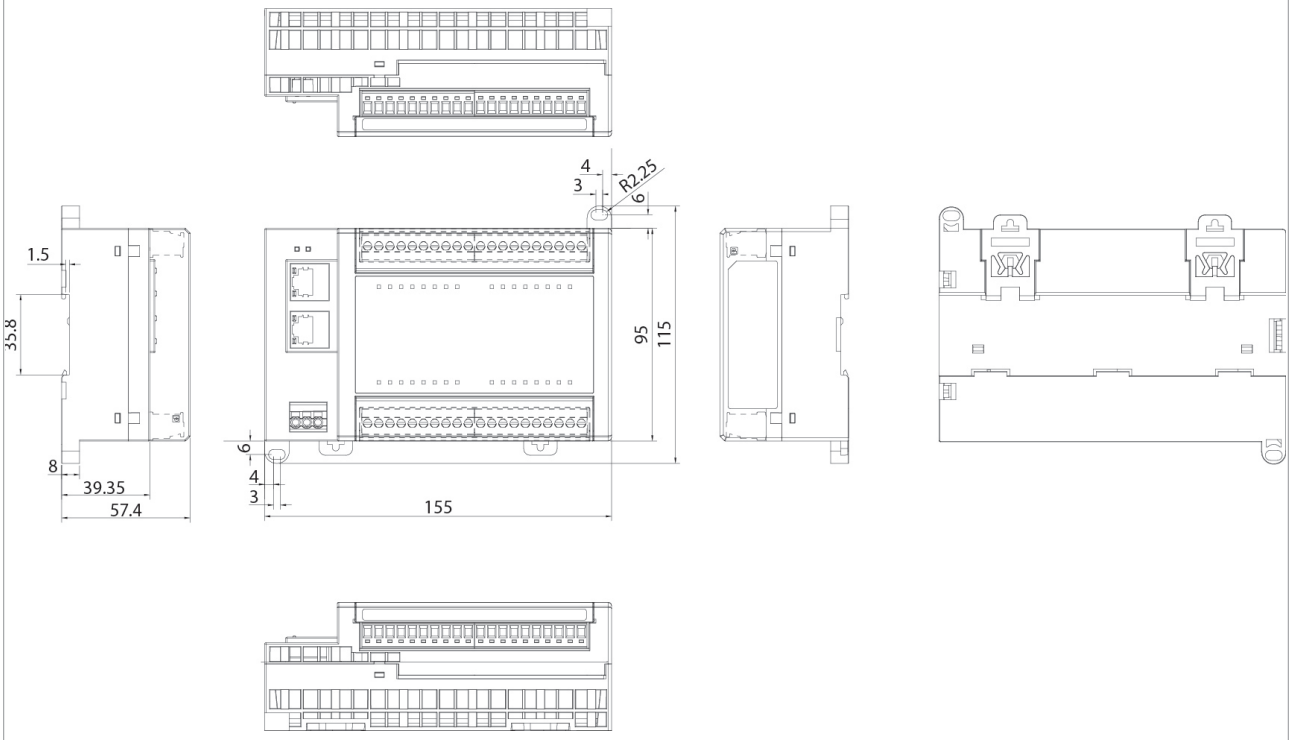
Common Section

- Electrical isolation: 2.5 KV (power contact)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 60068-2-27
- Vibration: IEC 60068-2-6, IEC 60068-2-64
- Enclosure type rating: IP20
- Mounting type: din-rail (35mm), wall-mount
- Dimesions (mm): 155 (W) x 115 (H) x 57.4 (D)

Certifications

- CE
- FCC Class A

Dimension Drawing



Ordering Information

- **NEIO-B1811 (P/N: 10J80181100X0)**
  16ch digital input/output (sink) EtherCAT slave module
- **NEIO-B1812 (P/N: 10J80181200X0)**
  16ch digital input/output (source) EtherCAT slave module
- **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

- Finger-safe wiring cover
- Detachable screw terminals
- Rotational pin-assignment marks
- On-module LED indicators
- User-friendly wiring label
- Multiple mounting methods
- 6 ch voltage type analog input (±10 V)
- 2 ch current type analog input (0~20 mA)
- 2 ch analog outputs

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial applications. 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 (Voltage Input)

- Number of channels:6
- Input range: ±10V
- Resolution: 16-bit
- Accuracy: ±0.5%
- Input impedance: > 10MΩ

Analog Input (Current Input)

- Number of channels:2
- Input range: 0~20 mA
- 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 ±20% with over-voltage and reversed-voltage protection

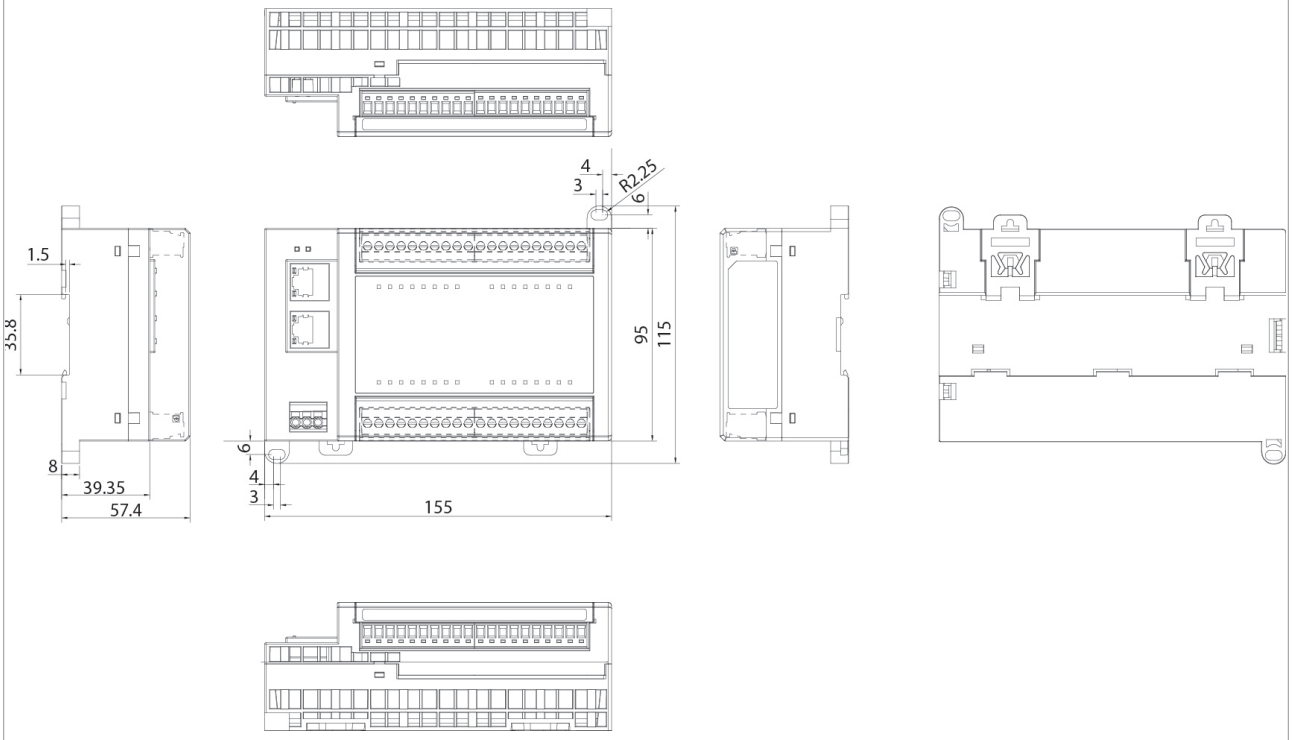
Common Section

- Electrical isolation: 2.5 KV (power contact)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 60068-2-27
- Vibration: IEC 60068-2-6, IEC 60068-2-64
- Enclosure type rating: IP20
- Mounting type: din-rail (35mm), wall-mount
- Dimesions (mm): 155 (W) x 115 (H) x 57.4 (D)

Certifications

- CE
- FCC Class A

Dimension Drawing



Ordering Information

- **NEIO-B1831 (P/N: 10J80183100X0)**
  8ch analog input 2ch analog output EtherCAT slave module
- **AC to DC din rail power supply (P/N: 7440060001X00)**
  60W 24V/2.5A for NISE

NEIO-B1601/B1603

2/4 COM Ports EtherCAT Slave Module

Main Features

- Finger-safe wiring cover
- Detachable screw terminals
- Rotational pin-assignment marks
- On-module LED indicators
- User-friendly wiring label
- Multiple mounting methods
- 1 x RS232/422/485, 1 x 422/485 for NEIO-B1601
- 1 x RS232/422/485, 3 x 422/485 for NEIO-B1603

Product Overview

NEIO is a series of EtherCAT slave I/O modules for distributed industrial applications. 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

COM Port

- Port type
  - 1 x RS232/422/485, 1 x 422/485 for NEIO-B1601
  - 1 x RS232/422/485, 3 x 422/485 for NEIO-B1603
- Data bits : 5, 6, 7, 8
- Stop bits: 1, 1.5, 2
- Parity: none, even, odd, space, mark
- Flow control: RTS/CTS and DTR/DSR (RS-232 only), XON/XOFF
- Baud rate: 0.3 ~ 115.2 kbps

Communication

- Protocol : EtherCAT
- Bus interface: 2 x RJ-45
- Media: Ethernet cable (min. CAT5), shielded
- Distance between stations: maixmum. 100m (100BASE-TX)
- Data transfer rate:100M baud

Power Requirements

- DC 24V ±20% with over-voltage and reversed-voltage protection

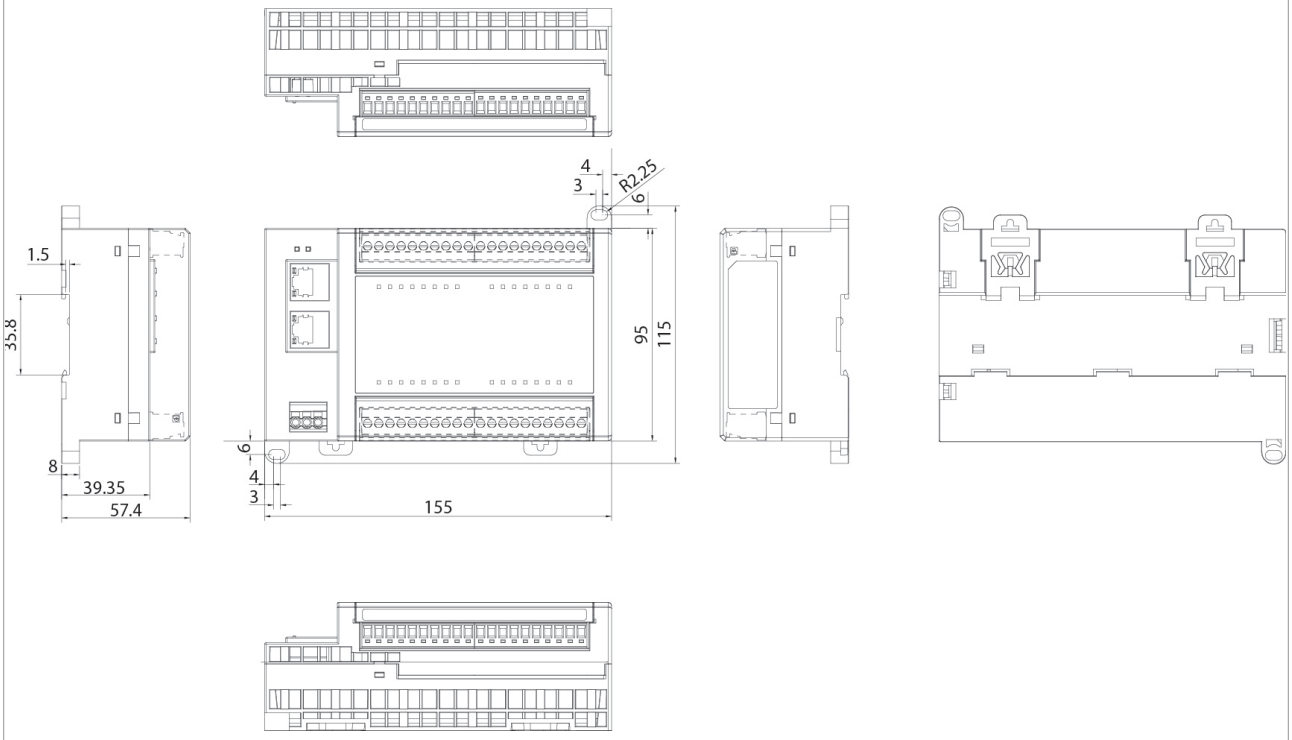
Common Section

- Electrical isolation: 2.5 KV (power contact)
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 5~95%, non-condensation, non-operating
- Shock: IEC 60068-2-27
- Vibration: IEC 60068-2-6, IEC 60068-2-64
- Enclosure type rating: IP20
- Mounting type: din-rail (35mm), wall-mount
- Dimesions (mm): 155 (W) x 115 (H) x 57.4 (D)

Certifications

- CE
- FCC Class A

Dimension Drawing

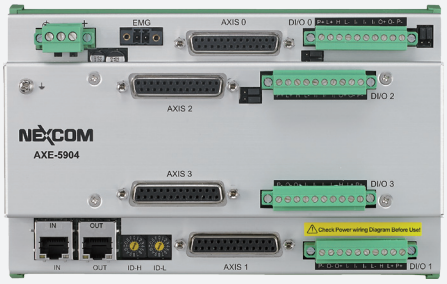


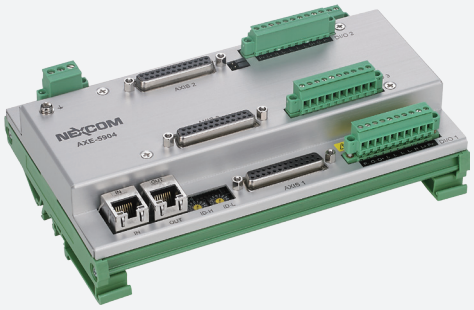
Ordering Information

- **NEIO-B1601 (P/N: 10J80160100X0)**
  2 COM ports EtherCAT slave module
- **NEIO-B1603 (P/N: 10J80160300X0)**
  4 COM ports EtherCAT slave module
- **AC to DC din rail power supply (P/N: 7440060001X00)**
  60W 24V/2.5A for NISE

AXE-5904

Point-to-Point 4-Axis Pulse Type Motion EtherCAT Slave Module





Main Features

- 4-Axis independent control and pulse output up to 8Mpps
- Pulse output options: CW/CCW, OUT/DIR
- 4 x Differential encoder interface, ABZ phase
- EtherCAT slave protocol communication
- Support CiA 402 device profile
- General purpose I/O: 12 DI

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

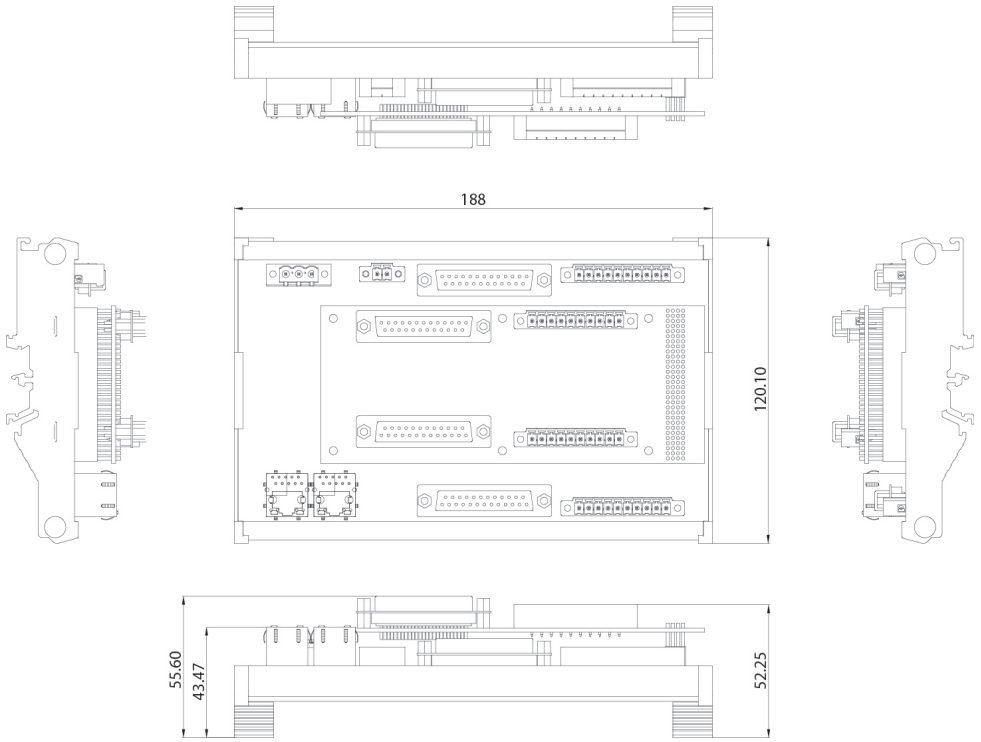
Common Section

- Data transfer medium: Ethernet cable (min CAT 5), shield
- Bus interface: 2 x 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



Ordering Information

- **AXE-5904 (P/N: 10J40590400X0)**
  Point-to-point 4-axis pulse type motion EtherCAT slave module

NControl Series

The Comprehensive CNC Solution
for 2D/3D Special Machining

Main Features

- Support 2D½ & 3D CNC machining
- Support EtherCAT and Mechatrolink III 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 center 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

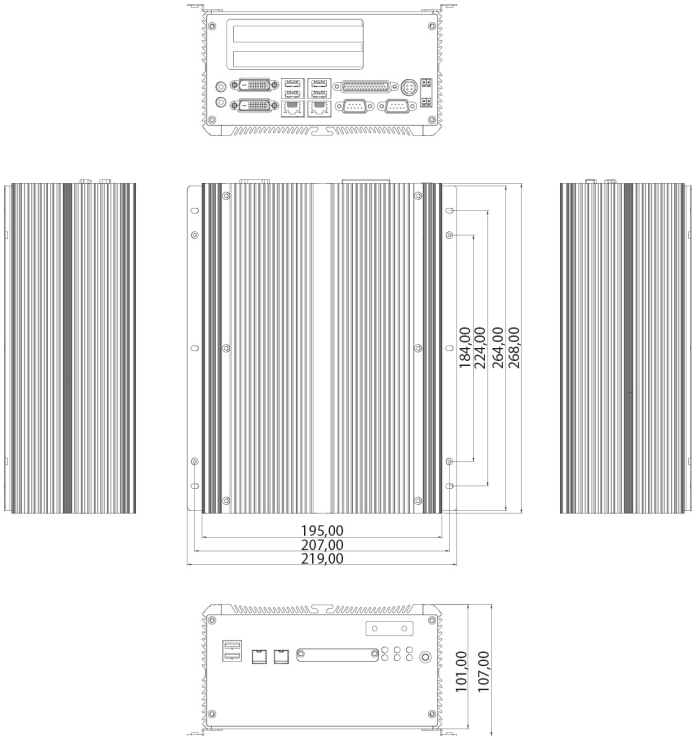
Power Requirements

- DC input range: +16 to 30 V_{DC} 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

Dimension Drawing



- 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 @ 5~500 Hz according to IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz according to IEC60068-2-6

Certifications

- CE
- FCC Class A

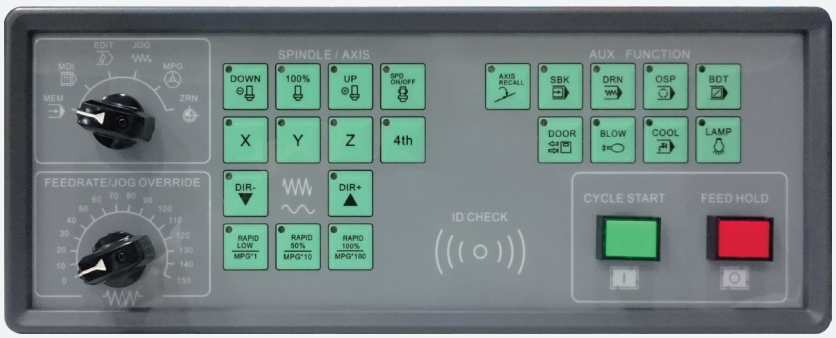
Ordering Information

CNC Controller

- **NControl20 (P/N:10J10002000X0)**
  2D½ CNC controller for machining and turning center with Win CE 6.0
- **NControl20D (P/N:10J10002001X0)**
  2D½ CNC controller for machining and turning center with Win CE 6.0 and WE2009
- **NControl30 (P/N:10J10003000X0)**
  3D CNC controller for machining and turning center with Win CE 6.0
- **NControl30D (P/N:10J10003001X0)**
  3D CNC controller for machining and turning center with Win CE 6.0 and WE2009
- **19V, 120W AC/DC power adapter w/o power cord (P/N: 7410120002X00)**

AXE-9801

EtherCAT-based Control Panel



Main Features

- High-performance EtherCAT communication
- All-in-one board design
- 22 function keys, 2 knobs and 2 push buttons for CNC machine applications
- On module LEDs for diagnosis monitoring
- Typical 24V DC input with±10% range
- Support 0~60°C operating temperature

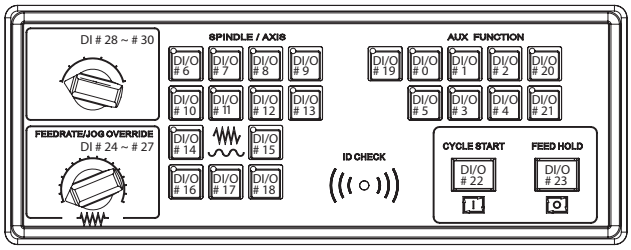
Product Overview

AXE-9801 is an EtherCAT-based control panel for CNC machine, with 22 function keys, 2 knobs and 2 push buttons for Cycle Start/Feed Hold. It controls 31-channel digital inputs, and 24-channel digital outputs, based on EtherCAT protocol, for interface operation. AXE-9801 provides enhanced performance and users can integrate it into their CNC control system easily.

Specifications

I/O Information

- Numbers of D/I channel: 31
- Numbers of D/O channel: 24
- DI/O function key mapping table



Communication

- Protocol: EtherCAT
- Bus interface: 2 x RJ-45
- Media: Ethernet cable (min. CAT5), shielded
- Distance between stations: maixmum. 100m (100BASE-TX)
- Data transfer rate: 100M baud

Power Requirements

- DC input range: DC 24V±10% range

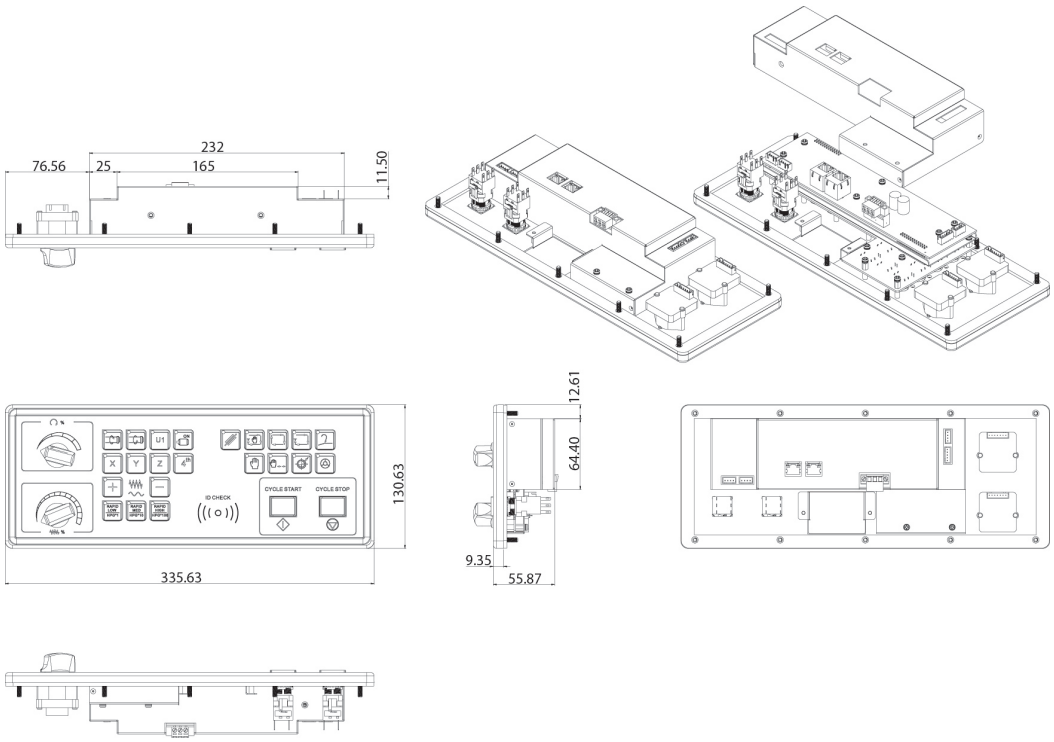
Common Section

- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  - 35~85%, non-condensation, operating
  - 10~90%, non-condensation, non-operating
- Dimensions (mm): 335.63 (W) x 130.63 (H) x 55.87 (D)

Certifications

- CE
- FCC Class A

Dimension Drawing



Ordering Information

- **AXE-9801 (P/N: 90J40980100X0)**
  EtherCAT-based control panel

MAC 3500-GTS

Compact Motion Controller for
Contouring Application

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

MAC 3500-GTS series is a specialized controller for machine automation applications. Being capable of full-closed loop controlling up to 4/8 axes, MAC 3500-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, MAC 3500-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. MAC 3500-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

Power Requirements

- DC input range: +9 to 30VDC input

Dimensions

- System: 195mm (W) x 268mm (D) x 101mm (H)

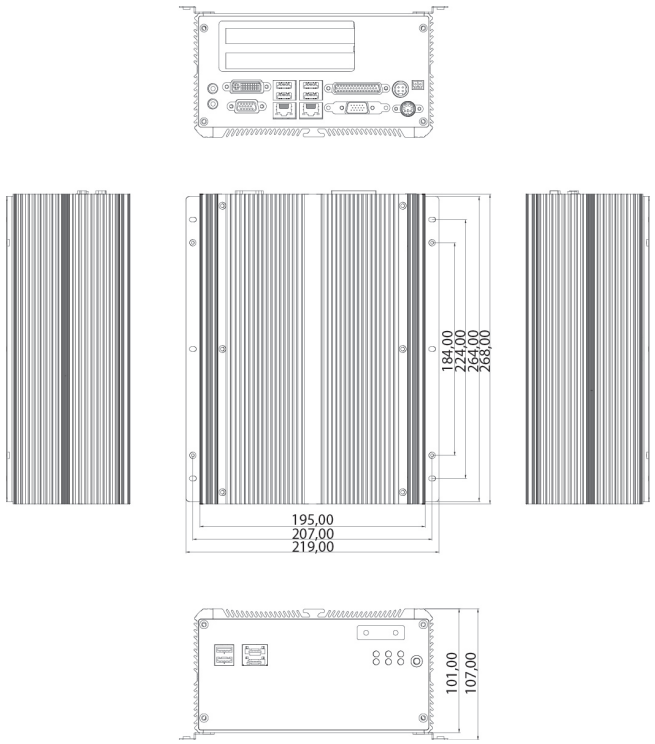
Environment

- 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

- **MAC 3500-GTS (P/N:10J30350003X0)**
  Compact 4-axis motion controller for contouring application. Please note that 1 PCI slot is occupied by the motion controller

MAC 3500-GTP

Compact Motion Controller for
Coordinated Application

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

MAC 3500-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, MAC 3500-GTP series also equips with uncommitted DI/O up to 16 channels DI and 16 channels DO, and no extra addon cards are needed. MAC 3500-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

Power Requirements

- DC input range: +9 to 30VDC input

Dimensions

- System: 195mm (W) x 268mm (D) x 101mm (H)

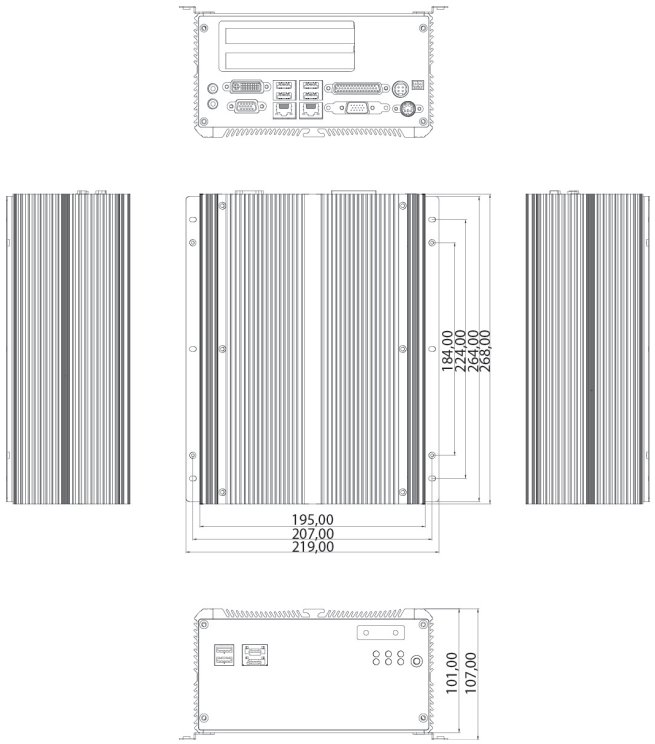
Environment

- 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

- **MAC 3500-GTP (P/N:10J30350001X0)**
  Compact 4-axis motion controller for coordinated application, Please note that 1 PCI slot is occupied by the motion controller

CPS 100

Industrial IoT Remote Gateway

Main Features

- Seamless integration of field devices, web, database and cloud services
- Fieldbus (slave) PROFIBUS®, PROFINET® or EtherNet/IP™ support
- Modbus TCP/RTU, OPC UA support in parallel
- Intuitive visual flow-based programming paradigm
- Secure HTTPS/TLS encrypted data transmissions

Product Overview

CPS 200/100 series, an edge IoT gateway, is fully integrated with fieldbus accessibility, Modbus TCP/RTU, OPC UA and IoT studio for extremely easy deployment of both centralized/decentralized field data implementation in automation process. Equipped with fieldbus accessibility, user can not only retrieve the data for live monitoring but also extract key information for custom process, like prediction and maintenance, yield rate of production…and so on. Furthermore, IoT studio brings benefits of drag-and-drop data process, exchange field data over network securely between edge and the cloud, flexible field data store/analytics/statistics…and so on.

CPS 200/100 series is a perfectly matched solution for remote field data processing in automation.

Benefits of CPS Solution

Seamless Integration

- Compatible with existing installation in field control network
- Multiple fieldbus (slave) support – PROFIBUS®, PROFINET® or EtherNet/IP™
- Industrial protocol support – Modbus TCP/RTU, OPC UA client
- Data mining – MQTT-broker, OPC UA client
- Data processing and distribution – JavaScript, JSON, XML, MQTT client, TCP, UDP, HTTP, WebSocket, E-mail

Secure Gateway Management

- Secure boot
- Gateway monitoring
- Network protocol – HTTP, HTTPS, IPv4, TCP/IP, UDP, SSH, SNMP
- Wireless support* – Wi-Fi

  * Additional module support

Productive Engineering

- Drag-n-drop workflow builder
- Versatile pre-defined function blocks
- Initialize-configure-read/write-close pattern

Direct IoT Communication

- For devices with OPC UA, Modbus and fieldbus protocol support
- In parallel to the PLC over a direct communication channel
- With data semantics for easy abstraction in the cloud

Gateway Platform Specifications

CPU Performance

- Onboard Intel® Atom™ processor E3805 1.33 GHz

Memory

- Built-in DDR3L 2GB system memory

Networking Connectivity

- 2 x 10/100/1000Mbps LAN ports
- Isolated field control 10/100Mbps ports, PROFIBUS®, PROFINET® or EtherNet/IP™

Major I/O Connectivity

- 1 x USB 3.0 (900mA)
- 1 x USB 2.0 (500mA)
- 1 x RS232/485, 2.5KV isolation protection
- Management console
- 4 x DI/DO

Wireless Connectivity (Optional Module)

- IEEE 802.11 a/b/g/n connectivity

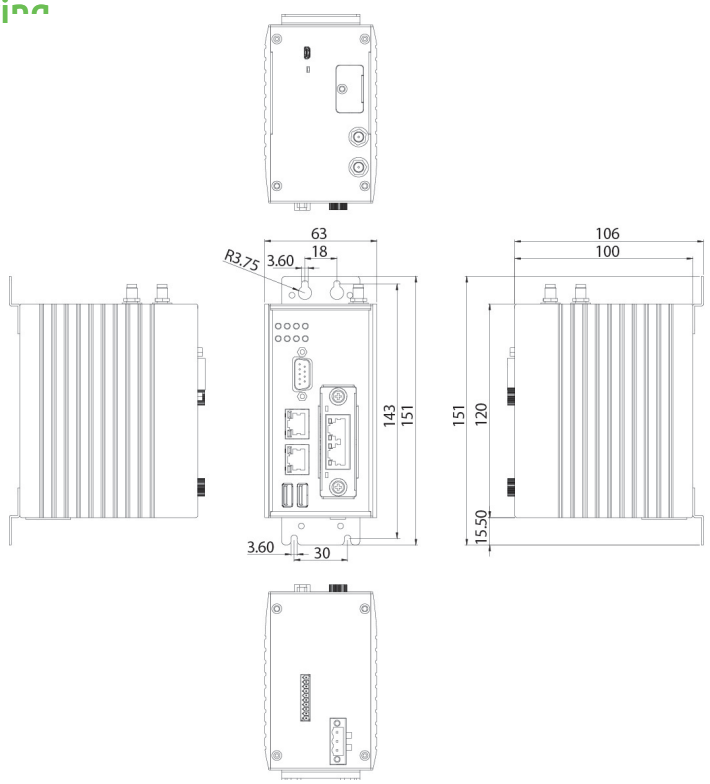
Power Requirement

- 1 x 12/24VDC input, ±20% range

Storage Device

- 1 x eMMC 16GB flash memory

Dimension Drawing



Dimensions
- 63mm (W) x 100mm (D) x 151mm (H)

Weight
- 600g

Construction
- Aluminum and metal chassis with fanless design

Shock Protection
- 50G, half sine, 11ms, IEC60068-2-27

Vibration Protection
- Random: 2Grms @ 5~500HZ, IEC60068-2-64
- Sinusoidal: 2Grms @5~500Hz, IEC60068-2-6

Operation Temperature
- Ambient with air flow: -20°C~65°C

Storage Temperature
- -20°c~80°c, relative humidity: 10%~95%

Regulation
- CE/FCC
- LVD

Ordering Information

- **CPS 100-DP (P/N: 10JC0010000X0)**
  Industrial IoT remote gateway, E3805, 2GB RAM, 16GB eMMC, PROFIBUS®
- **CPS 100-RE (P/N: 10JC0010001X0)**
  Industrial IoT remote gateway, E3805, 2GB RAM, 16GB eMMC, real-time Ethernet

CPS 200

Industrial IoT Edge Gateway

Main Features

- Seamless integration of field devices, web, database and cloud services
- Fieldbus (slave) PROFIBUS®, PROFINET® or EtherNet/IP™ support
- Modbus TCP/RTU, OPC UA support in parallel
- Intuitive visual flow-based programming paradigm
- Secure HTTPS/TLS encrypted data transmissions

Product Overview

CPS 200/100 series, an edge IoT gateway, is fully integrated with fieldbus accessibility, Modbus TCP/RTU, OPC UA and IoT studio for extremely easy deployment of both centralized/decentralized field data implementation in automation process. Equipped with fieldbus accessibility, user can not only retrieve the data for live monitoring but also extract key information for custom process, like prediction and maintenance, yield rate of production…and so on. Furthermore, IoT studio brings benefits of drag-and-drop data process, exchange field data over network securely between edge and the cloud, flexible field data store/analytics/statistics…and so on.

CPS 200/100 series is a perfectly matched solution for remote field data processing in automation.

Benefits of CPS Solution

Seamless Integration

- Compatible with existing installation in field control network
- Multiple fieldbus (slave) support – PROFIBUS®, PROFINET® or EtherNet/IP™
- Industrial protocol support – Modbus TCP/RTU, OPC UA client
- Data mining – MQTT-broker, OPC UA client
- Data processing and distribution – JavaScript, JSON, XML, MQTT client, TCP, UDP, HTTP, WebSocket, E-mail

Secure Gateway Management

- Secure boot
- Gateway monitoring
- Network protocol – HTTP, HTTPS, IPv4, TCP/IP, UDP, SSH, SNMP
- Wireless support* – Wi-Fi, 3G/UMTS, LTE

  * Additional module support

Productive Engineering

- Drag-n-drop workflow builder
- Versatile pre-defined function blocks
- Initialize-configure-read/write-close pattern

Direct IoT Communication

- For devices with OPC UA, Modbus and fieldbus protocol support
- In parallel to the PLC over a direct communication channel
- With data semantics for easy abstraction in the cloud

Gateway Platform Specifications

CPU Performance

- Onboard Intel® Celeron® processor J1900 Quad Core 2.0 GHz

Memory

- Built-in DDR3L 4GB system memory

Display

- DP and DVI-I display output

Networking Connectivity

- 2 x 10/100/1000Mbps LAN ports
- Isolated field control 10/100Mbps ports, PROFIBUS®, PROFINET® or EtherNet/IP™

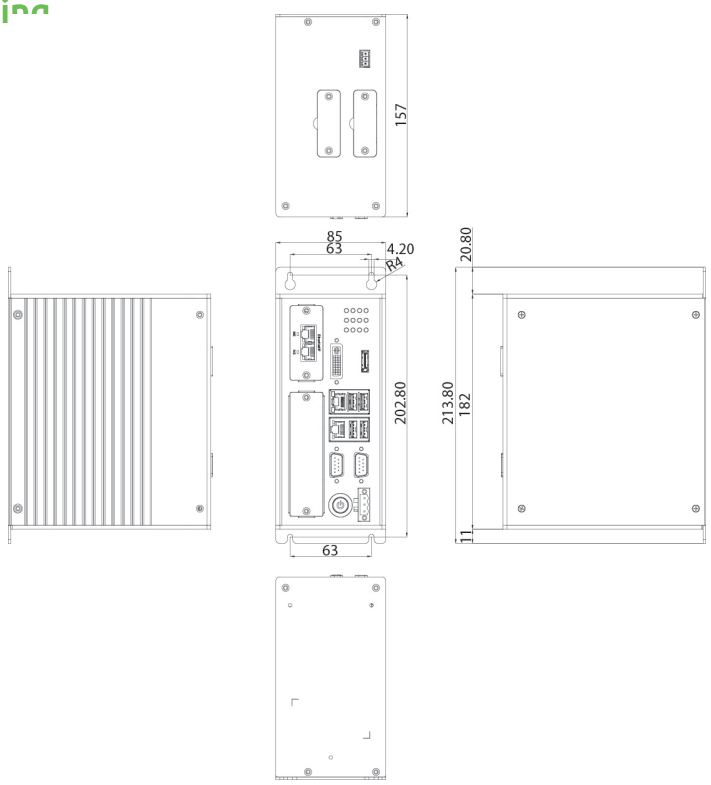
Major I/O Connectivity

- 1 x miniSIM card holder
- 1 x USB 3.0 (900mA)
- 3 x USB 2.0 (500mA per each)
- 2 x RS232/485, 2.5KV isolation protection on COM1
- Power on/off switch

Wireless Connectivity (Optional Module, up to 2)

- IEEE 802.11 a/b/g/n connectivity
- 3G/LTE connectivity

Dimension Drawing



Power Requirement
- 1 x 24VDC input, ±20% range

Storage Device
- 1 x 2.5" front accessible 128GB SSD support
- 1 x SD card socket

Dimensions
- 85mm (W) x 157mm (D) x 214mm (H)

Weight
- 2.25Kg (w/ disk)

Construction
- Aluminum and metal chassis with fanless design

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

Operation Temperature
- Ambient with air flow: 0°C~50°C

Storage Temperature
- -20°c~80°c, relative humidity: 10%~95%

Regulation
- CE/FCC
- LVD

Ordering Information

- **CPS 200-DP (P/N: 10JC0020000X0)**
  Industrial IoT Edge gateway, J1900, 4GB RAM, 128GB SSD, PROFIBUS®
- **CPS 200-RE (P/N: 10JC0020001X0)**
  Industrial IoT Edge gateway, J1900, 4GB RAM, 128GB SSD, real-time Ethernet

IFA 1610

CoreFort™ 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 CoreFort™ 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 CoreFort™ 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 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

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

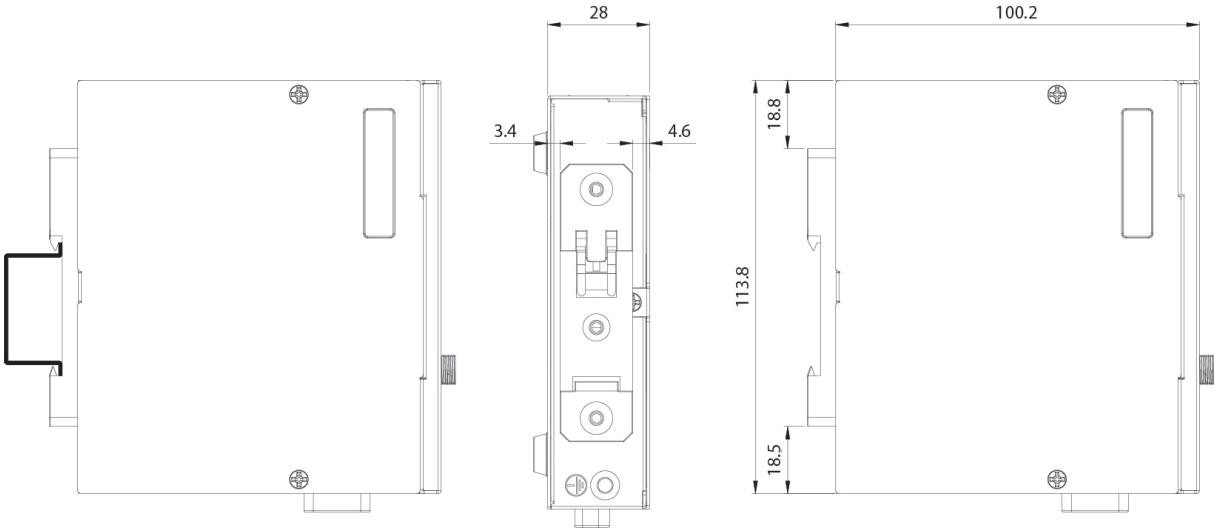
Bridging

- 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~ 58°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

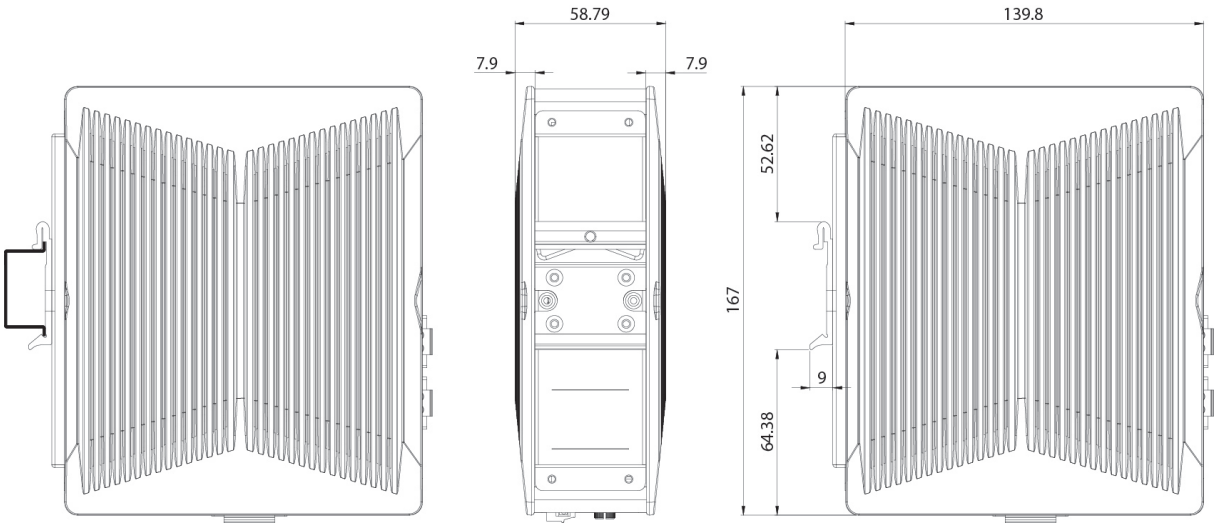
Bridging

- 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

CoreFort™ Industry Firewall, 5 Ports VPN Router with Wide Temperature Range

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 CoreFort™ 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 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. 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 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

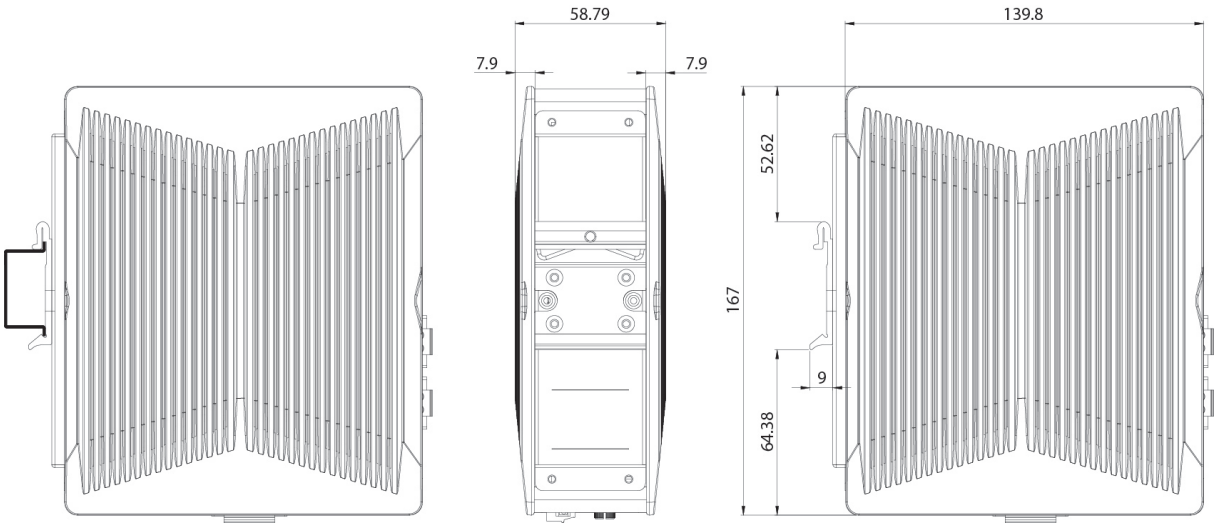
Bridging

- 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 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

CoreFort™ VPN Dispatcher 25/100 Licenses

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 CoreFort™ 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

- 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
- 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
- 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)

IWF 300

Industrial Access Point

Dual RF, 1 x 802.11an+1 x 802.11 b/g/n 2x2 MIMO

Main Features

- Dual radios and compliant with 1 x 802.11an+1 x 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

- 1 x IEEE 802.11an 2x2 MIMO
- 1 x 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

* Note: The available frequency range may be different according to different certification.

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: 1 x reset; 1 x WES
- LED: 1 x Power & Status; 5 x RJ45; 1 x WES
- Dual band antenna: 2 x 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°C
- Storage temperature: -45~85°C
- 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 regions.

Ordering Information
- **IWF 300-EU (P/N: 10T00030000X0)**
- **IWF 300-US (P/N: 10T00030001X0)**

IWF 310

Rugged Industrial EZ Mesh Access Point
Dual RF, 1 x 802.11an+1 x 802.11 b/g/n 2x2 MIMO

Main Features

- Dual radios and compliant with 1 x 802.11an+1 x 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

- 1 x IEEE 802.11an 2x2 MIMO
- 1 x 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

* Note: The available frequency range may be different according to different certification.

RF Output Power: IEEE 802.11an (±2dBm)

- IEEE802.11a
  - 27dBm@54M
- IEEE802.11a/n HT20
  - 25dBm@MCS7
- IEEE802.11a/n HT40
  - 24dBm@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: 1 x reset
- LED: 1 x Power & Status; 5 x Ethernet
- Antenna connectors: 2 x 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°C
- Storage temperature: -45~85°C
- Humidity: 0% to 95% maximum (non-condensing)
- Vibration: random 0.3g

Certification
- FCC
- CE
- RoHS compliant
- EN50155 compliant

Package Contents
- IWF310 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 regions.

Ordering Information
- **IWF 310-US (P/N: 10T00031001X0)**
- **IWF 310-EU (P/N: 10T00031000X0)**

IWF 311

Rugged Industrial EZ Mesh Access Point
Dual RF, 1 x 802.11an+1 x 802.11 a/b/g/n 2x2 MIMO

Coming soon

Main Features

- Dual radios and compliant with 1 x 802.11an+1 x 802.11 a/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°C~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 IEEE802.11an+a/b/g/n 2x2 MIMO technology. IWF 311 can deliver data rate up to 300Mbps/each radio, IEEE802.11an provide stable and secure mesh link; IEEE802.11 a/b/g/n provide dual band, configurable frequency link for device connection. In addition, the Radio power can be up to 27dBm for wide-range coverage and service. IWF 311 also functions as EZ Mesh network Wi-Fi access with cost-effective option.

Specifications

Wireless Radio

- RF1: 1 x IEEE 802.11an 2x2 MIMO
- RF2: 1 x IEEE 802.11 a/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

* Note: The available frequency range may be different according to different certification.

RF1 Output Power: IEEE 802.11 an (±2dBm)

- IEEE802.11a
  - 27dBm@54M
- IEEE802.11a/n HT20
  - 25dBm@MCS7
- IEEE802.11a/n HT40
  - 24dBm@MCS7

RF2 Output Power: IEEE 802.11 a/b/g/n (±2dBm)

- IEEE802.11a
  - 27dBm@6M
  - 24dBm@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
- IEEE802.11a/n HT20
  - 23dBm@MCS0/8
  - 19dBm@MCS7/15
- IEEE802.11a/n HT40
  - 22dBm@MCS0/8
  - 18dBm@MCS7/15

RF1 Receive Sensitivity: IEEE 802.11 an

- EEE802.11a
  - 76dBm@54M
- IEEE802.11a/n HT20
  - 74dBm@MCS7
- IEEE802.11a/n HT40
  - 71dBm@MCS7

RF2 Receive Sensitivity: IEEE 802.11 b/g/n

- IEEE802.11a
  - 76dBm@54M

- 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
- IEEE802.11a/n HT20
  - 93dBm@MCS0/8
  - 74dBm@MCS7/15
- IEEE802.11a/n HT40
  - 89dBm@MCS0/8
  - 71dBm@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: 1 x Reset
- LED: 1 x Power & Status; 5 x Ethernet
- Antenna connectors: 4 x with RP-SMA

Operating Mode
- AP
- AP router
- Client router
- EZ Mes

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
- Wall mountable
- Dimension: 185 x 108 x 43 mm

Environment Protection
- Operating temperature: -40°C~80°C
- Storage temperature: -45°C~85°C
- Humidity: 0% to 95% maximum (non-condensing)
- Vibration: random 0.3g

Certification
- FCC
- CE
- RoHS compliant

Package Contents
- IWF311 unit x 1
- Dual band antenna x 4
- 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 regions.

Ordering Information
- **IWF 311 (P/N: TBD)**

IWF 3310XH/XM

Industrial IP30 Hopping/Mesh/Mobility AP/CPE
Single RF, Dual Band, 802.11 a/b/g/n

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

* Note: The available frequency range may be different according to different certification.

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-bit
- 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°C to 80°C
- Storage temperature: -40°C to 80°C
- 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

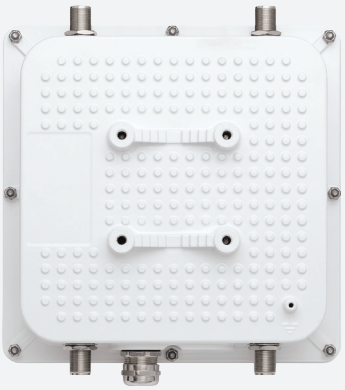
* Note: The available RF output power will be given by certified power in different regions.

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

Industrial IP67 Outdoor Hopping/Mesh/Mobility Access Point
Dual RF, Dual Band, 802.11 a/b/g/n



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

* Note: The available frequency range may be different according to different certification.

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-bit
- 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 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

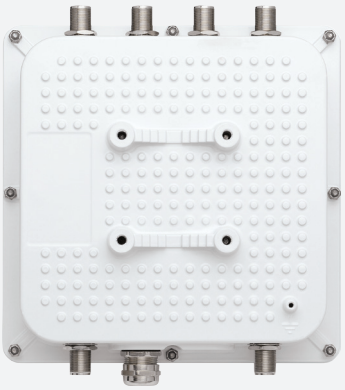
* Note: The available RF output power will be given by certified power in different regions.

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

* Note: The available frequency range may be different according to different certification.

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-bit
- 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 x 1
- 48Vdc power adaptor x 1
- PoE injector x 1
- Pole/wall mount kit x 1

* Note: The available RF output power will be given by certified power in different regions.

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

* Note: The available frequency range may be different according to different certification.

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

- 10/100 Base-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

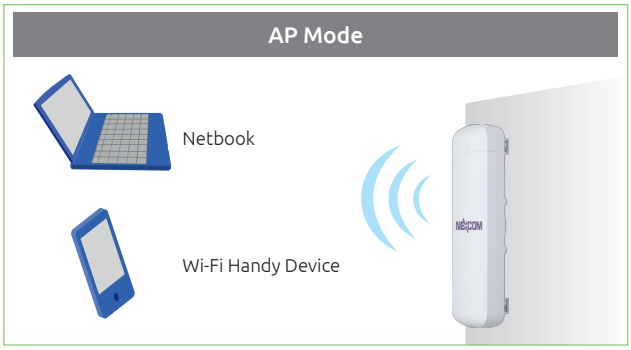
Package Contents
- IWF 501 series x 1
- 24VDC PoE injector x 1
- Power cord x 1

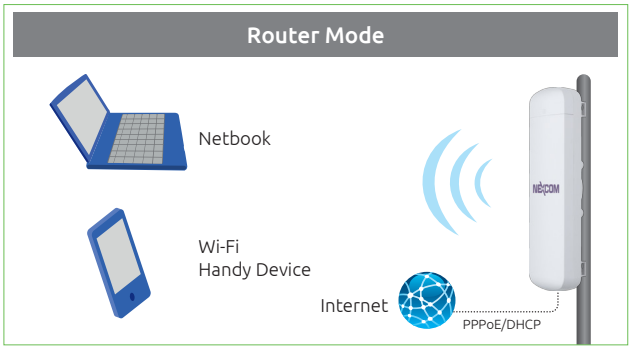
* Note: The available RF output power will be given by certified power in different regions.

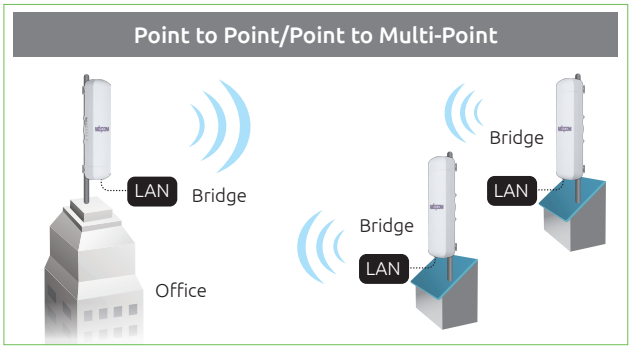
Ordering Information

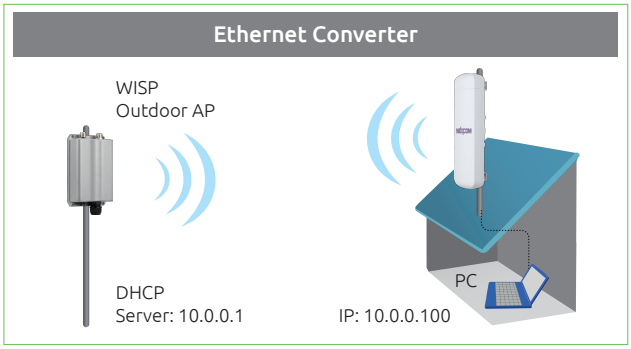
- **IWF 501-US (P/N: 10T00050101X0)**
- **IWF 501D-US (P/N: 10T00050103X0)**
- **IWF 501-EU (P/N: 10T00050100X0)**
- **IWF 501D-EU (P/N: 10T00050102X0)**

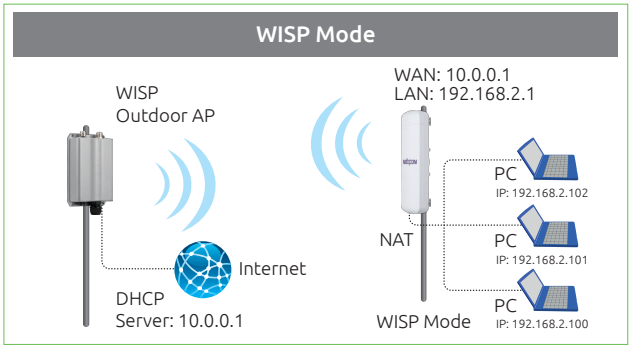
Applications











IWF 502/502D

IP55 Outdoor AP/CPE Single Radio Single Band, 802.11 a /n

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°C
- 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

* Note: The available frequency range may be different according to different certification.

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

- 10/100 Base-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

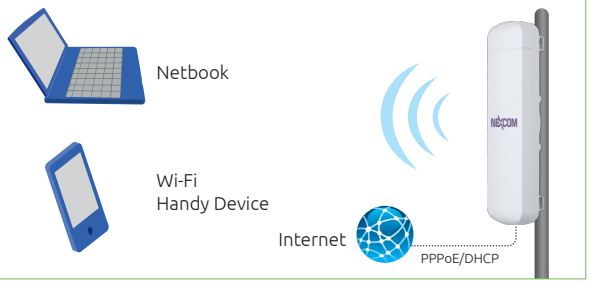
Package Contents
- IWF 502 series x 1
- 24VDC PoE injector x 1
- Power cord x 1

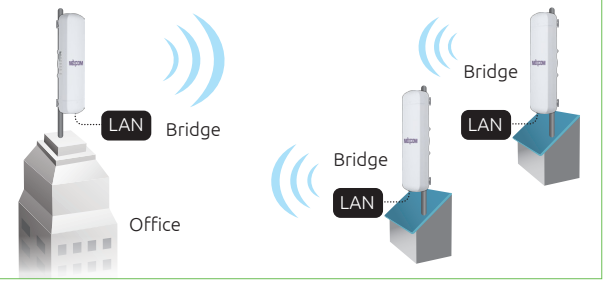
* Note: The available RF output power will be given by certified power in different regions.

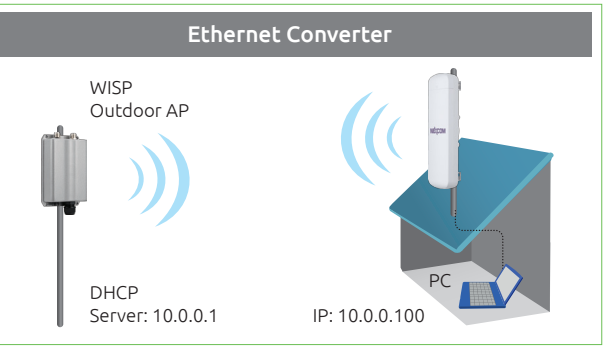
Ordering Information
- **IWF 502-US(P/N: 10T00050201X0)**
- **IWF 502D-US(P/N: 10T00050203X0)**
- **IWF 502-EU (P/N: 10T00050200X0)**
- **IWF 502D-EU (P/N: 10T00050202X0)**

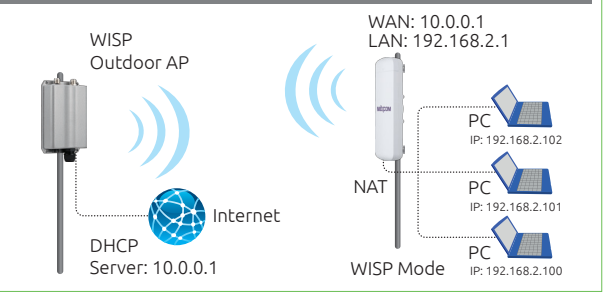
Applications

AP Mode


Router Mode


Point to Point/Point to Multi-Point


Ethernet Converter


WISP Mode


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

IWF 503 is an IP55 outdoor cost effective AP/CPE router. IWF 503 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 (IWF 503) and external antenna (IWF 503D) by customer selectable for high gain in long distance transmission. IWF 503 also design as high power solution, up to 27dBm in 5GHz.

Specifications

Wireless Radio

- 1 x 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

* Note: The available frequency range may be different according to different certification.

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: 1 x reset
- LED: 1 x Power & Status; 1 x WAN; 1 x Wi-Fi
- SMA: 3 x 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
- IWF 503 unit x 1
- 24V PoE injector
- Steel clamps* 2 for pole mount
- QIG

* Note: The available RF output power will be given by certified power in different regions.

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

IWF 504D

IP55 Outdoor AP/CPE Dual Radio Dual Band, 802.11 ac+b/g/n

Main Features

- AP/Client bridge router/Client router/WDS mode supported
- Compliant with IEEE 802.11 ac+b/g/n 2x2 MIMO
- 867+300 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

IWF 504D is an IP55 outdoor cost effective AP/CPE router. IWF 504D is dual radios AP/CPE with IEEE802.11ac+b/g/n 2x2 MIMO with high RF power solution. The maximum data rate up to 867+300Mbps with external antenna which by customer selectable for high gain in long distance transmission. IWF 504D also design as high power solution, up to 27dBm in both 2.4GHz and 5GHz.

Specifications

Wireless Radio

- 1 x IEEE 802.11ac 2x2 MIMO
- 1 x IEEE 802.11b/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

* Note: The available frequency range may be different according to different certification.

RF Output Power: IEEE 802.11ac/an/a (±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 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: 1 x reset
- LED: 1 x Power & Status; 1 x WAN; 1 x Wi-Fi
- SMA: 4 x with RP-SMA connectors

Operating Mode

- AP
- AP router
- Client router
- Client bridge
- WDS

Security

- WEP
- WAP/WPA2 mixed
- WPA2-personal (PSK+CCMP/AES)
- Hidden ESSID support
- MAC address filtering (MAC ACL)
- Station isolation

System Management

- Web-based administration
- SNMP V1/V2c; NEXCOM private MIB
- Syslog information support
- Statistics
- Configuration backup and restore
- One-button-click to restore factory default setting
- Firmware upgrade
- Telnet (SSH)
- Support nCare management system

Built-in Servers & Client Interfaces to Other Services

- DHCP client
- SNMP V1/V2c client (coming soon)

Physical and Power

- 12~24VDC passive PoE
- Wall/pole mountable
- Dimension: 240 x 135 x 58 mm
- Weight: 442g

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

- IWF 504D unit x 1
- 24V PoE injector
- Steel clamps* 2 for pole mount
- QIG

* Note: The available RF output power will be given by certified power in different regions.

Ordering Information

- **IWF 504D-EU (P/N: 10T00504D00X0)**
- **IWF 504D-US (P/N: 10T00504D01X0)**

NIO 50

Industrial Wi-Fi Serial/Ethernet Device Server

Main Features

- Support transparent Modbus TCP/RTU, Modbus ASCII & MQTT
- Web-based configuration
- 9600~115200 bps baudrate for RS-232/422/485 transmissions
- 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 brings IoT connectivity into factories, gearing unconnected industrial equipment and machines for smart manufacturing and Industry 4.0. The NIO 50 delivers data acquisition capability, IoT connectivity, convenience of remote monitoring, and industrial durability to provide end-to-end connectivity for the Industrial Internet of Things (IIoT). For Fieldbus-based controllers, legacy manufacturing machines, and serial-based devices, NIO 50 fills the communication gap between edge nodes to the cloud, enabling field data to be harnessed for manufacturing process optimization, remote management, and preventive maintenance.

Specifications

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
- Press reset button 3 seconds interval for factory default

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

LED Indicator
- 1 x Power
- 1 x Serial status (orange, green, bi-color)
- 4 x RSSI indicator

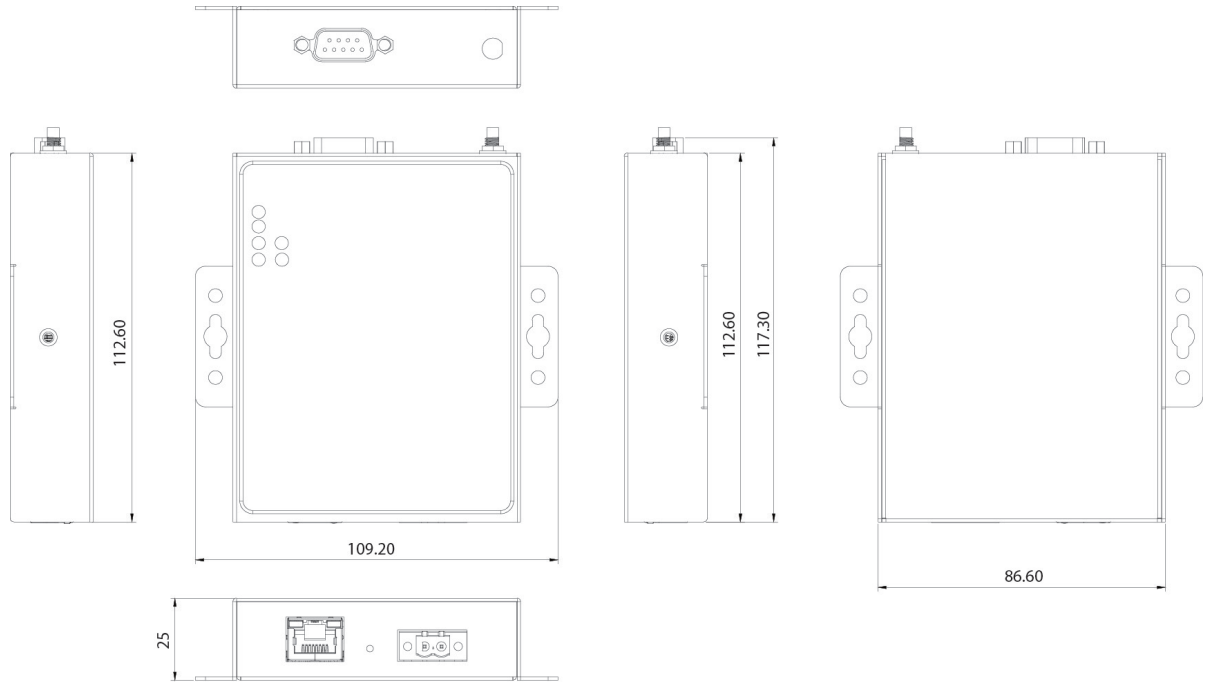
SW Features
- OS: FreeRTOS
- Wi-Fi operating mode: Client mode
- Management: nCare, web GUI
- Web GUI for configuration
- Ethernet firmware upgrade
- SNTP client (real IP, static)
- Factory default/reset

Protocol
- Modbus TCP
- Modbus RTU
- Modbus ASCII
- MQTT client for Serial/Ethernet to Wi-Fi
- Transparent mode

Environment Protection
- Operating temperature: -20°C~70°C
- Storage temperature: -40°C~85°C

Relative Humidity
- Operating: 5%~95%, non-condensing

Dimension Drawing



Certification

- EMI: FCC, CE Class A
- RF
  - FCC: Part 15C
  - CE: EN 300328
- EN60950-1
- EMC: EN 301 489-1/17, FCC Part 15 subpart B, EN 55022/55024

Ordering Information

- **NIO 50 (P/N: 10T00005000X0)**
  Industrial Wi-Fi Serial/Ethernet device server

NIO 51

Industrial Mesh Wi-Fi Serial/Ethernet Device Server

NIO 51 (RJ)

NIO 51 (M12)

Main Features

- Support EZ Mesh and client Wi-Fi operation mode
- Selectable 2.4GHz/5GHz
- Support Serial, Ethernet and Wi-Fi interface
- Support Modbus TCP, RTU, ASCII/ MQTT/ Transparent
- Built-in offline port buffer with over 20 MB of storage
- High immunity to surge, ESD & EFT level-4 protection
- Up to 921.6 Kbps baud rate for RS-232/422/485 transmissions
- Web-based configuration
- SNTP client for time synchronization
- Support nCare remote configuration
- Redundant power with DC (12~48V) and 802.3at PoE input
- Wide operation temperature from -40°C to 75°C
- M12 version for AGV application

Product Overview

NIO 51 brings the wireless connectivity from serial devices or Ethernet devices perfectly to Wi-Fi Mesh backbone in smart factories. Thanks for the Wi-Fi Mesh technology, every device connecting to NIO 51 can easily keep multiple Wi-Fi connecting paths to either IWF 300/310 EZ Mesh backbone or neighbor NIO51 devices to communicate with the control center even the devices are in moving status such as AGV application in factories.

NIO 51 provides flexible conversion between Modbus RTU to Modbus TCP protocols as well as serial to Ethernet/Wi-Fi interfaces within one box. It's also equipped with high immunity to EMC level-4 protection in Surge, ESD and EFT, wide operation temperature and redundant power so people do not need to concern about impact from harsh environment. Optional mPCIe port can be used as 3G/LTE WAN connection in the mobility applications or the environments where no Wi-Fi coverage is possible.

For Fieldbus-based controllers, legacy manufacturing machines, and serial-based devices, NIO 51 fills the communication gap between edge nodes to the cloud, enabling field data to be harnessed for manufacturing process optimization, asset management, and preventive maintenance.

Specifications

Wi-Fi Radio

- IEEE802.11a/b/g/n , MIMO 2 x 2

Serial Interface

- RS232/422/485 with isolation
  - Data bits: 8
  - Stop bits: 1
  - Parity: bone, even, odd
  - RTS/CTS (UART)
  - Baud rate: 9600 bps to 921.6 Kbps

Ethernet Interface

- 10/100 Mbps

Power Supply

- 12~48 VDC
- 802.3at PD

LED Indicator

- 1 x Power/status
- 1 x Serial status
- 3 x RSSI indicator
- 1 x Wi-Fi 2.4/5GHz indicator
- 1 x Link/Act indicator
- 1 x Extension module

Factory Default/Reset Button

- Press reset button 10 seconds interval for factory default

Connector type

- M12 version
  - DC input: M12, D-code, 4-pin (female)
  - Ethernet: M12, A-code, 8-pin (female)
- RJ version
  - DC INPUT: Phoenix contact terminal block
  - Ethernet: RJ-45 connector

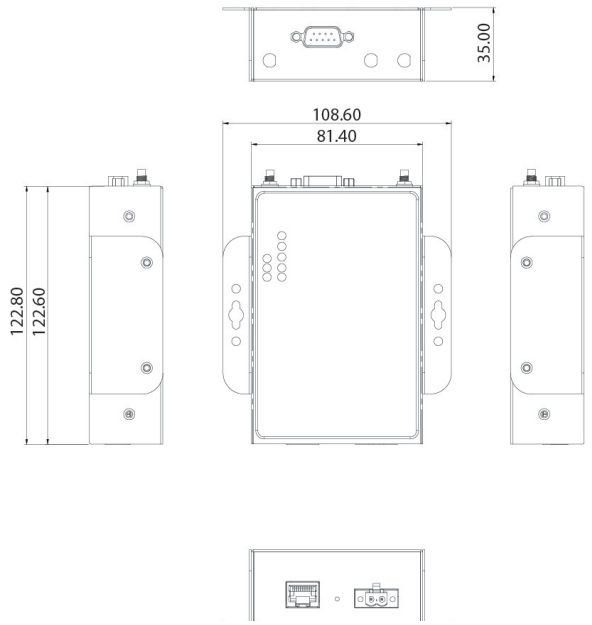
Wi-Fi Operating Mode

- EZ Mesh
- Client router

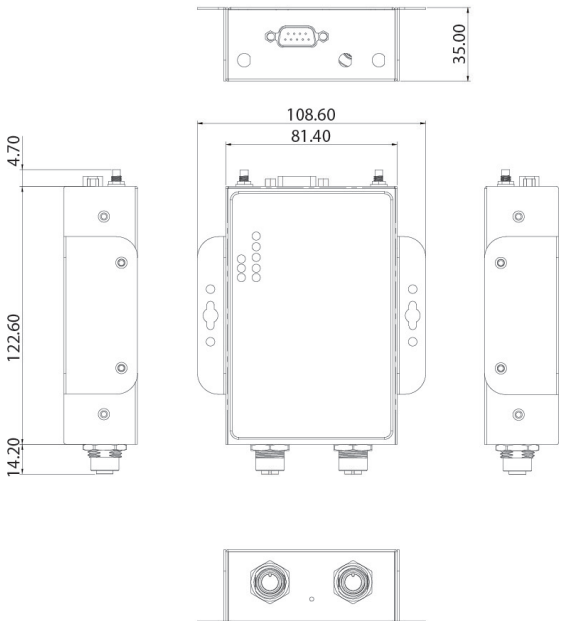
Wi-Fi Security (Client Mode)

- WEP (64/128)
- WPA/WPA2 mixed
- WPA2-personal (PSK+CCMP/AES)
- WPA2 enterprise client

Dimension Drawing



NIO 51 (RJ)



NIO 51 (M12)

Protocol
- Modbus TCP
- Modbus RTU
- Modbus ASCII
- MQTT client for serial/Ethernet to Wi-Fi (Phase II)
- Transparent mode for Serial to Wi-Fi/Ethernet
  - Serial to Ethernet/Wi-Fi
    Serial port: master/slave selectable
    Ethernet port: TCP server/client selectable
    Wi-Fi port: TCP server/client selectable
  - Applications are limited to following condition
    Serial slave to TCP client
    Serial master to TCP server

Serial Port Characteristics
- Flow control: XON/XOFF
- Serial data log: 64 KB
- Offline port buffering: 20MB

Software Watchdog

Dimension
- 81.4 mm x 122.6 mm x 35 mm

Mounting
- Wall mounting
- DIN mounting

Construction
- SGCC chassis with fanless design

Certification
- EMI: FCC, CE Class A
- RF
  - FCC: Part 15C
  - CE: EN300328, EN301893
- EN60950-1
- EMC
  - EN301 489-1/17, FCC Part 15 subpart B, EN55022/55024
  - IEC61000-4-2/4/5 level 4
  - Serial line surge protection: 1KV (level 2)

Environment
- Operating temp: -40°C to 75°C
- Storage temp: -40°C to 85°C
- Relative humidity: operating: 5%~95%, non-condensing
- RoHS compliant
- Vibration
  - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6
- Shock: 50G, half sine, 11ms, IEC60068-27

Ordering Information

- **NIO 51 (P/N: 10T00005100X0)**
  Industrial Mesh Wi-Fi Serial/Ethernet device server

NIO 200 Series

ISA100/WirelessHART Process Automation Wireless Gateway

NIO 200 C1D2

NIO 200 ATEX

Main Features

- Full Mesh topology: robust wireless connectivity from ISA100/ 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
- Wide temperature range, high EMC immunity to Surge, ESD and EFT
- Suitable for deployment in hazardous environments
- Incorporates power redundancy (DC and 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, etc…

Specifications

Wireless Radio

- IEEE802.11a/n x 2, MIMO 2 x 2
- IEEE802.15.4, 1 Tx, 1 Rx

Wi-Fi Frequency Ranges

- USA: 5.15~5.25 GHz, 5.725~5.825 GHz
- Europe: 5.47~5.725 GHz
- Japan: 5.47~5.725 GHz, Tier 2 certification
- China: 5.725~5.85 GHz, Tier 2 certification

RF Output Power: IEEE 802.11a

- 802.11a
  - 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

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:
  - 5 x N-type connector for NIO 200IDR/IAG/HAG
  - 4 x N-type connector for NIO 200IDG

Compliance

- UL 60950-1; 60950-22
- IEC 60950, 2nd edition
- EN 60950, 2nd edition
- IEC 61000-4-2 level 4 ESD immunity
- IEC 61000-4-5 level 4 AC surge immunity
- IEC 61000-4-4 level 4 electrical fast transient burst immunity

Wi-Fi Security (AP Mode)

- WEP (64/128/152)
- WAP/WPA2 mixed
- WPA2-personal (PSK+CCMP/AES)
- Hidden ESSID support
- MAC address filtering (MAC ACL)
- Station isolation

System Management
- nCare, web GUI management
- SNMP V1/V2c/V3
- Event log
- Syslog information support
- Configuration backup and restore
- One-button-click to restore factory default setting
- Firmware upgrade
- SNMP V1/V2c/V3 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: -40~75°C (altitude : up to 3000m)
- Storage temperature: -40~80°C
- Humidity: 0% to 95% maximum (non-condensing)
- Vibration: random 0.3g

Certification
- UL 60950-1; 60950-22
- Radio approvals
  - FCC Part 15.247, 15.407
  - 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

ISA100 Capabilities

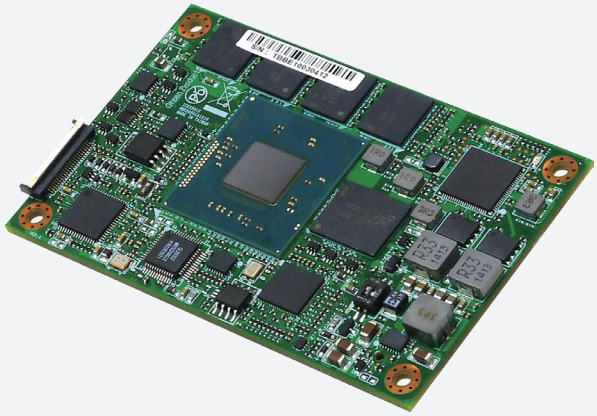
Wireless Communication Interface Specifications	
Standard IEEE	802.15.4
Data Rate	250 kbps
Modulation	Q-PSK
Spread Spectrum	DSSS
RF Output Power	Max +15 dBm
Sensitivity	-95 dBm
Connector	N type
Antenna	4.5 dBi@ 2.4GHz
Performance Parameters	
Scalability	NIO 200IAG: 100 field instruments
	NIO 200IDG: 200 field instruments, 20 subnets
	NIO 200IDR: 50 field instruments
	NIO 200HAG: 250 field instruments
Mesh Network Depth	3 hops
Field Device Join Time	As low as 20 seconds
Reporting Rate	ISA100: 1, 5, 10, 20, 30 and 60 seconds; 10 devices publishing/second
	WirelessHART: 8,16,32 secs and 1-60 minutes; 10 devices publishing/second

Ordering Information

	ISA100	WirelessHART
All-in-One Gateway	NIO 200IAG (P/N: 10T00021002X0)	NIO 200HAG (P/N: 10T00021000X0)
Distributed Gateway	NIO 200IDG (P/N: 10T00021003X0)	-
Distributed Backbone Router	NIO 200IDR (P/N: 10T00021004X0)	-

ICES 501X

COM Express Type 10 Mini Module with Intel® Atom™ Processor E3800 Series
DDR3L Memory Down/1GbE/2SATA/4 x PCIe/DDI/USB 2.0/USB 3.0



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)/1 x USB 3.0/ 7 x USB 2.0/2 x SATA 2.0 and GbE
- 1x DP/ LVDS interfaces
- Dimension 84 x 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

On-board-Storage
- Optional 4GB or 8GB: Micron EMMC chip on board

COM Express Connector
- LVDS/HDA/2 x SATA/GbE/4PCIE x1 (optional port 4 if LAN is disabled) /7 x USB 2.0/1 x USB 3.0
- LPC bus/GPIO/SMBus(I2C)/SPI BIOS

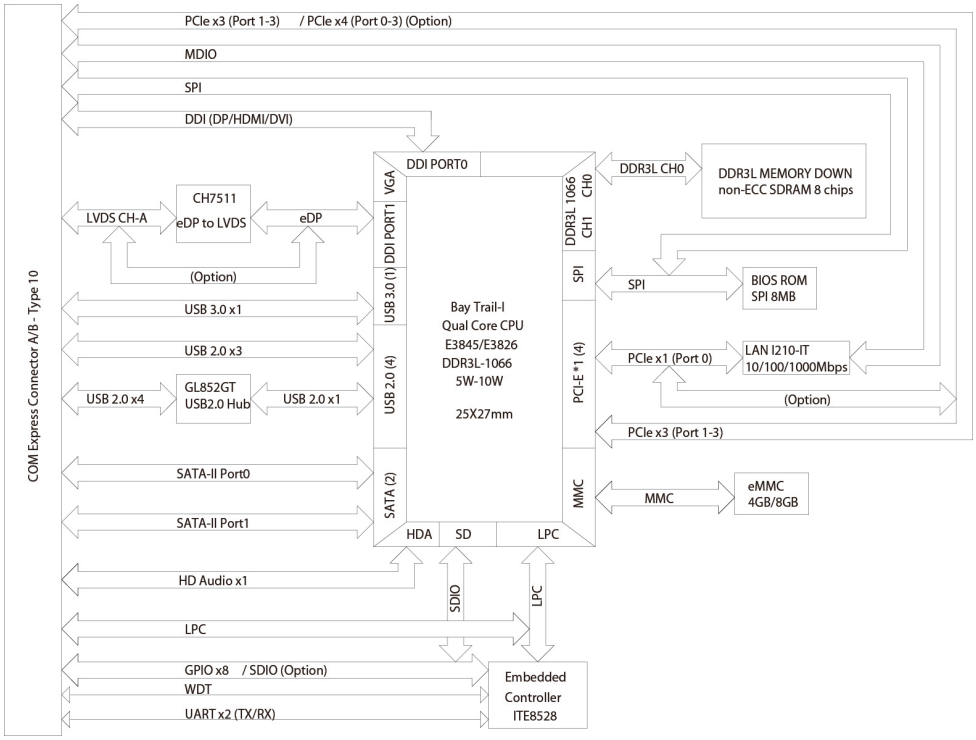
Power Requirements
- +12V, VCC5,VCC3, VCORE, 5VSB voltage detection
- Support both AT and ATX power supply mode

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



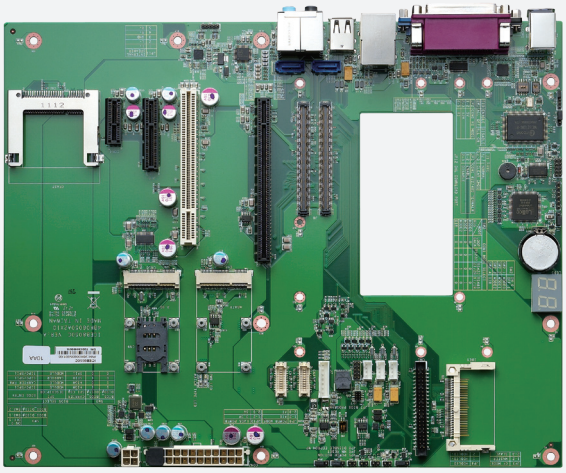
Ordering Information

- **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

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
- PCIe x16, PCIe x4, PCIe x1, 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 PCIe x16, 1 x PCIe x4, 1 x PCIe x1 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 (95 x 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 PCIe x16 slot, support PEG interfaces
- 1 x PCIe x4 slot, optional 4 x PCIe x1 signals
- 1 x PCIe x1 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 (ICES 254 only) riser card for HDMI or DP

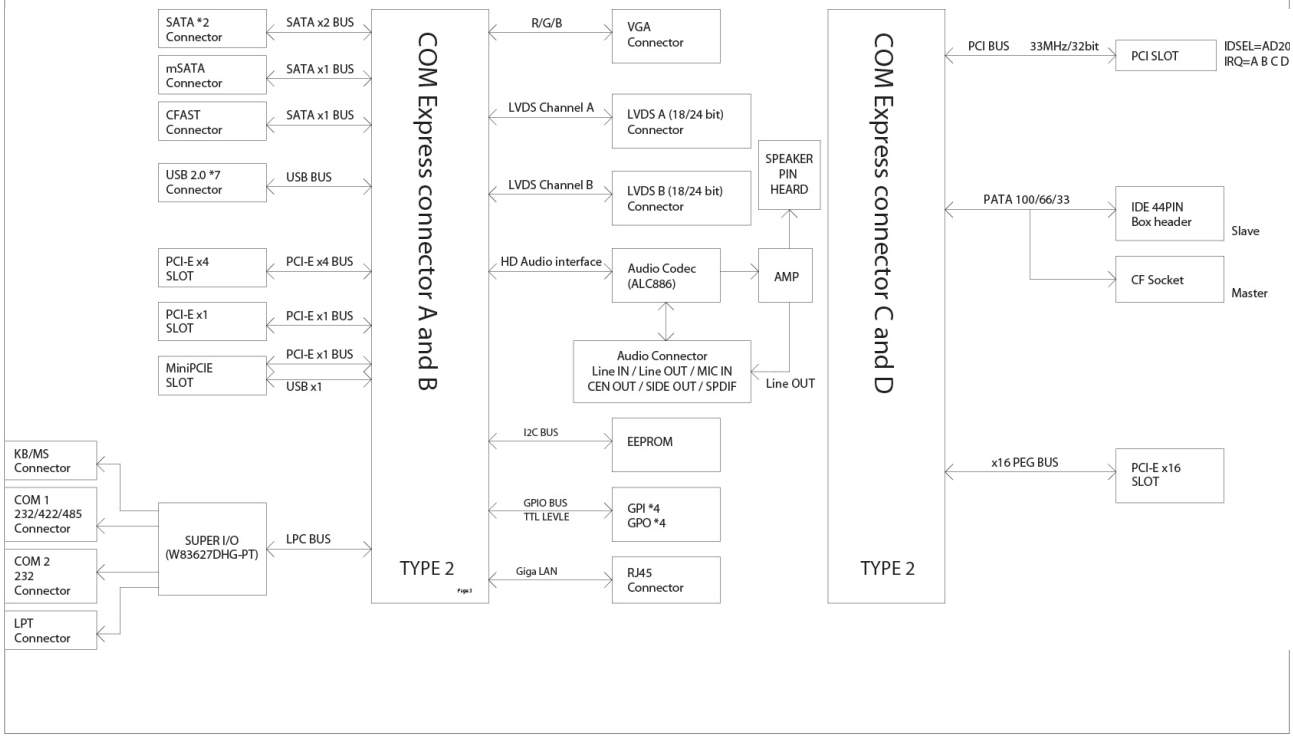
Super I/O

- 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
- USB 2.0: 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
- 1 x Internal USB 2.0 to mini-PCIe slot for external Wi-Fi module
- SATA 2.0: 4 ports

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 44-pin 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°C)

On-board RTC
- On-chip RTC with battery BR2032

Power Input
- Standard ATX 24 pins and AUX 4-pin with 12V

Dimensions
- ATX form factor, 305 x 244mm (L x W, 12" x 9.6")

Environment
- Operating temperatures: -20°C to 60°C
- Storage temperature: -40°C to 85°C
- 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 USB 2.0/2 x COM/GbE/LPT/5.1 HD/SPDIF/CF/shared IDE/mSATA/ CFAST/PCIe x16/PCIe x4/PCI/mPCIe, ATX power input

ICEK 8050C-T2

COM Express Type 2 Starter Kit

Integrated COM express compact or Basic Module bootable mini-SATA/CFast-SSD on ICEB 8050C 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
- PCIe x16, PCIe x4, PCIe x1, 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 PCIe x16, 1 x PCIe x4, 1 x PCIe x1 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 S 268 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 cm^3
- 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)
- PCIe x16: optional EBK-A2HDMI (ICES254 only) riser card for HDMI or DP

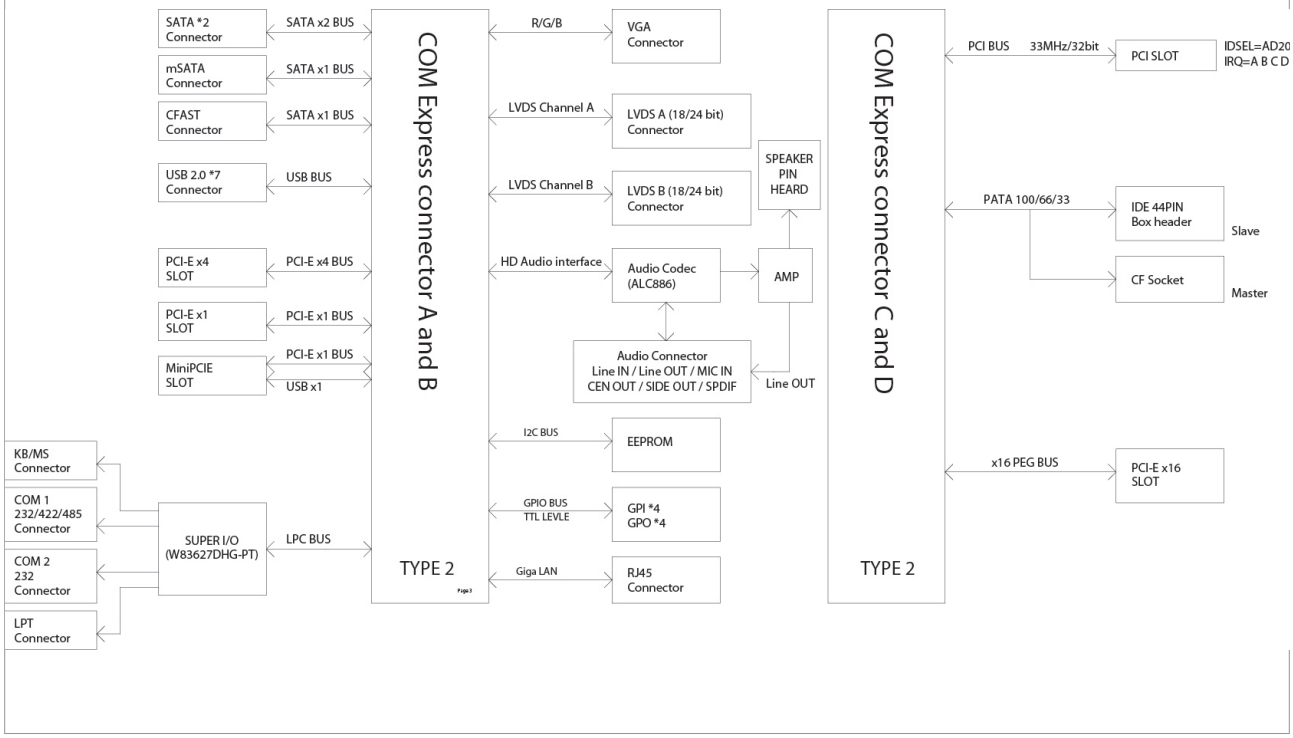
Super I/O

- 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
- USB 2.0: 8 ports
  - 4 x USB 2.0 ports by stack type A on edge
  - 3 x USB 2.0 by 4-pin JST 2.0mm JST connector
  - 1 x Internal USB2 .0 to mini-PCIe slot for external Wi-Fi module

Block Diagram



- 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 44-pin 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

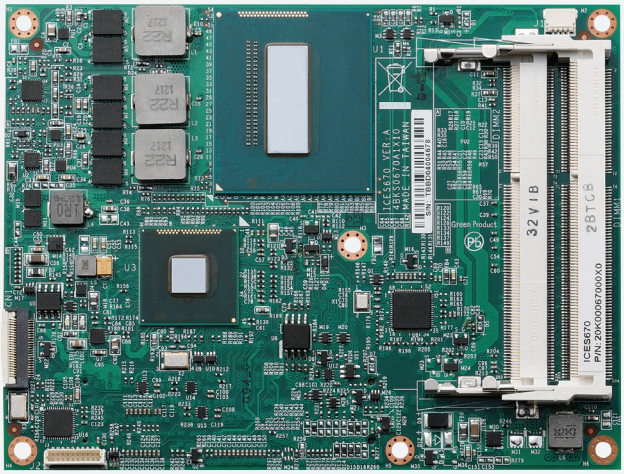
- **ICEK 8050C-T2 (P/N: MISC by Project Registered)**
  COM express type 2 starter kit ready for NEXOM COM express compact/basic modules assembly SO-DIMM system memory with passive/active fan-sink onto type 2 carrier ICEB 8050C with bootable mini-SATA/CFast-SSD pre-load Win 7 trial version OS with 10.4" 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 670

COM Express Type 6, Basic Module with Mobile Intel® QM87 chipset
4th Generation Intel® Core™ Processors



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 PCIe x16, 7 x PCIe x1, 4 x USB 3.0/8 x USB 2.0, 2 x SATA 3.0/ 2 x SATA 2.0 and GbE
- Up to 3 x independent displays, VGA, eDP/LVDS, DVI, HDMI, DisplayPort
- Dimension 95 x 125mm^2 (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, DisplayPort, eDP and legacy VGA, single channel 18-/24-bit LVDS interface. The high performance ICES 670 COM express Basic Module supports 4 x USB 3.0/8 x USB 2.0, 2 x SATA 3.0/ 2 x SATA 2.0 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 USB 2.0/HD Audio/4 x SATA/GbE/GPIO/LPC bus, 1 x PCIe x4/2 x PCIe x1/SMBus (I2C)/SPI BIOS/SPK out
- CD
  PCIe x16/3 x DDI/4 x USB 3.0/1 x PCIex1

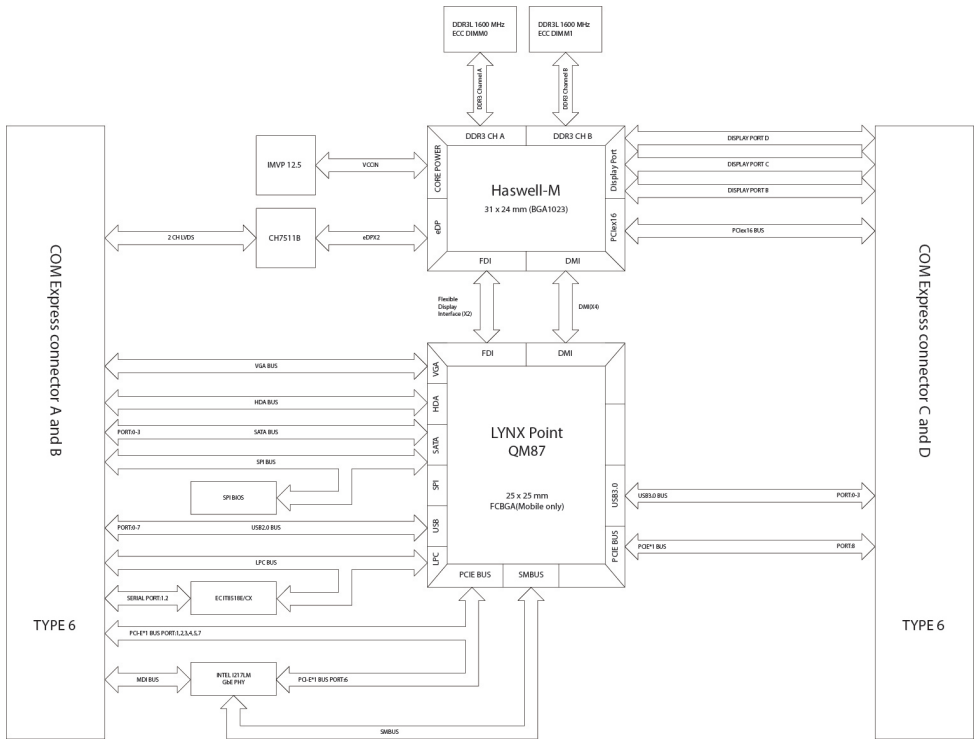
Power Requirements
- +12V, +5VSB, +3.3V RTC power

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:
  10% to 90% (operating, non-condensing)
  5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE
- FCC Class A

Block Diagram

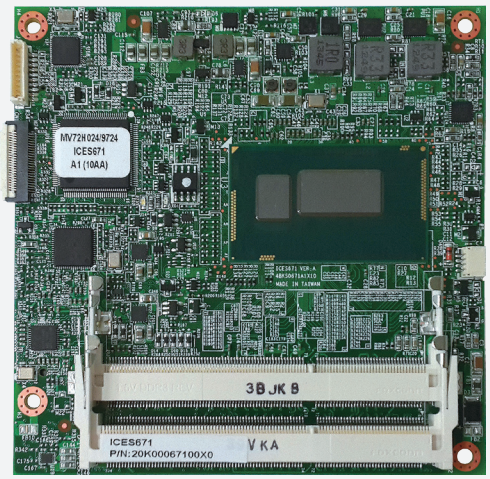


Ordering Information

- **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/4 x SATA/4 x PCIe x1/DP/2 x USB 3.0



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 USB 3.0/8 x USB 2.0/4 x SATA 3.0/4 x PCIe x1/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. ICES 671 is COM Express Type 6 pin-outs, compact module (95 x 95mm) to follow COM.0 Rev. 2.0, This new ICES 671 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 671 is integrated with Intel GT1/GT2/GT3 Integration graphic for powerful graphic processing and three-display capability through display interfaces like HDMI/DVI/DisplayPort/CRT, and dual channels LVDS. The compact size COMe express module of ICES 671 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 PCIe x1/8 X USB 2.0
  LPC bus/GPIO/SMBus (I2C)/SPI BIOS
- CD :
  2 x USB 3.0/2 x DDI (DDI2 optional)

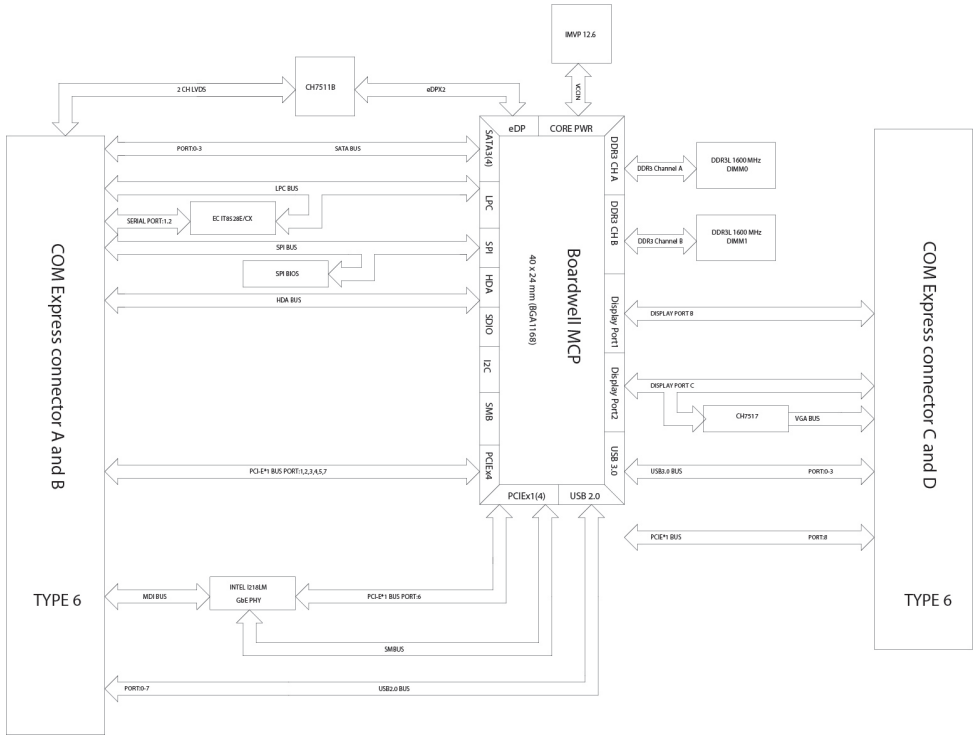
Power Requirements
- +12V, +5VSB, +3.3V RTC power
- Support both AT and ATX power supply mode
- One 3-pin 90 degree edge-connector for DC +12V fan

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

Block Diagram



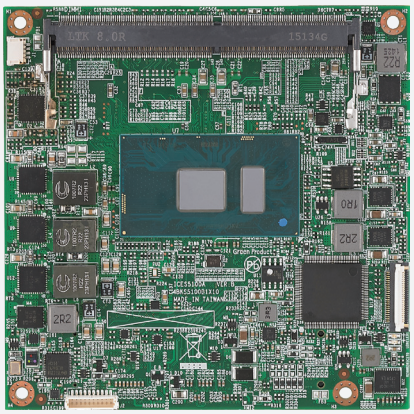
Ordering Information

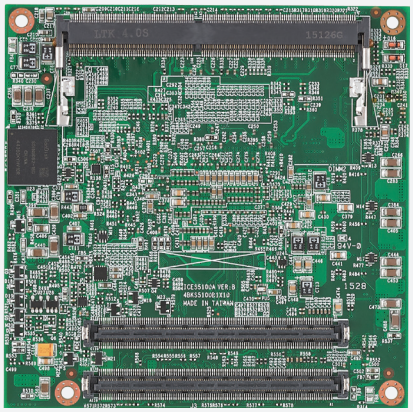
- **ICES 671-4300U (P/N: TBD)**
  COM Express Type 6 Compact module with 4th generation Intel® Core™ i7/i5/i3 processor MCP/2C, 1.9GHz/DDR3L without ECC/PCIe/ HDMI/VGA/SATA/GBE

- **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 673

COMe Type 6, Compact Size Module with 6th Gen. Intel® Core™ Processor
MCP solution, DDR4/5 x PCIe x1/4 x USB 3.0/3 x SATA 3.0 and GbE





Main Features

- Onboard 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 SATA 3.0, 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-pin 90 degree edge-connector for DC +12V fan

Dimensions

- 95mm (W) x 95mm (L)

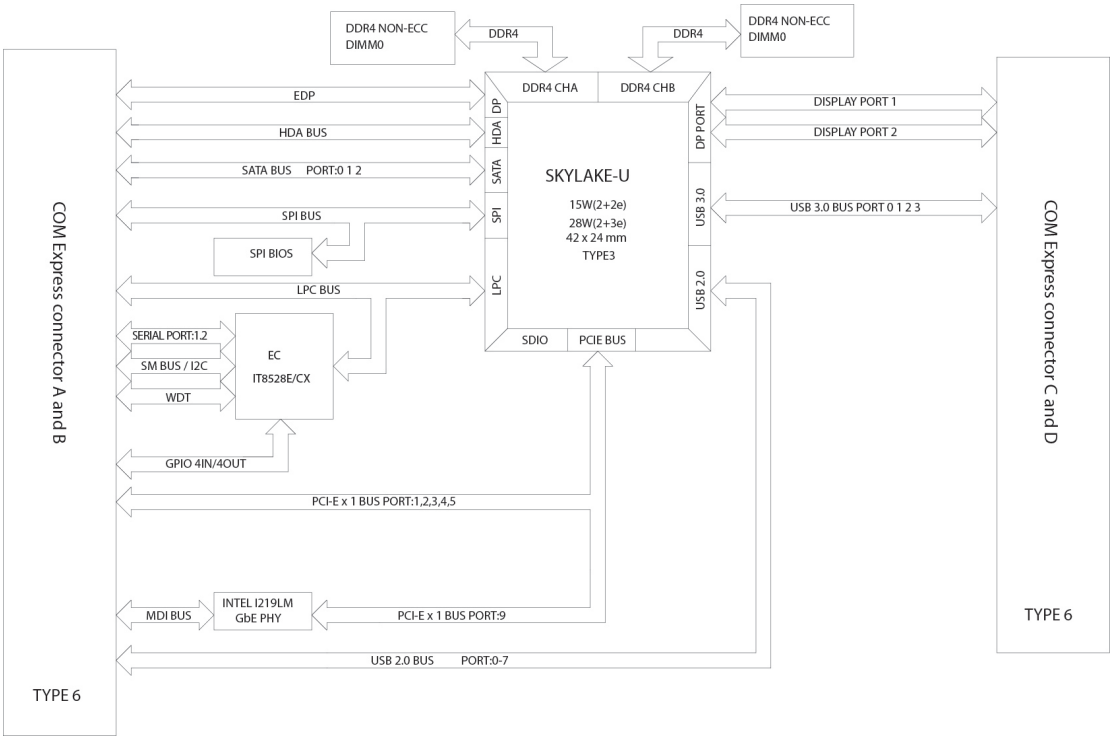
Environment

- Board level operating temperatures: -10°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

- Meet CE/FCC Class B

Block Diagram

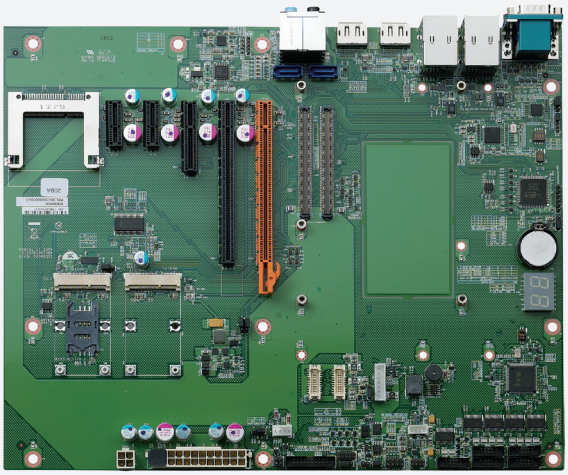


Ordering Information

- **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)

ICEB 8060

COM Express Carrier Board, Type 6 Pin-Out, PICMG COM.0 Rev. 2.0 3DDI/ 4 USB 3.0/2 SATA 3.0/PCIe Gen 3.0, Bootable CFAST/mini-SATA



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 USB 3.0/2 x SATA 3.0, PCIe Gen 3.0, Bootable CFAST or mini-SATA
- PCIex 16, DDI (PCIe x16), PCIe x4, PCIe x1 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 SATA 3.0 interfaces. ICEB 8060 support added-on card slots of1 x PCIex16 (up to PCIe Gen 3.0), 1 x DDI (SDVO/HDMI/DVI/DP by PCIe x16 slot) 1 x PCIe x4, 1 x PCIe x1 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 USB 3.0 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 PCIe x16 slot, support PEG interfaces
- 1 x DDI (SDVO/HDMI/DP by orange color PCIe x16 slot)
- 1 x PCIe x4 slot, optional 4 x PCIe x1 signals
- 1 x PCIe x1 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 PCIe x16): 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 USB 3.0 and 8 x USB 2.0 ports
  - 4 x USB 3.0/4 x USB 2.0 ports by stack Type A on edge
  - 3 x USB 2.0 by 4-pins JST 2.0mm JST connector,
  - 1 x internal USB 2.0 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)

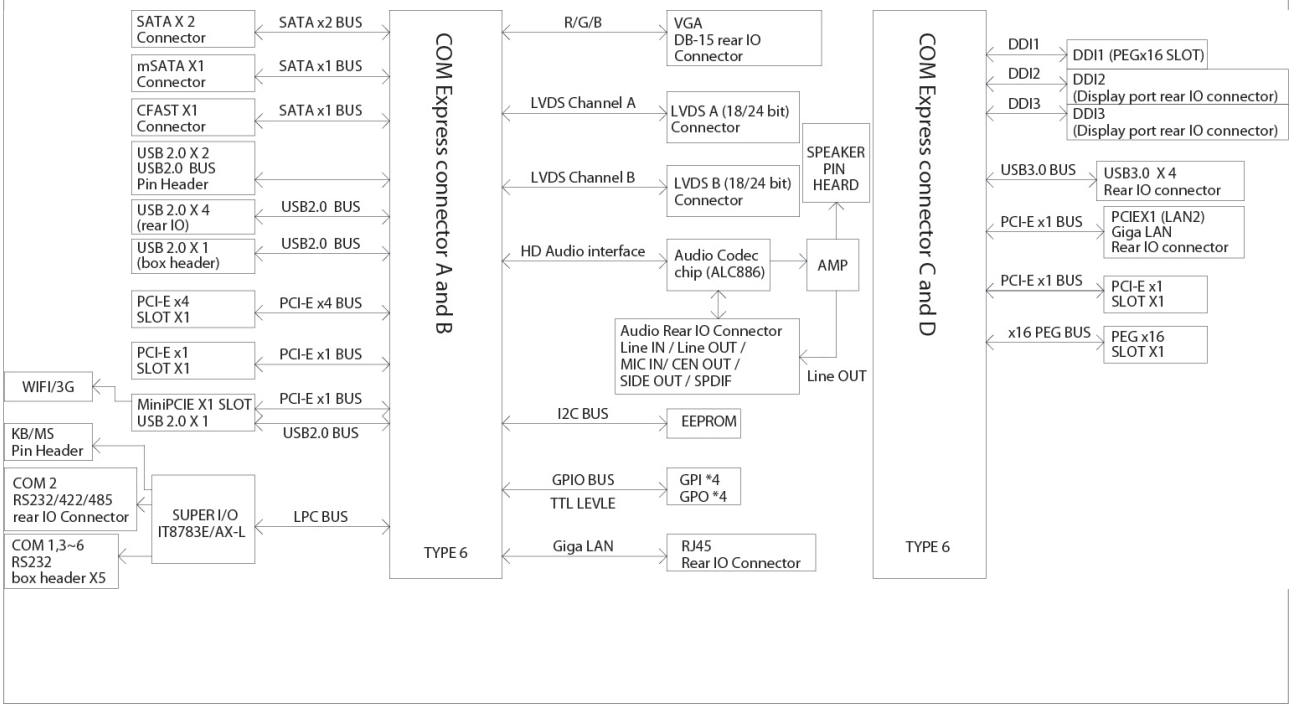
Network

- 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°C)

On-board RTC
- On-chip RTC with battery BR2032

Power Input
- Standard ATX 24 pins and AUX 4-pin with 12V

Dimensions
- ATX form factor, 305 x 244mm (L x W, 12" x 9.6")

Environment
- Operating temperatures: -20°C to 60°C
- Storage temperature: -40°C to 85°C
- Relative humidity: operating 10% to 90%, non-condensing

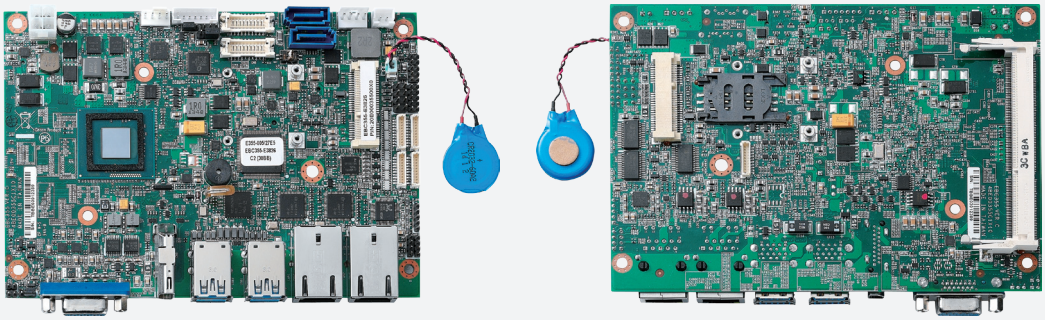
Certifications
- CE approval
- FCC Class A

Ordering Information

- **ICEB 8060 (P/N: 10KB0806000X0) RoHS Compliant**
  COM Express Type 6, COM.0 Rev. 2.0 Evaluation CRB, 3DDI/VGA/LVDS/4USB 3.0/8USB 2.0/6COM/2GbE/5.1 HD, SPDIF/2SATA 3.0/mSATA/CFAST/PCIe x16/PCIe x4/PCIe x1/mPCIe, ATX power input

EBC 355

3.5" SBC Onboard Intel® Atom™ Processor E3800 Product Family
HDMI/VGA/1 x24/48-bit LVDS Dual Channel, Dual mini-PCIe



Main Features

- Onboard 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 3.0, 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 onboard 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® Gen7 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 USB 3.0 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® Gen7 graphics engine
- Supports VGA and HDMI interface
- Analog VGA interface: 1 x DB-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 Speak-out

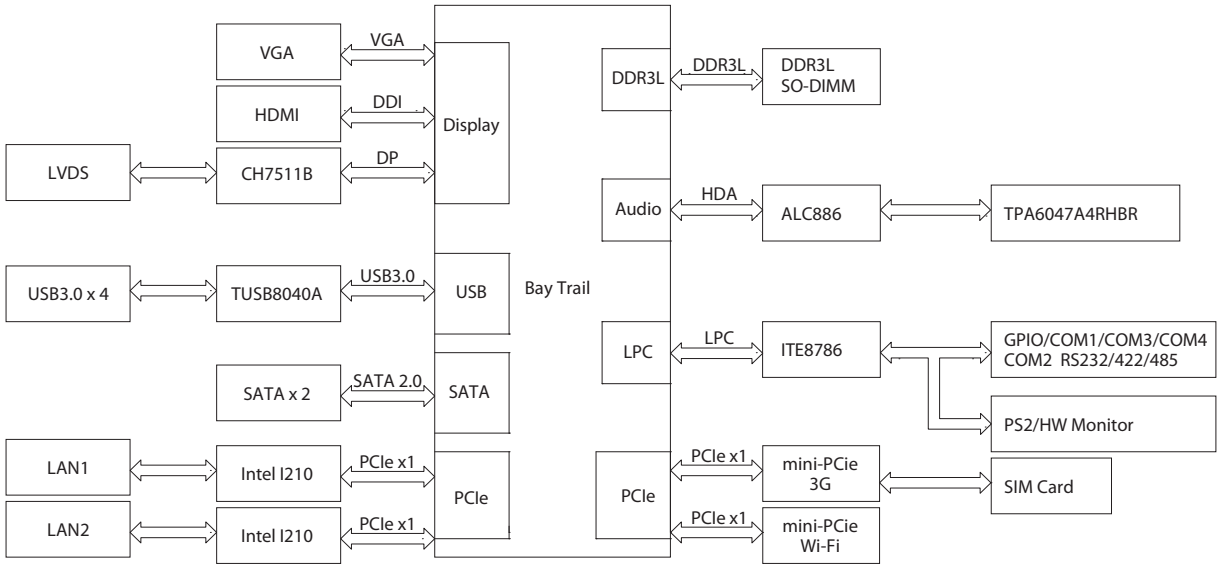
On-board LAN
- 2 x Intel® i210 Gigabit Ethernet
- Support PXE boot from LAN, wake on LAN function

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 3.0: 4 ports
  4 x Ports edge connector
- 8 GPIO lines via header (GPI 0~3 and GPO0~3) TTL level (0/5V)
- Onboard power LED and HDD active LED pin header
- 1 x 4-pin fan connector (for CPU)
- 1 x Keyboard/mouse pin header
- Onboard buzzer/SMBus 2.0/reset SW/on & off switch button

Edge I/O Interface
- 1 x VGA connector
- 1 x HDMI connector
- 2 x Dual stack USB 3.0 connector

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 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: -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)

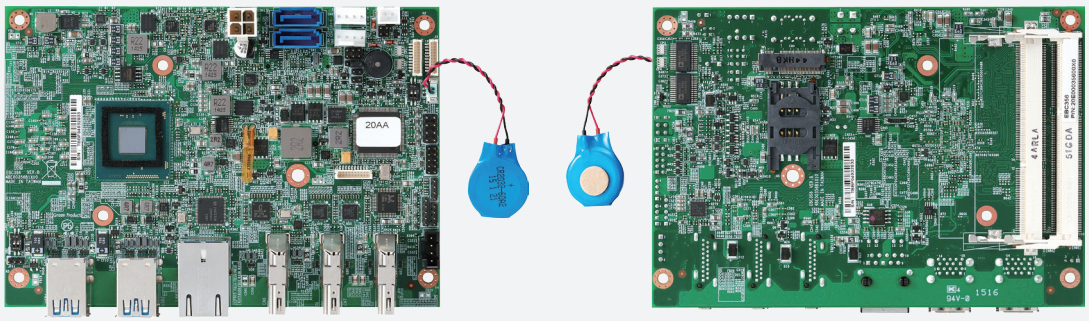
Certifications
- Meet CE
- FCC Class A

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,24/48-bit LVDS, 4 x USB 3.0, 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, 24/48-bit LVDS, 4 x USB 3.0, 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

- Onboard Intel® Pentium®/Celeron® processors N3000 product family (codenamed 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® Gen8 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 8GB DDR3L 1600 MHz SDRAM

BIOS
- AMI system BIOS
- Plug and play support
- Advanced power management and advanced configuration & power interface support

Display
- Integrated Intel® Gen8 graphics engine
- Supports HDMI interface
- 3 x HDMI connector
- 2 of 3 HDMI resolutions support 4K/2K, (3840 x 2160 @ 30Hz, 2560 x 1600 @ 60Hz)
- 1 support 2K (2560 x 1440 @ 60Hz)

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 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

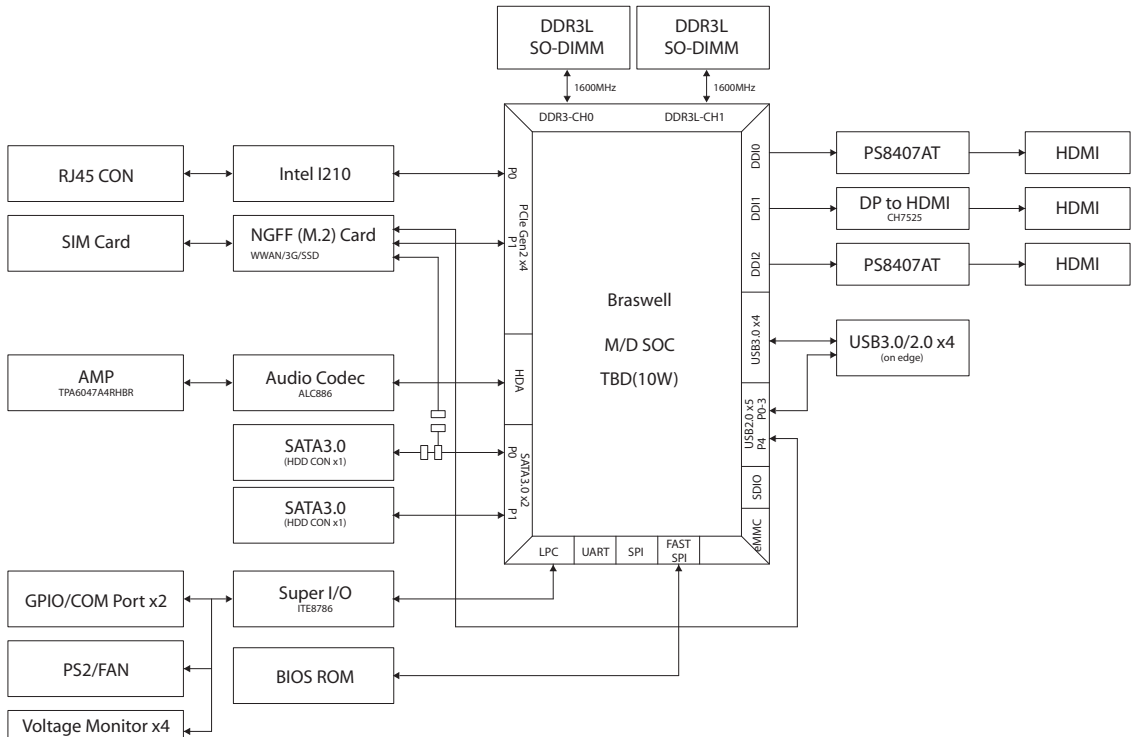
Edge I/O Interface
- 3 x HDMI connector
- 2 x Dual stack USB3.0 connector
- 1 x RJ45 with LED connector

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)
- 1 fan speed detection

Block Diagram



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 614

Mini-ITX, 6th Generation Intel® Core™ i7/ i5/ i3 Celeron® Process Family with H110, VGA, HDMI, DP, LVDS, mini-PCIe, 2 x GbE/10 x USB/4 x COM, 12V~24V DC Input

Main Features

- Support socket LGA1151 for 6th generation Intel® Core™ i7/i5/ i3 and Intel® Celeron® processors (codenamed Skylake) or next generation Intel® Core™/Celeron® processors
- Intel® Q170/H110 chipset
- 2 x 260-pin SO-DIMM DDR4 up to 32GB
- Triple display: HDMI/DP/VGA/LVDS
- 2 x GbE with Intel® I219LM and i211-AT
- 1 x Full size mini-PCIe
- 4 x SATA 3.0
- 4 x COM, 7 x USB, 4-in/4-out GPIO, HD Audio
- 1 x PCIe x16
- DC +12V~24V input ±5%

Product Overview

NEX 614 is a Mini-ITX board with 6th generation Intel® Core™ i7/i5/i3 processors and Intel® Celeron® processors (codenamed Skylake) and as well as next generation Intel® Core™/Celeron® processors which integrated Intel® Skylake graphic controller. NEX 614 supports multi-displays by HDMI (4K/2K), DP, VGA and LVDS (dual channel 24-bit up to 1920 x 1200 @60Hz). With dual DDR4 SO-DIMM channel, the maximum memory supports up to 32GB.

NEX 614 embedded Intel® H110 as default provides three SATA, four serial ports, four USB 3.0 ports, four USB 2.0 ports, two Gigabit Ethernet LAN port, one PCIe x16 slot and one full size mini-PCIe with 3G/Wi-Fi/mSATA interface. The power input covers from 12V to 24V DC. With optional Intel® Q170 chipset, NEX 614 expends 4th SATA function for mass storage. NEX 614 features versatile displays, riches I/O support for multimedia as well as critical mission of industrial embedded applications, such as Kiosk, digital signage, gamming, automation applications...etc.

Specifications

CPU Support
- Socket LGA1151, Intel® 6th and next generation Core™ i7/i5/i3 processor and Intel® Celeron® processors , 14nm process

Main Memory
- Dual DDR4/SO-DIMMs, up to 32GB

Chipset
- Intel® H110 PCH
- Intel® Q170 PCH as optional

BIOS
- AMI system BIOS
- Plug and play support

On-board LAN
- 2 x RJ45 connectors with Intel® I219LM and i211-AT GbE controller
- Support PXE boot from LAN, wake on LAN function

Display
- 1 x HDMI 1.4 connector (resolution up to 4K/2K@30Hz)
- 1 x DP 1.2 connector (resolution up to 4096 x 2304)
- 1 x VGA (resolution up to 1920 x 1200)
- 1 x LVDS (support dual port 24-bit)

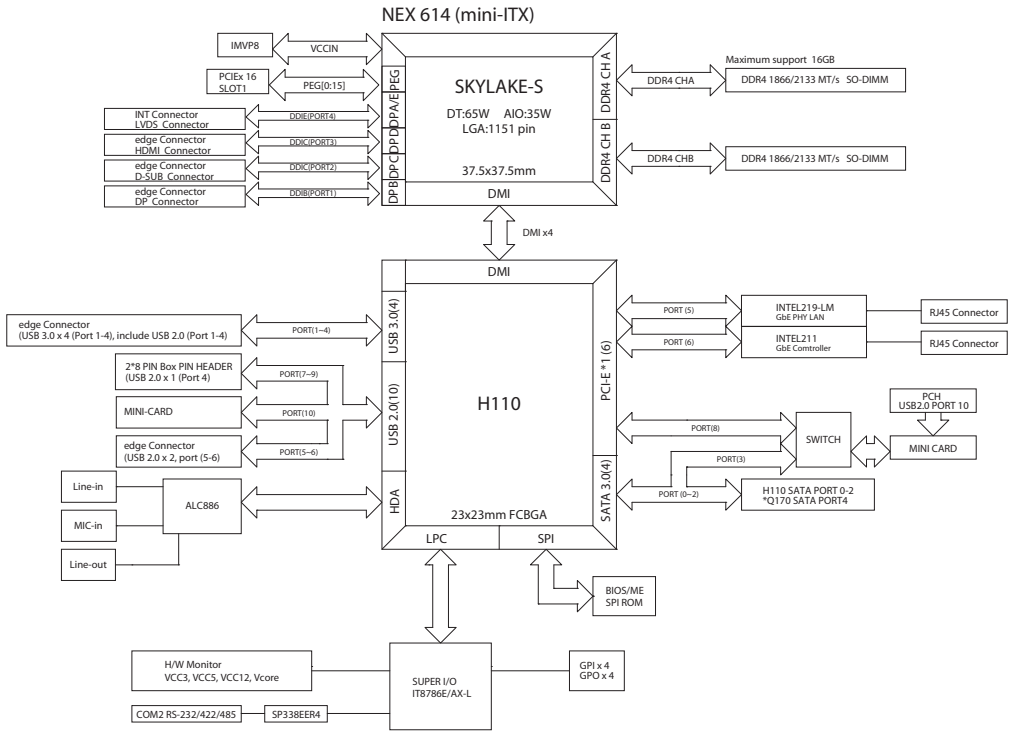
Expansion Slot
- 1 x mini-PCI express slot support mSATA, Wi-Fi module and 3G module built with card holder

I/O Interface
- COM1/3/4: RS232, 9-pin wafer with cable JST connector
- COM2 : RS232/422/485, 1 x DB9 male connector on edge I/O
- USB 2.0/3.0: 7 ports
  - USB 3.0 x 4 ports edge connector
  - USB 2.0 x 3 ports by 2.54mm pin connector
- 4-in/4-out GPIO
- 2 x 7-pin header with PWR button/reset button/PWR LED/HDD LED
- 1 x 4-pin fan connector support PWM fan
- 1 x 3-pin system fan

Storage
- 3 x 7-pin SATA 6Gb/s connector; one supports SATA-DOM
- 4th SATA connector reserved for Q170 as optional to support RAID 0/1/5
- 2 x 4-pin connector for SATA power

Audio
- Realtek ALC886 HD codec

Block Diagram



Power Requirements

- AT/ATX mode (by jumper setting default-AT)
- 4-pin power connector (right angle) for DC power input
- +12V~24V DC input (with ±5%)

Optional function

- TPM module (EBK-TPM)

Dimensions

- 170mm (L) x 170mm (W) (6.7”x 6.7”)

Environment

- Board level operating temperatures: 0˚C to 60˚C
- Relative humidity:
  - 10% to 90% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)

Certifications

- Meet CE
- FCC Class A

Ordering Information

- **NEX 614 (P/N: TBD)**
  Mini-ITX, Intel® 6th gen. Skylake Core™ processor family, with DP/HDMI/VGA/LVDS interface/2 x Gigabit LAN/PCIe x16/mPCIe/8 x USB/4 x COMs/TPM (option)/4 x SATA/12V~24V DC input

NEX 650

Mini-ITX Form Factor
with Onboard Intel® Celeron® Processor J1900 Product Family

Coming soon

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
- 12~24 V DC-in power support

Product Overview

NEX 650 is the NEXCOM most advanced flagship Mini-ITX form factor powered by onboard 4-core Intel® Celeron® J1900 processor (codenamed Bay Trail) that integrates with 24/48-bit LVDS & upto 8GB DDR3/L memory & rich I/Os.

NEX 650 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 12~24V DC-in.

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
- mini-PCIe: 1 (full size)
- mSATA: 1
- PCIe: 1

Memory
- Technology: dual channel DDR3L 1333 MHz SDRAM
- Max.: 8GB
- Socket: 2 x SO-DIMM

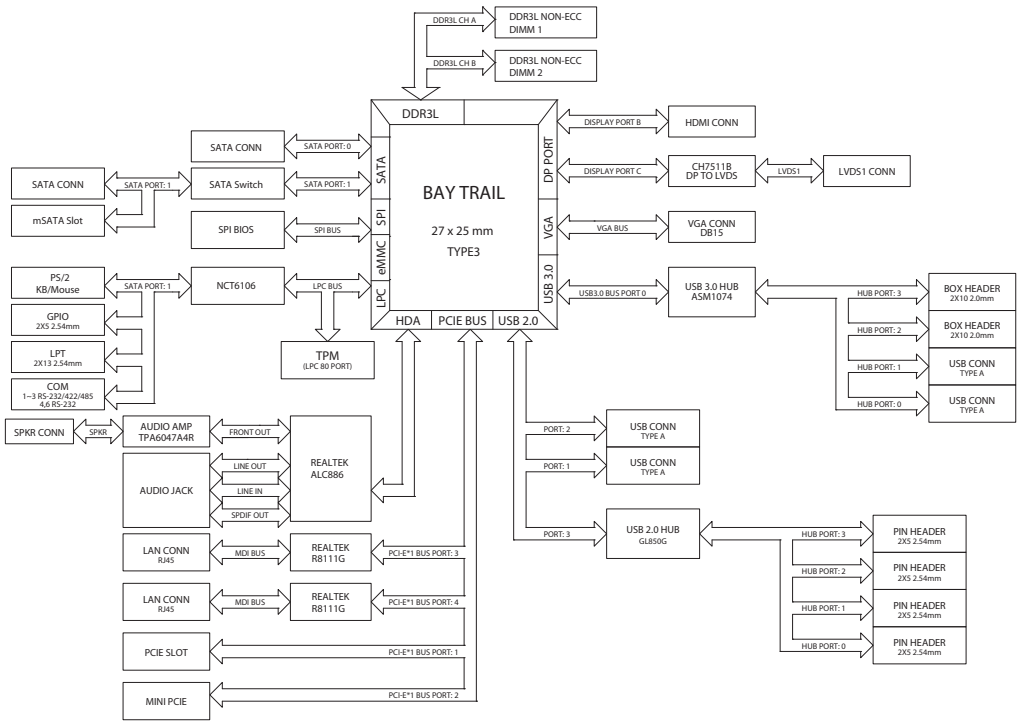
Graphics
- Controller: Intel® Gen7 Intel® graphics DX 11*, OGL3.2
- VRAM: shared memory
- VGA: supports max. resolution 1920 x 1200
- LVDS: dual channel 24-bit, max resolution 1920 x 1200@60Hz
- HDMI: supports HDMI 1.3a, max resolution 1920 x 1200

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
- HDMI: 1
- 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)
- 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)
- Serial: 2 (RS-232)
- SATA: 2 x SATA2 (3.0Gb/s)
- mPCIe: 1
- Parallel: 1
- mSATA: 1 (shared)
- GPIO 8-bit: 4 x GPI + 4 x GPO
- SATA PWR output con: 1
- Speaker header: 1

Block Diagram



Watchdog Timer

- Output: from super I/O to drag RESETCON#
- Interval: 256 segments, 0,1,2…255sec/min

Power Requirements

- Input PWR: 12~24V 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

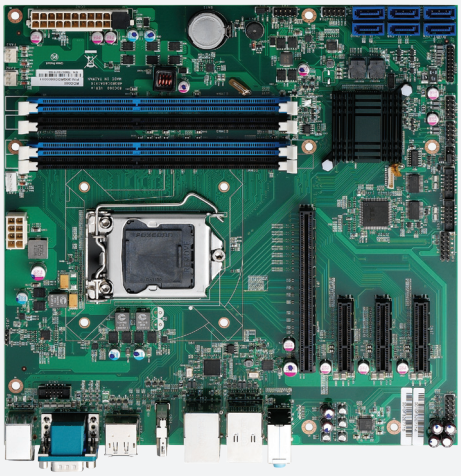
- Temperature: 0ºC~60ºC

Ordering Information

- **NEX 650 (P/N: TBD)**
  Mini-ITX form factor powered by onboard 4-core Intel® Celeron® J1900 processor that integrates with 24/48-bit LVDS & up to 8GB DDR3/L memory & Rich I/Os

NEX 885

Micro-ATX, Socket H3/LGA1150, 4th Generation Intel® Core™ i7/i5/i3, Q87
4DDR3, 2HDMI/DP/VGA, 1 x PCIe x16/3 x PCIe x4, 2 x GbE, 6 x SATA 3.0, 4 x COM, 10 x USB



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 USB 3.0/2.0, 4 x USB 2.0/4 x COM, 8 x GPIO
- 1 x PCIe x16, 3 x PCIe x4
- 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 USB 3.0/USB 2.0 and 4 x USB 2.0) NEX 885 support 1 x PCIe x16, 3 x PCIe x4, 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

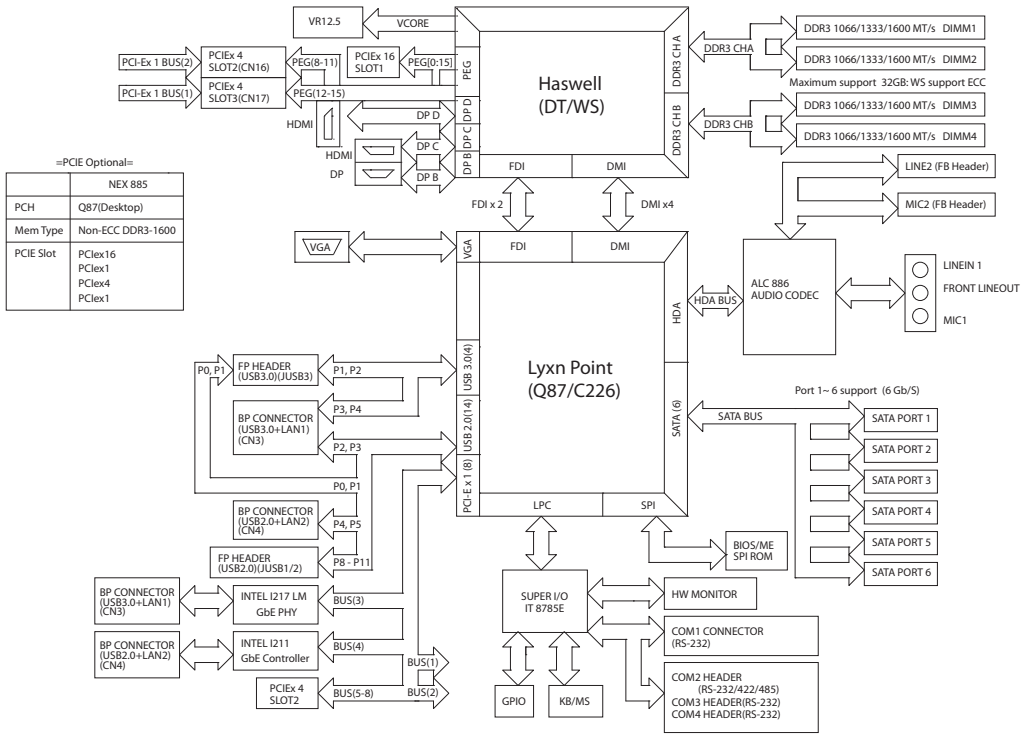
Expansion
- 1 x PCIe x16 (gen. 3.0)
- 3 x PCIe x4

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 DisplayPort
- 1 x RJ45 (ETH 0) with dual stack USB 3.0 (blue)/USB 2.0 connectors
- 1 x RJ45 (ETH 1) with dual stack USB 2.0 (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 x GPI and 4 x GPO with TTL level (0- 5V), 2 x 6-pin header, 2.54mm

Interface
- One onboard buzzer
- One 4-pin fan connector for CPU, Two 3-pin fan connector x 2 (for system)

Block Diagram



- One 2 x 4/2.54mm pin header for: power LED/storage LED/reset/ power on-off
- One 2 x 4/2.54mm 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)
- Onboard 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: L x 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: 10G00088500X0)**
  Micro ATX, onboard Q87 to support socket H3/LGA1150, 4th generation Intel® Core™ i7/i5/i3 processors 4DDR3/DIMM, 2HDMI/DP/VGA, 1 x PCIe x16, 3 x PCIe x4, 6 x SATA 3.0, 3 x USB 3.0/2.0, 7 x USB 2.0, 2 x GbE, 4 x COM, ATX power input

NEX 810

Micro-ATX, Socket LGA1155 3rd/2nd Gen. Intel® Core™ & Celeron® Processor Product Family with B75, 4 x DDR3, VGA/3 x HDMI, PCIe x16/PCIe x4/2 x PCI, 2 x GbE /10 x USB/5 x COM

Main Features

- Support socket LGA1155 for 3rd/2nd generation Intel® Core™ i7/ i5/i3 processors and Intel® Celeron® processors
- 4 x DDR3 DIMM socket up to 32GB
- Support dual/triple independent display: 3 x HDMI/VGA
- 2 x GbE, 5 x SATA 3.0/2.0, 10 x USB 3.0/2.0, 5 x COM, 4-in/4-out GPIO, HD Audio
- 1 x PCIe x16, 1 x PCIe x4, 2 x PCI
- TPM onboard
- Support AT/ATX mode by ATX power input

Product Overview

NEX 810 is an industrial motherboard with Micro-ATX form factor, which support 3rd and 2nd generation Intel® Core™ i7/i5/i3 processor and Intel® Celeron® processors. NEX 810 supports dual channel DDR3 1600/1333MHz memory in four long DIMM slots up to 32GB system memory and PCIe x16 (3.0/ 2.0 by CPU).

The B75 PCH supports multiple displays by three DDI (digital display interfaces) using among three HDMI and one VGA ports. Intel® B75 PCH manages up to 1 x SATA 3.0/4 x SATA 2.0 and performs up to 10 x USB (4 x USB 3.0/ 6 x USB 2.0) ports, dual Realtek RTL8111F GbE ports and up to 6 Series ports including 4 x RS232 and 1 x RS-232/422/485. NEX 810 supports PCIe x4, 2 x PCI slots and onboard TPM. NEX 810 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, Intel® 3rd or 2nd generation Core™ i7/i5/i3 processors and Intel® Celeron® processors

Main Memory
- 4 x 240-pin dual channel long DIMMs support DDR3 1600/1333MH up to 32GB, non-ECC, un-buffered system memory

Chipset
- Intel® B75 PCH

BIOS
- AMI system BIOS
- Plug and play support

On-board LAN
- 2 x Realtek RTL8111F GbE controller
- Support PXE boot from LAN, wake on LAN function
- 2 x RJ45 connectors with LED

Display
- 3 x HDMI connector (resolution up to 1920 x 1080@60Hz)
- 1 x VGA (resolution up to 1920 x 1200@60Hz)

Expansion Slot
- 1 x PCIe x16 (gen. 3.0/2.0 by CPU)
- 1 x PCIe x4
- 2 x PCI

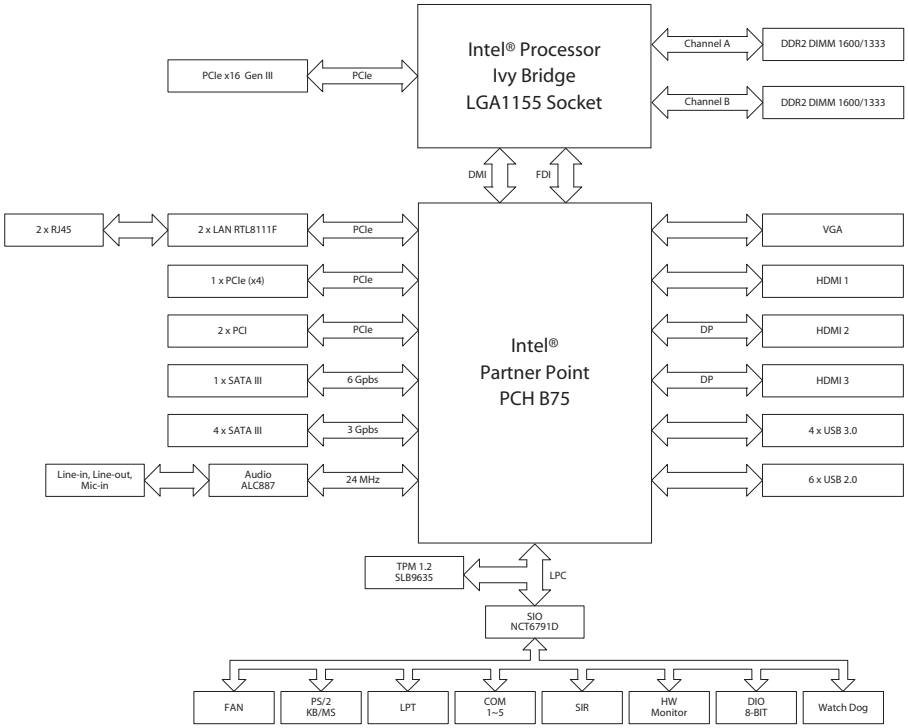
Edge I/O Interfaces
- 3 x HDMI
- 1 x VGA
- 2 x RJ45 with dual stack USB 3.0 (blue) and dual stack USB 2.0 (black) connectors
- 1 x Keyboard connector
- 1 x Mouse connector
- 1 x Audio Jack: Line-in/Line-out/Mic-in

I/O Interface
- USB 3.0: 4 ports (2 x USB 3.0 on edge I/O, 2 x internal pin-header)
- USB 2.0: 6 ports (2 x USB 2.0 on edge I/O, 4 x internal pin-header)
- Serial: 5 ports (1 x RS232/422/485, 4 x RS232 by internal pin-header)
- SATA HDD: 5 ports (1 x SATA 6.0Gb/s, 4 x SATA 3.0Gb/s)
- GPIO: supports 4 x GPI and 4 x GPO

Interface:
- 1 x LPT connector, support SPP/EPP/ECP mode
- 1 x 4-pin CPU fan connector; 1 x 4-pin chassis fan connector
- 2 x front panel header; 1 x IrDA header; 1 x CMOS jumper,
- 1 x BIOS flash header (2 x 4P, P=1.27mm)

System Monitor
- 4 voltage (for +3.3V/+5V, +12V, Vcore)
- 2 temperatures (CPU, system temperatures)
- 2 fans speed (CPU and system fans)

Block Diagram



Power Requirements
- 1 x 24-pin ATX connector,
- 1 x 8-pin ATX 12V power connector

Dimensions
- Micro ATX
- Dimension: 244mm (L) x 244mm (W) (9.6" x 9.6")

Environment
- Board level operating temperatures: 0˚C to 60˚C
- Storage temperatures: -40˚C to 85˚C
- Relative humidity:
  - 0% to 90% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)

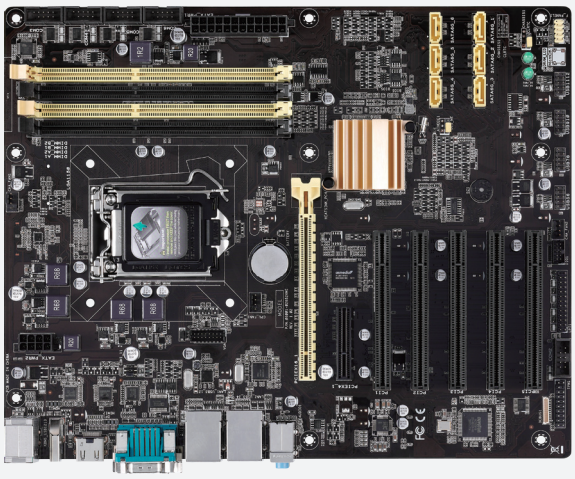
Certifications
- Meet CE/ FCC Class A

Ordering Information

- **NEX 810 (P/N: 10G00081000X0)**
  Micro-ATX, socket LGA1155 3rd/2nd gen. Intel® Core™ & Celeron® processor product family with B75, 4 x DDR3, VGA/3 x HDMI, PCIe x16/ PCIe x4/2 x PCI, 2 x GbE /10 x USB/5 x COM

NEX 910

ATX, Socket LGA1150 4th Gen. Intel® Core™ & Celeron® Processor Product Family with Q87, 4 x DDR3, VGA/2 x HDMI/DVI-D, PCIe x16/PCIe x4/5 x PCI, 2 x GbE /14 x USB/6 x COM



Main Features

- Support socket LGA1150 for 4th generation Intel® Core™ i7/i5/i3 processors and Intel® Celeron® processors
- 4 x DDR3 DIMM socket up to 32GB
- Support dual/triple independent display: 2 x HDMI/VGA/DVI-D
- 2 x Intel® GbE, 6 x SATA3.0/2.0, 14 x USB3.0/2.0, 6 x COM, 4-in/4-out GPIO, HD Audio
- 1 x PCIe x16, 1 x PCIe x4, 5 x PCI
- TPM supported
- Support AT/ATX mode by ATX power input

Product Overview

NEX 910 is an industrial motherboard with standard ATX form factor, which support 4th generation Intel® Core™ i7/i5/i3 processors and Intel® Celeron® processors. NEX 910 supports dual channel DDR3 1600/1333MHz memory in four long DIMM slots up to 32GB system memory and PCIe x16 (gen. 3.0).

The Q87 PCH supports multiple displays by three DDI (digital display interfaces) using among two HDMI, one VGA and one DVI-D ports. Intel® Q87 PCH manages up to 6 x SATA 3.0 and performs up to 14 x USB (4 x USB 3.0/ 10 x USB 2.0) ports, dual Intel® GbE ports and up to 6 Series ports including 1 x RS-232/422/485 and 5 x RS-232. NEX 910 supports PCIe x4 and 5 x PCI slots; and TPM function is as optional. NEX 910 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 LGA1150, Intel® 4th generation Core™ i7/i5/i3 processors and Intel® Celeron® processors

Main Memory
- 4 x 240-pin dual channel long DIMMs support DDR3 1600/1333MH up to 32GB, non-ECC, un-buffered system memory

Chipset
- Intel® Q87 PCH

BIOS
- AMI system BIOS
- Plug and play support

On-board LAN
- 2 x RJ45 connectors with LED
- LAN1: Intel® PHY I217LM GbE LAN (support AMT 9.0)
- LAN2: Intel® I211AT GbE LAN
- Support PXE boot from LAN, wake on LAN function

Display
- 2 x HDMI 1.4 connector (resolution up to 4096 x 2160@240Hz)
- 1 x DVI-D (resolution up to 1920 x 1200@60Hz)
- 1 x Internal VGA pin-header (resolution up to 1920 x 1200@60Hz)

Expansion Slot
- 1 x PCIe x16 (gen. 3.0)
- 1 x PCIe x4
- 5 x PCI

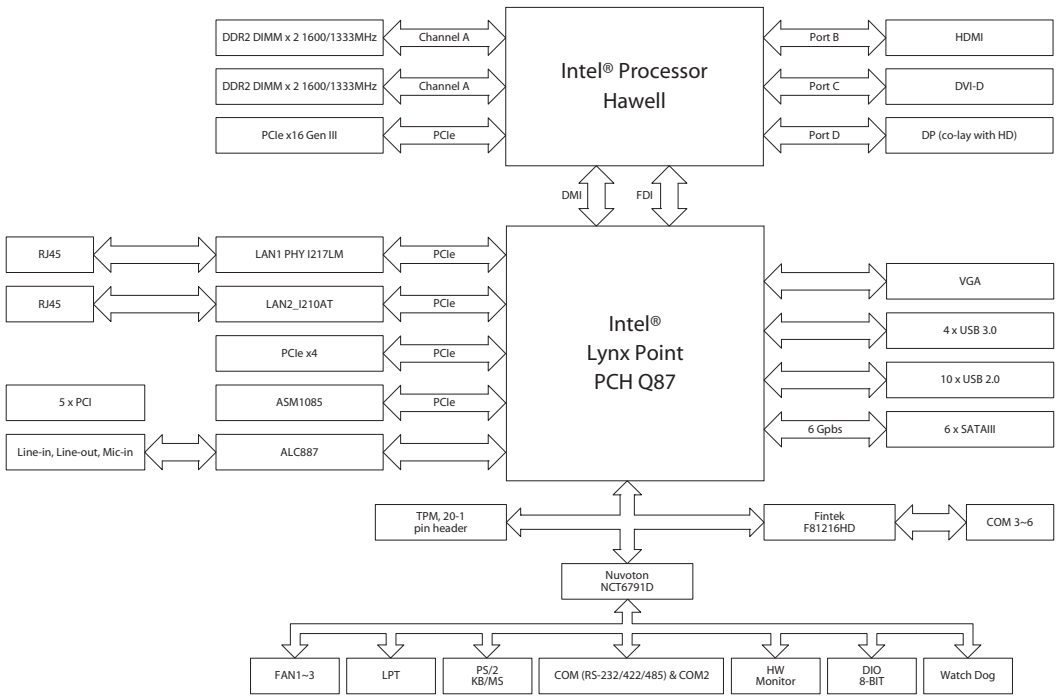
Edge I/O Interfaces
- 2 x HDMI
- 1 x DVI-D
- 2 x RJ45 with dual stack USB 3.0 (blue) connectors
- 1 x Dual stack USB 2.0 (black)
- 1 x RS-232/422/485 DB-9 connector (COM1, supports 5/12V on RI pin)
- 1 x combo PS/2 KB and MS
- 1 x Audio Jack: Line-in/Line-out/Mic-in

I/O Interface
- USB 2.0: 8 ports internal pin-header
- Serial: 5 ports RS232 internal pin-header
- SATA HDD: 6 ports SATA 6.0Gb/s, supports RAID 0/1/5/10
- GPIO: supports 4 x GPI and 4 x GPO

Interface:
- 1 x LPT connector
- 1 x 20-1 pin header for TPM1.2/FW3.19
- 1 x 4-pin CPU fan connector; 2 x 4-pin chassis fan connector
- 1 x Front panel header; 1 x clear CMOS jumper
- 1 x BIOS flash header (2x4P, P=1.27mm)

System Monitor
- 3 voltage (for +5V, +12V, Vcore)

Block Diagram



- 2 temperatures (CPU, system temperatures)
- 2 fans speed (CPU and system fans)

Power Requirements

- 1 x 24-pin ATX connector
- 1 x 8-pin ATX 12V power connector

Dimensions

- ATX
- Dimension: 305mm (L) x 244mm (W) (12" x 9.6")

Environment

- Board level operating temperatures: 0˚C to 60˚C
- Storage temperatures: -40˚C to 85˚C
- Relative humidity:
  - 0% to 90% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)

Certifications

- Meet CE/ FCC Class A

Ordering Information

- **NEX 910 (P/N: 10G00091000X0)**
  ATX, socket LGA1150 4th gen. Intel® Core™ & Celeron® processor product family with Q87, 4 x DDR3, VGA/2 x HDMI/DVI-D, PCIe x16/ PCIe x4/5 x PCI, 2 x GbE /14 x USB/6 x COM

NEX 912

ATX, Socket LGA1151 6th Gen. Intel® Core™ & Celeron® Processor Product Family with Q170, 4 x DDR4, VGA/2 x HDMI, PCIe x16/2 x PCIe x4/4 x PCI, 2 x GbE/10 x USB/6 x COM

Coming soon

Main Features

- Support socket LGA1151 for 6th generation Intel® Core™ i7/i5/ i3 and Intel® Celeron® processors (codenamed Skylake) or next generation Intel® Core™/Celeron® processors
- 4 x DDR4 DIMM Socket, up to 64GB
- Support triple independent display: 2 x HDMI/VGA
- 2 x Intel® GbE, 4 x SATA 3.0, 14 x USB 3.0/2.0, 6 x COM, 4-in/4-out GPIO, HD Audio
- 1 x PCIe x16, 2 x PCIe x4, 4 x PCI
- TPM supported
- Support AT/ATX mode by ATX power input

Product Overview

NEX 912 is an industrial motherboard with standard ATX form factor, which supports 6th generation Intel® Core™ i7/i5/i3 processors and Intel® Celeron® processors (codenamed Skylake) and as well as next generation Intel® Core™/Celeron® processors. NEX 912 supports dual channel DDR4 2133/1867MHz memory in four long DIMM slots up to 64GB system memory and PCIe x16 (gen. 3.0).

The Q170 PCH supports triple displays by three DDI (digital display interfaces) using among two HDMI and one VGA ports. Intel® Q70 PCH manages up to 4 x SATA 3.0 with RAID 0/1/5/10 supported and performs up to 14 x USB (10 x USB 3.0/4 x USB 2.0) ports; and dual Intel® GbE ports and up to six Series ports including one supporting RS-232/422/485. NEX 910 supports two PCIex4 and 4 x PCI slots. TPM function is as optional. NEX 912 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 LGA1151, Intel® 6th and next generation Core™ i7/i5/i3 processor and Intel® Celeron® processors

Main Memory

- 4 x 288-pin dual channel long DIMMs support DDR4 2133/1867MH up to 64GB, non-ECC, un-buffered system memory

Chipset

- Intel® Q170 PCH

BIOS

- AMI system BIOS
- Plug and play support

On-board LAN

- 2 x RJ45 connectors with LED
- LAN1: Intel® PHY I219LM GbE LAN (support AMT 11.0)
- LAN2: Intel® I211AT GbE LAN
- Support PXE boot from LAN, wake on LAN function

Display

- 2 x HDMI 1.4 connector (resolution up to 4096 x 2160@24Hz)
- 1 x VGA (resolution up to 1920 x 1200@60Hz)

Expansion Slot

- 1 x PCIe x16 (gen. 3.0)
- 2 x PCIe x4
- 4 x PCI

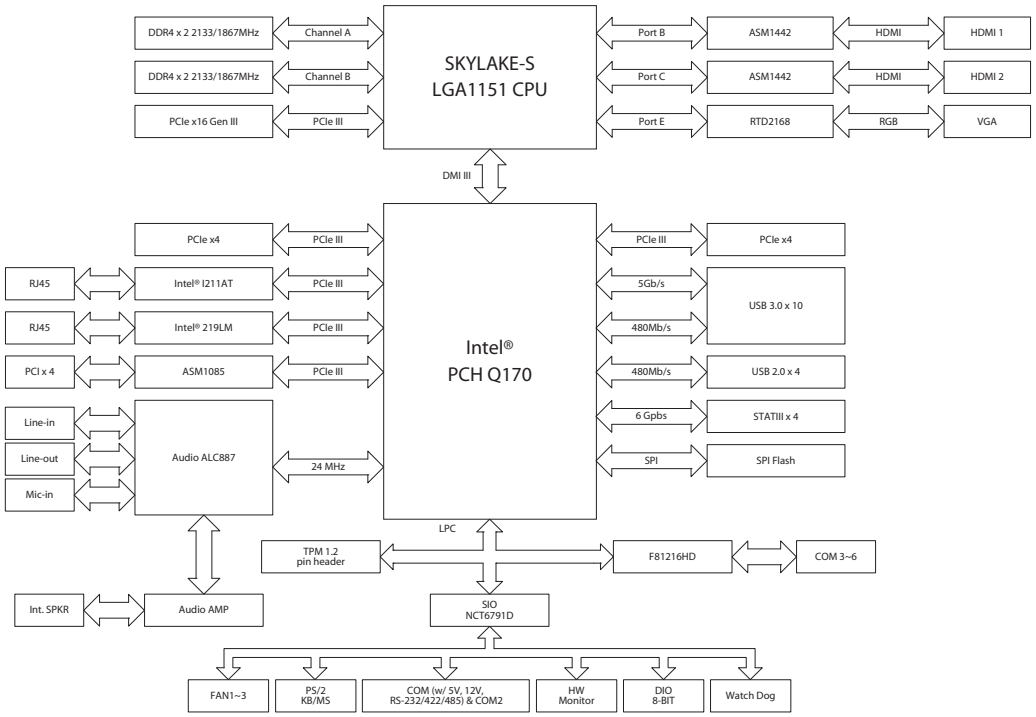
Edge I/O Interfaces

- 2 x HDMI
- 1 x VGA
- 2 x RJ45 connectors with GbE transformer inside & LED
- 10 x USB 3.0 (blue)
- 2 x USB 2.0 (black)
- 1 x RS-232/422/485 DB-9 connector (COM1)
- 1 x Combo PS/2 KB and MS
- 1 x Audio Jack: Line-in/Line-out/Mic-in

I/O Interface

- USB 2.0: 4 ports by internal pin-header
- Serial: 5 ports RS232 by internal pin-header
- SATA HDD: 4 ports SATA6.0Gb/s, supports RAID 0/1/5/10
- GPIO: supports 4 x GPI and 4 x GPO

Block Diagram



Interface:
- 1 x Pin header for TPM
- 1 x 4-pin CPU fan connector; 2 x 4-pin chassis fan connector
- 1 x Front panel header; 1 x clear CMOS jumper
- 1 x Chassis Intrusion
- 1 x Speaker header (Line-out)
- 1 x BIOS flash header (2x4P, P=1.27mm)

System Monitor
- 4 voltage (for +3.3V/+5V, +12V, Vcore)
- 2 temperatures (CPU, system temperatures)
- 2 fans speed (CPU and system fans)

Power Requirements
- 1 x 24-pin ATX connector,
- 1 x 8-pin ATX 12V power connector

Dimensions
- ATX
- Dimension: 305mm (L) x 244mm (W) (12” x 9.6”)

Environment
- Board level operating temperatures: 0˚C to 60˚C
- Storage temperatures: -40˚C to 85˚C
- Relative humidity:
  - 0% to 90% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)

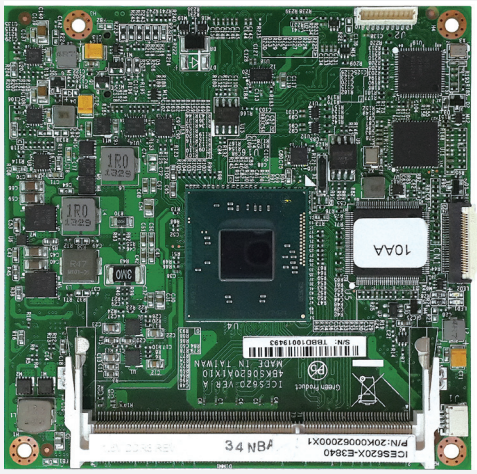
Certifications
- Meet CE/ FCC Class A

Ordering Information

- **NEX 912 (P/N: TBD)**
  ATX, socket LGA1151 6th gen. Intel® Core™ & Celeron® processor product family with Q170, 4 x DDR4, VGA/2 x HDMI, PCIe x16/ 2 x PCIe x4/4 x PCI, 2 x GbE /10 x USB/6 x COM

ICES 620X

COM Express Type 6, COMPACT Size Module with
Intel® Atom™ E3800 Family Processor DDR3L/GbE/2SATA/4 X PCIe and DP/USB 3.0



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 PCIe x1, 1 x USB 3.0/7 x USB 2.0/2 x SATA 2.0 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)/PCIe x1.

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 PCIe x1 (without Gbe)/7 x USB 2.0
  LPC bus/SDIO (without GPIO)/GPIO/SMBus (I2C)/SPI BIOS
- CD:
  1 x USB 3.0/2 x DP (HDMI)

Power Requirements

- +12V, +5VSB, +3.3V RTC power
- Support both AT and ATX power supply mode
- One 3-pin 90 degree edge-connector for DC +12V fan

Dimensions

- 95mm (W) x 95mm (L)

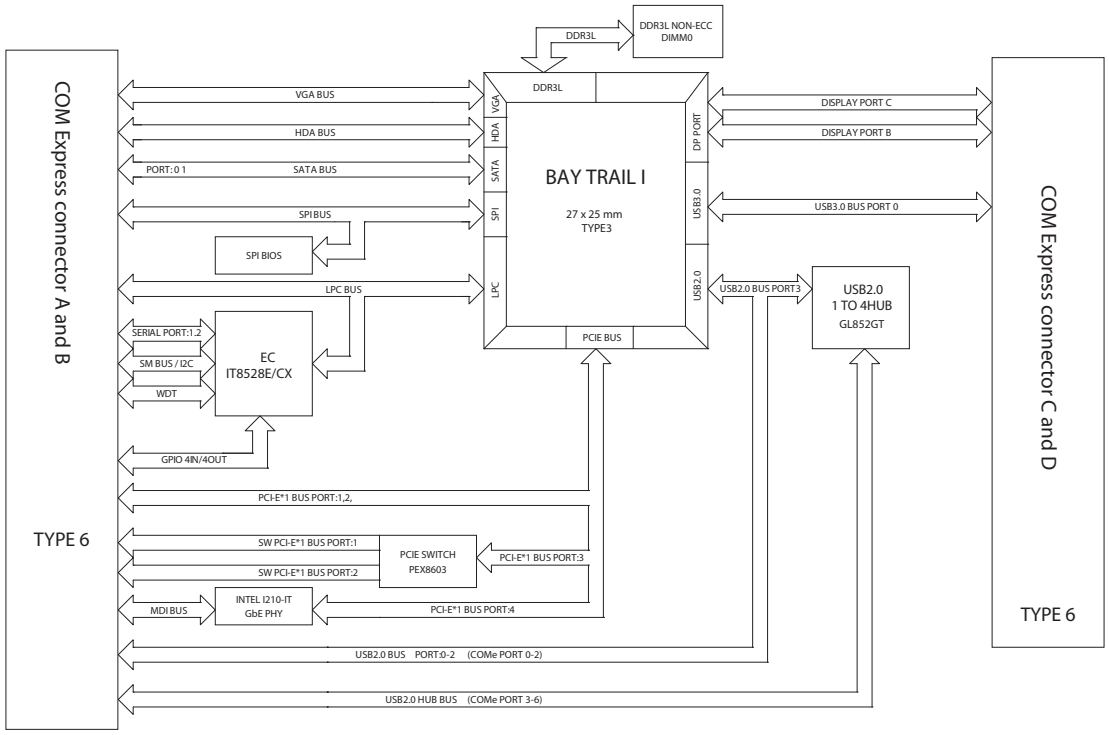
Environment

- 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



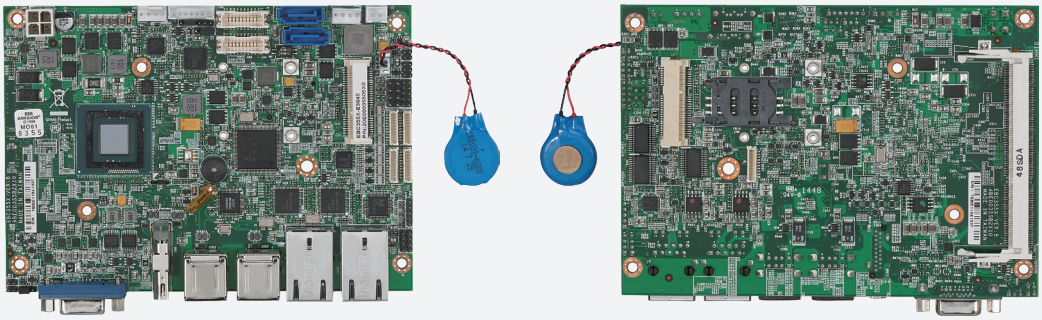
Ordering Information

- **ICES 620X-3845 (P/N: 10K00062004X0)**
  COM ExpressType 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

3.5" ECX Onboard Intel® Atom™ Processor E3800 Product Family
HDMI/VGA/1 x24/48-bit LVDS Dual Channel, Dual mini-PCIe



Main Features

- Onboard 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® Gen7 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® Gen7 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 speak-out

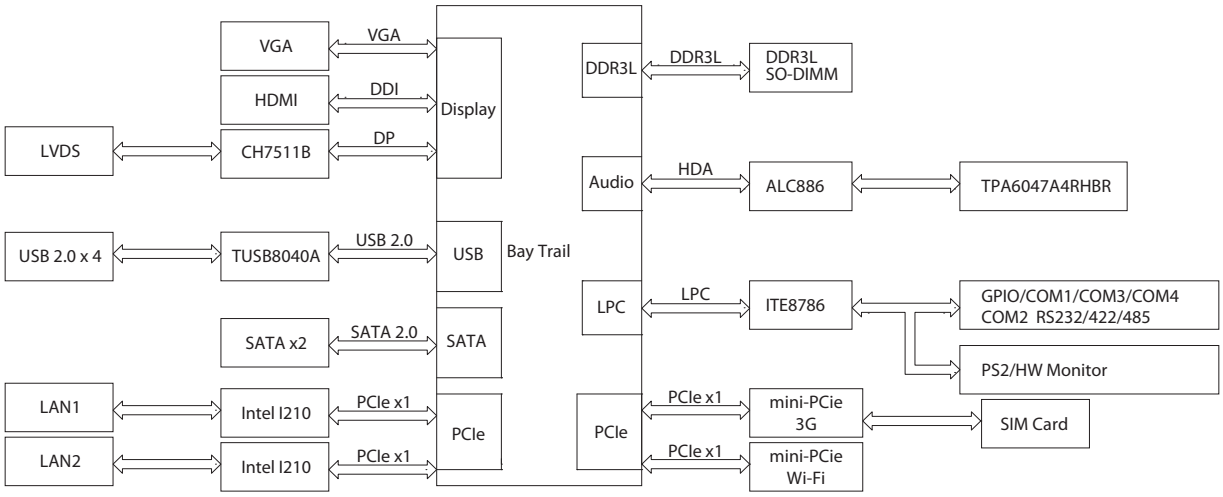
On-board LAN
- 2 x Intel® i210 Gigabit Ethernet
- Support PXE boot from LAN, wake on LAN function

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)
- Onboard 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/on & 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

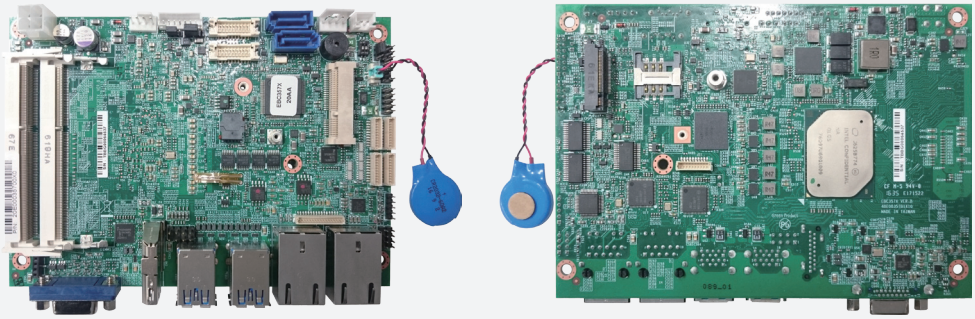
Ordering Information

- **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 USB 2.0/ 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 USB 2.0/ 4 x COMs/2 x mini-PCIe/2 x Gigabit LAN/2 x SATA

EBC 357X

3.5" ECX Onboard Intel® Atom™ Processor E3900 Product Family
HDMI/VGA/1 x 24/48-bit LVDS Dual Channel, M. 2, mini-PCIe



Main Features

- Onboard Intel® Atom™ processor E39xx processor family
- CPU upside down design
- 2 x 204-pin SO-DIMM DDR3L
- Triplex display: HDMI/VGA/LVDS
- 1 x mini-PCIe/1 x NGFF
- 2 x Intel® i210-IT PCI express Gigabit Ethernet
- 2 x SATA 2.0
- 4 x USB 3.0, 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 357X is under the 3.5" SBC series which is based on multi-core SoC Intel® Atom™ processor (formerly codenamed "Apollo Lake"). EBC 357X series operates at wide temperature range with low power consumption. This series of 3.5-inch board is aimed at embedded applications. It supports a maximum memory of 16GB DDR3L SDRAM. Also, it offers three display outputs of VGA, HDMI and LVDS in order to provide the flexibility of supporting a range of peripherals and triplex display. This series board provides reliable operation within wide operating temperature range of -40 to 85 degrees Celsius. The EBC 357X 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
- Intel® Atom™ processor E39xx processor family, 14nm core, Quad/ Dual Core, 1.8/2.0GHz, 2 x L2-Cache 1MB 16-way shared per 2 cores, TDP: 6.5W/12W

Main Memory
- Dual DDR3L/SO-DIMMs, up to 16GB

BIOS
- AMI system BIOS
- Plug and play support

Display
- 1 x HDMI connector (resolution up to 3840 x 2160@30Hz)
- 1 x VGA 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

Storage
- 1 x eMMC 5.0 support (optional)
- 2 x 7-pin SATA connector, one of SATA supports SATA-DOM

Audio
- Realtek ALC886 HD codec
- 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 speak-out

On-board LAN
- 2 x Intel® I210-IT GbE controller
- Support PXE boot from LAN, wake on LAN function

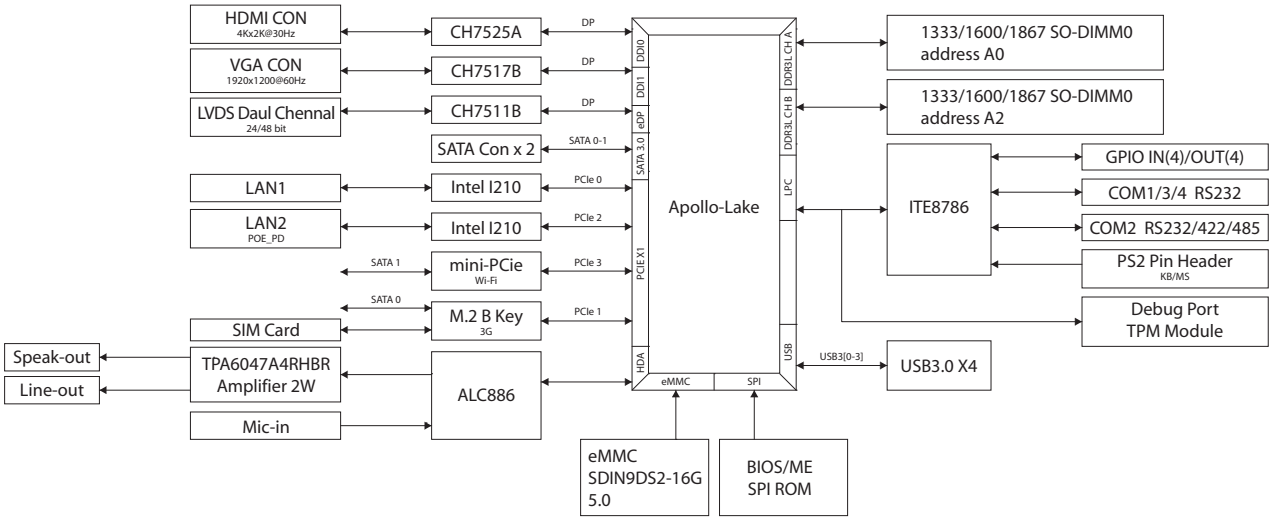
Expansion Slot
- 1 x NGFF (M.2) support M.2 SSD (optional), WWAN ,3G, pin header for SIM
- 1 x mini-PCI express slot support mSATA (optional) and Wi-Fi module

Power Requirements
- AT/ATX mode (by jumper setting default-AT)
- 4-pin power connector (right angle) for DC power input
- Single power 12V DC input

I/O
- Serial port x 4
  COM1/3/4: RS232 1 x 10-pin 1.0mm JST connector
  COM2 : RS232/422/485, 1 x 10-pin 1.0mm JST connector
- 4-in/4-out GPIO
- One 2 x 7 2.0mm pin header with SMBus/power on-off/system reset/ power/storage LED
- One 4-pin header with VCC 3.3V/TX/RX/GND for Zigbee module
- One 4-pin fan connector support PWM fan
- One 2 x 4/2.54mm pin header for PS2 keyboard & mouse

Optional function
- TPM module (EBK-TPM)
- PoE PD module support

Block Diagram



Dimensions
- 146mm (L) x 102mm (W) (5.7" x 4.0")

Environment
- Board level operating 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

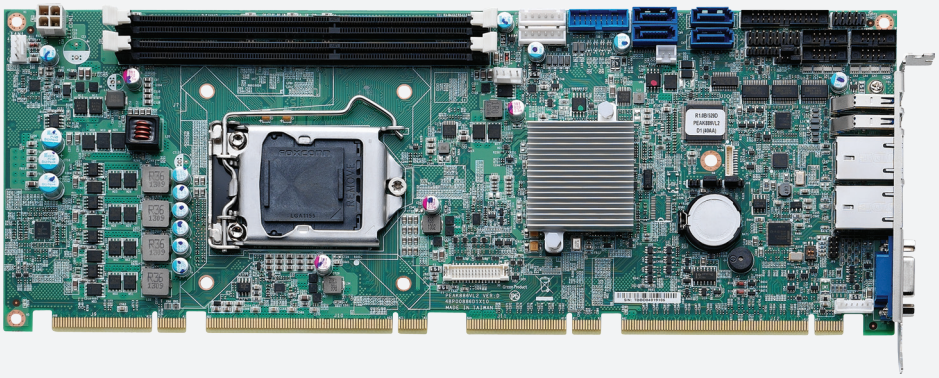
Ordering Information

- **EBC 357X-E3950 (P/N: TBD) RoHS Compliant**
  Low power embedded board with Intel® Atom™ processor E3950 and extended -40°C to + 85°C, w/ HDMI/VGA/24/48bit LVDS/ 4 x USB 3.0/4 x COMs/1 x mini-PCIe/1 x NGFF(M.2)/2 x Gigabit LAN/ 2 x SATA

- **EBC 357X-E3930 (P/N: TBD) RoHS Compliant**
  Low power embedded board with Intel® Atom™ processor E3950 and extended -40°C to + 85°C, w/ HDMI/VGA/24/48bit LVDS/ 4 x USB 3.0/4 x COMs/1 x mini-PCIe/1 x NGFF(M.2)/2 x Gigabit LAN/ 2 x SATA

PEAK 886VL2

PICMG 1.3 Full-Size SBC with Intel® Q77
Support Intel® 3rd Generation Core™ i7/i5/i3 Processors



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 PCIe x16, 4 x PCIe x1, 4 x USB 3.0/4 x USB 2.0, 4 x SATA 3.0/ 2 x SATA 2.0 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 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

- 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/DisplayPort 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
- USB 2.0: 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.
- Onboard pin header for IRDA
- TPM support (option)

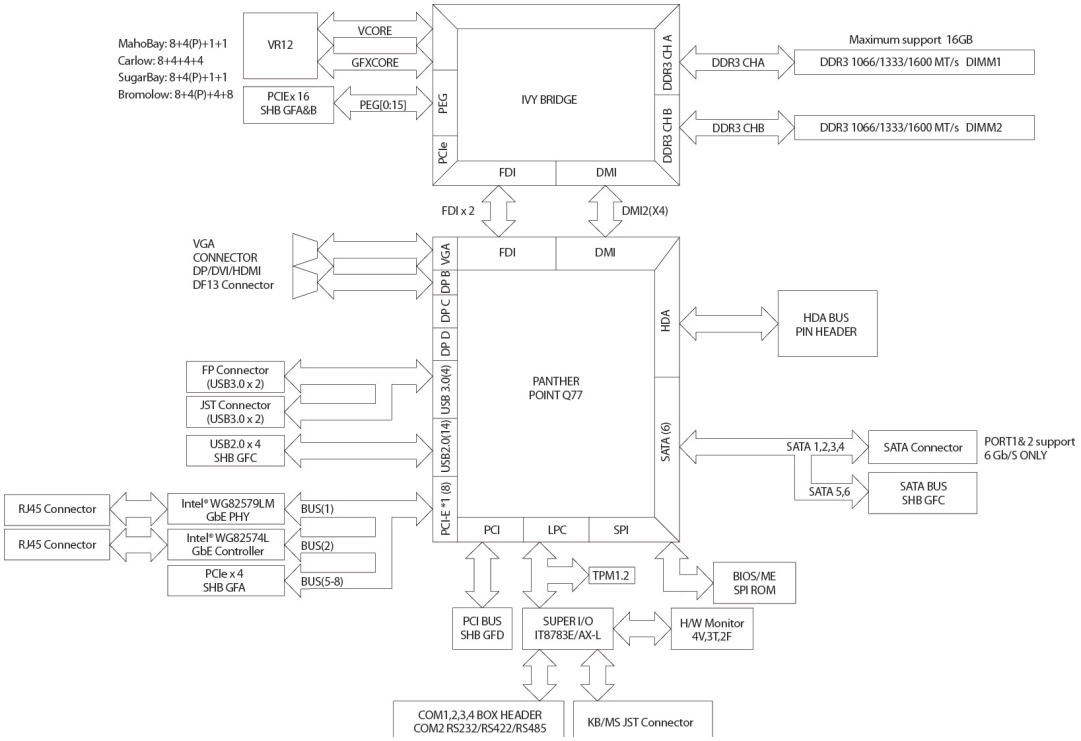
Power Requirements

- +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

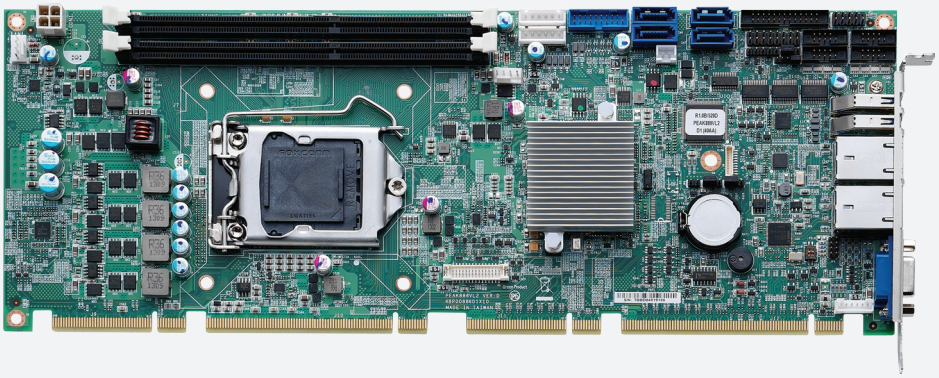
- Meet CE
- FCC Class A

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 x 2, USB 3.0 x 4, SATA 3.0 x 4

PEAK 887VL2

PICMG 1.3 Full-Size SBC with Intel® Q87
Support 4th Generation Intel® Core™ i7/i5/i3 Processors



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 PCIe x16, 4 x PCIe x1, 4 x USB 3.0/4 x USB 2.0, 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 x 1 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 PCIe x1 and one PCIe x4 (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, 2.0 mm 2 x 5-pin header

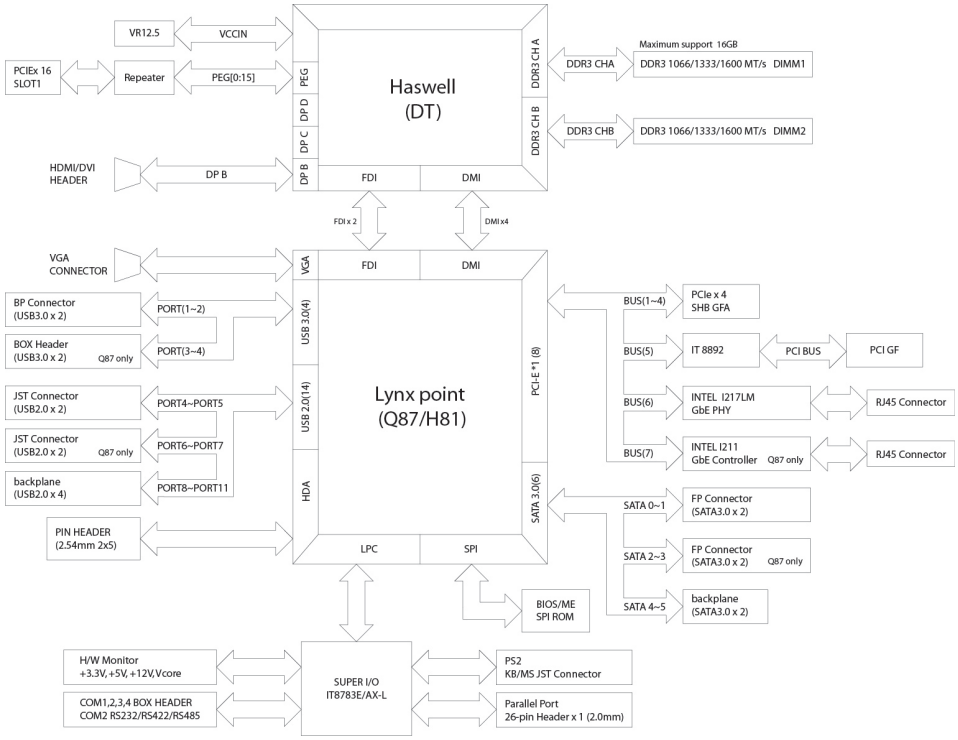
On-board LAN

- 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 (2.0 m) JST connector
- 26-pin box header x 1 (2.0 mm)
- SIO Box Header x 4 (2.0 mm), COM1,3,4 support RS232, COM2 RS232/422/485, RI pin can be select RI/5V/12V with jumper (2 x 3-pin 2.0 mm pin-header)
- 4 ports USB 2.0 and 4 ports USB 3.0:
  2 ports through 2.5mm JST connectors, located near rear side of PCB (near CPU, USB 3.0)
  4 ports through backplane (USB 2.0)
  2 ports through I/O bracket (USB 3.0)
- 4-pin fan connector x 2 (for CPU, system)
- Onboard pin header for IrDA Tx Rx 1 x5/2.54mm pin-header
- HDD LED/power LED/power ON SW/reset SW
- Onboard buzzer

Block Diagram



- USB x 1/USB x 1/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

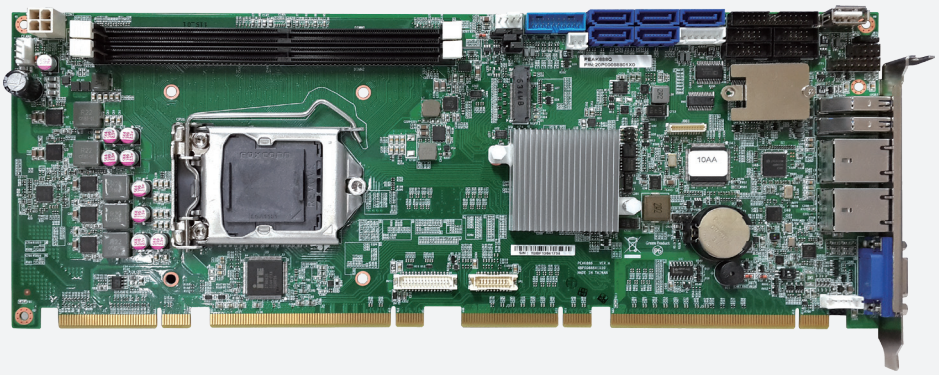
- CE approval
- FCC Class A
- CB/CCC certification

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, USB 3.0 x 4, SATA 3.0 x 4

PEAK 888VL2

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



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 SATA 3.0 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 x 4 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 PCIe x1 and one PCIe x4

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)

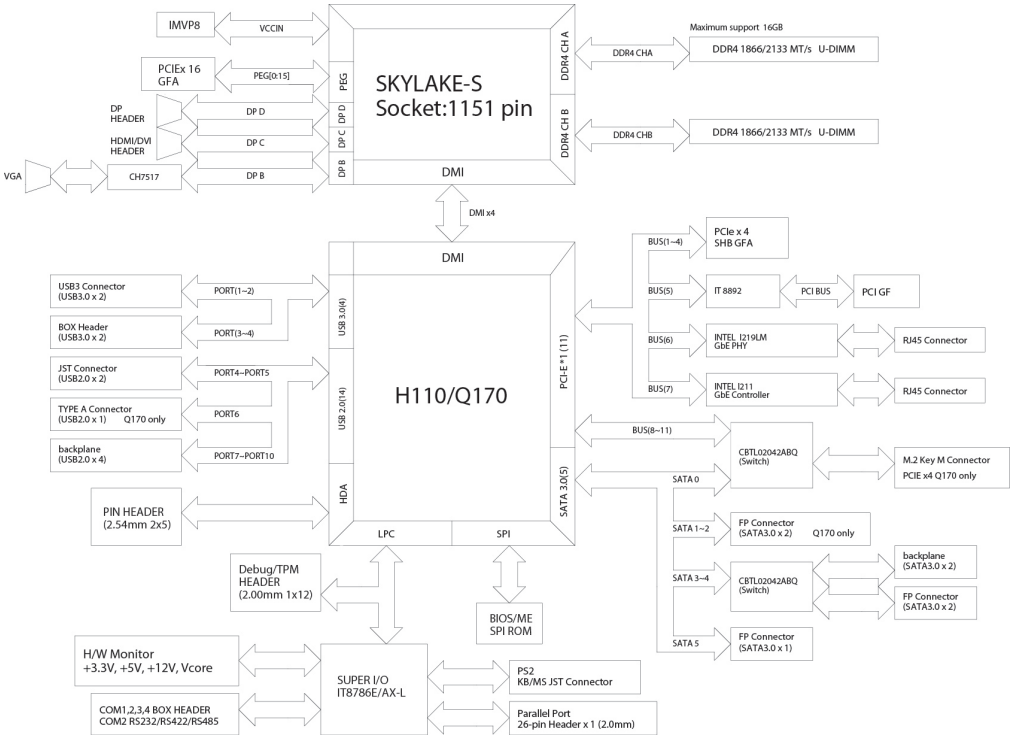
On-board LAN

- 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
- PEAk 888VL2-Q
  - 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 PCIe x4)
  - 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
  - Parallel port: 26-pin box header x 1
  - 6 ports USB 2.0 and 4 ports USB 3.0
    2 ports USB 2.0, 2 ports USB 3.0
    1 port USB 2.0 type A (PEAK 888Q only)

Block Diagram



4 ports USB 2.0 through backplane
2 ports USB 3.0 through I/O bracket
- 2 x10-pin header to support TPM module
- 2 x Smart fan connector (for CPU, system)
- Onboard 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

- 338.58 mm x 126.39 mm, 8 layers (single side)

Environment

- Board level operating temperatures: -20°C to 60°C
- Storage temperatures: -20°C to 85°C
- Relative humidity:
  0% to 90% (operating, non-condensing)
  0% to 95% (non-operating, non-condensing)

Certifications

- CE approval
- FCC Class A
- CB/CCC certification

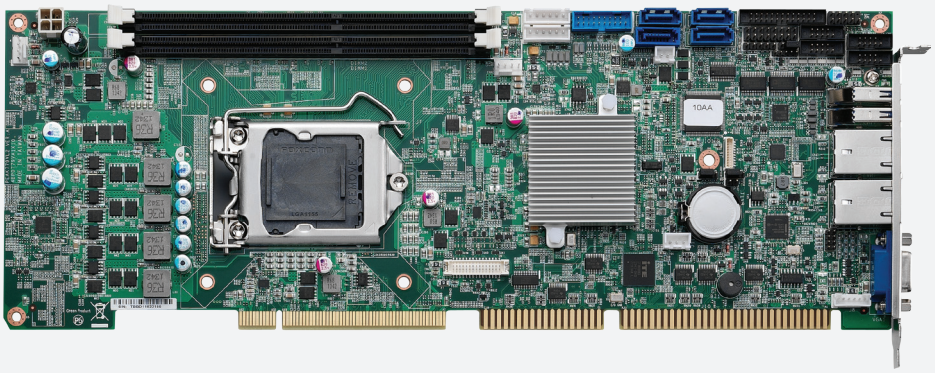
Ordering Information

- **PEAK 888VL2-Q (P/N: 10P00088801X0)**
  PICMG 1.3 full-size SBC, Q170, Intel® LGA1151, DDR4 DIMM, support triple display, LAN x 2, USB 3.0 x 4, SATA 3.0 x 5, M.2 (support PCIe storage)

- **PEAK 888VL2-H (P/N: 10P00088800X0)**
  PICMG 1.3 full-size SBC, H110, Intel® LGA1151,DDR4 DIMM, support dual display, LAN x 2, USB 3.0 x 4, SATA 3.0 x 4 , M.2 (support SATA storage)

PEAK 779VL2

PICMG1.0 Full-Size SBC with Intel® B75 Support
Intel® 3rd Generation Core™ i7/i5/i3 Processors



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 USB 3.0/4 x USB 2.0, 1 x SATA 3.0/3 x SATA 2.0 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 SATA 2.0/3.0 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
- USB 2.0: 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)

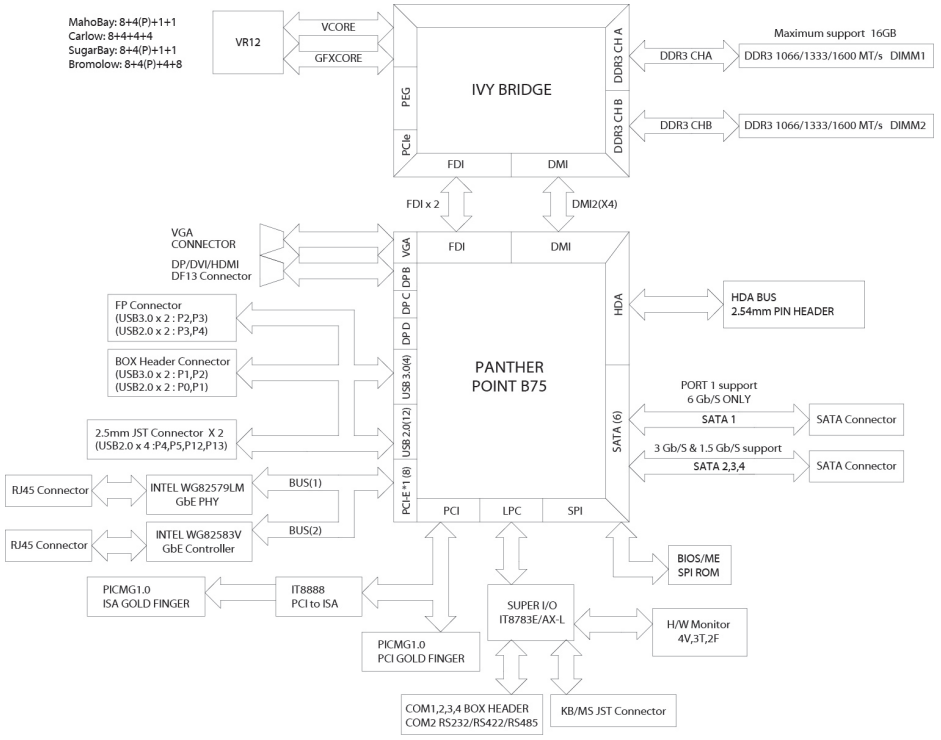
Power Requirements

- +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)

Block Diagram



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

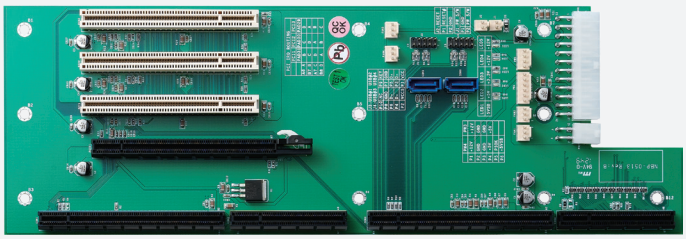
- Meet CE
- FCC Class A

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

PICMG 1.3 5-Slot Backplane, 1 SHB Slot, 1 x PCIE x16/3 x PCI



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

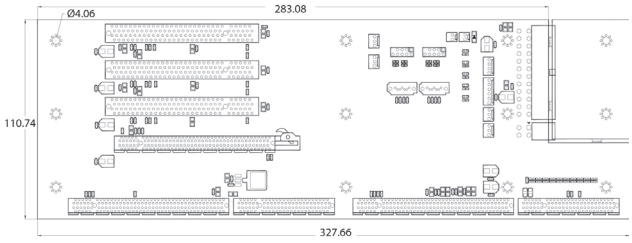
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  - Operating 10% to 90%, non-condensing
  - Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

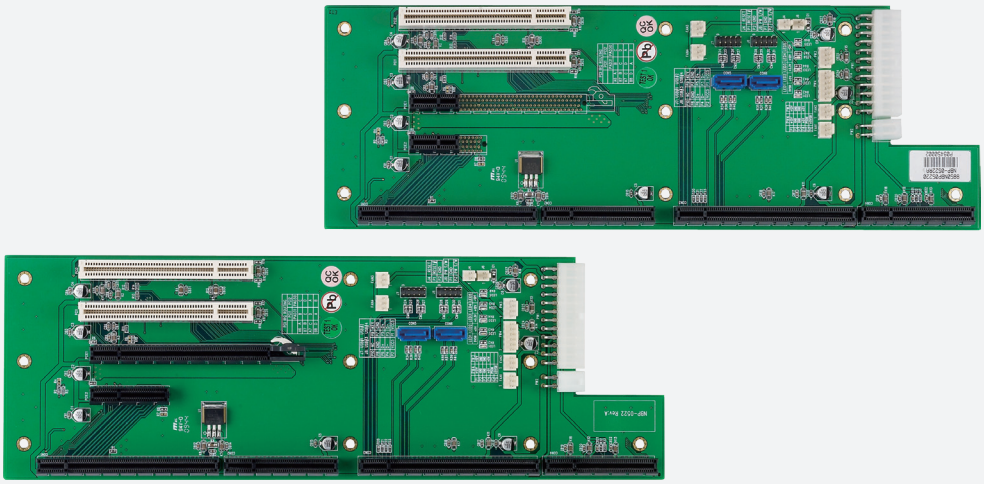
- **NBP 0513 (P/N: 79N0051301X00) RoHS Compliant**
  PICMG 1.3 5-slot backplane ,1 SHB slot, 1 x PCIE x16, 3 x PCI

Dimension Drawing



NBP 0522

PCIMG 1.3 w/ SBC Slot, 1 x PCIe x16, 1 PCIe x4, and 2 x PCI slot



Main Features

- Designed for PEAK 870 and PEAK 872
- Support 1 PCIe x16/1 PCIe x4/1 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 PCIe x16 (default as PCIe x1)
- 1 x PCIex4 (default as PCIe x1)
- 2 x PCI 32-bit/33MHz

Power Input

- 1 x 24-pin 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

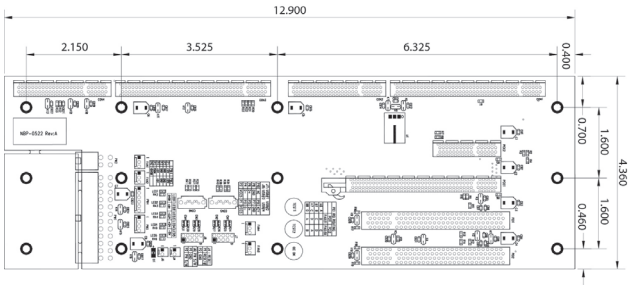
Certifications

- CE approval
- FCC Class A

Ordering Information

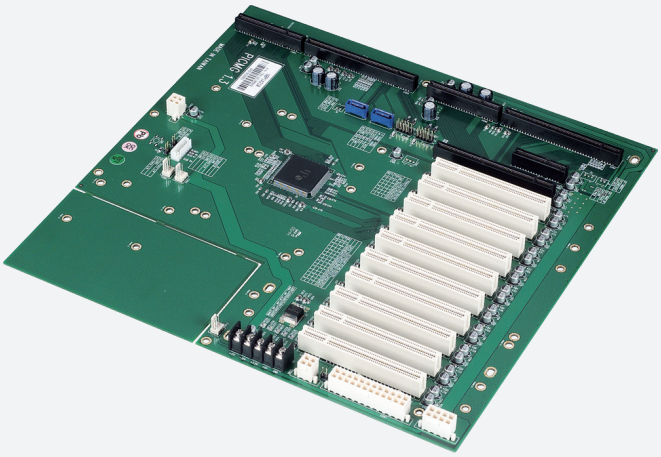
- **NBP 0522 (P/N: 79N0052200X00)**
  PCIMG 1.3 w/ SBC slot, 1 x PCIe x1, 1 PCIe x1, and 2 x PCI slot

Dimension Drawing



NBP 14210

PICMG 1.3 14-Slot Backplane for 4U Chassis
with 1 SHB Slot, 10 x PCI Slots, 1 PCIe x16, 1 PCIe x4



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 32-bit/33Mhz
- 1 x PCIe x16
- 1 x PCIe x4

I/O Interface
- 4 x USB 2.0 with 2 x 9 pin-header
- 2 x SATA
- 3 x 3-pin 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

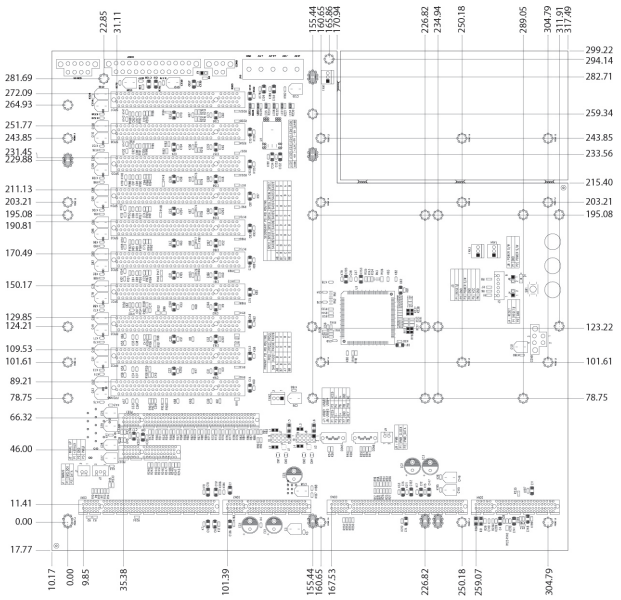
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  Operating 10% to 90%, non-condensing
  Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

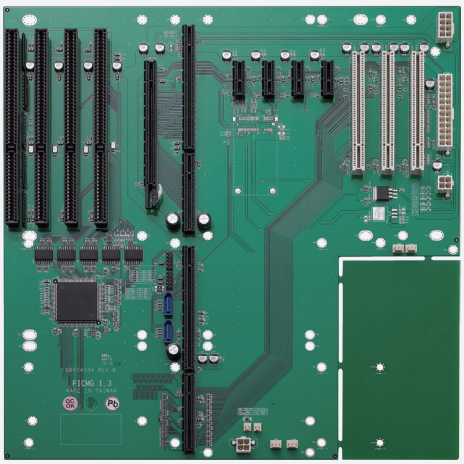
- **NBP 14210 (P/N: 79N1421000X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 SHB slot, 10 PCI slots, 1 PCIe x16, 1 PCIe x4

Dimension Drawing



NBP 14534

14-slot Backplane for 4U Chassis
with 1 SHB Slot, 4 x ISA, 3 x PCI, 4 x PCIe x1



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 PCIe x1

Power Input
- 1 x 24-pin power connector
- 1 x 8-pin auxiliary power connector
- 1 x 4-pin auxiliary power connector

Power Output
- 1 x 4-pin 12V AUX power connector to SBC/SHB
- 1 x 4-pin power connector for system fan

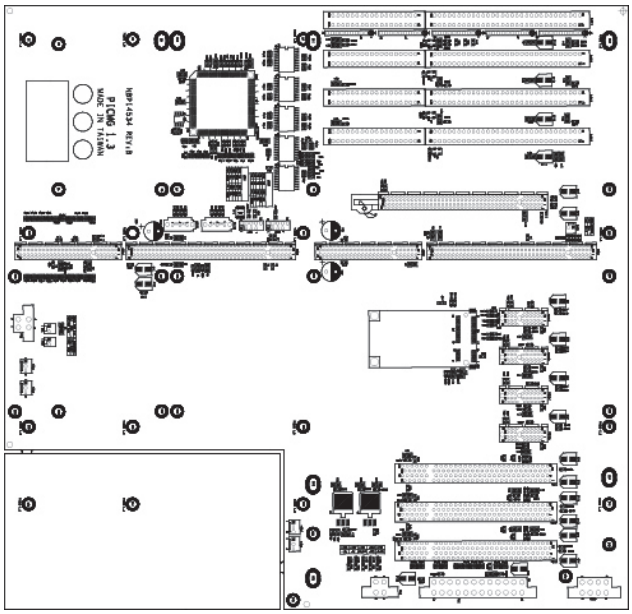
Environment
- Operating temperature: 0°C~60°C (32°F~140°F)
- Storage temperature: -20°C~60°C (-4°F~140°F)
- Operating humidity: 10%~90% (non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

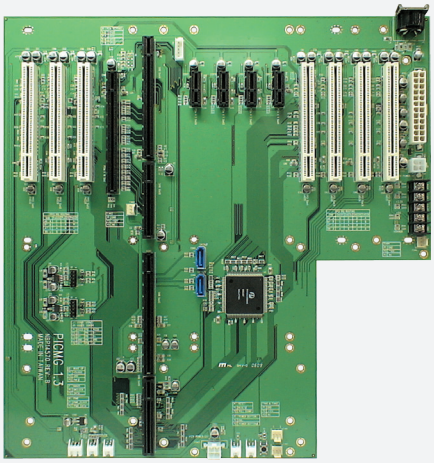
- **NBP 14534 (P/N: 79N1453400X00) RoHS Compliant**
  PICMG 1.3 13 slot backplane for 4U chassis w/ SBC slot, 4 PCIe slot 3 PCI slot, 4 ISA slot, 1 mini-PCIe (reserved)

Dimension Drawing



NBP 14570-BX

PICMG 1.3 14-Slot Backplane for 4U Chassis
with 1 x SHB, 7 x PCI Slots, 4 x PCIe x1, 1 x PCIe x16



Main Features

- 1 x PICMG 1.3 (SHB slot)/7 x PCI 32-bit/33MHz
- 1 x PCIe x16 lane/4 x PCIe x1 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 32-bit/33Mhz
- 1 x PCIe x16
- 4 x PCIe x1

I/O Interface
- 4 x USB 2.0 with 2 x 9 pin-header
- 2 x SATA
- 2 x 3-pin 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 Terminal block

Power Output
- 1 x 4-pin 12V AUX power connector to SBC/SHB

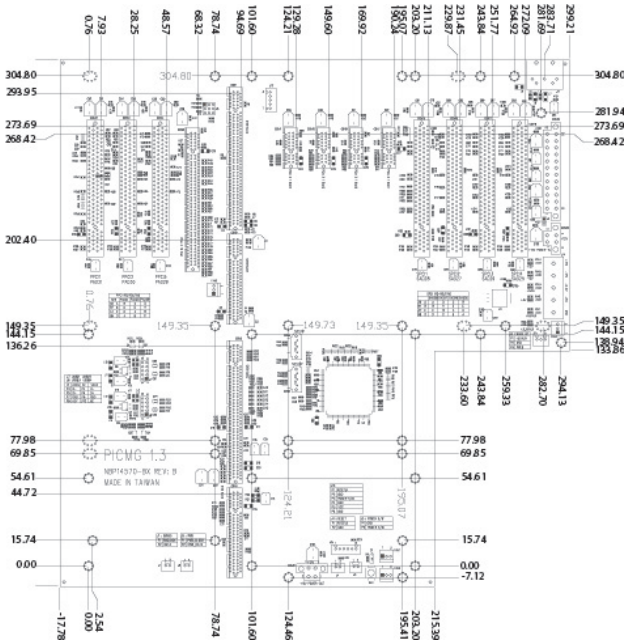
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

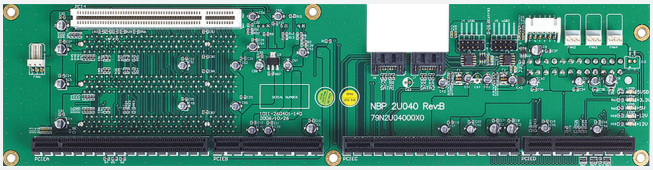
- **NBP 14570-BX (P/N: 79N1457001X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 SHB slot, 7 PCI slots, 1 PCIe x16, 4 PCIe x1

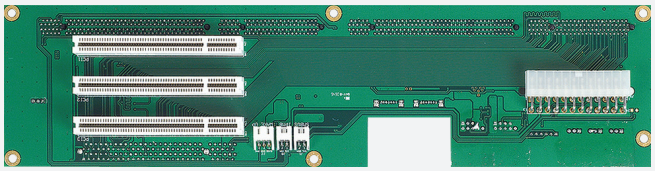
Dimension Drawing



NBP 2U040

PICMG 1.3 Butterfly Designed 2U Backplane
with 1 x SHB, 4 x PCI Slots





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 32-bit/33Mhz (3 x full-sized/1 x half-sized supported)

I/O Interface
- 4 x USB 2.0 with 2 x 9-pin header
- 2 x SATA
- 1 x IPMI
- 1 x SMBUS
- 1 x Wake-up
- 4 x 3-pin 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 24-pin power connector

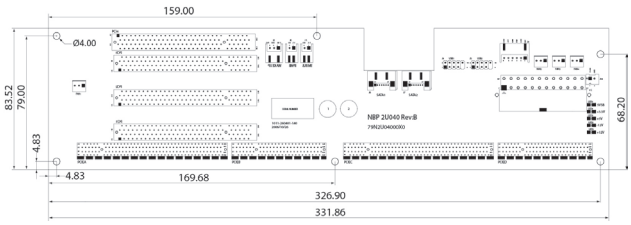
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  Operating 10% to 90%, non-condensing
  Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC class A

Ordering Information

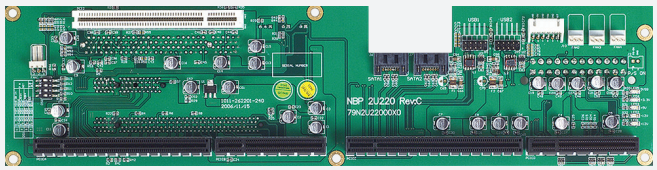
- **NBP 2U040 (P/N: 79N2U04000X00)**
  PICMG 1.3 Butterfly backplane for 2U chassis w/ 1 SHB slot, 4 PCI slots

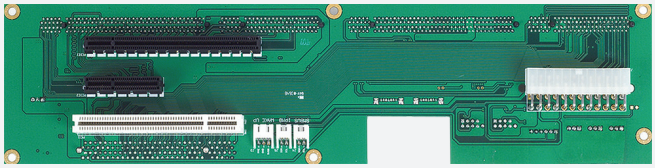
Dimension Drawing



NBP 2U220

PICMG 1.3 Butterfly Designed 2U Backplane with
1 x SHB, 2 x PCI Slots, 1 x PCIe x4, 1 x PCIe x16





Main Features

- Designed for NEXCOM PBOX 240P with user friendly cabling
- Supports 1 PCIe x16 and 1 x full-sized PCIe x4 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 32-bit/33Mhz (1 x full-sized/1 x half-sized supported)
- 1 x PCIe x16
- 1 x PCIe x4

I/O Interface
- 4 x USB 2.0 with 2 x 9-pin-header
- 2 x SATA
- 1 x IPMI
- 1 x SMBUS
- 1 x Wake-up
- 4 x 3-pin 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 24-pin power connector

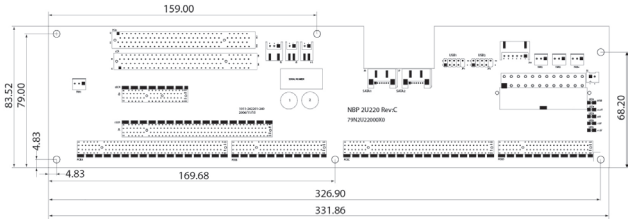
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  Operating 10% to 90%, non-condensing
  Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

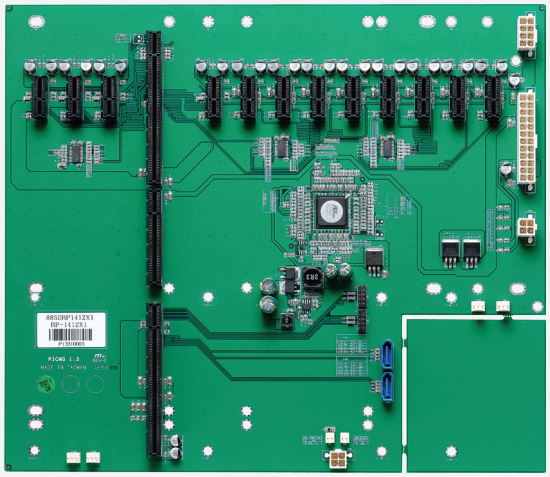
- **NBP 2U220 (P/N: 79N2U22000X00) RoHS Compliant**
  PICMG 1.3 Butterfly backplane for 2U chassis w/ 1 SHB slot, 2 PCI slots, 1 PCIe x16 slot, 1 PCIe x4 slots

Dimension Drawing



NBP 1412X1

14-Slot Backplane for 4U Chassis with
1 SHB Slot, 12 x PCIe x1 Slots



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 PCIe x1
- 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 PCIe x1 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 PCIe x1

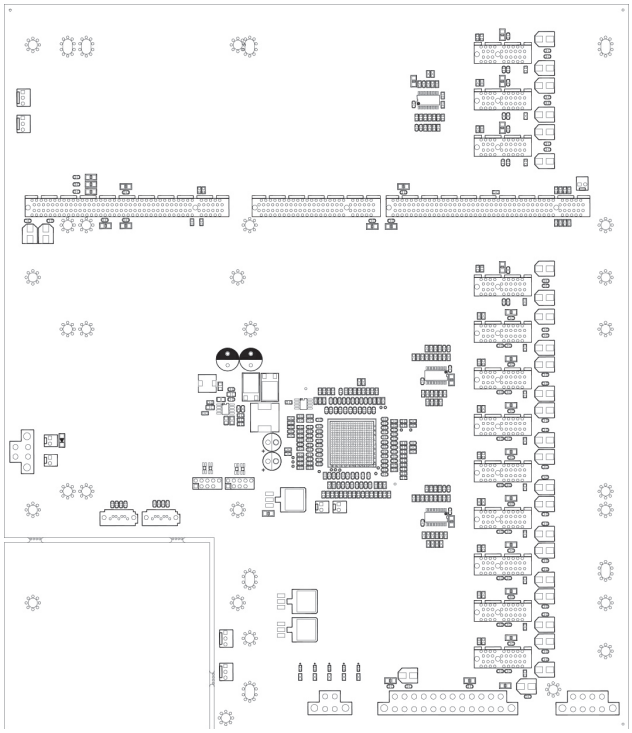
I/O Interface
- 4 x USB 2.0 with 2 x 9 pin-header
- 2 x SATA
- 6 x 3-pin fan

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

Dimension Drawing

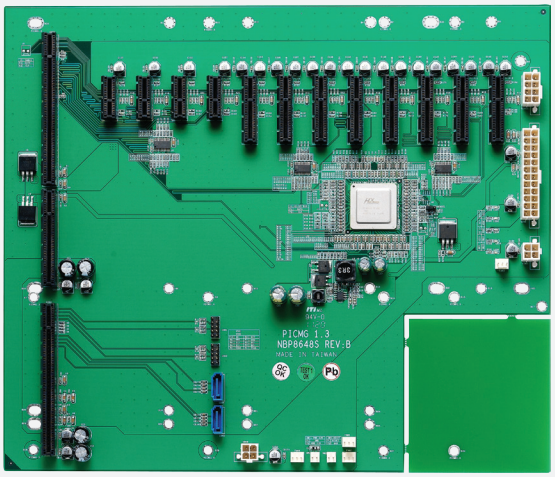


Ordering Information

- **NBP 1412X1 (P/N: 79N0141201X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 SHB slot, 12 PCIe x1

NBP 8648S

14-Slot Backplane for 4U Chassis with 1 SHB Slot,
4 x PCIe x1 and 8 x PCIe x4



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 PCIe x1 and 8 x PCIe x4
- 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 PCIe x1 and 8 x PCIe x4 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 PCIe x1 and 8 x PCIe x4

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

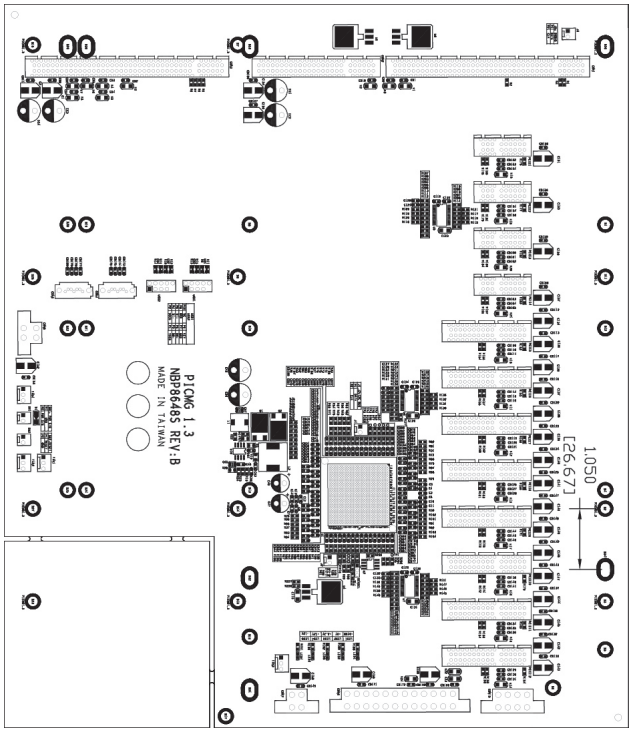
Power Input
- 1 x 24-pin power connector

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

Dimension Drawing

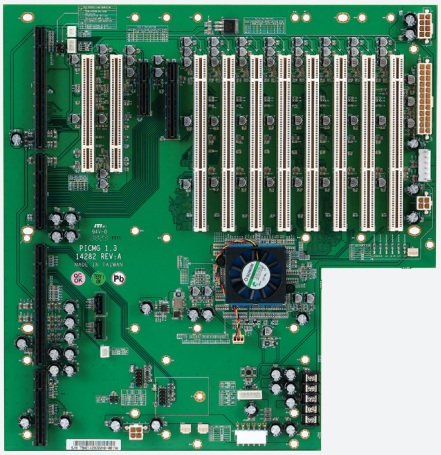


Ordering Information

- **NBP 8648S (P/N: 79N8648S00X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 x SHB slot, 4 x PCIe x1 and 8 x PCIe x4

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 x 8
- Power connector supports
  - 24-pin ATX power connector
  - Support AUX standard 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 4-pin x 2

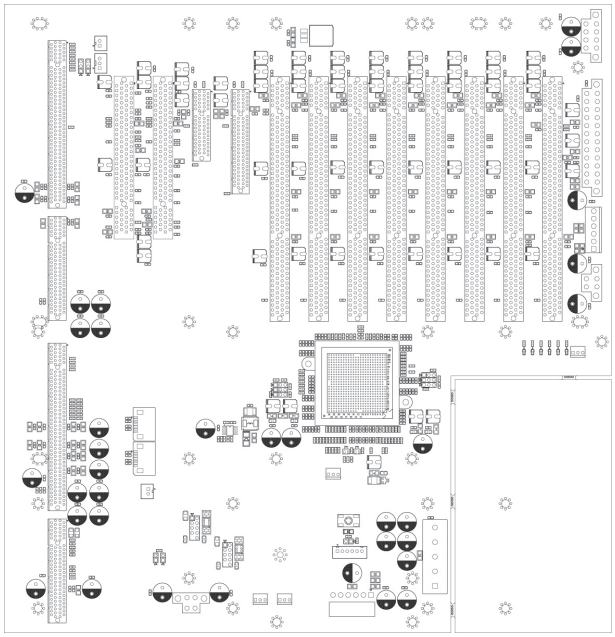
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  - Operating 10% to 90%, non-condensing
  - Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

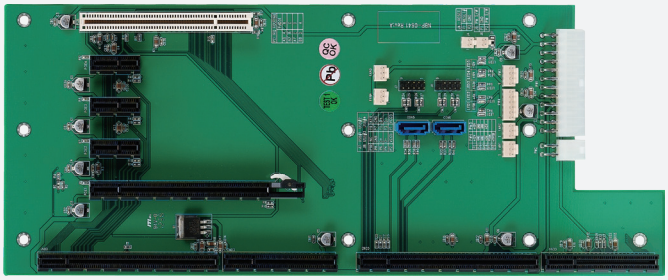
- **NBP 14282 (P/N: 79N01428200X0) RoHS Compliant**
  PICMG 1.3 13-slot backplane for 4U chassis, 1 SHB Slot, 1 x PCIEx 8, 1 x PCIE x4, 2 x PCI 32-bit, 8 x PCI-X

Dimension Drawing



NBP 0641

PICMG 1.3 6-Slot Backplane
1 SHB Slot, 1 x PCIE x16/3 x PCIE x1/1 x PCI



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 PCIE x1/1 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

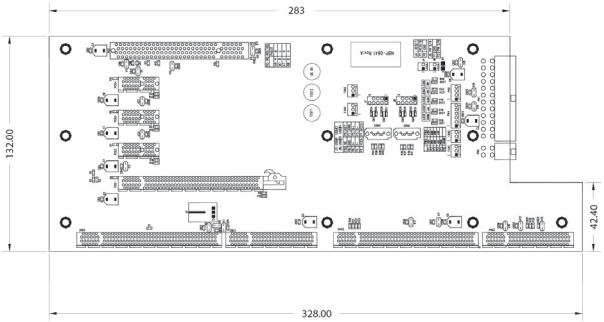
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  - Operating 10% to 90%, non-condensing
  - Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

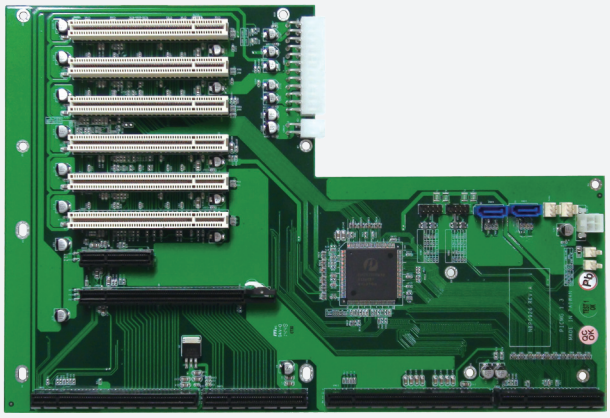
- **NBP 0641 (P/N: 79N0064100X00) RoHS Compliant**
  PICMG 1.3 6-slot backplane,1 SHB slot, 1 x PCIE x16, 3 x PCIE x1, 1 x PCI

Dimension Drawing



NBP 0926

PICMG 1.3 9-slot Backplane for 4U Chassis
with 1 SHB Slot, 6 x PCI Slots, 1 x PCIe x16 Slots, 1 x PCIe x4



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 PCIe x16 slots, 1 x PCIe x4
- 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 PCIe x16 slots
- 1 x PCIe x4

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 4-pin x 2

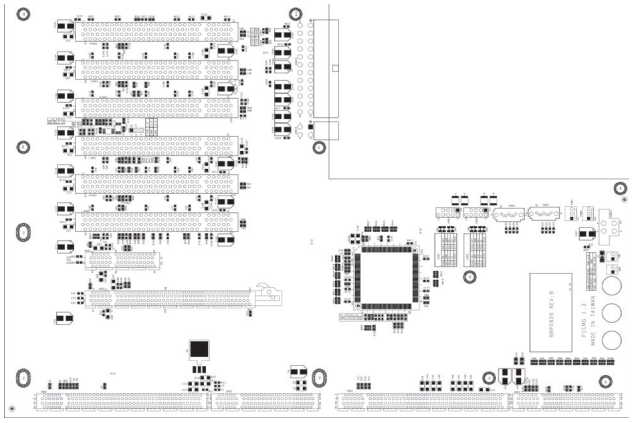
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
- Operating 10% to 90%, non-condensing
- Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

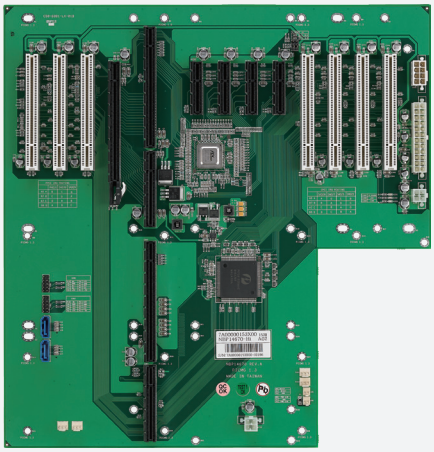
- **NBP 0926 (P/N:79N0092601X00) RoHS Compliant**
  PICMG 1.3 9-slot backplane for 4U chassis w/ 1 SHB slot, 6 x PCI slots, 1 x PCIe x16 slot, 1 x PCIe x4

Dimension Drawing



NBP 14670

PICMG 1.3 13-slot Backplane for 4U Chassis
with 1 x SHB Slot, 1 x PCIE x16, 4 x PCIE x4, 7 x PCI



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 4-pin x 2

Power Output
- 1 x 4-pin 12V AUX power connector to SBC/SHB

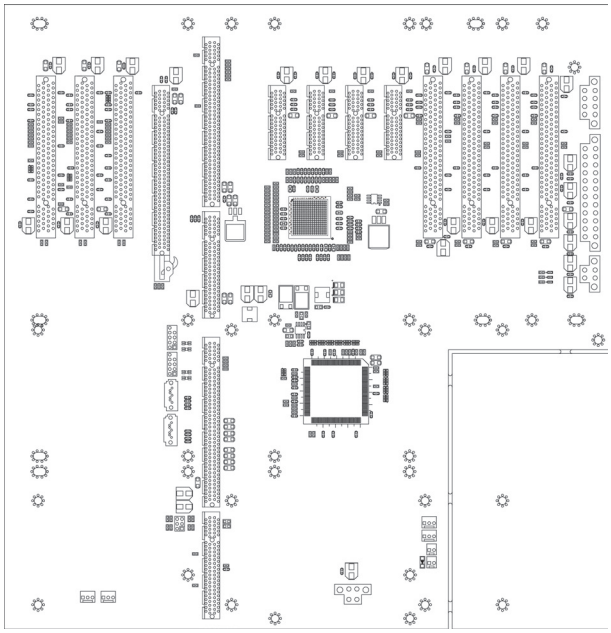
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
- Operating 10% to 90%, non-condensing
- Non-operating 5% to 95%, non-condensing

Certifications
- CE approval
- FCC Class A

Ordering Information

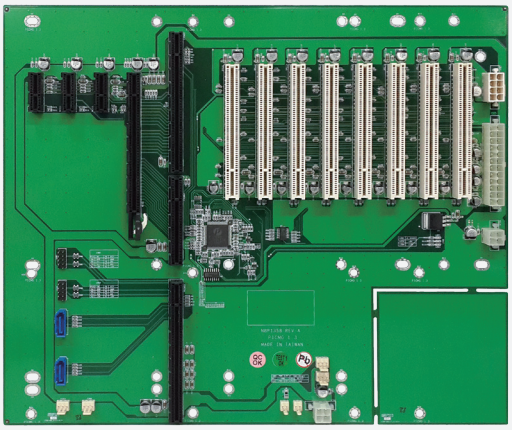
- **NBP14670 (P/N: 79N0146701X00) RoHS Compliant**
  PICMG 1.3 13-slot backplane for 4U chassis,1 x SHB slot, 1 x PCIE x16, 4 x PCIE x4, 7 x PCI

Dimension Drawing



NBP 1358

14-Slot Backplane for 4U Chassis
with 1 SHB Slot, Support PCIe x16/PCIe x1/PCI Slot



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 4U chassis
- Supports 1 x PCIe by 16 , 3 x PCIe by 1 and 8 x PCI slot
- Supports +12V, -12V, -5V, 3.3V power connector
- Compliance with PICMG1.3 CPU board - PEAK 886VL2, PEAK 887VL2, PEAK 888VL2

Product Overview

The NBP 1358 is a 14-slot backplane for 4U chassis with 1 SHB slot, 3 x PCIe by 1, PCIe x16 and PCI slots. Supports three fan power, power signal LED status , USB 2.0 2 x10-pin header and 2 x SATA connector.

It follows PICMG 1.3 platform specifications and supports ATX power supply.

Specifications

System Architecture
- 14-slot backplane

Dimension
- 317 x 268(mm)

Slots
- 1 x PCIe by 16
- 3 x PCIe by 1
- 8 x PCI slot (8 x PCI by Pericom PI7C9X112SL bridge , three 5V 32-bit PCI slots for full-size boards)

I/O Interface
- USB 2.0 2 x10-pin header
- 2 x SATA
- 4 x 3-pin fan
- 2 x 2-pin fan

Power Input
- 1 x 24-pin power connector and 1 x 8-pin power connector

Power Onput
- 1 x 4-pin 12V power connector to SBC/SHB

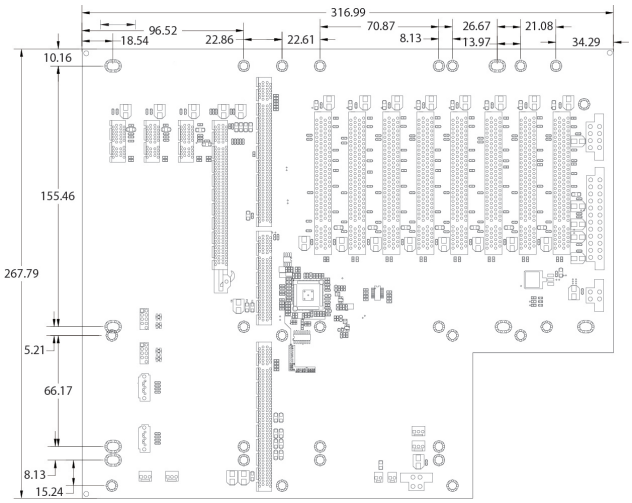
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

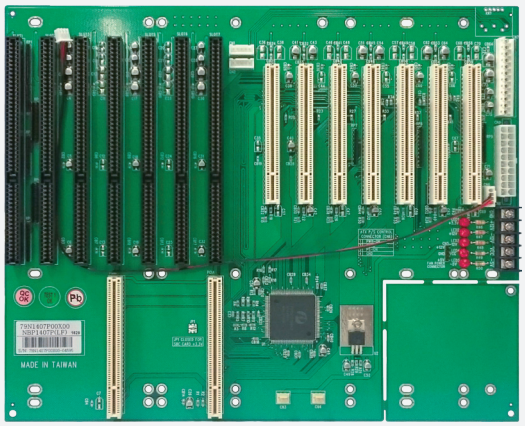
- **NBP 1358 (P/N: 79N0135801X00)**
  PICMG 1.3 14-slot backplane for 4U chassis w/ 1 x SHB slot, 3 x PCIe x1 and 1 x PCIe x16

Dimension Drawing



NBP 1407P

PICMG 1.0 14-Slot PICMG/ISA/PCI Backplane



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
- 317mm (L) x 275mm (W) (12.48" x 10.82")

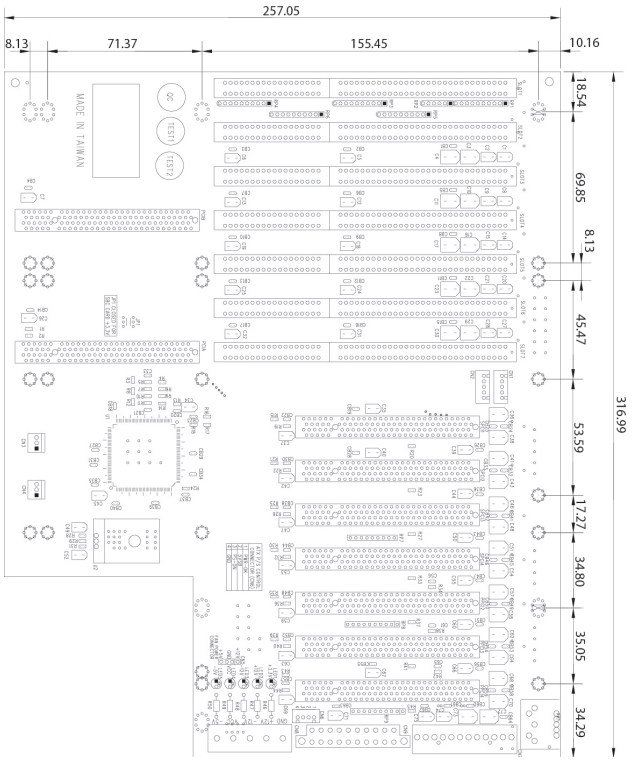
Slots
- PICMG1.0 (SBC slot), 7 x PCI, 5 x ISA

Power Input
- 1 x 20-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)

Certification
- CE approval
- FCC Class A

Dimension Drawing

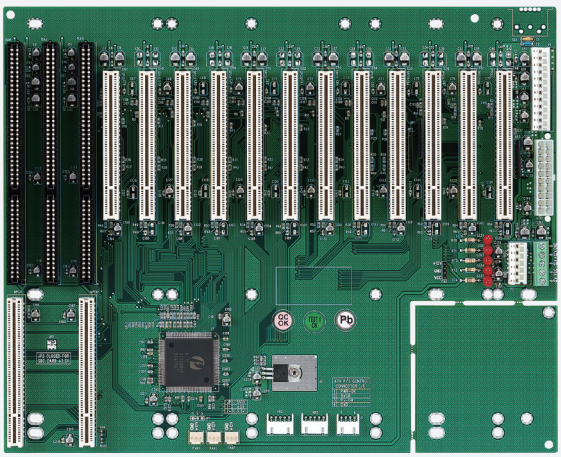


Ordering Information

- **NBP 1407P (LF) (P/N: 79N1407P00X00)**
  PICMG 1.0 14-slot backplane for 4U chassis w/ SBC slot, 7 PCI slots, 5 ISA slots

NBP 14P12

PICMG 1.0 15-Slot Backplane for 4U Chassis
with 2 PICMG1.0 Slot, 1 x ISA/12 x PCI



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 4-pin x 2

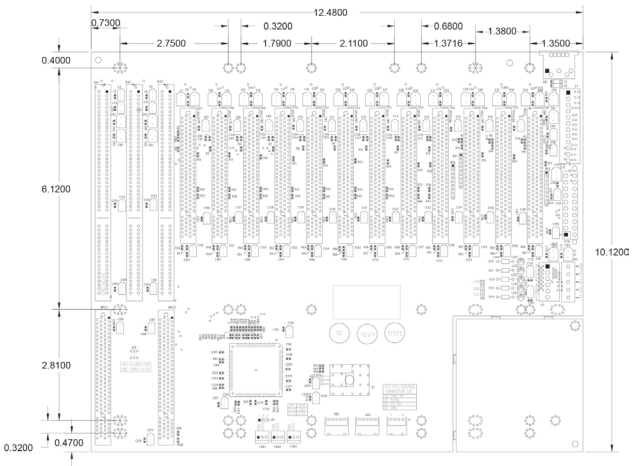
Environment
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity:
  - Operating 10% to 90%, non-condensing
  - Non-operating 5% to 95%, non-condensing

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 PICMG 1.0 slot, 1 x ISA, 12 x PCI

Dimension Drawing



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