



The Intelligent Systems

Industrial IoT Forerunner



IoT Automation Solution Product Selection Guide

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About NEXCOM

Reliable Partner for the Intelligent Systems

Founded in 1992 and headquartered in Taipei, Taiwan, NEXCOM is committed to being your trustworthy partner in building the intelligent systems. 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 Multi-Media Solutions (MMS), Mobile Computing Solutions (MCS), IoT Automation Solutions (IAS), Network and Communication Solutions (NCS), Intelligent Digital Security (IDS), and Medical and Healthcare Informatics (MHI). 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	Automation: factory automation (FA), PPC & HMI, machine automation (MA), machine vision IoT: IoT gateway, industrial wireless solutions Intelligent System Services: embedded computer, single board computer, computer-on-module, POS, kiosk PPC, ODM/OEM services
IDS	Intelligent Digital Security: IP Cam, NVR, mobile server platform
MCS	Mobile Computing Solutions: rugged computer devices, rugged mobile computer Vehicle Telematics Computer: Car PC, train PC
MMS	Multimedia Solutions: digital signage
MHI	Medical and Healthcare Informatics: total solutions with a variety of medical IT systems
NCS	Network and Communication Solutions : network security, VoIP, HPC, telecommunication, storage, switch, industrial firewall

Corporate Vision

To become the industrial leader in providing intelligent systems, 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 Industrial 4.0 applications.

Towards Industry IoT Era

Industry 4.0 Ready Structure

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

It is putative that today's manufacturers face even more competitions and threats; every penny of extra spending counts and must be used prudently. The efficiency of investment falls under the spotlight and total cost of ownership (TCO) must be rationalized. With Industry 4.0 all the rage, manufacturers, either embracing or half-heartedly motivated by it, enter into the fray and argue for investing new factories or for modernizing old ones; sensible decisions to balance the cost and performance (C/P) have come to a head.

Solution Architecture

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

Application Scenario

On a field level, a system is made up of NEXCOM's fanless platforms based on low-power consumption, high-performance Intel processors with multi-core and Hyper-Threading (HT) technologies. The controller NIFE 100 is powered by onboard dual-core Intel® Atom™ processor E3826, clocking at 1.46GHz and with 1M cache, and suitable to operate at a temperature of up to 70 degree Celsius; the panel PC (IPPC) based on dual-core Intel® Core™ i5-3610ME processor, clocking at 2.7GHz and with 3M cache, can survive at up to 50 degree Celsius; the IoT gateways Intel® Atom™-based NIFE 101 and Intel® Quark™-based NIO100 are capable of multi-protocol conversion to extract internal parameters from plant equipment and can wirelessly transmit them to cloud servers through IWF6330M, a Wi-Fi mesh access point (AP). Both IoT gateways integrate Intel-certified Moon Island BSP.

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

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

In a situation when both auto and semi-auto control configuration are needed, NEXCOM's HMI eLITE 507 provides high quality graphic display, and its companion client-server-based software

JMobile increases the mobility in a factory.

On the level of operation, monitoring, and MES/ERP, customers who prefer quietness can choose fanless computer NISE 3600 using quad-core Intel® Core™ i7-3632QM processor, clocking at 3.2 GHz with 6M cache. Others can choose the 4U rack-mount PBOX 520A based on Intel® Core™ i7/ i5/i3, and Celeron® processors. Both NISE 3600 and PBOX 520A are suitable for SCADA, MES, and ERP applications. The required Supervisory Control and Data Acquisition (SCADA) software features differs based on user's preference; one example herein is CitectSCADA and the features of which includes:

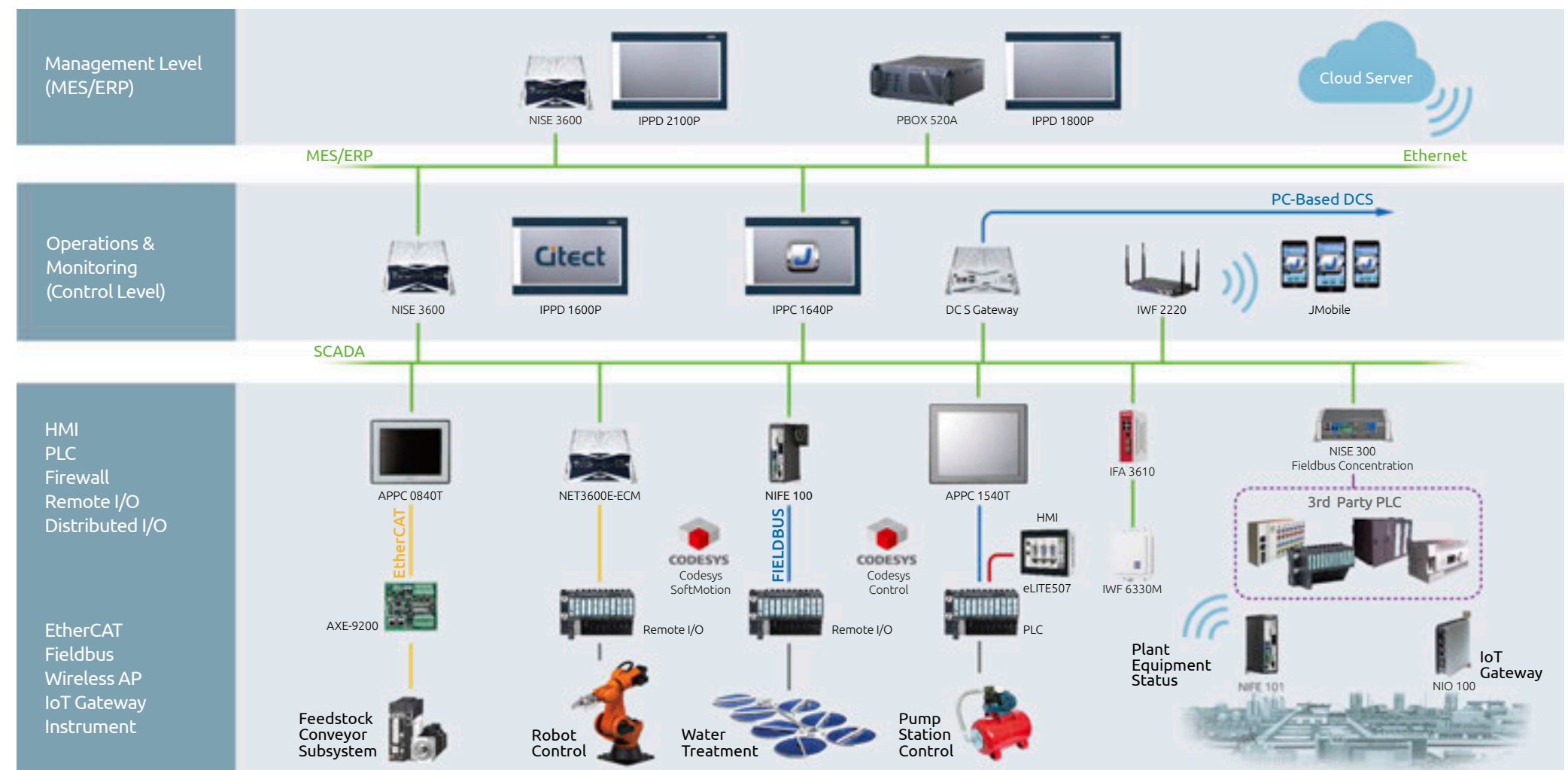
- 255 simultaneous connected clients
- 250 simultaneous logged in users
- A large number of tags, up to 50,000 in a installed site
- Support 80-character tag name
- Support 32,000 graphic animations per page
- Support a wide variety of imported file formats including: BMP, RLE, DXF, WMF, TIF, JPEG, JPG, JIF etc.
- True preemptive and multitasking of runtime
- Up to 512 concurrent threads
- Visual Basic-compatible scripting language, CitectVBA

Intelligent Future under Digital Infrastructure

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

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

IoT Automation System



IoT Automation Solution Map

Manufacturers are enthusiastic about tapping the power of big data analysis to increase competitiveness, improve the bottom line, and anticipate trends. Manufacturers are looking to the Internet of Things (IoT), which lifts the communication barriers among field devices and enables data-driven decision making (DDDM). However, gaining access to field data is challenge because field devices use different field protocols, run independently, and lack connectivity.

To surmount communication barriers among various field devices including machinery, robots, PLCs, and sensors, NEXCOM IoT Automation Solution provides open-architecture solutions designed with cross-protocol communication capabilities, supporting data communication between field devices and the cloud. NEXCOM IoT Automation Solution can help manufactures improve operations, strengthen security barriers, simplify device

management, and reduce maintenance costs.

NEXCOM IoT Automation Solution can be divided into four product categories which are data concentration system, PC-based automation system, prediction maintenance system, and automatic metering system, covering all scopes of IoT Automation applications. These four product categories all have connectivity to connect to the cloud. Featuring connectivity, these four product categories can connect to the cloud, forming a mesh network that links factories and enterprise.

NEXCOM's data concentration systems are designed to collect data from controllers such as PLC, machinery and equipment. NEXCOM's fieldbus concentrators and IoT gateways can easily transfer different fieldbus protocols into data formats based on application needs. The built-in NEXCOM OPC server software

provides an unified data retrieval mechanism for users. In addition, the MQTT software component allows users to turn NEXCOM's fieldbus concentrators into cloud bases.

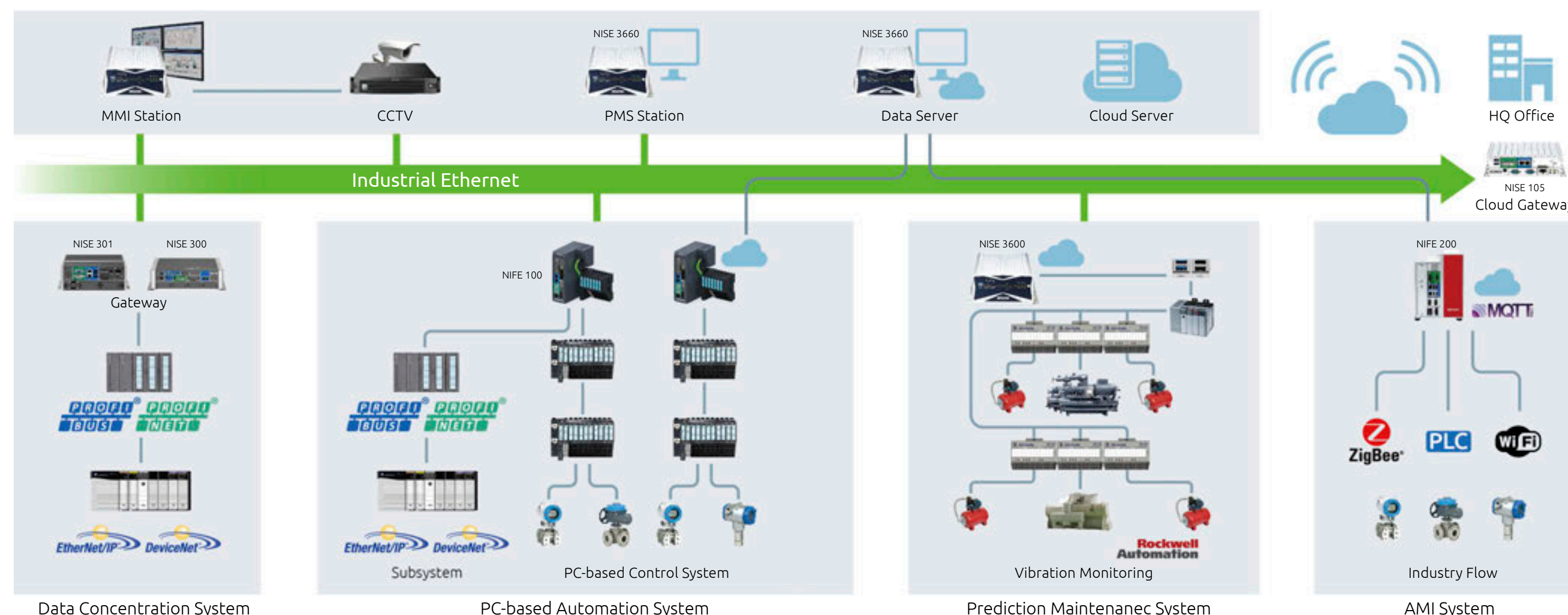
NEXCOM's PC-based automation systems are control systems compatible with most of the fieldbus networks. NEXCOM's PC-based automation systems can be used as standalone controllers and support multiple fieldbus networks at the same time. NEXCOM's PC-based automation systems support 3G/Wi-Fi wireless connection. With the built-in MQTT cloud software mechanism, NEXCOM's PC-based automation systems can support the cloud based application.

For automation application, both control and monitoring are important. Should machinery fail, production will be interrupted, causing enterprises serious revenue and profit losses. NEXCOM's prediction maintenance solutions are based on Rockwell condition monitoring systems. With built-in 3G modules, NEXCOM fanless SCADA platforms can receive signals from devices such as proximity sensor and accelerometer, measuring

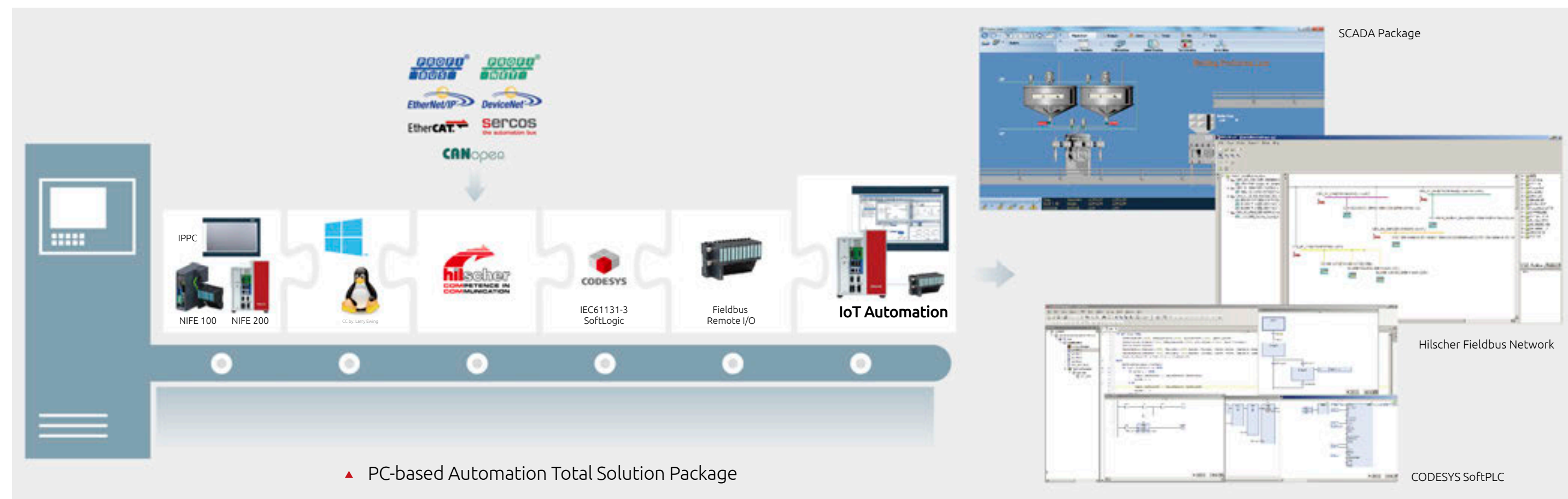
the time domain vibration altitude and spectrum detection for machinery condition analysis. NEXCOM's prediction maintenance solutions can also connect to machinery's control panels to get the operation data for further analysis. NEXCOM's systems are integrated with NEXCOM OPC server and remote alarm application components—which are compatible with Rockwell eMonitor software—to send alarm messages to maintenance engineers. Vibration data can also be shared via web-based functions to enable remote analysis.

The Automatic Metering system is for the purpose of environmental monitoring. The system is also ideal for use in process production to help enhance pipeline safety and industrial flow measurement. NEXCOM fanless platform provides the system with easy expansion of wireless communication protocols such as ZigBee and Wi-Fi as well as power line communication interfaces. The MQTT software mechanism is also made available for cloud applications.

NEXCOM provides a clear scope and definition for IoT Automation infrastructure, turning a concept into reality.



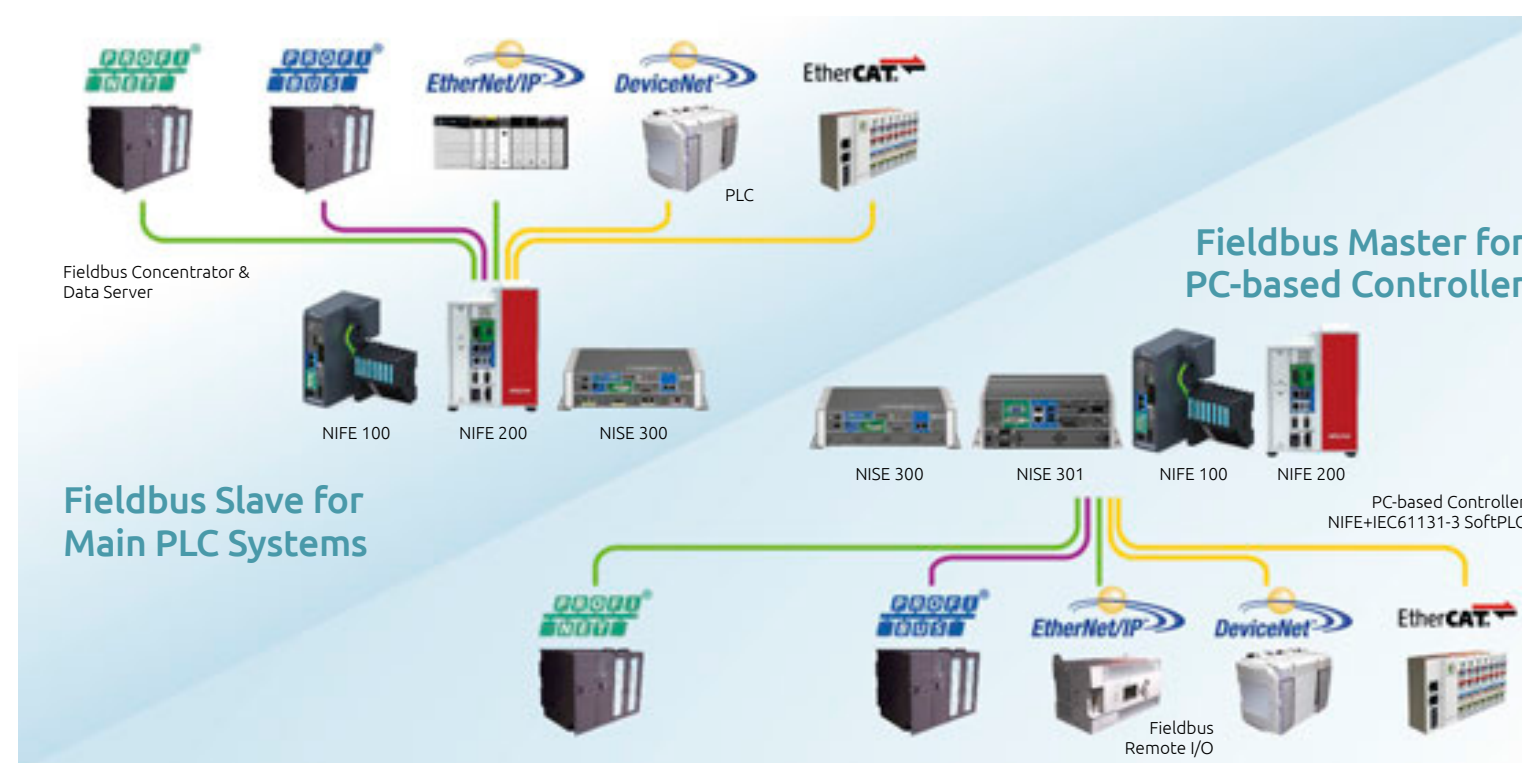
NEXCOM PC-based Controller



NEXCOM's PC-based controller solution, the NIFE (NEXCOM Industrial Fieldbus Embedded) series, supports fieldbus technologies such as PROFINET, PROFIBUS, EtherNet/IP, DeviceNet and EtherCAT. Unlike most slave-only solutions, NEXCOM's NIFE solution supports both master and slave interfaces, and is certified by Hilscher, an expert in industrial communication, to deliver reliability-proven solutions.

NEXCOM is a well-known supplier of fanless computers, which are used in various control platforms by many automation system vendors. Available in both standard and OEM/ODM models, NEXCOM's NIFE product line comes in a range of form factors and processor configurations including ARM, Intel® Atom™ and Intel® Core™ processors to suit different application requirements. NEXCOM's solution has also been implemented successfully in critical applications, with quality and reliable results.

NEXCOM's NIFE series combines PC technology, fieldbus interface and fanless design into a single platform. In addition to robust hardware, the NIFE series also comes with a fieldbus configuration tool similar to common PLC programming software. With an easy-to-use interface, engineers can use the tool to configure all the supported fieldbus protocols without any additional training.



For the control kernel, the NIFE series implements CODESYS Control RTE, which supports real-time control under Windows XP, Windows 7 and Linux operating systems. Designed by 3S-Smart Software Solutions, CODESYS is one of the most popular SoftLogic software in the industry and is used by major automation providers such as Schneider Electric, ABB, Beckhoff and B&R. Using CODESYS, control engineers can flexibly create custom control algorithms for different fieldbuses through a ladder logic approach that control engineers have become used to with traditional PLCs.

◀ Utilizing Hilscher's Leading-edge Fieldbus Technology, NEXCOM Offers Fieldbus Total Solution to Cover 70% Market Coverage

Control Panel PC Solution



NEXCOM's industrial-grade control panel products are ideal for a wide range of automation applications in different verticals that require reliable and efficient operations. NEXCOM offers Industrial Panel PCs (IPPC) for harsh environments, Applied Panel PCs (APPC) for light industries, ARM-based HMIs (eTOP and eLITE) for industrial as well as building/home automation, Open Frame Panel PCs (OPPC) for specialized system integrators, and industrial-grade interactive touch monitors (IPPD and APPD) for demanding touch applications. NEXCOM also provides panel PCs with C1D2 certification (IPPC 1560TE) for oil and gas industries, and panel PCs with sunlight-readable display, multi-touch input, 7H hardness anti-scratch P-Cap touch screen, 16:9 widescreen, and optical bonding to meet the needs of different automation domains.

NEXCOM's Control Panel PC solutions include pluggable industrial master fieldbus interfaces of widely-used protocols including PROFINET, PROFIBUS, DeviceNet, EtherNet/IP, and EtherCAT to communicate with programmable logic controllers (PLC) and remote I/Os.

Software-bundled PPC solutions are also available to offer total solutions that deliver robust integration and performance. Plant

operators can thus visualize operations, perform supervisory control, and manage production line adjustment instantly. For instance, the PPC series bundled with NEXCOM EtherCAT master software (NexECM) can enable LAN communication with EtherCAT slave devices. HMI/SCADA software (JMobile) bundle can allow the PPC series to visualize industrial processes and be controlled and monitored remotely by mobile devices. Remote device management software (Xcare™) bundle can enable plant operators to monitor detailed information of system status and health. Furthermore, CODESYS SoftMotion software bundle can give the PPC series the needed programming support for factory and machine automation applications.

With a range of software-bundled options, NEXCOM's Control Panel solutions allow plant operators to access machines remotely so that factory applications are no longer limited by workstation constraints. The bundled PPC solutions also visualize and utilize machine functions, allowing better execution and control during manufacturing processes. Most importantly, the bundled solution improves overall equipment effectiveness (OEE) and product quality, maximizing the output, efficiency and reliability of automation applications in many different verticals.

Application

Oil and Gas

Key Feature: C1D2 ISA 12.12.01, CSA22.2 No.213 certification



CNC Machine

Key Feature: x86 High Performance HMI



Robotic

Key Feature: EtherCAT master

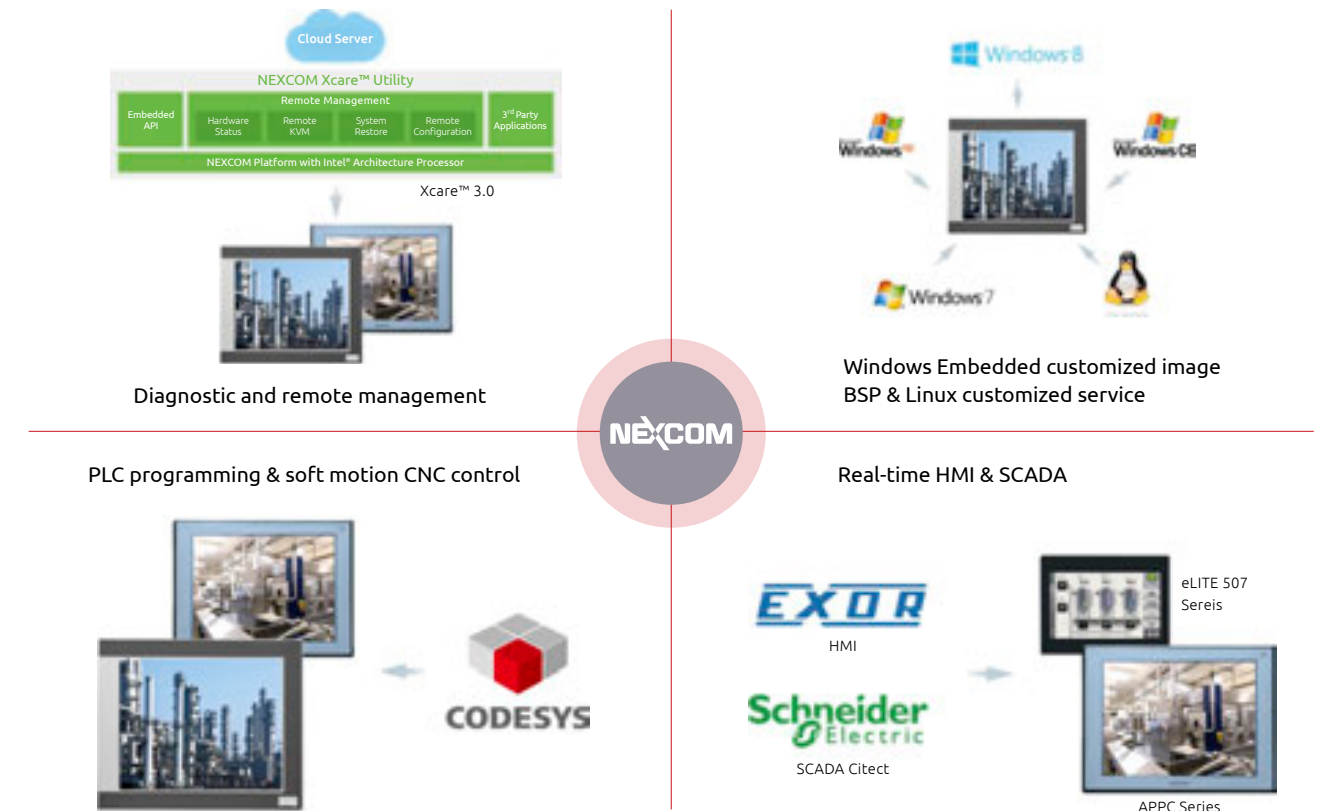


HMI

Key Feature: Cost-effective ARM-based HMI



Software Map



Data Concentrator Solution



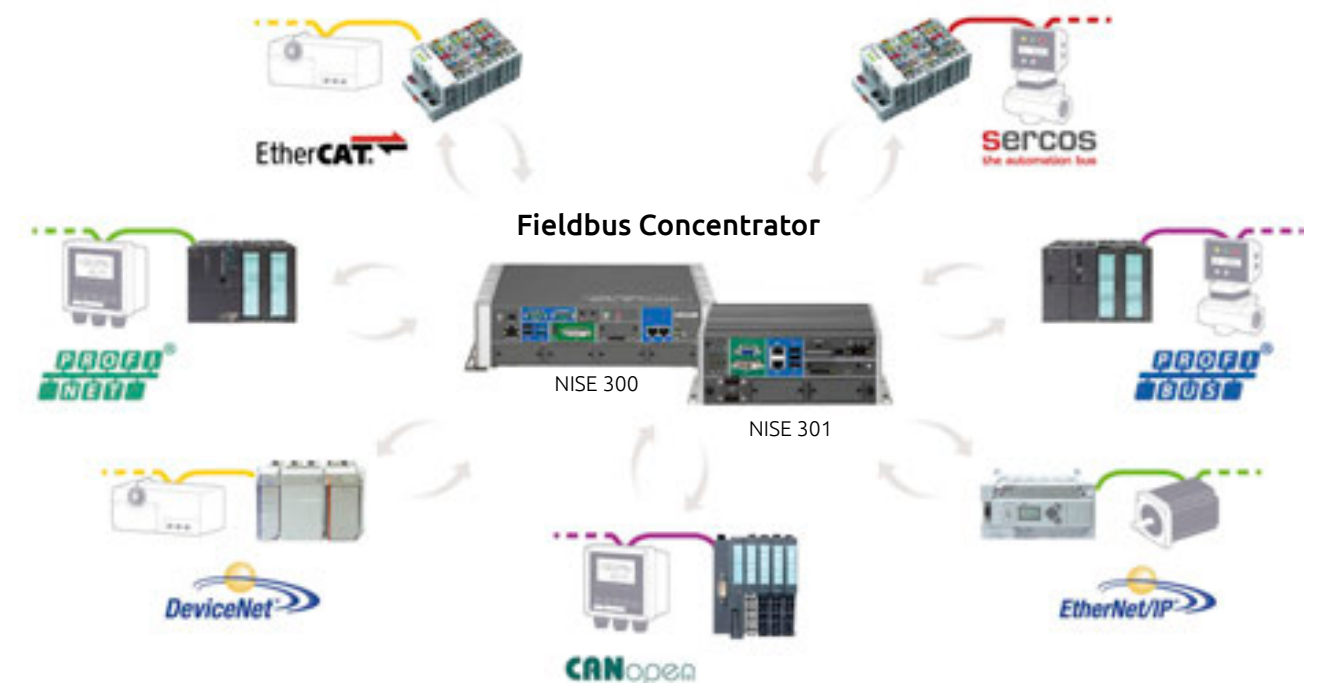
Fieldbus is the key to factory automation systems because it defines a network standard for PLC controllers to communicate with each other and guarantees reliable data transfers. As a result, most control system vendors have developed their own fieldbus protocols to stay competitive and secure businesses. These include PROFINET and PROFIBUS from Siemens, EtherNet/IP and DeviceNet from Allen-Bradley and EtherCAT from Beckhoff, which is popular in machine automation and semiconductor applications.

Because different vendors each have their own specific applications and proprietary protocols, combining different systems within a factory have become costly

and time consuming, especially for existing systems that were built with different brands. Only a few numbers of suppliers have offered solutions with such a high level of integration.

To provide cost-effective solution for fieldbus integration, NEXCOM's fieldbus concentrator solution features multiple fieldbus expansion support to provide high flexibility and reliability. NEXCOM's NISE 300 fieldbus concentrator can support up to 5 protocols including PROFINET, PROFIBUS, EtherNet/IP, DeviceNet and EtherCAT, with the flexibility to configure each interface as master or slave depending on users' requirements. With support for various protocols on a single device, NEXCOM's concentrator solution allows users to deploy fewer hardware devices and offers significant cost savings.

Multi-fieldbus Concentrator



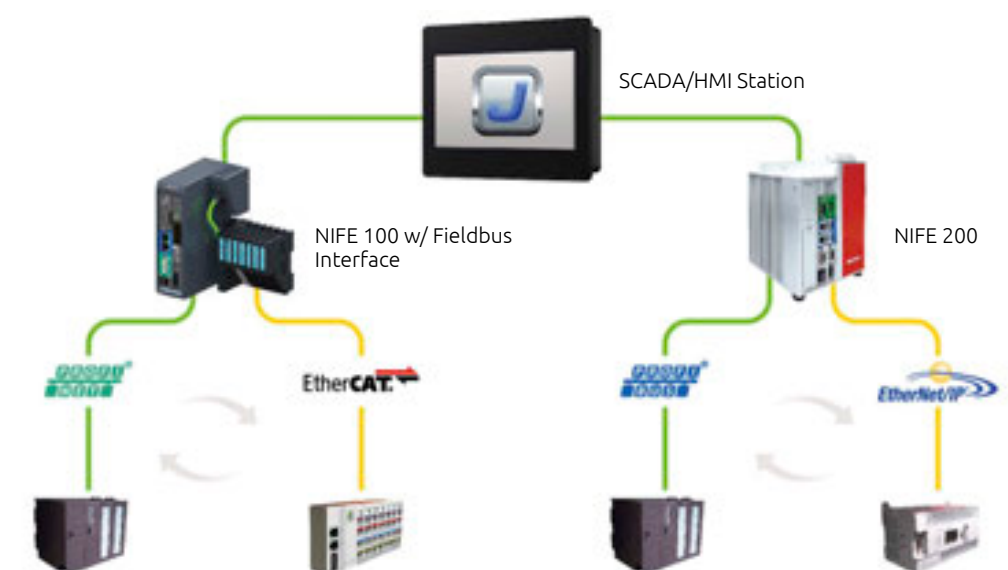
Fieldbus Concentrator Advocates M2M Factory with 6 Mini-PCIe Expansion Capabilities

The fieldbus concentrator NISE 300 is based on the 4th generation Intel® Core™ processor family paired with Intel® 8 Series Chipset. With CPU performance up by 13% and graphical performance by 32%, the fanless box has outstanding system performance for intelligent and industrial computing solutions.

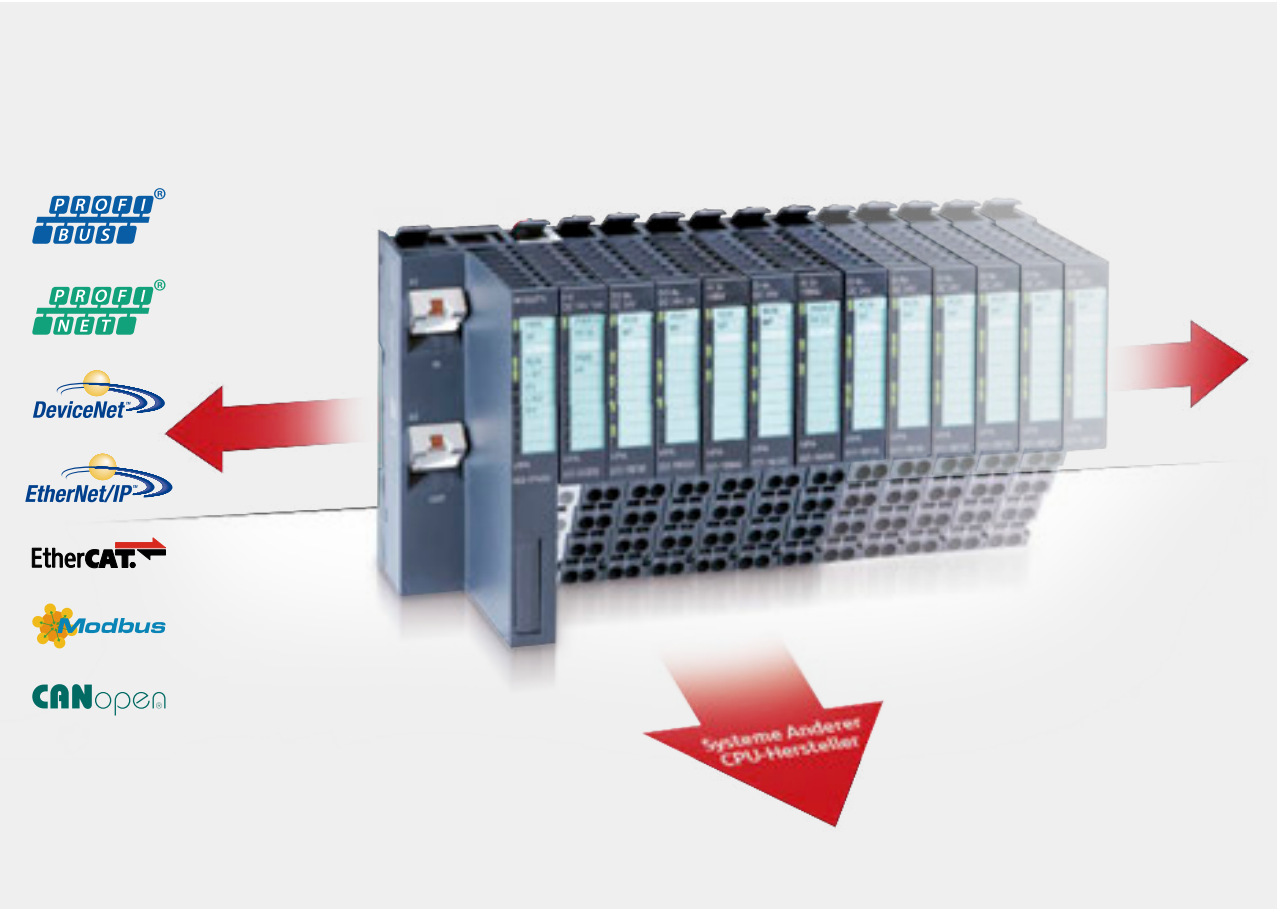
NISE 300 features 8GB DDR3/DDR3L memory, CFast, SATA 3.0, USB 3.0 interfaces. It supports wide range power input 9~30VDC and can operate from -5°C to 55°C under fanless condition. With

all I/O aligned on the front side and its compact size, usability is significantly improved for better user experience. Two unit of NISE 300 can fit in a 2U 19" rackmount chassis.

NISE 300 provides rich and swappable I/O interfaces. NISE 300 supports Fieldbus protocols (PROFIBUS, DeviceNet, EtherCAT, PROFINET, CANOpen, MODBUS), network connectivity (GbE LAN, Wi-Fi, GSM), storage (mSATA) and other I/O interfaces (GPIO, RS232/422/485). Along with flexible multiple modular expansions, the versatile NISE 300 can be used for M2M intelligence and factory automation platforms. Another variant, NISE 301, supporting two mini-PCIe expansion is also available with a much compact size.

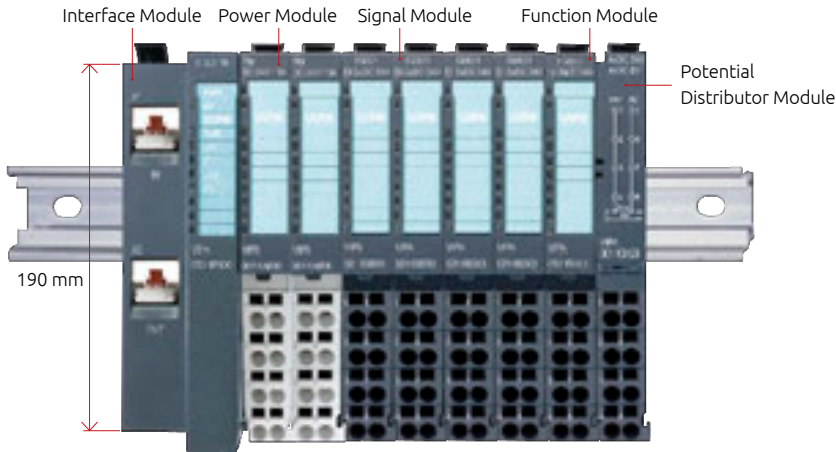


Fieldbus I/O



NEXCOM's I/O solution integrates SLIO® modules from VIPA, a provider of remote I/O modules with vast experience in PLC technology. VIPA SLIO® modules come in micro form factors with high bus speed and wide fieldbus support. It can be fitted with different couplers for different fieldbus networks. By using NEXCOM's NIFE PC-based controller in collaboration with SLIO® modules, users can easily establish a complete PC-based control station.

Equipped with reliable remote I/O technology, the SLIO® modules feature compact size to simplify installation in tight spaces and a modular design to ease maintenance; modules can be replaced easily without any rewiring. In addition, with many different I/O module offerings available, the SLIO® solution can satisfy requirements for any automation applications.



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 Performance

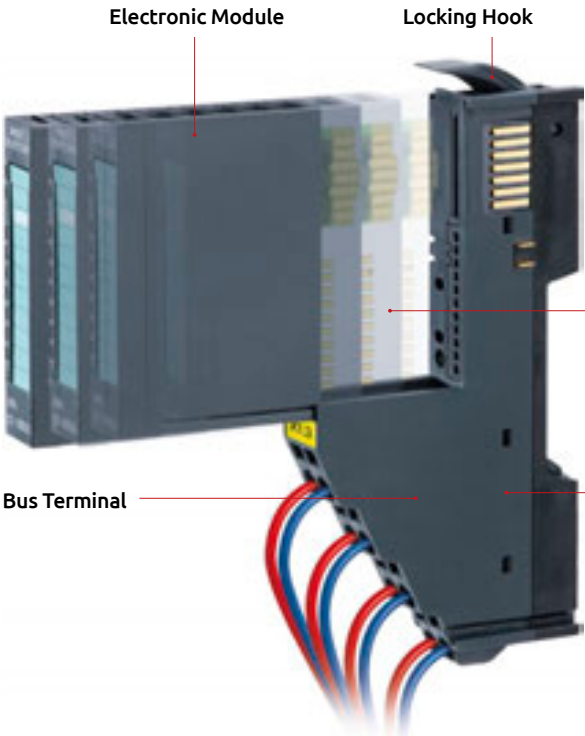
- Quick backplane bus concept of 48MBit/s
- With ETS modules it is possible to switch exactly up to +1us independent of fieldbus.

Diagnoses and channel conditions can be easily seen on the module – due to the universally understandable LED-displays.

Already when you set up you can clearly indicate which module does what by means of the practical labeling strips.

The clamp terminal assignment is printed under the labeling strips.

All modules have a simple, space-saving, staircase-shaped wiring level.



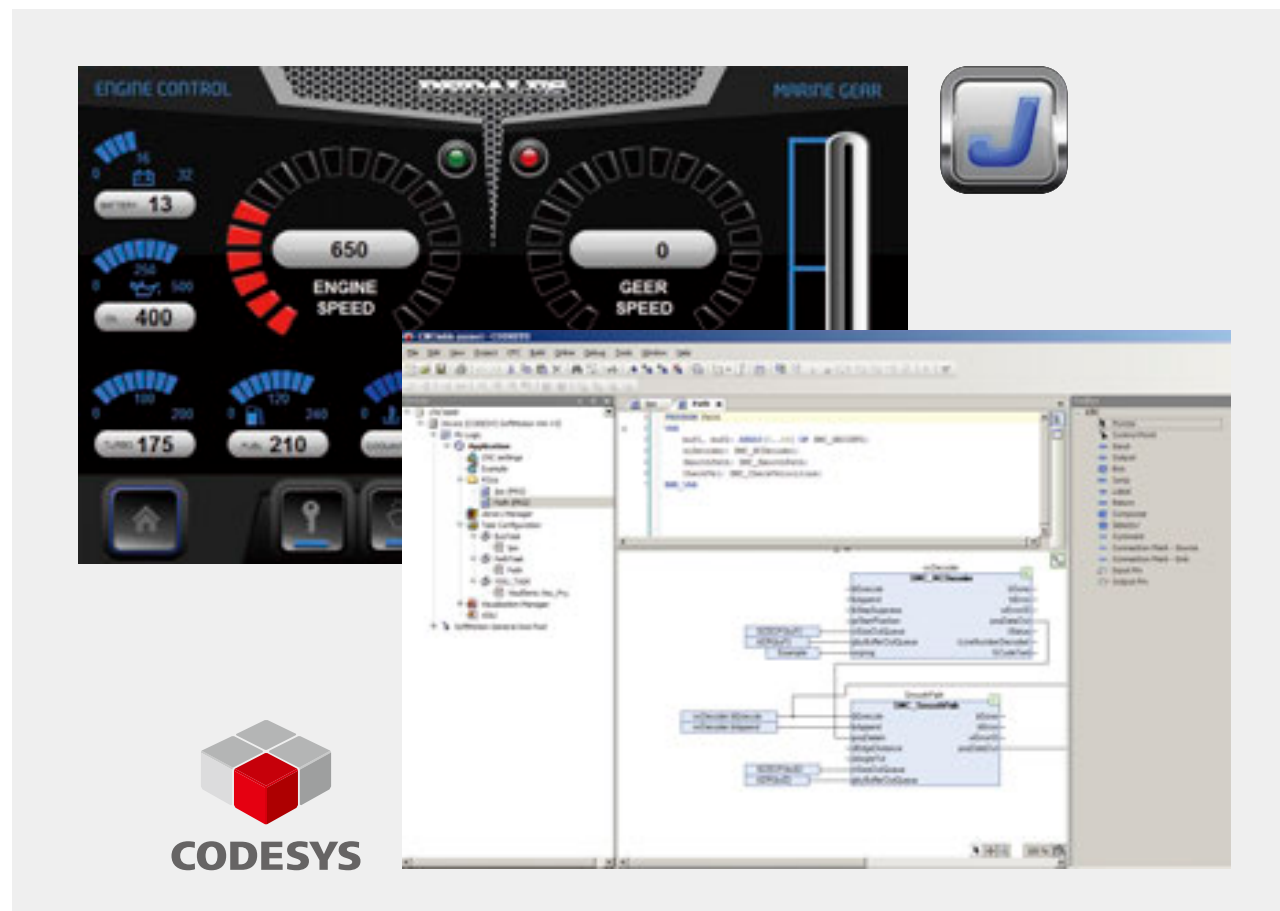
General isolation from electronic and installation level.

Bus Terminal

Optimal placement of the interfaces for space saving connections.

- Galvanic isolation between fieldbus and backplane bus.
- DIP-switches for address configuration with transparent cover.
- Electrical isolation between fieldbus and input/output level.

NEXCOM Automation Software



IEC 61131-3 is the most popular control programming language standard for automation applications. It provides automation users with an easy-to-use and easy-to-maintain programming framework. As such, NEXCOM's NIFE PC-based controllers have been implemented with CODESYS SoftMotion as the underlying control kernel. Developed by 3S-Smart Software Solution GmbH, CODESYS has been well known for its high reliability, multi-fieldbus integration and user-friendly interface.

Furthermore, as a partner of Hilscher, CODESYS has integrated Hilscher interface module and various device drivers to drive different fieldbus and remote I/O systems. Using the CODESYS development kit, control engineers can configure fieldbus devices and program control algorithms in an identical method to a traditional PLC software tool.

In addition to NEXCOM, major automation suppliers such as Schneider Electric, ABB, Beckhoff, Bosch and many more have also used CODESYS and Hilscher interface in a few of their products. Sharing the same level of quality as these trusted brand names, NEXCOM's NIFE PC-based controllers deliver high reliability at a reasonable cost compared to other highly-priced solutions.

Besides CODESYS SoftMotion, NEXCOM also provides OPC server software for the NIFE series of PC-based controllers and fieldbus interfaces. Control engineers can easily use the OPC interface to enable data communication with SCADA/HMI stations or third-party devices.

NEXCOM also offers Exor's JMobile HMI software for HMI visualization. JMobile features excellent graphics engine and support for mobile device web access. It can be fully integrated with CODESYS to combine HMI visualization and control functions into a single control station. Furthermore, it has a built-in library of various PLC drivers to support a range of legacy systems.

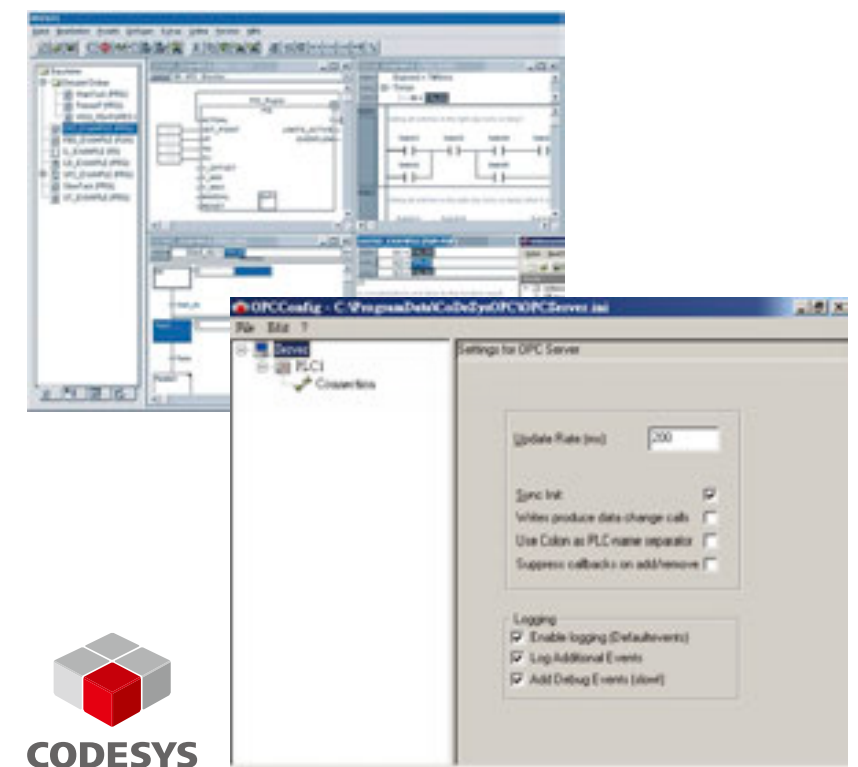


NEXCOM OPC Server

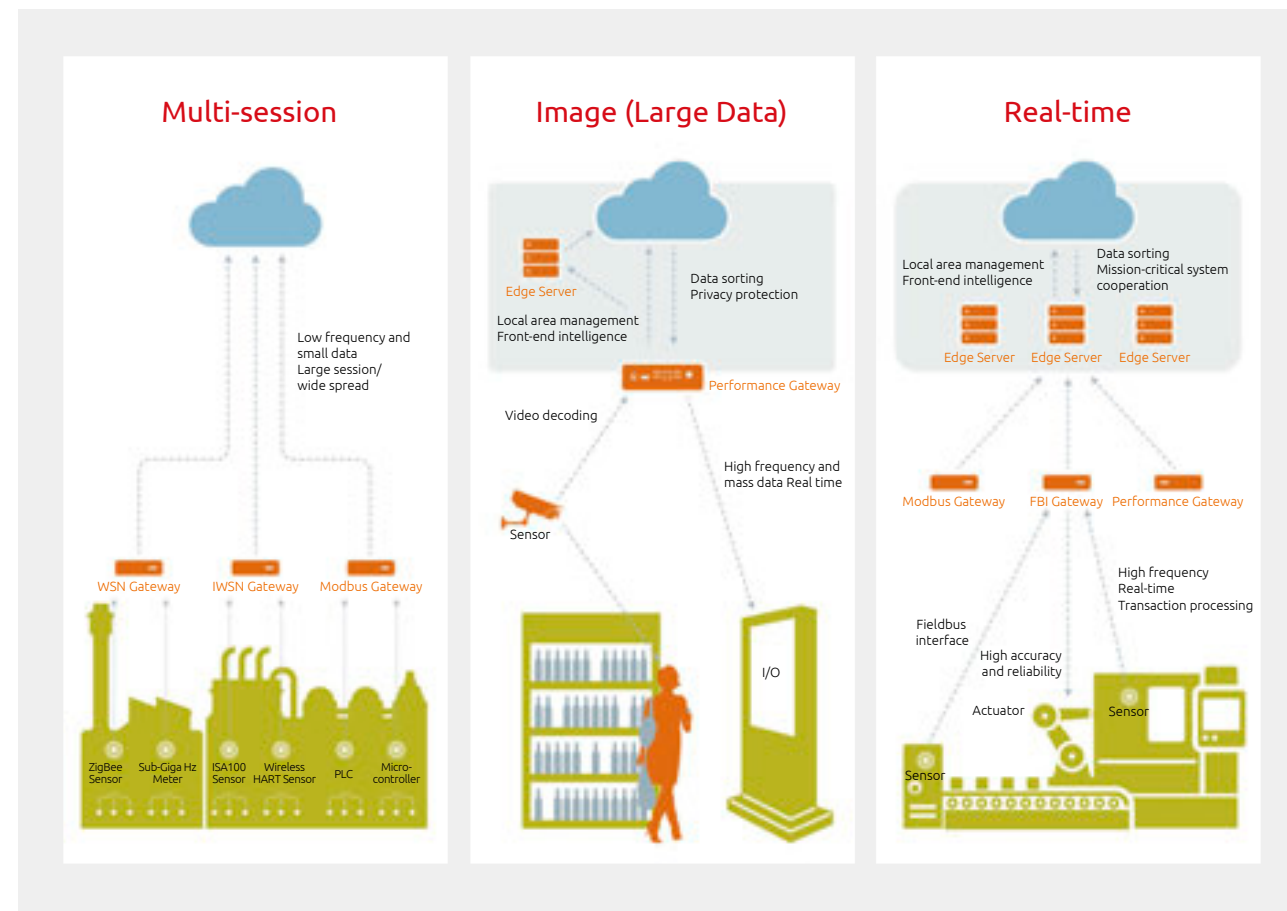


OPC (OLE for Process Control) server software is widely used in automation application for cross-protocol communication and data collection of different controllers. Due to its ease of use and synchronized format, most controllers feature built-in OPC interface to link with various controller networks.

NEXCOM provides OPC server software for its FBI (Fieldbus Mini-PCIe Interface) master cards, PC-based controllers and fieldbus concentrators. NEXCOM OPC server is based on OPC-DA standard for Windows-based platform. With built-in graphical user interface on the OPC software, users can easily configure the communication parameters to set up the OPC configuration. NEXCOM OPC server enables data acquisition between the application software and NEXCOM fieldbus interface to achieve fieldbus concentrator functionality for data exchange.



Industry IoT Gateway



IoT Vision

As embedded devices inside equipment, machines and electrical appliances become intelligent, many of the objects that surround us will be on the network in one form or another. No matter which form it is in, device-to-cloud connectivity generates valuable big data insights that can create and uncover new opportunities for future businesses. Cloud computing can provide a virtual infrastructure for monitoring devices, data analytics, visualization platforms and cloud service delivery. Such business model which cloud computing offers will enable end-to-end service provisioning for businesses and users to access applications on demand from anywhere.

NEXCOM IoT gateway is an intelligent IoT gateway based on Intel® Quark™ SoC- and Atom™ processor-powered Intel® IoT Gateway (Wind River® Linux/Yocto). Designed to connect to sensor networks, NEXCOM IoT gateway emphasizes on providing flexible connections between sensor nodes and customer's cloud for enabling intelligent big data analysis and data-driven decision making. With the powerful and low power Quark solution, NEXCOM IoT gateway series is rugged by design and intended for critical industrial environments where sensor nodes or I/O devices are deployed. With its modular design, NEXCOM

IoT gateway can be flexibly configured with different protocol-ready modules to communicate with end sensors or I/O nodes. NEXCOM IoT gateway can also connect to cloud servers through wireless 3G/Wi-Fi, wired LAN networks, or cloud-ready API integration. The Intel® IoT Gateway technology-based board support package (BSP) from Intel and Wind River integrates the operating systems and communication protocols, as well as security protection mechanism from McAfee to ensure ease of deployment and secure connectivity.

Based on rich development experiences of intelligent embedded systems and industrial Wi-Fi systems, NEXCOM offers a series of IoT solutions ranging from IoT gateways, Industrial/Enterprise Wi-Fi, to cloud-ready solutions to make the IoT dream come true.

IoT Structure

As embedded devThe IoT structure consists of the device layer, the network layer and the application layer. Each layer implements its own functions which can be bridged together through NEXCOM's industrial Wi-Fi access points, Wi-Fi controllers and IoT gateways, to enable a complete device-to-cloud solution. The functions of each layer, along with NEXCOM's supporting solutions, are detailed as follows:

Intelligent System/ Device Layer

The device layer is the area where intelligent end devices are interconnected and connected to the cloud. In factory automation environments, NEXCOM's IoT gateways can interface with factory equipment and sensors to share the collected data. For computing devices in homes and BYOD in Wi-Fi hotspots and enterprise environments, NEXCOM's industrial Wi-Fi family includes access point solutions tailored for these environments. In addition, for IP camera devices in industrial verticals such as vehicle surveillance, NEXCOM provides high-speed 802.11ac industrial Wi-Fi solutions to enable the transfer and storage of high-bandwidth video streams.

Connectivity/ Network Layer

The network layer comprises of central management systems that can manage data, video and voice traffic generated from the device layer, as well as control user network access. It is the backbone layer providing the connectivity between the cloud and end devices. At this layer, NEXCOM offers centralized controller-based Wi-Fi solutions to provide wireless connectivity and centralized management of access points dispersed in large enterprise and industrial networks. For vertical applications such as public transportation, NEXCOM's industrial-grade Wi-Fi solutions with mesh networking and fast roaming features can

offer trusted and ongoing connectivity for vehicles on the move.

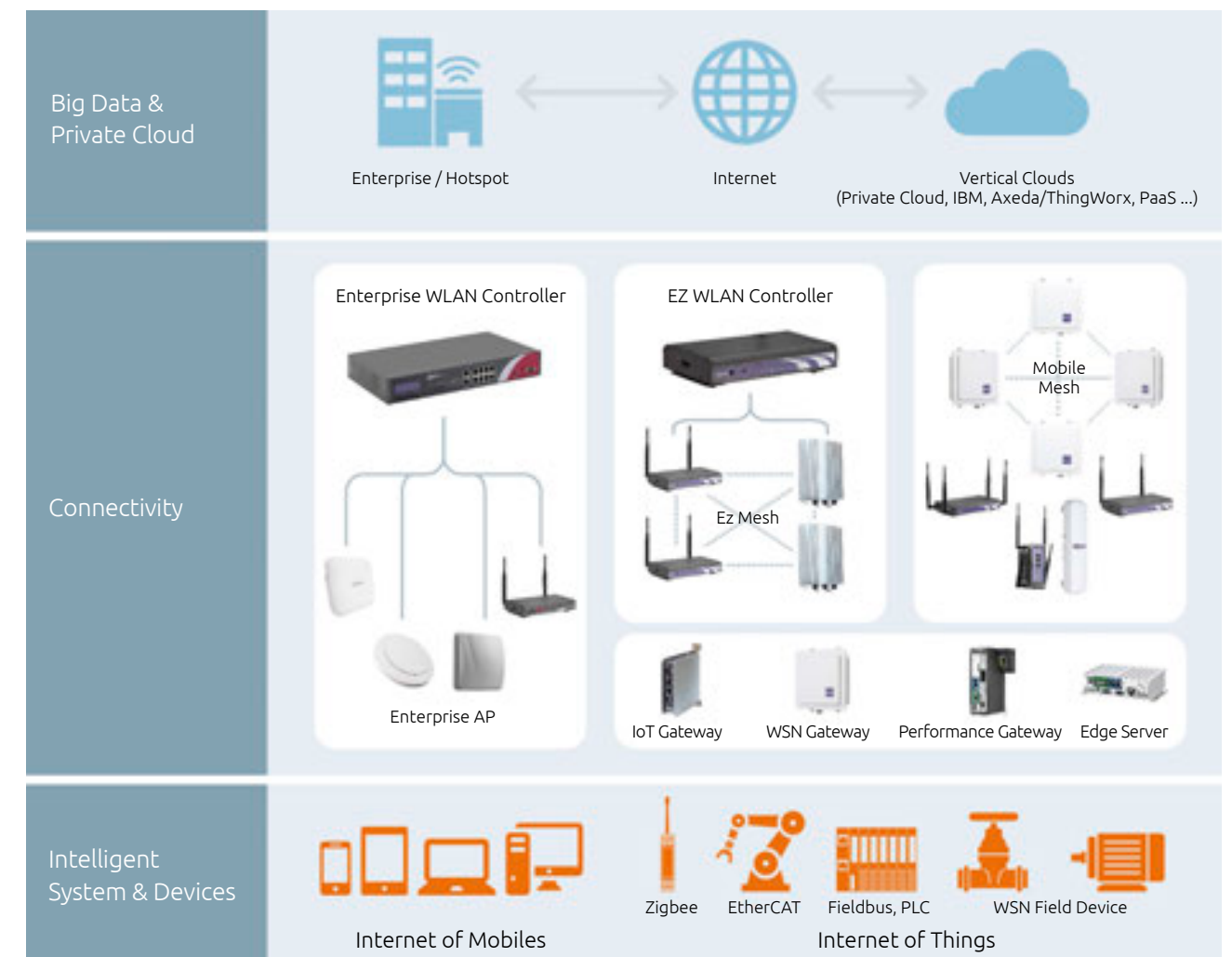
Private Cloud/ Application Layer

The final application layer consists of cloud platforms analyzing data extracted from the bottom layers and providing services essential for improved business operation. NEXCOM's family of industrial wireless products includes solutions that can support the function and capacity needs of different cloud applications such as big data analytics and real-time automation.

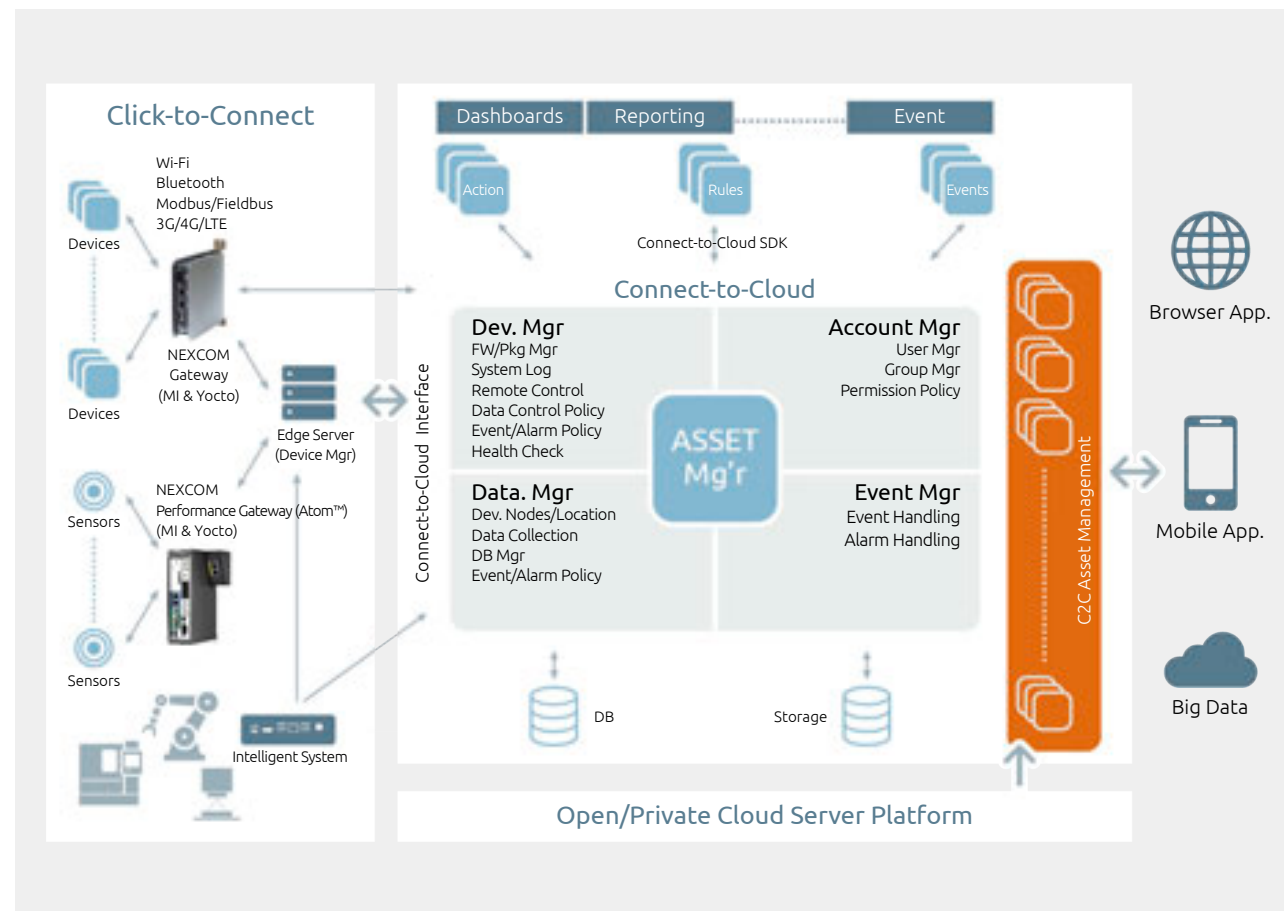
IOT Gateway Solution

Besides Intel® IoT Gateway technology-based BSP, NEXCOM also offers Yocto BSP solution as an option to support networks based on fieldbus protocols or wireless communication of 3G, Wi-Fi, and ZigBee.

- Modbus over UDP communication
- Dual LAN for multiple IP camera video transmissions
- IO interface for multiple atmosphere sensors
- Support wide area Wi-Fi Self-forming MESH for backhaul network
- Rugged design with conformal coating for strong coastal winds and salty environments



Industry IoT Cloud Solution



The lack of fully integrated IoT gateway solutions has challenged non-IT professionals without programming background like manufacturers in the implementation of IoT gateways. To facilitate the implementation process, NEXCOM edge servers installed with NEXCOM IoT Cloud Studio provide a web-based graphics user interface (GUI) for network provisioning, data handling policy implementation, event management, and NEXCOM IoT gateway management.

Featuring the click-and-connect command and pre-integrated third party application programming interfaces (API), NEXCOM IoT Cloud Studio enables manufacturers to easily configure IoT gateways and create granular data handling policies. Manufacturers can define such as physical connection interfaces, data collection intervals, network protocols, data parsing rules, and data receiving ends for every device connected to NEXCOM IoT gateways. For plants running over special protocols, NEXCOM IoT Cloud Studio includes add-on support for proprietary protocol expansion to allow NEXCOM IoT gateways to fulfill individual application requirements.

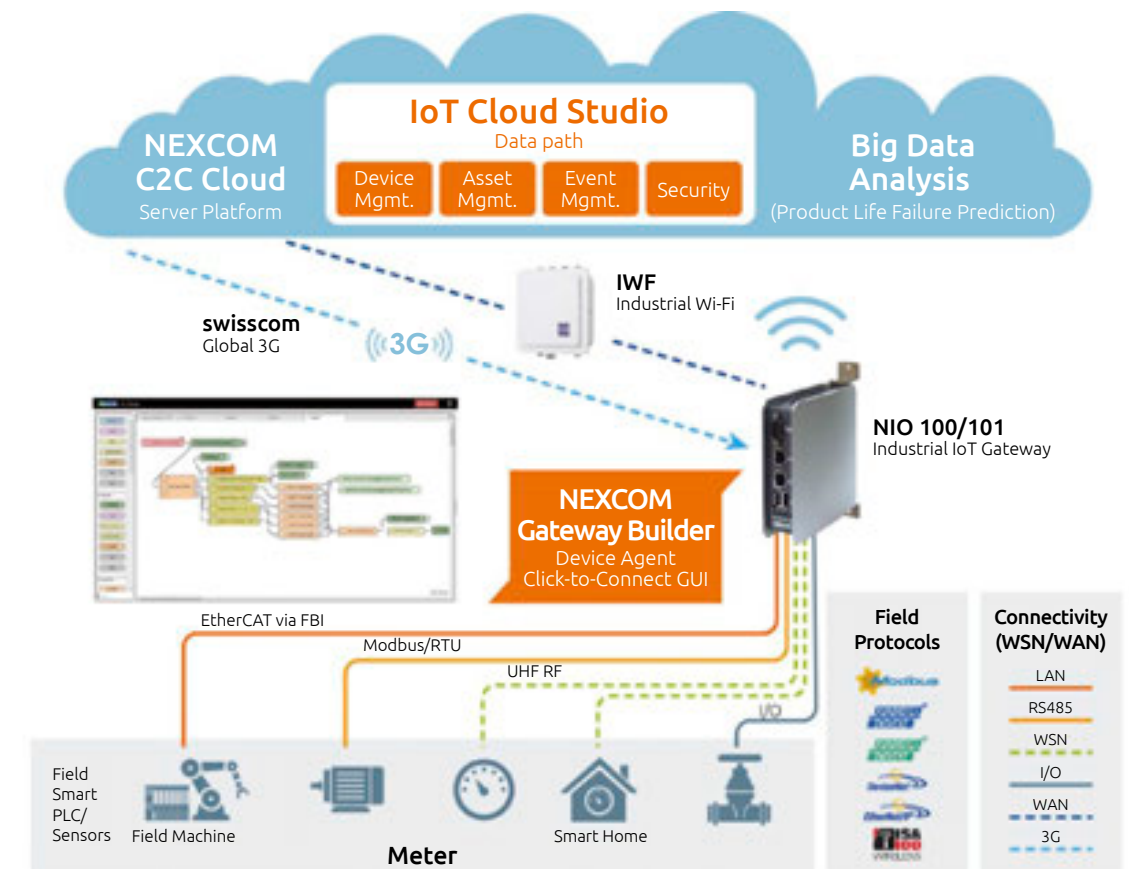
Once NEXCOM IoT gateways are installed and data handling policies are applied, NEXCOM edge servers will parse the

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 reformatted pieces to including private enterprise clouds, IBM Bluemix™, and Axeda® Machine Cloud Service.

Moreover, NEXCOM edge servers make possible preliminary data analysis on the edge and event management. Since NEXCOM edge servers can make sense of sensor readings, for instance a pH value, they 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 servers can also help distribute over-the-air update packages if NEXCOM IoT gateways need update.

The combined NEXCOM IoT gateway, NEXCOM edge server, and NEXCOM IoT Cloud Studio offer an easy-to-use IoT gateway solution that can shorten the implementation time from months to within an hour. As a result, manufacturers can immediately apply big data analysis to securing productivity and smoothing plant operation.

NEXCOM IoT Cloud Studio from Sensors to Cloud



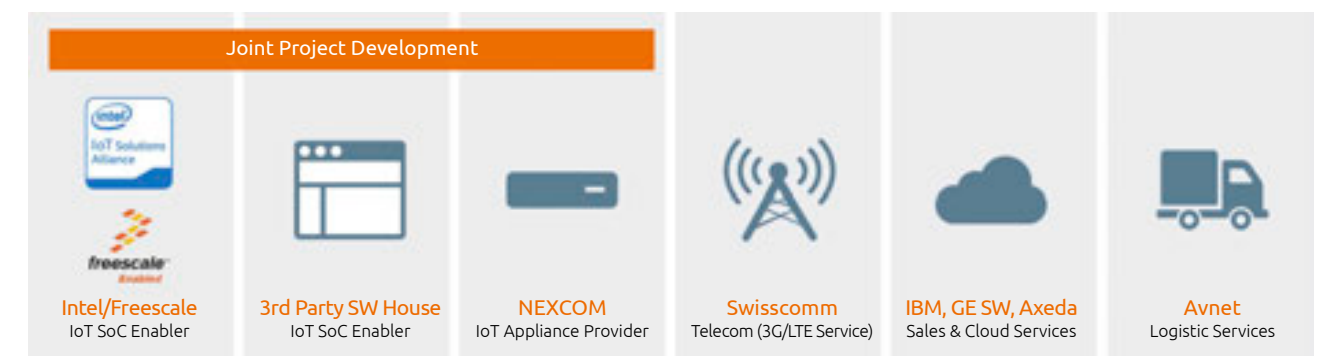
C2C GUI of IoT Cloud Studio Gateway Builder

Benefit

- Fast programming through drag and drop modules
- Leverage NEXCOM built-in BSP database
- Allow to import customized protocols



NEXCOM IoT Strategic Alliance Partners



Industry IoT Security



The HENGE™ 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, intrusion prevention and real-time alerts. Equipped with SSL VPN functions, the HENGE™ 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 capability, the HENGE™ industry firewall series is an ideal endpoint connectivity and security solution for industry automation, process control, energy and medical instrument remote management application.

Protect Critical Assets Against Cyber Threats

In recent years, rising demand in electricity intensively presses power plants to provide more renewable energy at lower

price. By leveraging existing IP infrastructure, power plants can maximize plant efficiency and reliability through automation, integration, and optimization of the entire plant.

The stateful firewall router can not only examine a packet more deeply, to eliminate the chance a packet pretending what it's not and possible damage, but also can keep track of incoming and outgoing traffic's connection states.



Increase Operational Efficiency

In a volatile world economy, market presents both challenges and opportunities for companies, such as setting up profitable growth, expanding into new territories, differentiation and more. Traditionally, machine control network for automation is a closed network with narrow bandwidth, which makes remote machine diagnosis more difficult. Now, thanks to the rapid decline in IP network cost. With remote-access solution, machine builder/SI can improve business operations by reducing emergency service calls, inefficient on-site technical services...and so on. Furthermore, the advantages include remote accessibility, easy installation and integration, and better scalability flexibility and cost-effectiveness.



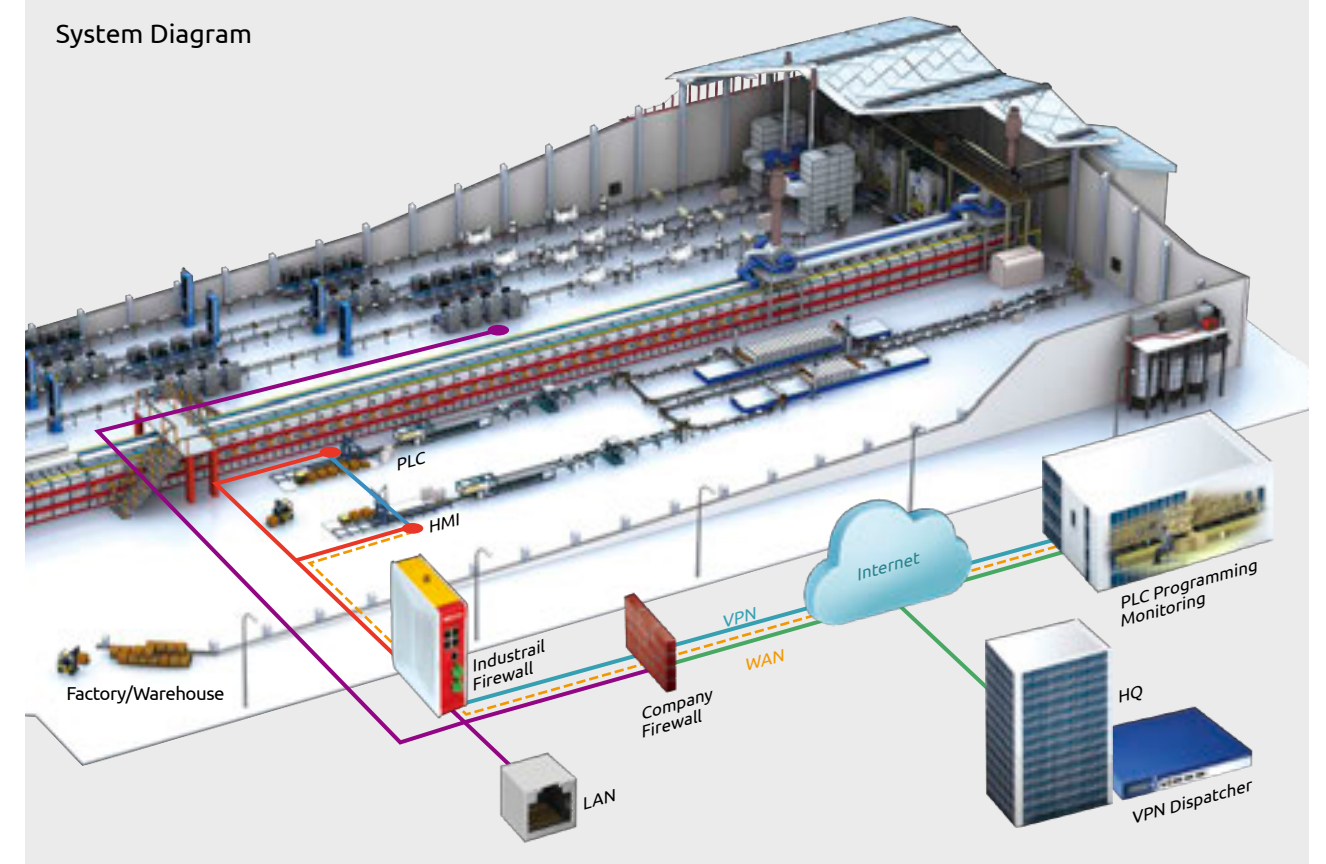
The HENGE™ industry firewall series is ideal for a variety of applications in secure data communication segment which requires stateful firewall/NAT, industry protocols filter, reliable and secure VPN tunnels, and easy installation and maintenance.



Connect Valuable Devices with Simplicity, Efficiency, and Complete Security

With the HENGE™ VPN Dispatcher, user can define and manage network connections with extremely flexibility, adapting them to suit specified needs, like create multiple and distributed networks using VPN gateway to gateway, enable remote user connections to specific network and define custom per-user profiles...and so on.

System Diagram



Solution Package

NEXCOM offers a complete solution package for IP-based factory automation systems including fieldbus-enabled PC-based controllers, SCADA/HMI systems, remote I/O, fieldbus concentrators/gateways. Both hardware and software solutions are available to offer customers a one-stop shopping solution.

NEXCOM's PC-based controller solution consists of NEXCOM Industrial Fieldbus Embedded (NIFE) series, which are a range of industrial fanless computers with built-in fieldbus interface for control and monitoring. With two options available, the NIFE series can be configured as an IEC 61131-3-compliant SoftPLC, or configured with customized fieldbus interface drivers that support customer-specific control programs.

In addition, the built-in fieldbus interface can be equipped with remote I/O modules, enabling the NIFE series to function as a control station. Various VIPA SLIO fieldbus coupler modules are also available to satisfy numerous fieldbus I/O requirements, including support for remote I/O modules from different vendors.

For SCADA/HMI applications, NEXCOM's solution consists of control panel PCs with pre-installed CitectSCADA software package and HMI panels from EXOR. Designed for system monitoring and management of control devices, NEXCOM's SCADA/HMI solution comes with fieldbus communication capability.



Inspection Solution
PC-based Control System



Water Treatment
PC-based Control System



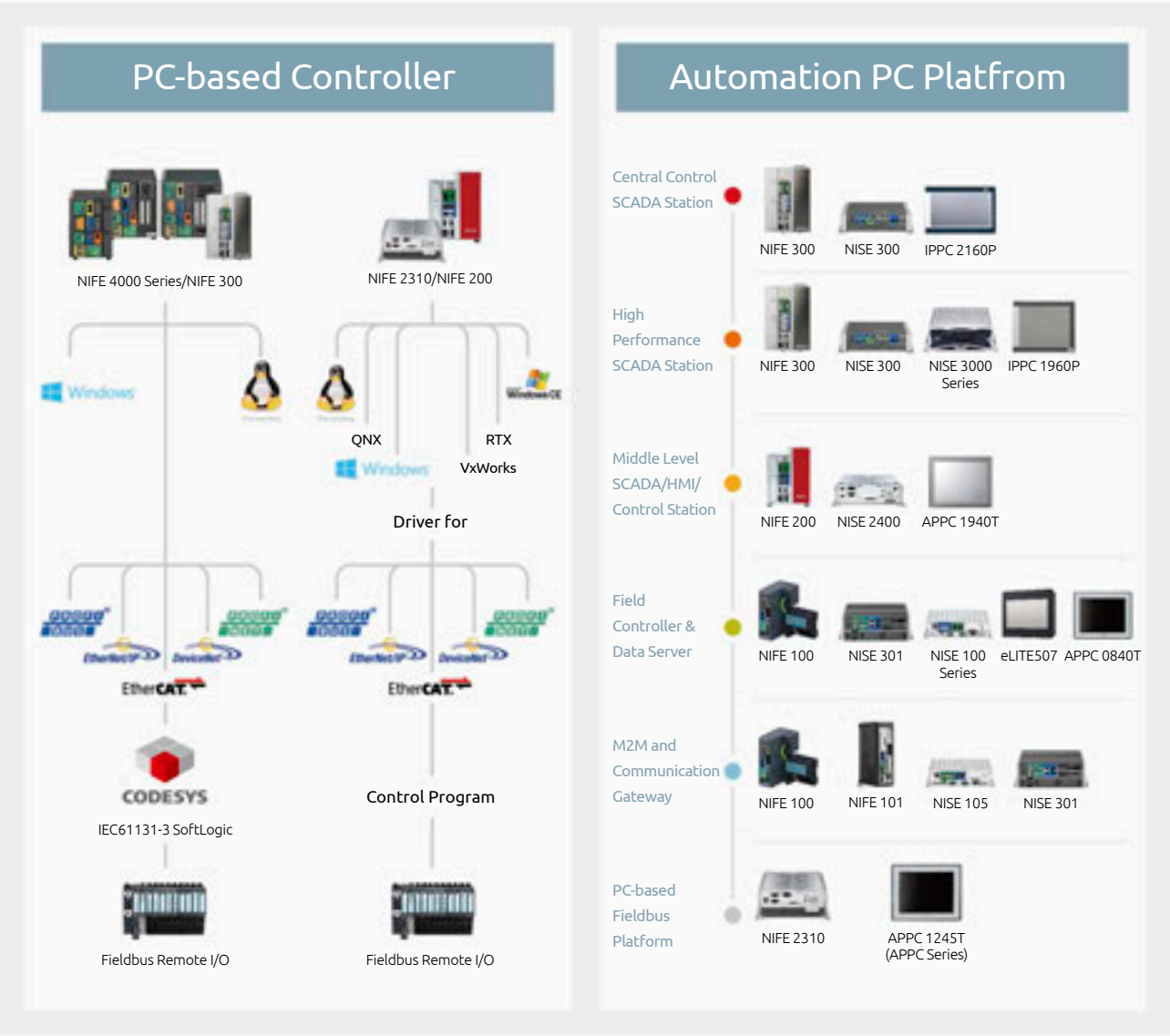
Fieldbus Concentrator Solution
PC-based Control System



HMI Solution
Machinery HMI



Steel Process & AOI Solution
WINCC & SIMATIC Integration



Optional Module kit



PLC & Remote I/O module as the option
FBI Fieldbus module kit as the option

Main Features

- Onboard Intel® Atom™ processor E3826 dual core 1.46GHz
- 1 x DVI display output or 1x VGA converted from DVI
- 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 NVRAM 1Mb
- Support -20 to 70 degree C extended operating temperature
- Typical 24VDC input with $\pm 20\%$ range

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 factory automation. NIFE 100 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 100 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 $\pm 20\%$ 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). NIFE 100 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 programming 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-pin DC input, Typical 24VDC input with $\pm 20\%$ 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 24VDC input with $\pm 20\%$ range
- 1 x optional 24V, 60W power adapter

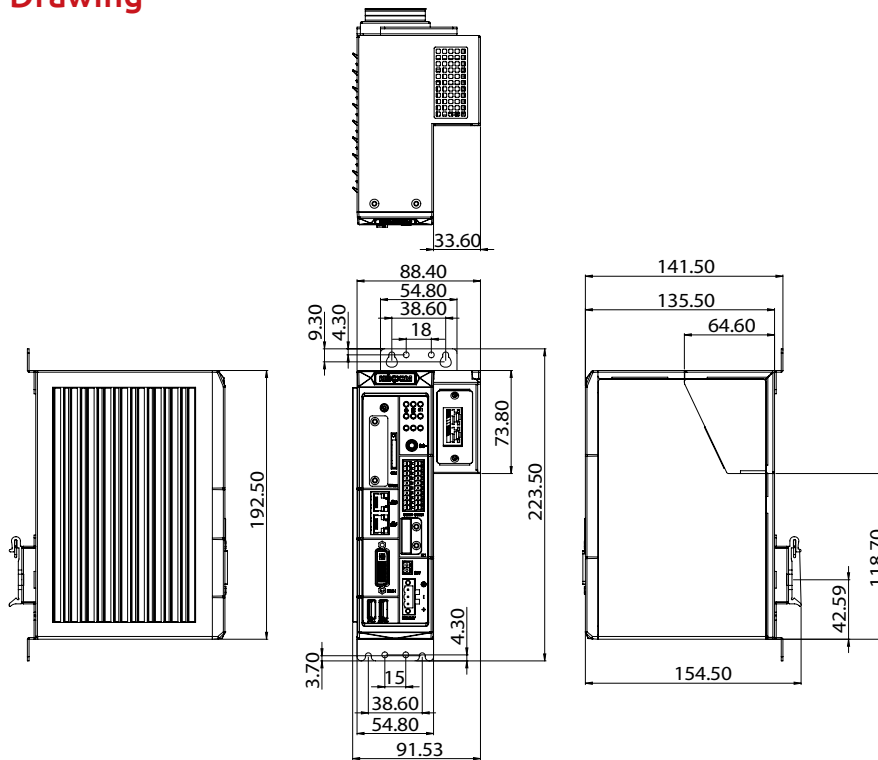
Dimensions

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

Ordering Information

- NIFE 100 (P/N: 10J70010000X0)**
Intel® Atom™ processor E3826 Dual Core fanless system
- 24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060024X00)**

Optional Fieldbus Kit

88J50090E05X0	DeviceNet Master Module Kit (w/ 15 cm Cable)	FBI90E-DNM KIT
88J50090E06X0	EtherCAT Master Module Kit (w/ 15 cm Cable)	FBI90E-ECM KIT
88J50090E07X0	EtherNet/IP Master Module Kit (w/ 15 cm Cable)	FBI90E-EP KIT
88J50090E08X0	PROFIBUS Master Module Kit (w/ 15 cm Cable)	FBI90E-PBM KIT
88J50090E09X0	PROFINET Master Module Kit (w/ 15 cm Cable)	FBI90E-PNM KIT
88J50090E14X0	SERCOS III Master Module Kit (w/ 15 cm Cable)	FBI90E-S3M KIT
88J50090E16X0	CANopen Master Module Kit (w/ 15 cm Cable)	FBI90E-COM KIT

Optional Wi-Fi/GSM Module

88J70010004X0	NIFE 100 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.HMWBWNB.R	WLAN+ Bluetooth Combo Module

Optional Din Rail Kit

88J70010000X0	NIFE 100/101 Series Din Rail kit	@Shock 20G
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Optional Module kit



PLC & Remote I/O module as the option
FBI Fieldbus module kit as the option

Main Features

- 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 NVRAM 1Mb
- Support -20 to 70 °C extended operating temperature
- Typical 24VDC input with $\pm 20\%$ 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 $\pm 20\%$ 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-pin DC input, Typical 24VDC input with $\pm 20\%$ 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 24VDC input with $\pm 20\%$ range with 1KV isolation protection
- 1 x optional 24V, 60W power adapter

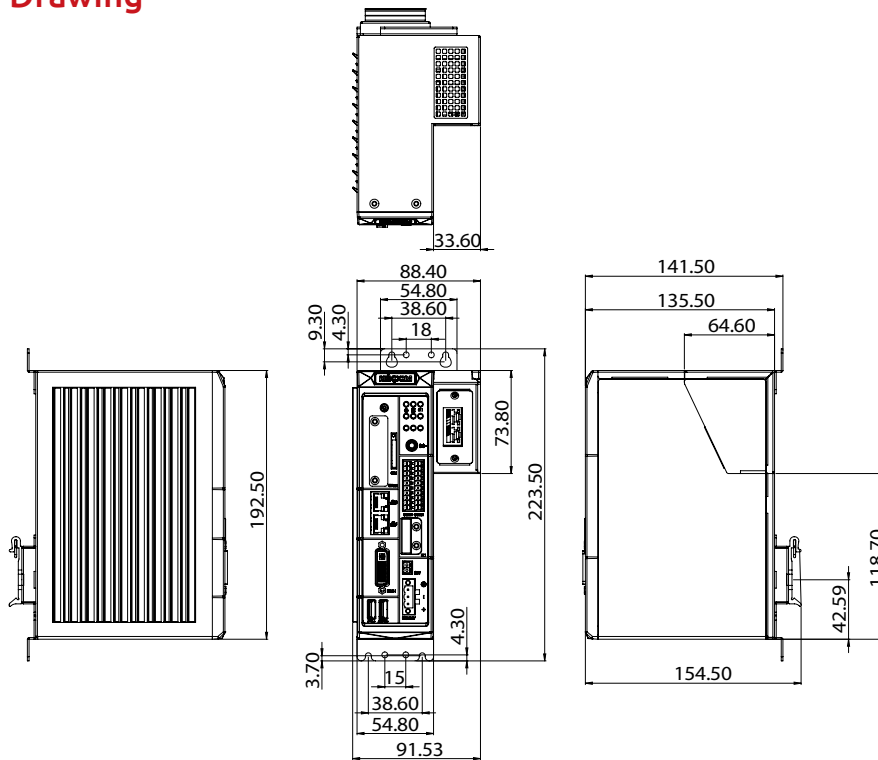
Dimensions

- 92mm (W) x 135.5mm (D) x 192.5mm (H)

Construction

- Aluminum and metal chassis with fanless design

Dimension Drawing



Environment

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

Certifications

- CE
- FCC Class A

Support OS

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

Ordering Information

- NIFE 100S (P/N: 10J70010001X0)**
Intel® Atom™ processor E3826 Dual Core Fanless System with 1KV Isolation Protection on the DC input
- 24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060024X00)**

Optional Fieldbus Kit

88J50090E05X0	DeviceNet Master Module Kit (w/ 15 cm Cable)	FBI90E-DNM KIT
88J50090E06X0	EtherCAT Master Module Kit (w/ 15 cm Cable)	FBI90E-ECM KIT
88J50090E07X0	EtherNet/IP Master Module Kit (w/ 15 cm Cable)	FBI90E-EP KIT
88J50090E08X0	PROFIBUS Master Module Kit (w/ 15 cm Cable)	FBI90E-PBM KIT
88J50090E09X0	PROFINET Master Module Kit (w/ 15 cm Cable)	FBI90E-PNM KIT
88J50090E14X0	SERCOS III Master Module Kit (w/ 15 cm Cable)	FBI90E-S3M KIT
88J50090E16X0	CANopen Master Module Kit (w/ 15 cm Cable)	FBI90E-COM KIT

Optional Wi-Fi/GSM Module

88J70010004X0	NIFE 100 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.HMWBWNB.R	WLAN+ Bluetooth Combo Module

Optional Din Rail Kit

88J70010000X0	NIFE 100/101 Series Din Rail kit	@Shock 20G
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Main Features

- 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 NVRAM 1Mb
- Support -20 to 70 °C extended operating temperature
- Typical 24VDC input with $\pm 20\%$ range

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed "Bay Trail-I"), NIFE 101 presents intelligent PC-based controller and Modbus RTU/TCP gateway for factory automation. NIFE 101 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 101 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 $\pm 20\%$ 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-pin DC input, Typical 24VDC input with $\pm 20\%$ 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 24VDC input with $\pm 20\%$ range
- 1 x optional 24V, 60W power adapter

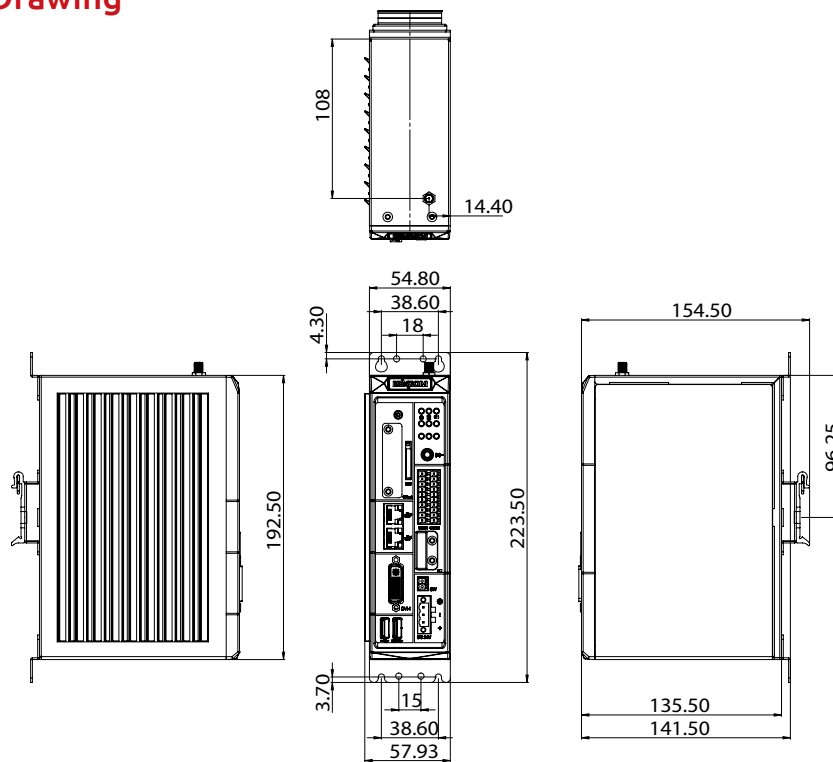
Dimensions

- 58mm (W) x 135.5mm (D) x 192.5mm (H)

Construction

- Aluminum and metal chassis with fanless design

Dimension Drawing



Environment

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

Certifications

- CE
- FCC Class A

Support OS

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

Ordering Information

- **NIFE 101 (P/N: 10J70010100X0)**
Intel® Atom™ processor E3826 Dual Core fanless system
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060024X00)**

Optional Wi-Fi/GSM Module

88J70010100X0	NIFE 101 3.5G Module Kit SIERRA: MC8705	-
88J70010101X0	NIFE 101 Wi-Fi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J70010102X0	NIFE 101 Wi-Fi Module Kit INTEL: 7260.HMWBWNB.R	WLAN+ BLUETOOTH COMBO MODULE

Optional Din Rail Kit

88J70010000X0	NIFE 100/101 Series Din Rail kit	@Shock 20G
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Main Features

- Onboard Intel® Atom™ processor J1900 quad core 2.0GHz
- Dual independent display from DP and HDMI
- 2 x Intel® I210AT GbE LAN ports support WoL, teaming and PXE
- 3 x USB 2.0 & 1 x USB 3.0
- 2 x RS232/422/485
- 2 x mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/fieldbus modules
- TOP access SD card socket
- Support -5°C to 55 °C operating temperature
- Typical 24VDC input with $\pm 20\%$ range

Product Overview

Powered by the latest generation of Intel® Atom™ processor J1900 (formerly codenamed "Bay Trail-D"), NIFE 200P2 presents intelligent PC-based controller and IOT gateway for factory automation. NIFE 200P2 supports up to 8G DDR3L memory and have several options on storage devices like SD, mSATA, HDD and SSD. The NIFE 200P2 support operating temperature from -5 up to 55 degree C with typical DC input 24V $\pm 20\%$ range. The NIFE 200P2 has high integration ability with optional mini-PCIe module and 2 x COM ports, which makes it a reliable connection with devices in factory automation applications (with optional PROFIBUS, PROFINET, DeviceNet, EtherCAT, EtherNet/IP, CANopen, SERCOS III 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® Atom™ 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 DP

I/O Interface-Front

- ATX power on/off switch
- LEDs for HDD LED, Battery 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 HDMI display output
- 1 x USB 3.0 (900mA per each)
- 3 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 COM3: 5v, COM4: 12v
- 1 x 3-pic DC input, Typical 24VDC input with $\pm 20\%$ range

Storage Device

- 1 x 2.5" SSD/HDD(SATA 2.0)
- 1 x SD card (Data storage only)
- 1 x mSATA

Expansion Slot

- Two PCI Expansion
 - Add-on card length: 176mm max.
 - Power consumption: 10W/ slot max.
- 1 x mini-PCIe socket for optional Wi-Fi/3.5G/4G LTE/Fieldbus modules

Power Requirement

- Typical 24VDC input with $\pm 20\%$ range
- 1 x optional 24V, 120W power adapter

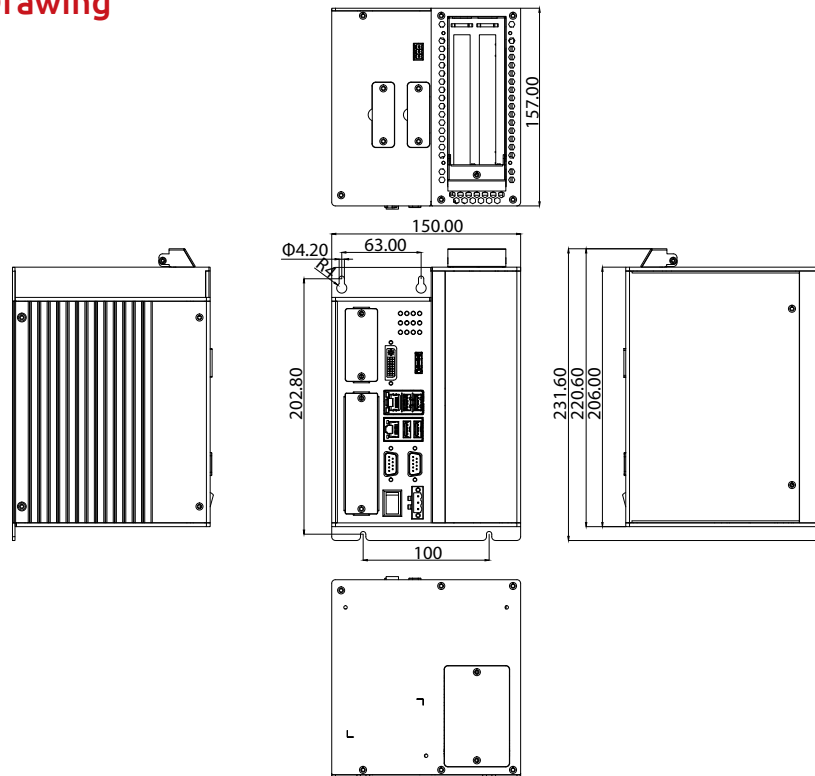
Dimensions

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

Construction

- Aluminum and metal chassis with fanless design

Dimension Drawing



Environment

- Operating temperature:
Ambient with air flow: -5°C to 55°C with industrial grade device
(According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
 - SSD: 20G, half sine, 11ms, IEC60068-2-27
 - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ CFast & SSD condition:
 - Random: 2Grms @ 5~500Hz, IEC60068-2-64
 - Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-6

Certifications

- CE
- FCC Class B

Support OS

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

Ordering Information

- **NIFE 200P2 (P/N: 10J70020001X0)**
Intel® Atom™ processor J1900 Quad Core 2.0GHz fanless system
- **24V, 120W AC/DC power adapter w/o power cord**
(P/N: TBC)



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 socket
- Support +9V to 36VDC input; support ATX power mode
- 1 x PCI expansion
- Support optional fieldbus module kit (PROFIBUS, PROFINET, DeviceNet, EtherCAT, EtherNet/IP master module)

Product Overview

Powered by Intel® Atom™ Dual Core D2550 Processor, NIFE 2310 is designed for industrial fieldbus enable system which can be utilized in most factory automation applications. The fanless NIFE 2310 is also designed to be operated in harsh environment with extended operating temperature feature. Targeting as gateway and SCADA control system, NIFE 2310 is designed with 4 x LAN ports, support WoL, LAN teaming and PXE functions. In addition, NIFE 2310 also provides 4 x COM, 6 x USB 2.0, dual independent display and super graphic performance for variety needs and one PCI expansion available. The NIFE 2310 is designed with universal concept to support any one of major fieldbus protocols without extra effort. With this high integration ability, the NIFE 2310 is ease of use, replacement or installation with PROFIBUS, PROFINET, DeviceNet, EtherCAT or EtherNet/IP protocol, mainly for communication protocol in factory automation.

Specifications

CPU Support

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

Main Memory

- 2 x DDR3 SO-DIMM sockets, support up to 4G DDR3-800/1066/1333 MHz SDRAM, un-buffered and non-ECC

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 1x Line-out
- SIM card socket
- CFast socket
- 1 x FieldBUS Port (for optional PROFIBUS, PROFINET, DeviceNet, EtherCAT, EtherNet/IP master kit)

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

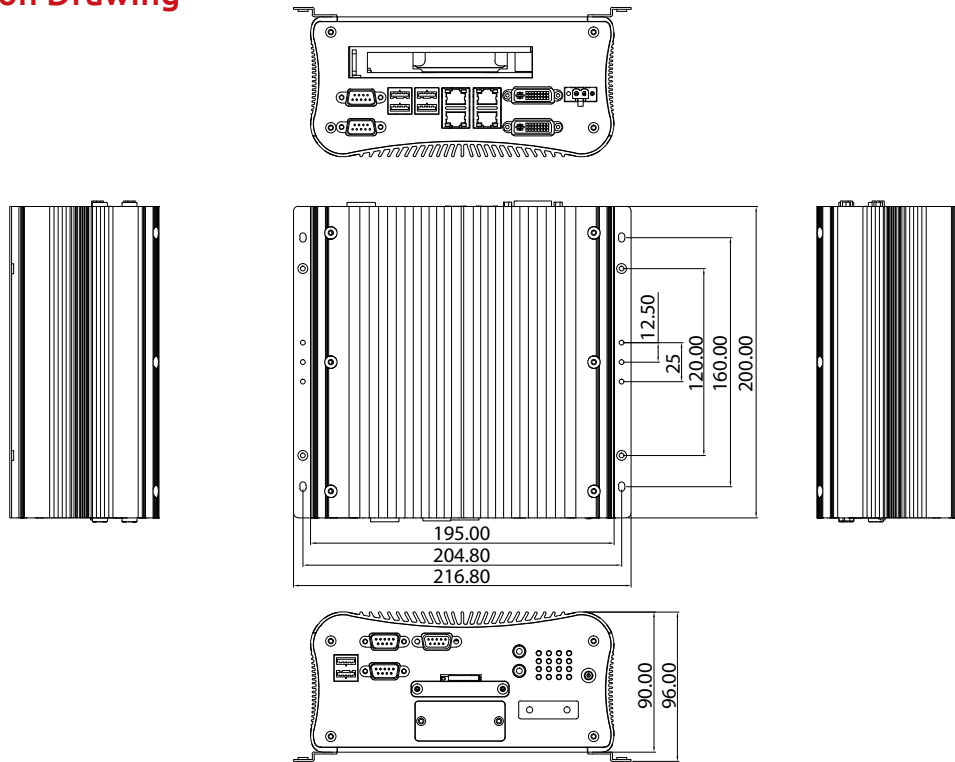
Device

- 1 x 2.5" SATA HDD driver bay
- 1 x External CFast socket

Optional Fieldbus Kit

- FBI90E-PBM: PROFIBUS Master card with cable and universal bracket (P/N: 88J50090E03X0)
- FBI90E-PNM: PROFINET Master card with cable and universal bracket (P/N: 88J50090E00X0)
- FBI90E-DNM: DeviceNet Master card with cable and universal bracket (P/N: 88J50090E04X0)
- FBI90E-EP: EtherNet/IP Master card with cable and universal bracket (P/N: 88J50090E01X0)
- FBI90E-ECM: EtherCAT Master card with cable and universal bracket (P/N: 88J50090E02X0)
- FBI90E-COM: CANopen Master Card with cable and universal bracket (P/N: 88J50090E13X0)
- FBI90E-S3M: SERCOS III Master Card with cable and universal bracket (P/N: 88J50090E15X0)

Dimension Drawing



Expansion

- NIFE 2310: One PCI Expansion
Add-on card length: 130mm 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")

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 32bits
- Windows 7 32bits
- WinCE 7.0

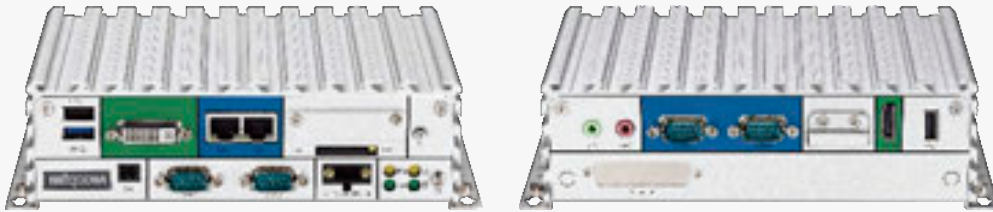
Ordering Information

Barebone

- **NIFE 2310 (P/N: A0J70231000X0)**
Intel® Atom™ Dual Core D2550 Fanless System with DDR3 4 G memory and Universal Fieldbus bracket and one PCI expansion
- **19V 65W AC/DC power adapter w/o power cord (P/N: 7400065009X00)**

Optional Fieldbus Kit

88J50090E00X0	FBI90E-PNM KIT	PROFINET Master Module Kit
88J50090E01X0	FBI90E-EP KIT	EtherNet/IP Master Module Kit
88J50090E02X0	FBI90E-ECM KIT	EtherCAT Master Module Kit
88J50090E03X0	FBI90E-PBM KIT	PROFIBUS Master Module Kit
88J50090E04X0	FBI90E-DNM KIT	DeviceNet Master Module Kit
88J50090E13X0	FBI90E-COM KIT	CANopen Master Module Kit
88J50090E15X0	FBI90E-S3M KIT	SERCOS III Master Module Kit



Main Features

- Onboard Intel® Atom™ processor E3826 dual core, 1.46GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT 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-H"), 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. NISE 105 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 Programming LEDs
- 1 x External CFast socket
- 1 x SIM Card holder
- 2 x Intel® I210IT GbE LAN Ports, support Wake on LAN, 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

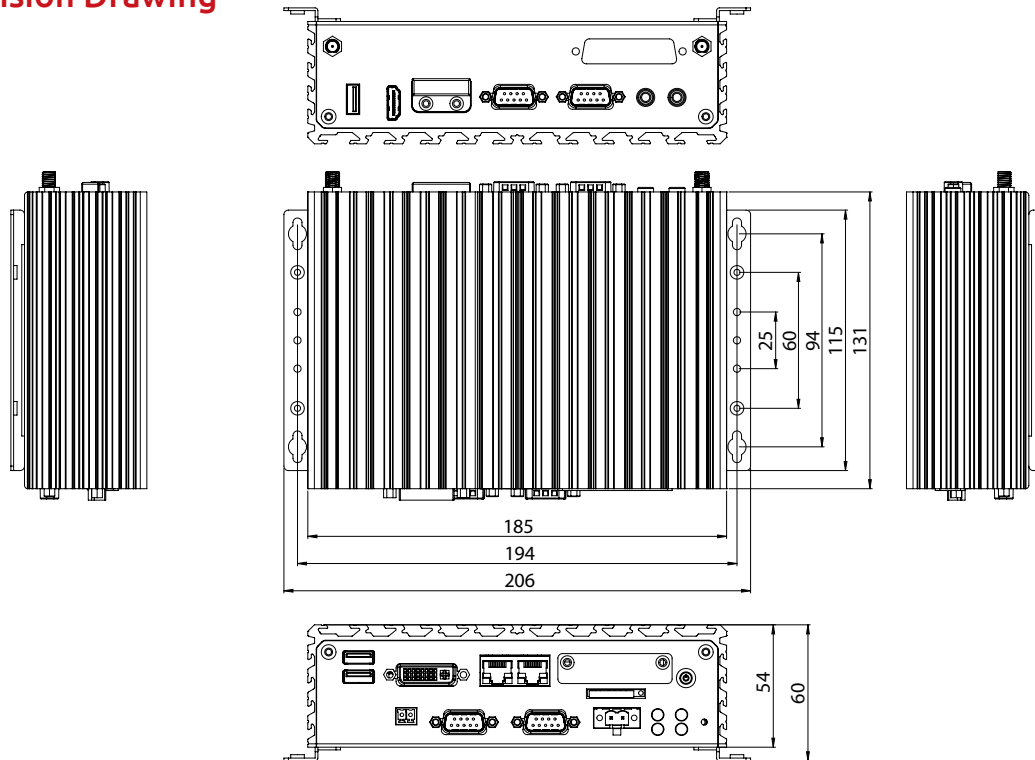
I/O Interface - Rear

- 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

I/O Interface - Internal

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

Dimension Drawing



Storage Device

- 1 x CFast (SATA 2.0)
- 1 x 2.5" HDD (SATA 2.0)
- 1Mb NVRAM (on NISE 105A Only)

Expansion Slot

- 1 x mini-PCIe socket for optional Wi-Fi/3.5G/Hilscher automation modules

Power Requirement

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

Support OS

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

Dimensions

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

Construction

- Aluminum and Metal Chassis with fanless design

Environment

- Operating Temperature:
Ambient with air flow: -20°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)**



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 & PXE

Product Overview

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

Specifications

CPU Support

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

Main Memory

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

Display Option

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

Front I/O Interface

- ATX power on/off switch
- 1 x Remote Power ON/OFF Switch
- 1 x Power Status/1 x HDD Access LEDs
- 2 x USB 3.0 ports (Blue Color, 900mA per each)
- 2 x USB 2.0 Ports (500mA per each)

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

Internal I/O Interface

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

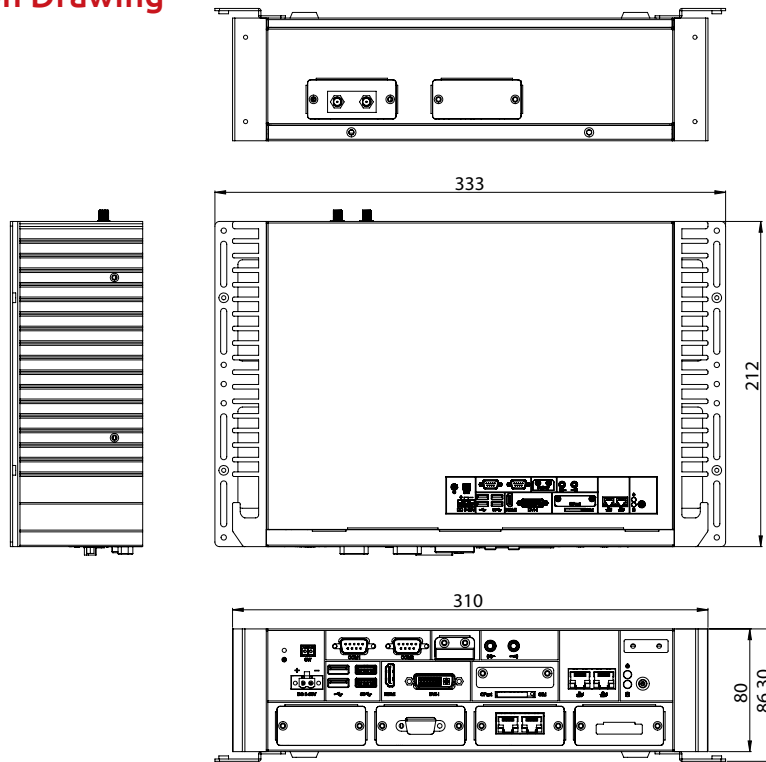
Storage Device

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

Expansion Slot

- 1 x mini-PCIe socket for GSM/Wi-Fi
- 1 x mini-PCIe socket for mSATA
- 4 x mini-PCIe socket for expansion modules

Dimension Drawing



Power Requirement

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

Dimensions

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

Construction

- Aluminum and Metal Chassis with fanless design

Environment

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

Certifications

- CE/FCC Class A

OS Support Lists

- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- NISE 300 System (P/N: 10J00030000X0)
- 19V, 120W AC to DC power adapter w/o power core (P/N:7400120013X00)

Optional Fieldbus Kit

88J50090E00X0	FBI90E-PNM KIT (w/ 25 cm Cable)	PROFINET Master Module Kit
88J50090E01X0	FBI90E-EP KIT (w/ 25 cm Cable)	EtherNet/IP Master Module Kit
88J50090E02X0	FBI90E-ECM KIT (w/ 25 cm Cable)	EtherCAT Master Module Kit
88J50090E03X0	FBI90E-PBM KIT (w/ 25 cm Cable)	PROFIBUS Master Module Kit
88J50090E04X0	FBI90E-DNM KIT (w/ 25 cm Cable)	DeviceNet Master Module Kit
88J50090E13X0	FBI90E-COM KIT (w/ 25 cm Cable)	CANopen Master Module Kit
88J50090E15X0	FBI90E-S3M KIT (w/ 25 cm Cable)	SERCOS III Master Module Kit

Optional Module Kit

88J00030004X0	NISE 300 3.5G Module Kit SIERRA: MC8090(SMS)	US
88J00030009X0	NISE 300 3.5G Module Kit SIERRA: MC8092(SMS)	EU
88J00030009X0	NISE 300 Wi-Fi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT, HMC
88J00030002X0	NISE 300 Wi-Fi Module Kit INTEL: 7260.HMWBWNB.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

Optional Module kit



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 \pm 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 C-Fast, HDD, or SSD. NISE 301 supports 24V \pm 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, NISE 301 is capable of transforming into factory intelligent system for factory automation applications (with optional PROFIBUS, PROFINET, DeviceNet, EtherCAT, EtherNet/IP master/slave 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 C-Fast 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® GbE LAN ports (I210AT); Support WoL, Teaming and PXE
- 2 x Serial Ports (2x RS232/422/485 with auto flow control)
- 2 x Antenna Holes for Wi-Fi/GSM
- 1 x External C-Fast 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/slave 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 \pm 20%
- Power adapter: Optional AC to DC power adapter (+24VDC, 60W)

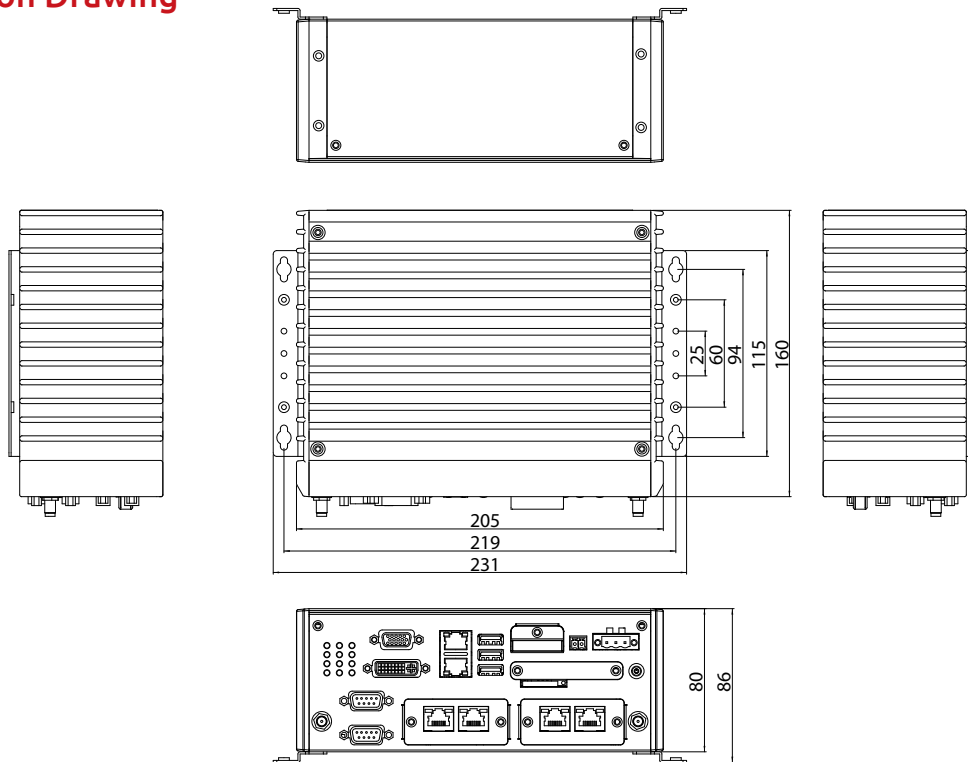
Dimensions

- 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 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- NISE 301 System (P/N: 10J00030100X0)
- 24V, 60W AC to DC power adapter w/o power core (P/N: TBD)

Optional Fieldbus Kit

88J50090E05X0	FBI90E-DNM KIT (w/ 15 cm Cable)	DeviceNet Master Module Kit
88J50090E06X0	FBI90E-ECM KIT (w/ 15 cm Cable)	EtherCAT Master Module Kit
88J50090E07X0	FBI90E-EP KIT (w/ 15 cm Cable)	EtherNet/IP Master Module Kit
88J50090E08X0	FBI90E-PBM KIT (w/ 15 cm Cable)	PROFIBUS Master Module Kit
88J50090E09X0	FBI90E-PNM KIT (w/ 15 cm Cable)	PROFINET Master Module Kit
88J50090E14X0	FBI90E-S3M KIT w/ 15 cm Cable)	SERCOS III Master Module Kit
88J50090E16X0	FBI90E-COM KIT (w/ 15 cm Cable)	CANopen Master Module Kit

Optional Module Kit

88J00030110X0	NISE 301 3.5G Module Kit TELIT: HE910-G	5 Bands UMTS/HSPA w/ GPS and voice data
88J00030100X0	NISE 301 Wi-Fi Module Kit INTEL: 7260.HMWWB.R	Dual Band Wireless-AC 7260, 2x2 AC+BT,HMC
88J00030101X0	NISE 301 Wi-Fi Module Kit INTEL: 7260.HMWBWNB.R	WLAN+ BLUETOOTH COMBO MODULE
88JK0ECOM02X0	NISKECOM3 UNIVERSAL KIT (w/ 15 cm DB26 cable)	mini-PCIe to 4xCOM Module W/ ISOLATION RS232/422/485 Auto Flow Control w/ Universal Bracket
88JK0ECOM03X0	NISKECOM3 UNIVERSAL KIT (w/ 25 cm DB26 cable)	mini-PCIe to 4xCOM Module W/ ISOLATION RS232/422/485 Auto Flow Control w/ Universal Bracket
88JK0ECOM06X0	NISKECOM4 UNIVERSAL KIT (w/ 15 cm DB26 cable)	mini-PCIe to 4 PORT RS232 MODULE w/ Universal Bracket



Main Features

- Onboard Intel® Atom™ processor E3827 dual core, 1.75GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT GbE LAN ports support WoL, teaming and PXE
- 4 x USB 2.0 & 1 x USB 3.0
- 4 x RS232 & 2 x RS2422/485 with auto flow control
- 2 x mini-PCIe socket for optional mSATA/Wi-Fi/4G LTE/3.5G/fieldbus modules
- Support -20 to 70 degrees celsius extended operating temperature
- Support 9-30VDC 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 C-Fast, HDD, SSD or mSATA. The NISE 2400 comes with 1 x HDMI, 1 x DVI-I, 2 x Gigabit LAN ports, 2x COM port with RS232/422/485 and 5x USB ports including one USB 3.0. NISE 2400 supports 9 to 30VDC input, and can be operated in an extended operating temperature range from -20 to 70 degrees Celsius. This Fanless system supports two mini-PCIe modules, which can be an excellent platform for IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and factory automation applications with optional fieldbus module. Its expansion versatility makes NISE 2400 a perfect platform for factory automation and M2M intelligent computing applications.

Specifications

CPU Support

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

Main Memory

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

Display Option

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

Front I/O Interface

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

I/O Interface - Rear

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

I/O Interface - Internal

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

Storage Device

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

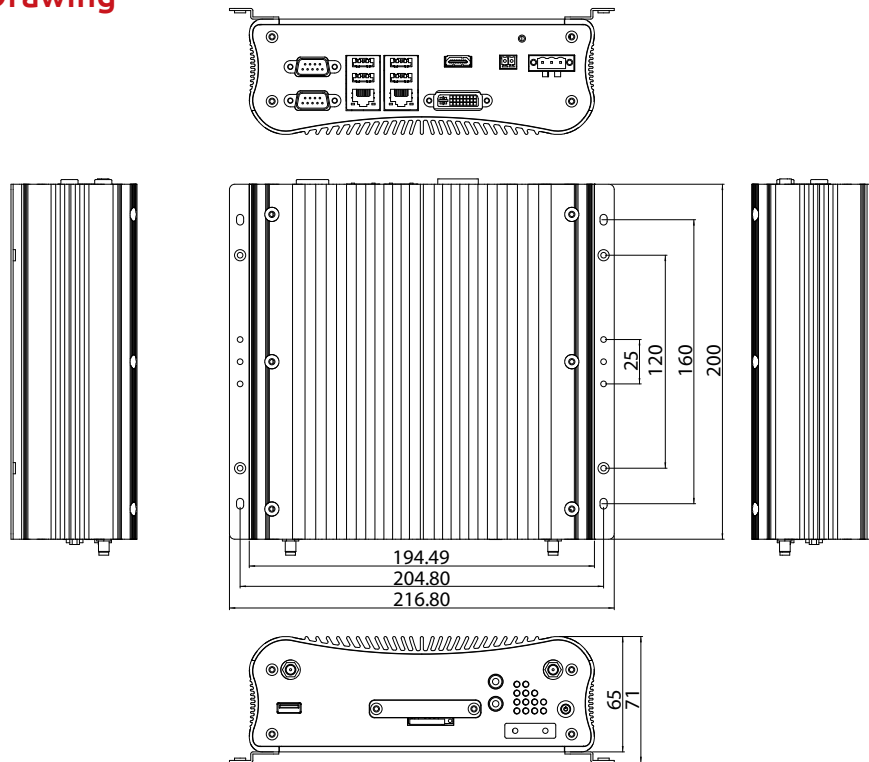
Expansion Slot

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

Power Requirement

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

Dimension Drawing



Dimensions

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

Construction

- Aluminum and metal chassis with fanless design

Environment

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

Certifications

- CE
- FCC Class A

OS Support Lists

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

Ordering Information

Barebone

- **NISE 2400 (P/N: 10J00240000X0)**
Onboard Intel® Atom™ processor E3827 Dual Core, 1.75GHz
- **24V 60W AC/DC power adapter w/o power cord (P/N: 7400060024X00)**



Main Features

- Onboard Intel® Atom™ processor E3827 dual core, 1.75GHz
- Dual independent display from DVI-I and HDMI
- 2 x Intel® I210IT GbE LAN ports support WoL, teaming and PXE
- 4 x USB 2.0 & 1 x USB 3.0
- 2 x mini-PCIe socket for optional mSATA/Wi-Fi/4G LTE/3.5G
- 4 x RS232 & 2 x RS2422/485 with auto flow control
- Support -20 to 70 degrees celsius extended operating temperature
- Support 9 to 30VDC 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 C-Fast, HDD, SSD or mSATA. The NISE 2410/2410E comes with 1 x HDMI, 1 x DVI-I, 2 x Gigabit LAN ports, 2x COM port with RS232/422/485 and 5x USB ports including one USB 3.0. NISE 2410/2410E supports 9 to 30VDC input, and can be operated in an extended operating temperature range from -20 to 70 degrees Celsius. This Fanless system supports two mini-PCIe modules, which can be an excellent platform for IOT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module) and factory automation applications with optional fieldbus module. Its expansion versatility makes NISE 2400 a perfect platform for factory automation and M2M intelligent computing applications.

Specifications

CPU Support

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

Main Memory

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

Display Option

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

Front I/O Interface

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

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

I/O Interface - Rear

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

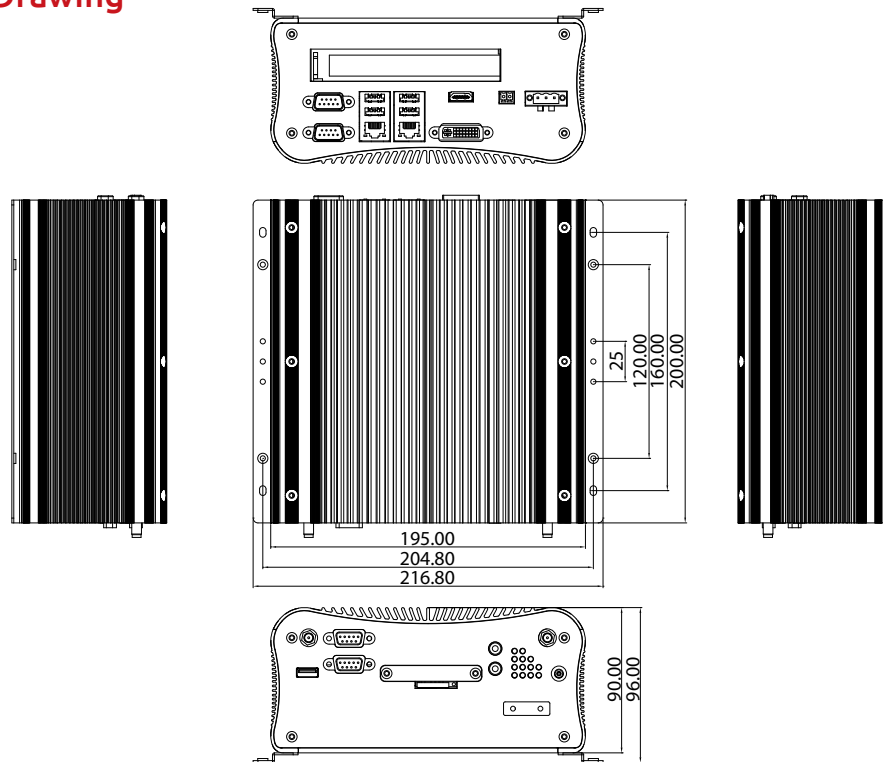
I/O Interface - Internal

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

Storage Device

- 1 x CFast card socket (SATA 2.0)
- 1 x 2.5" HDD space (SATA 2.0)
- 1 x mSATA from mini-PCI socket if SATA HDD is not installed

Dimension Drawing



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 PCIe x1 speed & signal)
 - Add-on card length: 176mm max.
 - Power consumption: 10W/ slot max.

Power Requirement

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

Dimensions

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

Construction

- Aluminum and metal chassis with fanless design

Environment

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

Certifications

- CE
- FCC Class A

OS Support Lists

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

Ordering Information

♦ 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)



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 & 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 PCIe4 expansion

Product Overview

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

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

Specifications

CPU Support

- Support 3rd Generation Intel® Core™ i7/i5/i3 rPGA Socket Type Processor
 - Core™ i7-3632QM, Quad Core, 3.2GHz, 6M Cache
 - Core™ i5-3610ME, Dual Core, 2.7GHz, 3M Cache
 - Core™ i3-3120ME, Dual Core, 2.4GHz, 3M Cache
 - Support Three Independent Display with above processors
- Support 2nd generation Intel® Core™ i5/i3 rPGA Socket Type Processor
 - Core™ i5-2510E, Dual Core, 2.5GHz, 3M Cache
 - Celeron® B810, Dual Core, 1.6GHz, 2M Cache
 - Support Dual Independent Display with above processors

Main Memory

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

Display Option

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

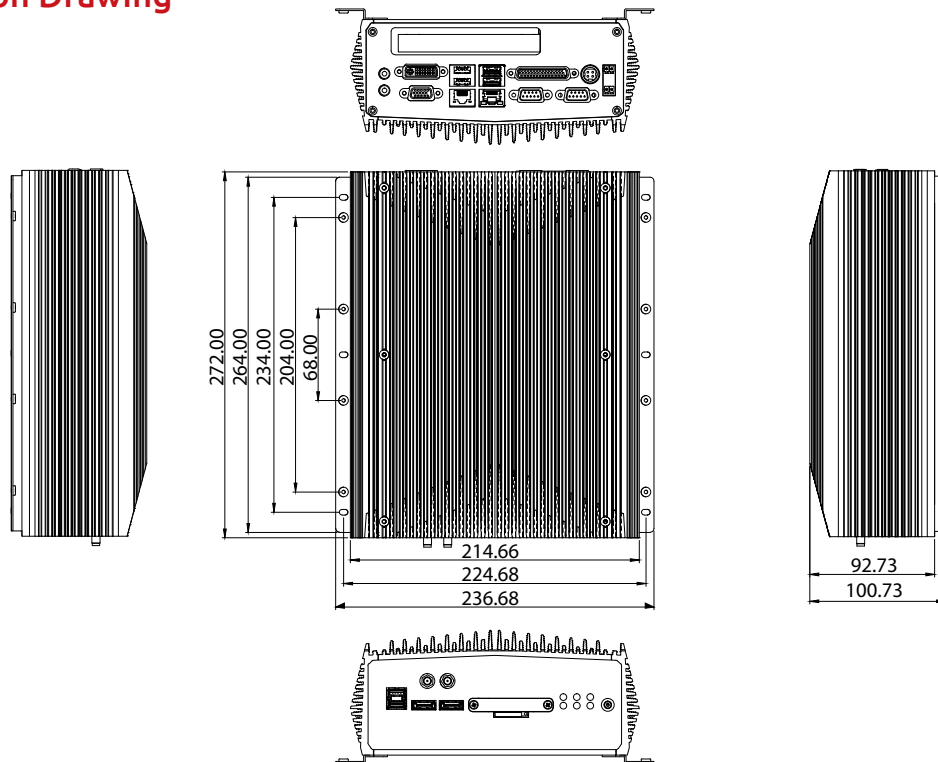
I/O Interface-Front

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

I/O Interface-Rear

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

Dimension Drawing



Storage Device

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

Expansion Slot

- One PCIe4 Expansion Slot
 - Add-on card length: 169mm max.
 - Power consumption: 10W/ slot max.
- 1 x mini-PCIe socket (support optional Wi-Fi or 3.5G module)

Power Requirements

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

Dimensions

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

Construction

- Aluminum Chassis with fanless design

Environment

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

Certifications

- CE approval
- FCC Class A
- UL

OS Support Lists

- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3600E (P/N: 10J00360000X0)**
3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with one PCIe4 Expansion
- **NISE 3600E2 (P/N: 10J00360001X2)**
3rd Generation Intel® Core™ i5/i3 rPGA Fanless System with two PCIe4 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 PCIe4 Expansion
- **19V, 120W AC/DC power adapter w/o power core (P/N: 7410120002X00)**



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 PCIe4 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 traffic control, overspeed monitoring, real time update and ePlice. More, NISE 3640E series support 2 x RS232/422/485, 4 x RS232, 2 x USB 3.0, 2 x USB 2.0, 1 x CFast socket, 1 x SIM card socket, and 1 x internal mini-PCIe socket supports optional Wi-Fi or 3.5G module.

Leveraging a reliable fanless, durable cable-free design and wide operating temperature, NISE 3640E series can be exhibited in harsh environments, where severe temperature variation and vibration may exist.

Specifications

CPU Support

- Onboard BGA 3rd generation Intel® Core™ i7/i5/i3 processors
 - Core™ i7-3517UE, Dual Core, 1.7GHz, 4M Cache (Onboard Default)
 - Core™ i5-3437U, Dual Core, 2.9GHz, 3M Cache
 - Core™ i3-3217UE, Dual Core, 1.6GHz, 3M Cache
 - Celeron 1047UE, Dual Core, 1.4GHz, 2M Cache
- Mobile Intel® QM77 PCH

Main Memory

- On-board 2 x DDR3/DDR3L SO-DIMM, supports up to 8GB DDR3/DDR3L 1333/1600 SDRAM, with un-buffered and non-ECC
- Pre-install 4G Industrial Grade Memory as the manufacture configuration for shipment

Display Option

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

I/O Interface-Front

- ATX power on/off switch
- HDD access/Power status/LAN status LEDs
- 2 x USB 3.0 (Blue color)

- 2 x USB 2.0
- 2 x Display Port (Can be converted to DVI-D or HDMI via active cables)
- 1 x CFast socket
- 1 x SIM card socket
- 2 x Antenna holes

I/O Interface-Rear

- 2 x DB9 for RS232/422/485
- 1 x DB44 for 4 x RS232
- 4 x Intel® 82574IT GbE LAN ports; Support WoL, teaming and PXE
- 1 x DB15 VGA port
- 1 x DVI-D
- 1 x Line-out and 1 x Mic-in
- 2-pin Remote Power on/off switch
- +24VDC Input

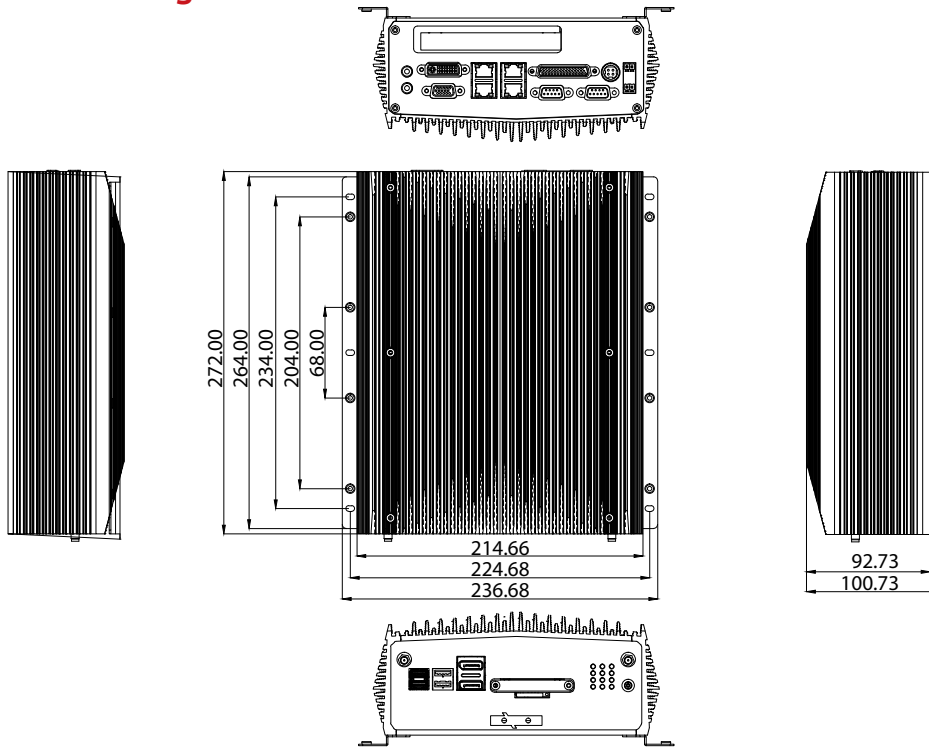
Storage Device

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

Expansion Slot

- One PCIe4 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)

Dimension Drawing



Power Requirements

- ATX Power mode
- Support +24VDC Input
- Optional power adapter

Dimensions

- 215mm (W) x 272mm (D) x 93mm (H) without wall mount bracket (8.5" x 10.7" x 3.7")

Construction

- Aluminum Chassis with fanless design

Environment

- Operating temperature:
Ambient with air flow: -20°C to 60°C with industrial grade device (According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
Ambient with air flow: -20°C to 70°C with industrial grade SSD
- Storage temperature: -30°C to 85°C
- Relative humidity: 95% at 40°C
- Shock protection:
 - HDD: 20G, half sine, 11ms, IEC60068-2-27
 - CFast: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ HDD Condition
 - Random: 0.5Grms @ 5~500Hz according to IEC60068-2-64
 - Sinusoidal: 0.5Grms @ 5~500Hz according to IEC60068-2-6

Certifications

- CE approval
- FCC Class A

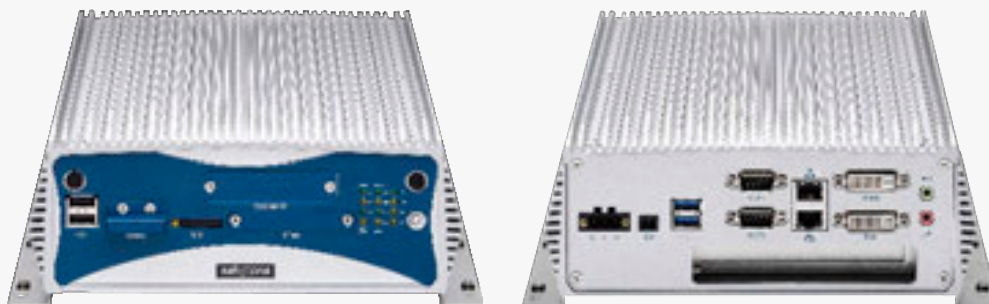
OS Support Lists

- Windows XP 32bits and 64bits
- Windows 7 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3640E (P/N: 10J00364000X0)**
3rd Generation Intel® Core™ i7 Fanless System with One PCIe4 Expansion
- **NISE 3640E2 (P/N: 10J00364001X0)**
3rd Generation Intel® Core™ i7 Fanless System with Two PCIe4 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 PCIe4 Expansion
- **24V, 120W AC/DC power adapter w/o power cord (P/N: 7400120001X00)**



Main Features

- Onboard Intel® Core™ i7 processor (i7-4650U) Haswell-U platform, 22nm, dual core with HD5000 graphical power
- 1 x DVI-I, 1 x DVI-D with three independent display support
- 2 x Intel® GbE LAN ports; support WoL, teaming & PXE
- 2 x USB 3.0 & 2 x USB 2.0
- 2 x RS232/422/485 with auto flow control
- 1 x internal mini-PCIe socket support optional mSATA or fieldbus module (by jumper switch)
- 1 x internal mini-PCIe socket support optional mSATA or fieldbus module
- 1 x CFAST socket
- Support external RTC battery holder
- Support 24VDC input
- Support 4th or 5th generation Intel® Core™ BGA processor

Product Overview

With the 4th or 5th generation Intel® Core™ BGA processor, NISE 3720E immediately becomes a remarkable model in the NISE family line. By comparing to the previous Ivy-Bridge mobile platform, the 4th or 5th generation mobile platform increases computing power up to 10%, and the graphical performance also increases up to 30% with Intel® HD graphics 5000. The mobile processor features ultra low power consumption (15W), and the NISE 3720E system is housing in a ruggedized design with aluminum chassis. This combination allows NISE 3720E to offer great computing/graphical power and able to run from -20 to 60 Celsius Degree.

NISE 3720E supports up to 8G DDR3L memory and provides SATAIII/CFAST interfaces for storage expansions. For network connectivity, NISE 3720E supports 2x Intel® I210-IT LAN ports onboard for dual network teaming functions. For power input range, NISE 3720E supports +24VDC Input with $\pm 20\%$ and this is significant design improvement for allowing more voltage fluctuation of DC power source.

In addition of the design improvement, NISE 3720E is designed to support PCI, PCIe4 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/PCIe4 expansion, the user can adapt suitable PCI and PCIe4 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 5th generation Intel® Core™ i7/i3/i5 MCP processors
 - Core™ i7-5650U, Dual Core, 3.2GHz, 4M Cache
 - Core™ i5-5350U, Dual Core, 2.9GHz, 3M Cache
 - Core™ i3-5010U, Dual Core, 2.1GHz, 3M Cache

Main Memory

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

Display Option

- Support Dual Independent Display
 - DVI-I (DVI-D + VGA)
 - DVI-D

I/O Interface-Front

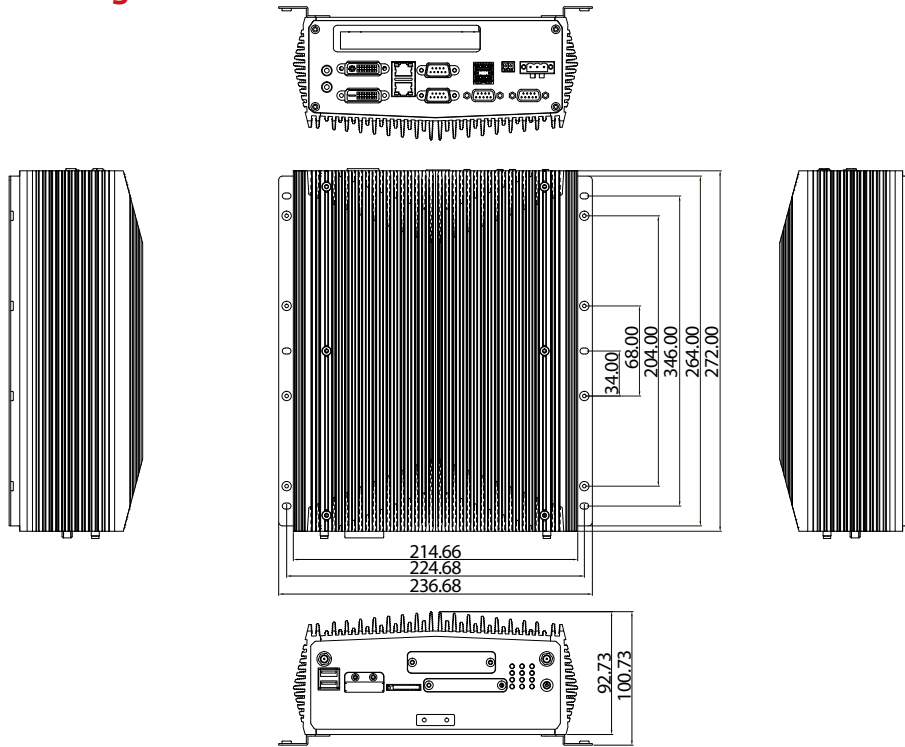
- ATX power on/off switch
- 1 x Power Status/1x HDD Access LEDs
- 2 x LAN Status/1x C-Fast LEDs

- 3 x Programmable GPO/1 x Battery Low LEDs
- 2 x USB 2.0 Ports (500mA per each)
- 1 x External C-Fast socket
- 1 x SIM Card holder
- 1 x External RTC Li-ion Battery holder
- 2 x Antenna Holes for Wi-Fi/GSM

I/O Interface-Rear

- 2 x USB 3.0 ports (Blue Color, 900mA per each)
- 1 x DVI-I
- 1 x DVI-D
- 2 x DB9 for 2x COM ports
 - COM1: RS232/422/485 with auto flow control
 - COM2: RS232/422/485 with auto flow control
 - COM1 support 5V/12V/Ring function by jumper, default is Ring
- 1 x Line out and 1 x Mic-in (Realtek HD ALC886)
- 2 x Intel® I210IT GbE LAN Ports
 - Support PXE (BIOS default: disable)
 - Support WoL & Teaming
 - Support Teaming

Dimension Drawing



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

- 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 \pm 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 32bits and 64bits
- Windows 8.1 32bits and 64bits

Ordering Information

Barebone

- **NISE 3720E (P/N: 10J00372000X0)**
Haswell-U or Broadwell-U Intel® Core™ i7 Fanless System with One PCIe Expansion
- **NISE 3720E2 (P/N: 10J00372001X0)**
Haswell-U or Broadwell-U Intel® Core™ i7 Fanless System with One PCIe Expansion
- **NISE 3720P2 (P/N: 10J00372002X0)**
Haswell-U or Broadwell-U Intel® Core™ i7 Fanless System with One PCIe Expansion
- **NISE 3720P2E (P/N: 10J00372003X0)**
Haswell-U or Broadwell-U Intel® Core™ i7 Fanless System with One PCIe Expansion
- **24V, 120W AC/DC power adapter w/o power core (P/N: 7400120015X00)**

APPC 0840T

8" TFT SVGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz,
Touch Screen, 2GB DDR3L, 4x USB, 2x COM and VGA



Main Features

- 4:3 8" SVGA fanless panel computer
- Intel® Atom™ E3826, dual core, low power consumption CPU
- Flush panel by 5-wire touch screen
- Dual GbE/2nd display-VGA/2x RS232/422/485/Line-out
- 3 x USB 2.0/1 x USB 3.0/1 x mini-PCle sockets/1 x CFast
- Remote power switch
- DDR3L 2GB/2.5" HDD bracket
- IP65 compliant front panel
- Support fieldbus module, JMobile HMI, Citect SCADA and CODESYS SoftLogic (optional)
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12V to 24VDC

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-PCle aligned in the same side of the board with its Intel® Atom™ E3826 CPU. This dedicated motherboard benefits users both in future capability expansion and ease for maintenance. The Panel PC comes with flush panel design and can have IP65 front for industrial applications. The touch screen provides the durable, reliable, and scratchable benefits for easy maintenance in wide applications.

The ultra slim APPC 0840T makes it become industrial slimmest model for space-critical applications, such as, access control, small automation machineries, forklift and truck etc. This APPC 0840T supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, one mini-PCle slot and one SIM card holder. With support for wide power input of 12V to 24V, this APPC 0840T can gain a strong foothold in industrial field and machine devices. In addition, this APPC 0840T can hook 2nd display via a VGA port for dual independent display. 0840T has two RS232/422/485 ports, three USB2.0 port, one USB3.0 port and fieldbus port.

Specifications

Panel

- LED size: 8", 4:3
- Resolution: SVGA 800 x 600
- Luminance: 400cd/m2
- Contrast ratio: 500
- LCD color: 262K
- Viewing angle: 50(U), 70(D), 70(L), 70(R)
- Backlight: LED
-

Touch screen

- 5-wire resistive (Flush panel type)
- Touch light transmission: 82%
- Touch interface: USB

System

- CPU: On-board Intel® Atom™ dual core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 1x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (default), support up to 4GB DDR3L-1066/1333, non-ECC and un-buffered

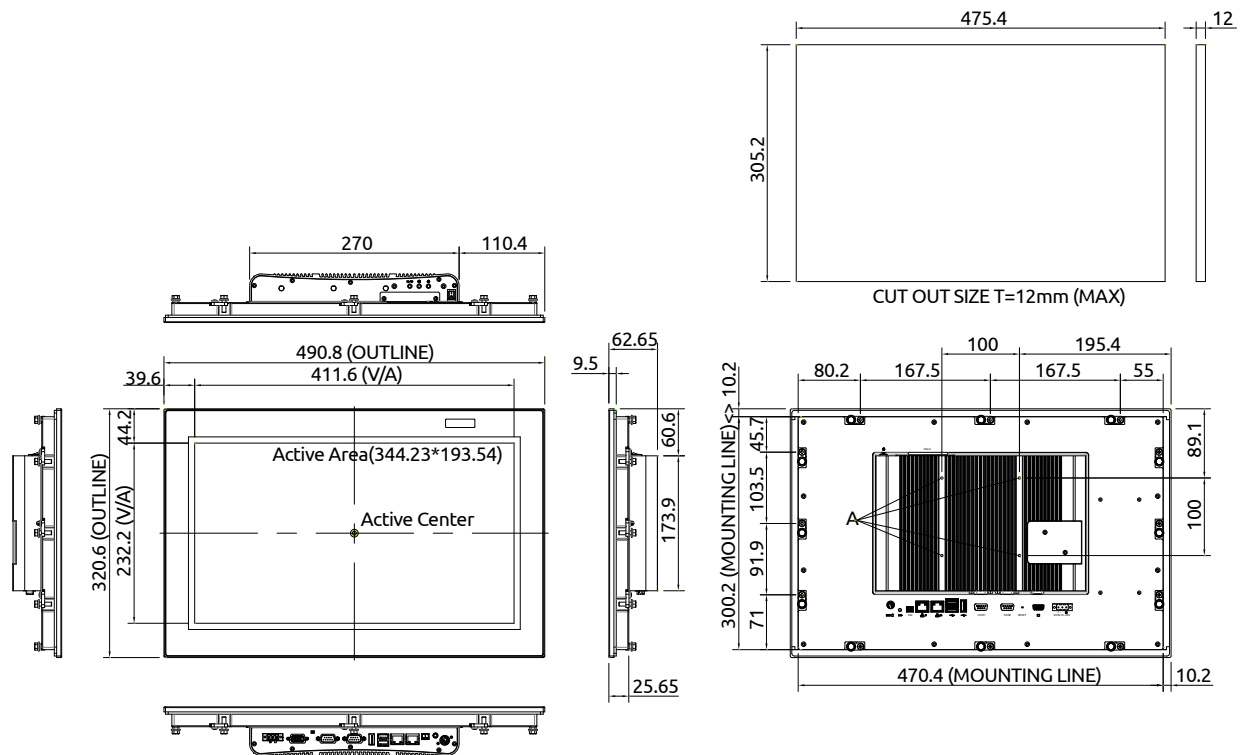
Storage device:

- 1 x external locked CFast socket
- 1 x hard drive bay: optional 1x 2.5" SATA HDD or 1x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 1x mini-PCle socket1 (support optional Wi-Fi, 3.5G module or fieldbus card)

Rear I/O

- Ethernet: 2x RJ45
- 2nd display VGA port: 1x DB15
- Audio port: 1x Line out
- USB: 3 x USB 2.0; 1 x USB 3.0
- Power switch
- Remote power switch
- Reset button
- COM #1: RS232/422/485
- COM #2: RS232/422/485
- Fieldbus: (protocol interface optional)

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

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line out/ Line in (Optional)/ MIC-in (Optional) audio Jack

Ethernet

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

Mechanical & Environment

- Color: Pantone Black
- IP protection: IP65 front
- Mounting: panel/ wall/ stand/ VESA 100mm x 100mm
- System with panel mounting kit w/o panel mounting hole
- Power input: 12V to 24VDC
- Power adapter: Optional AC to DC power adaptor (+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% to 90% relative humidity, non-condensing
- Dimension: 217.4 x 176.4 x 68.9mm
- Weight: 2.3Kg

Certifications

- CE approval
- FCC Class A

Ordering Information

Barebone

- APPC 0840T (P/N: 10IA0840T00X0)**
8" SVGA LED backlight touch panel PC with Intel® Atom™ E3826 1.46 GHz, touch screen, 2GB DDR3L with 2x RS232/422/485

Options

- 12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060017X00)**
- PRONET master interface module: FBI90E-PNM for APPC (P/N: 88IA1932T00X0)**
- EtherNet/IP master interface module: FBI90E-EP for APPC (P/N: 88IA1932T01X0)**
- EtherCAT master interface module: FBI90E-ECM for APPC (P/N: 88IA1932T02X0)**
- PROFIBUS master interface module: FBI90E-PBM for APPC (P/N: 8IA1932T03X0)**
- DeviceNet master interface module: FBI90E-DNM for APPC (P/N: 8IA1932T04X0)**

APPC 1240T

12.1" TFT SVGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz,
Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port



Main Features

- 4:3 12.1" SVGA fanless LED panel computer
- Intel® Atom™ E3826, dual core, Low consumption CPU
- Flush Panel by 5-wire touch screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCle sockets/1 x CFast/2 x RS232/422/485
- Fieldbus port
- DDR3L 2GB/2.5" HDD bracket
- IP65 compliant front panel
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12V to 30VDC

Product Overview

The 12.1" fanless panel PC APPC 1240T incorporating an industrial motherboard is intended for versatile industrial applications. APPC 1240T has a touch screen LED backlight LCD panel with 800x600 (SVGA) resolution and 450-nit brightness. The front panel which adopts flush design and complies with IP65 standard makes it the perfect fit in industrial applications.

This APPC series supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two mini-PCle slots and one SIM card holder. With support for wide power input of 12V to 30V, this APPC series can gain a strong foothold in industrial field and machine devices. In addition, this APPC series can hook 2nd display via a VGA port for dual independent display. 1240T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel

- LED Size: 12.1", 4:3
- Resolution: SVGA 800x600
- Luminance: 450cd/m²
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 65(U), 75(D), 80(L), 80(R)
- Backlight: LED

Touch Screen

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

System

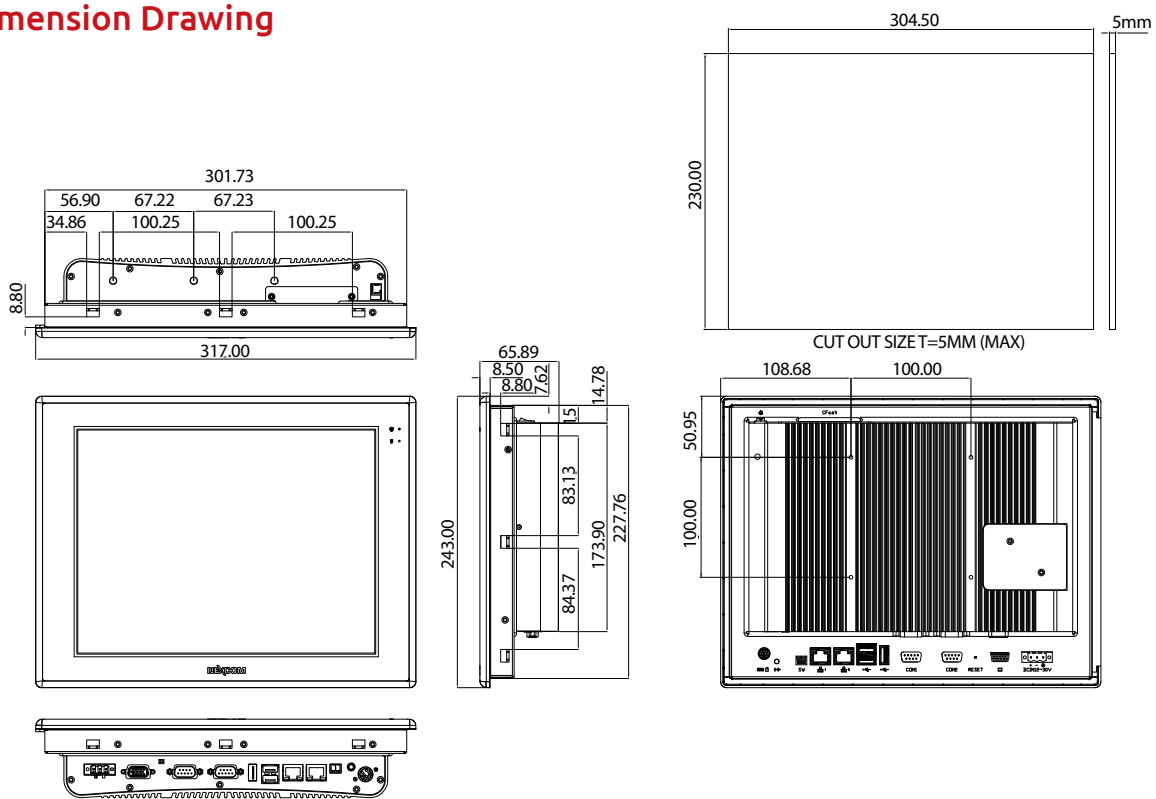
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
 - 1 x external locked CFast socket
 - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x mini-PCle sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O

- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0, 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
 - 4 x Digital Input (Source type)
 - Input Voltage (Dry Contact): Logic 0: Close to GND
 - Logic 1: Open
 - Input Voltage: Logic 0: 3V max
 - Logic 1: +5V to +30V
 - 4 x Digital Output (Sink type)
 - Output Voltage: 3.6V to 5V
 - Sink current: 200 mA max. per channel
- 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

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line out/ Line in (Optional)/ MIC-in (Optional) Audio Jack

Ethernet

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

Mechanical & Environment

- Color: pantone black\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 to 30VDC
- Power adapter: Optional AC to DC power adaptor (+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% to 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

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 and 4 x 4 DI/O with isolated protection, Brightness adjustment buttons
- PROFINET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**
- EtherNet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**
- EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**
- Profibus Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**
- DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- 12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060017X00)**

APPC 1245T

12.1" TFT XGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz,
Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port



Main Features

- 4:3 12.1" XGA fanless LED panel computer
- Intel® Atom™ E3826, dual core, low consumption CPU
- Flush Panel by 5-wire touch screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCle sockets/1 x CFast/2 x RS232/422/485
- Fieldbus port
- DDR3L 2GB/2.5" HDD Bracket
- IP65 compliant Front Panel
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12V to 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-PCle slots and one SIM card holder. With support for wide power input of 12V to 30V, this APPC series can gain a strong foothold in industrial field and machine devices. In addition, this APPC series can hook 2nd display via a VGA port for dual independent display. APPC 1245T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel

- LED Size: 12.1", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 500cd/m²
- 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

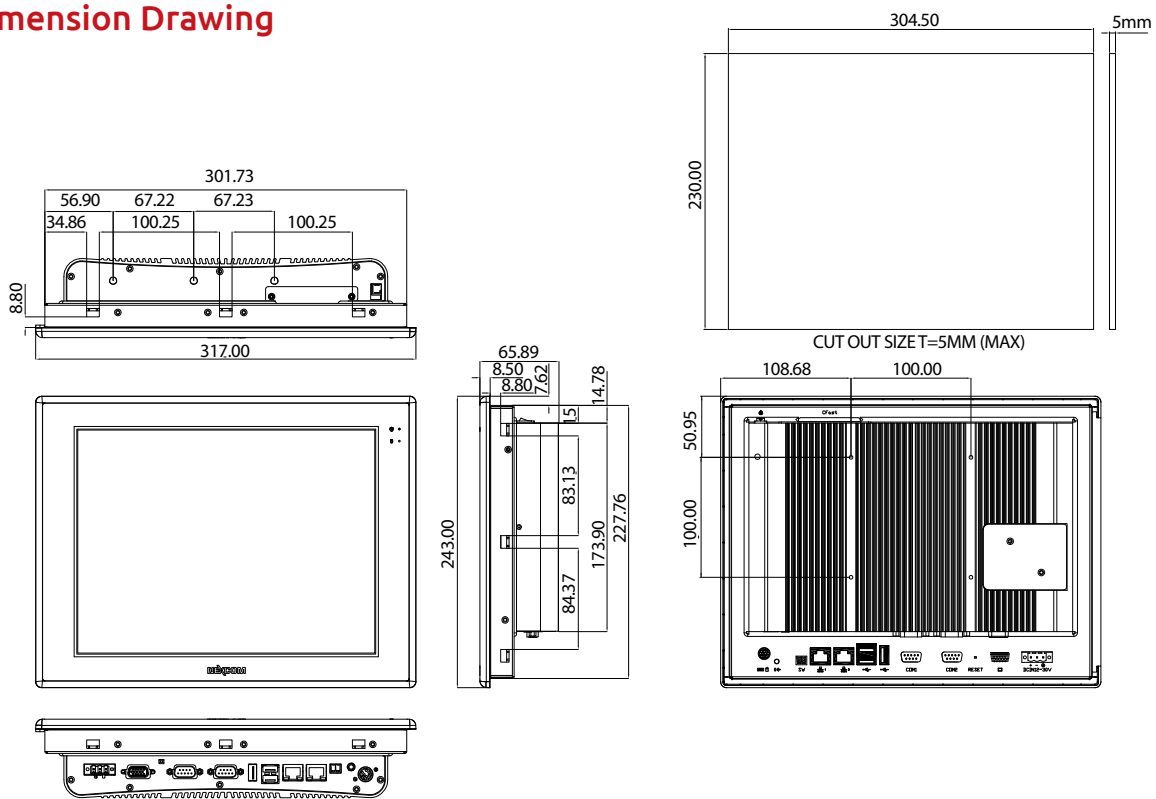
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
 - 1 x external locked CFast socket
 - 1 x hard drive bay: 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-PCle sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O

- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0 + 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
 - 4 x Digital Input (Source type)
 - Input Voltage (Dry Contact): Logic 0: Close to GND
 - Logic 1: Open
 - Input Voltage: Logic 0: 3V max
 - Logic 1: +5V to +30V
 - 4 x Digital Output (Sink type)
 - Output Voltage: 3.6V to 5V
 - Sink current: 200 mA max. per channel
- 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

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line out/ Line in (Optional)/ MIC-in (Optional) Audio Jack

Ethernet

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

Mechanical & Environment

- Color: pantone black\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 to 30VDC
- Power adapter: Optional AC to DC power adaptor (+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% to 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

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 and 4 x 4 DI/O with isolated protection, Brightness adjustment buttons
- **PROFINET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**
- **EtherNet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**
- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**
- **PROFIBUS Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**
- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060017X00)**

APPC 1540T

15" TFT XGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz, Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port



Main Features

- 4:3 15" XGA fanless LED panel computer
- Intel® Atom™ E3826, dual core, low consumption CPU
- Flush Panel by 5-wire touch screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- Fieldbus port
- DDR3L 2GB/2.5" HDD Bracket
- IP65 compliant front panel
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12V to 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 12V to 30V, APPC 1540T can gain a strong foothold in industrial field and machine devices. In addition, APPC 1540T can hook 2nd display via a VGA port for dual independent display. APPC 1540T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel

- LED Size: 15", 4:3
- Resolution: XGA 1024 x 768
- Luminance: 400cd/m²
- Contrast ratio: 700
- LCD color: 16.2M
- Viewing Angle: 60 (U), 80(D), 80(L), 80(R)
- Backlight: LED

Touch Screen

- 5-wire resistive (Flush panel type)
- Light transmission: 80%
- Interface: USB

System

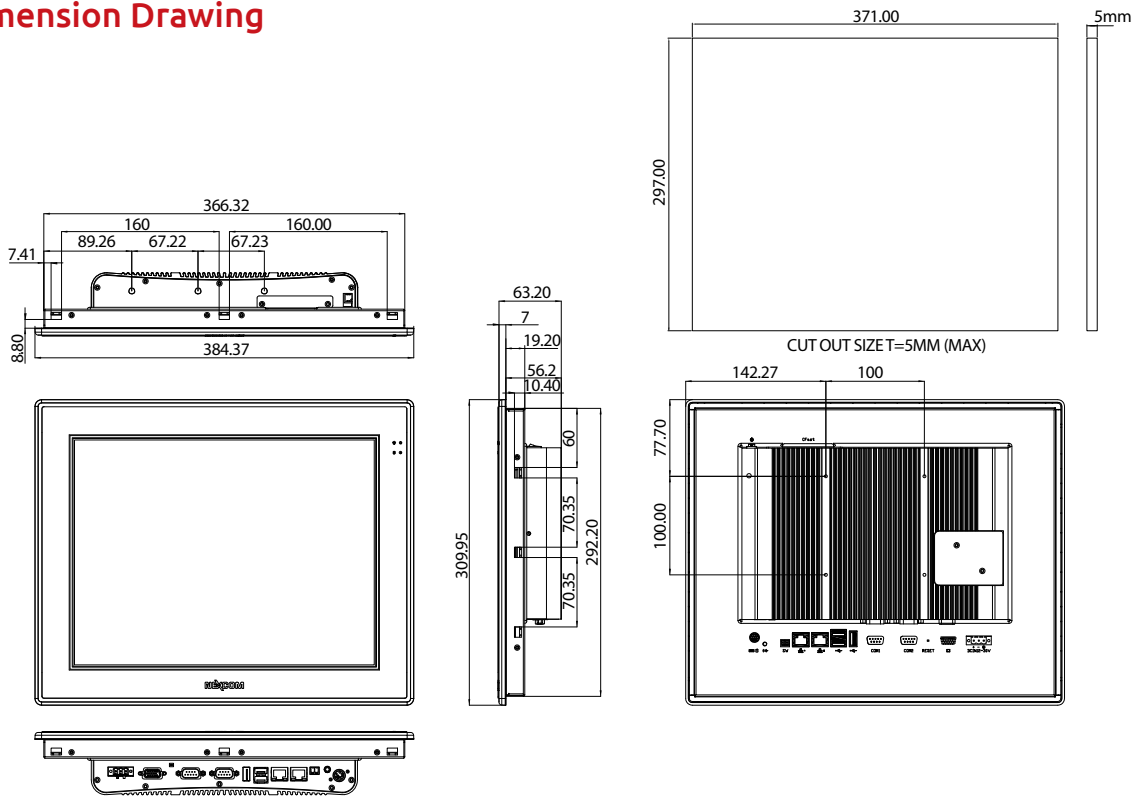
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
 - 1 x external locked CFast socket
 - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x mini-PCIe sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O

- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0, 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
 - 4 x Digital Input (Source type)
 - Input Voltage (Dry Contact): Logic 0: Close to GND
 - Logic 1: Open
 - Input Voltage: Logic 0: 3V max
 - Logic 1: +5V to +30V
 - 4 x Digital Output (Sink type)
 - Output Voltage: 3.6V to 5V
 - Sink current: 200 mA max. per channel
- 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

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line out/ Line in (Optional)/ MIC-in (Optional) Audio Jack

Ethernet

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

Mechanical & Environment

- Color: pantone black\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 to 30VDC
- Power adapter: Optional AC to DC power adaptor (+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% to 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

Ordering Information

Barebone

- **APPC 1540T (P/N: 10IA1540T00X0)**
15" XGA LED Backlight Touch Panel PC, Intel® Atom™ E3826 1.46GHz, touch screen, 2GB DDR3L, 2 x RS232/422/485 and 4 x 4 DI/O with isolated protection, Brightness adjustment buttons
- **PROFINET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**
- **EtherNet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**
- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**
- **PROFIBUS Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**
- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060017X00)**

APPC 1740T

17" TFT SXGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz,
Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus Port



Main Features

- 4:3 17" SXGA fanless panel computer
- Intel® Atom™ E3826, dual core, low consumption CPU
- Flush Panel by 5-wire touch screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- Fieldbus port
- DDR3L 2GB/2.5" HDD Bracket
- IP65 compliant front panel
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12V to 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 12V to 30V, APPC 1740T can gain a strong foothold in industrial field and machine devices. In addition, APPC 1740T can hook 2nd display via a VGA port for dual independent display. APPC 1740T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel

- LED Size: 17", 4:3
- Resolution: SXGA 1280x1024
- Luminance: 350cd/m²
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing Angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch Screen

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

System

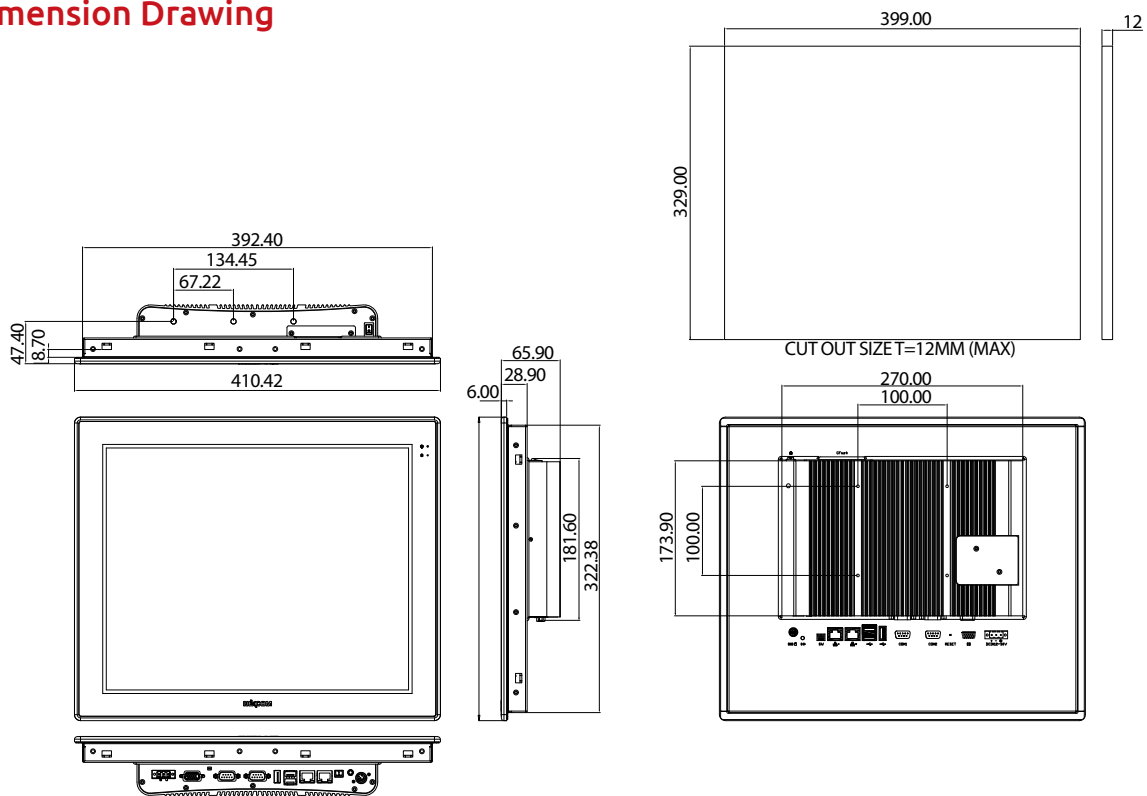
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
 - 1 x external locked CFast socket
 - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x mini-PCIe sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O

- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB 2.0, 1 x USB 3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
 - 4 x Digital Input (Source type)
 - Input Voltage (Dry Contact): Logic 0: Close to GND
 - Logic 1: Open
 - Input Voltage: Logic 0: 3V max
 - Logic 1: +5V to +30V
 - 4 x Digital Output (Sink type)
 - Output Voltage: 3.6V to 5V
 - Sink current: 200 mA max. per channel
- 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

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line out/ Line in (Optional)/ MIC-in (Optional) Audio Jack

Ethernet

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

Mechanical & Environment

- Color: pantone black\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 to 30VDC
- Power adapter: Optional AC to DC power adaptor (+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% to 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

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 and 4 x 4 DI/O with isolated protection, Brightness adjustment buttons
- **PROFINET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**
- **EtherNet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**
- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**
- **PROFIBUS Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**
- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060017X00)**

APPC 1940T

19" TFT SXGA 4:3 Flush Panel PC with Intel® Atom™ E3826, 1.46GHz,
Touch Screen, 2GB DDR3L, 3 x USB, 2 x COM, and Fieldbus port



Main Features

- 4:3 19" SXGA fanless LED panel computer
- Intel® Atom™ E3826, dual core, low consumption CPU
- Flush panel by 5-wire touch screen
- Dual GbE/2nd display-VGA/Line-out/PS2 KB/MS
- USB x 3/2 x mini-PCle sockets/1 x CFast/2 x RS232/422/485
- Fieldbus port
- DDR3L 2GB/2.5" HDD Bracket
- IP65 compliant front panel
- Mounting support: Panel/Wall/Stand/VESA 100mm x 100mm
- Wide range power input 12V to 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-PCle slots and one SIM card holder. With support for wide power input of 12V to 30V, APPC 1940T can gain a strong foothold in industrial field and machine devices. In addition, APPC 1940T can hook 2nd display via a VGA port for dual independent display. APPC 1940T has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and Fieldbus port.

Specifications

Panel

- LED Size: 19", 4:3
- Resolution: SXGA 1280x1024
- Luminance: 350cd/m²
- Contrast ratio: 1000
- LCD color: 16.7M
- Viewing Angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch Screen

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

System

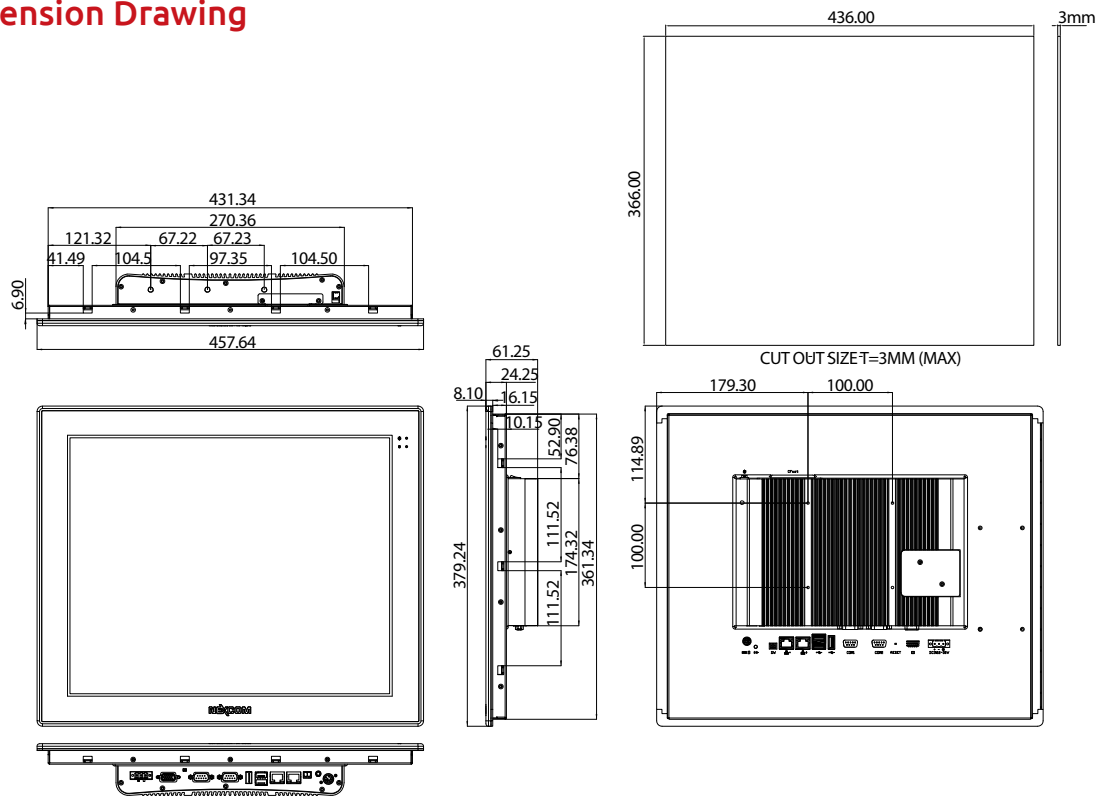
- CPU: On-board Intel® Atom™ Dual Core processor E3826, 1.46GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System memory: 2 x 204-pin DDR3L SO-DIMM socket, 2GB DDR3L (Default), Support up to 8GB DDR3L-1066/1333, Non-ECC and Un-buffered
- Storage Device:
 - 1 x external locked CFast socket
 - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)

- H/W status monitor: Monitoring system temperature, and voltage
- Expansion: 2 x mini-PCle sockets (support optional Wi-Fi, 3.5G module or Fieldbus Card)

Rear I/O

- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out
- USB: 2 x USB2.0, 1 x USB3.0
- PS2 keyboard/mouse
- Power switch
- Reset button
- 2-pin Remote Power on/ off switch
- DIO w/ 2.5kv isolated (Optional):
 - 4 x Digital Input (Source type)
 - Input Voltage (Dry Contact): Logic 0: Close to GND
 - Logic 1: Open
 - Input Voltage: Logic 0: 3V max
 - Logic 1: +5V to +30V
 - 4 x Digital Output (Sink type)
 - Output Voltage: 3.6V to 5V
 - Sink current: 200 mA max. per channel
- 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	DB9
FBI90E-PBM	PROFIBUS Master	
FBI90E-DNM	DeviceNet Master	5-pins Phoenix Contact Terminal

Audio

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line out/ Line in (Optional)/ MIC-in (Optional) Audio Jack

Ethernet

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

Mechanical & Environment

- Color: pantone black\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 to 30VDC
- Power adapter: Optional AC to DC power adaptor (+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% to 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

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 and 4 x 4 DI/O with isolated protection, Brightness adjustment buttons.
- **PROFINET Master Interface: FBI90E-PNM for APPC (Protocol Option P/N: 88IA1932T00X0)**
- **EtherNet/IP Interface: FBI90E-EP for APPC (Protocol Option P/N: 88IA1932T01X0)**
- **EtherCAT Master Interface: FBI90E-ECM for APPC (Protocol Option P/N: 88IA1932T02X0)**
- **PROFIBUS Master Interface: FBI90E-PBM for APPC (Protocol Option P/N: 88IA1932T03X0)**
- **DeviceNet Master Interface: FBI90E-DNM for APPC (Protocol Option P/N: 88IA1932T04X0)**

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060017X00)**

IPPC 1560T

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



IPPC 1560TP2E-DC



IPPC 1560TP2E-AC

Main Features

- 4:3 15" XGA fanless panel computer
- Powerful 2nd/3rd generation Intel® Core™ processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x Coms/GPIO/DIO/Dimming control button
- Front accessible USB2.0 for easy of field maintenance
- Metal housing with robust aluminum front bezel for harsh environment
- IP65 compliant front panel
- Support fieldbus module, JMobile HMI, Citect SCADA and CODESYS SoftLogic (optional)
- Optional: wide range DC power input model/isolation protection DC power input model

Product Overview

IPPC 1560T 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 1560T is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

System

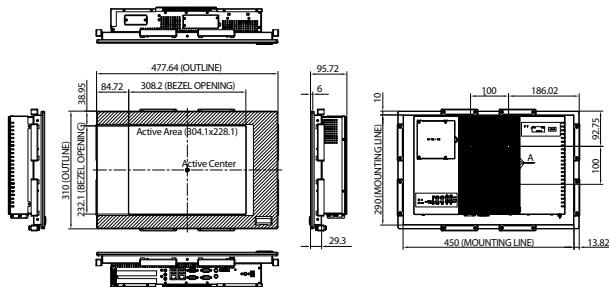
- CPU: Support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
 - Intel® Core™ i7-3520ME (2 x 2.9GHz, 4M cache, Max. TDP 35W)
 - Intel® Core™ i5-3610ME (2 x 2.7GHz, 3M cache, Max. TDP 35W) (Default)
 - Intel® Core™ i3-3120ME (2 x 2.4GHz, 3M cache, Max. TDP 35W)
 - Intel® Celeron® B810 (2 x 1.6GHz, 2M cache, Max. TDP 35W)
 - Intel® Pentium® B950 (2 x 2.1GHz, 2M cache, Max. TDP 35W)
- BIOS: AMI BIOS
- System chipset: Intel® HM76 Express chipset
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 4G DDR3 (Default), support up to 8GB DDR3-1066/1333, non-ECC and un-buffered
- Storage device:
 - 1 x external locked CFast socket
 - 2 x hard drive bay: optional 2 x 2.5" SATA HDD
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (Tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion:
 - 2 x mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
 - 2 x expansion slots for add-on PCI or/and PCIe cards
 - 1 x PCI and 1 x PCIe4 slots (Default)
 - 2 x PCIe4 slots
 - 2 x PCI slots
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off (for IPPC 1560TP2E-AC only)

Rear I/O

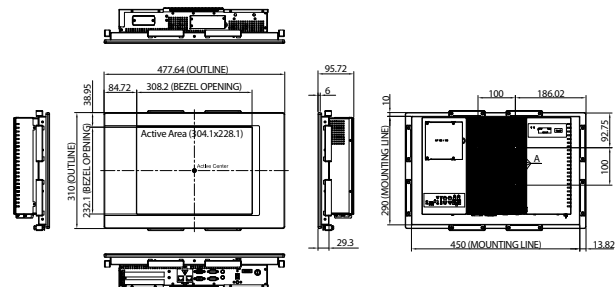
For All

- 2 x PS2 keyboard/mouse
 - 2nd display VGA port: 1 x DB15
 - Ethernet: 2 x RJ45
- For IPPC 1560TP2E-DC only**
- USB: 5 x USB2.0 (1 in front)
 - Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
 - COM #1: RS232/422/485 w/ RI or 5V or 12V selection
 - COM #2: RS232/422/485 w/ RI or 5V or 12V selection
 - COM #3: RS232 w/ RI or 5V or 12V selection
 - ATX power switch
 - Reset button
- For IPPC 1560TP2E-AC only**
- USB: 5 x USB2.0 (1 in front)
 - Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
 - COM #1: RS232/422/485 w/ 2.5kv isolated protection
 - COM #2: RS232/422/485 w/ 2.5kv isolated protection
 - COM #3: RS232 w/ RI or 5V or 12V selection
 - COM #4: RS232 w/ RI or 5V or 12V selection
 - COM #5: RS232
 - COM #6: RS232
 - DIO w/ 2.5kv isolated protection:
 - 4 x Digital Input (Source type)
 - 4 x Digital Output (Sink type)
 - GPIO: 4 x digital in/4 x digital out
 - LPT: Parallel port
 - AC Power switch
 - Reset button
- For IPPC 1560TE only**
- USB: 4 x USB2.0 (Hidden)

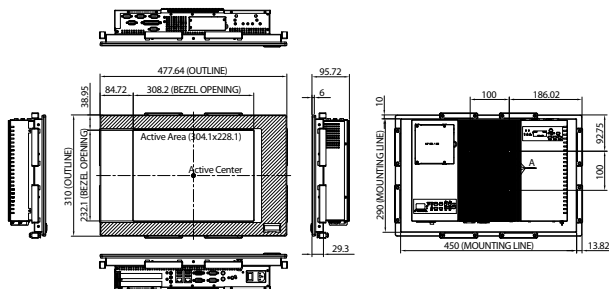
Dimension Drawing



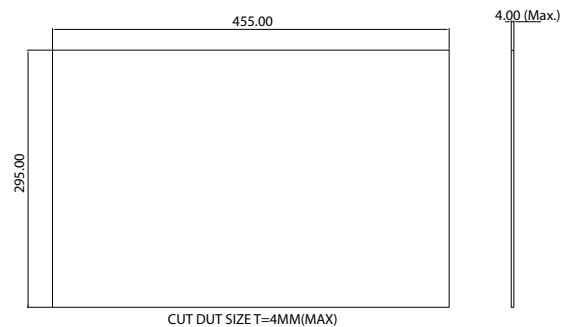
IPPC 1560TP2E-DC



IPPC 1560TE



IPPC 1560TP2E-AC



- COM #1: RS232/422/485 w/ 2.5kv isolated protection
- COM #2: RS232/422/485 w/ 2.5kv isolated protection
- COM #3: RS232 w/ RI or 5V or 12V selection
- ATX Power switch
- Reset button

Audio

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet

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

Fieldbus

- IPPC 1560TP2E-DC/IPPC 1560TE: support up to two fieldbus module (1 universal kit and 1 special kit)
- IPPC 1560TP2E-AC: support one special fieldbus module kit

Mechanical & Environment

- Color: pantone 432C\RAL 70 24 front bezel
- Enclosure: aluminum front bezel with SPCC nickel plated housing
- IP protection: IP65 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power

For IPPC 1560TP2E-DC

- Power Input: +9 to 30VDC
- Power Adapter: optional AC to DC DIN rail power adapter (+24V, 120W)

For IPPC 1560TP2E-AC

- Power input: 100-240V~, 1.5A, 50-60Hz; fuse: 250VAC/3A
- Power connector: AC inlet (IEC60320 C14)
- Power supply: 120W

For IPPC 1560TE

- Power input: +24VDC+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

* Intel® Core™ i7/Intel® Celeron® B810/Intel® Pentium® B950: -10°C to 40°C

- Storage temperature: -20°C to 75°C
- Operating humidity: 10% to 90% relative humidity, non-condensing
- Limits to be at 90% RH at max 50°C

Certifications

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

Ordering Information

System

- **IPPC 1560TP2E-DC (P/N: 10I11560T00X0)**
15" XGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 3 x COMs, DC power input
- **IPPC 1560TP2E-AC (P/N: 10I11560T01X0)**
15" XGA LED backlight fanless Touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 6 x COMs, 4 x 4GPIO, 4 x 4DIO with isolated protection, AC power input
- **IPPC 1560TE (P/N: 10I11560T02X0)**
15" XGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 3 x COMs, isolated protection DC Power

Optional

- **24V/5A, 120W AC to DC DIN rail power adapter w/o power cord (P/N: 7440120001X00) (For IPPC 1560TP2E-DC and IPPC 1560TE)**
- **Riser card 2 x PCI slots (P/N: 20JK036P200X0)**
- **Riser card 2 x PCIe4 slots (P/N: 20JK036E200X2)**
- **Fieldbus module universal kit (for IPPC 1560TP2E-DC and IPPC 1560TE)**

88J50090E00X0	FBI90E-PNM kit (w/ 25 cm cable)	PROFINET master
88J50090E01X0	FBI90E-EP kit (w/ 25 cm cable)	EtherNet/IP master
88J50090E02X0	FBI90E-ECM kit (w/ 25 cm cable)	EtherCAT master
88J50090E03X0	FBI90E-PBM kit (w/ 25 cm cable)	PROFIBUS master
88J50090E04X0	FBI90E-DNM kit (w/ 25 cm cable)	DeviceNet master



IPPC 1960TP2E-AC



IPPC 1960TP2E-DC

Main Features

- 4:3 19" SXGA fanless panel computer
- Powerful 2nd/3rd generation Intel® Core™ processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x Coms/GPIO/DIO/
Dimming control button
- Front accessible USB2.0 for easy of field maintenance
- Metal housing with robust aluminum front bezel for harsh environment
- IP66 compliant front panel
- Support fieldbus module, JMobile HMI, Citect SCADA and CODESYS SoftLogic (optional)
- Wide range DC power input model

Product Overview

IPPC 1960T is a heavy industrial panel PC equipped with powerful 2nd/3rd generation Intel® Core™ processor, TFT LCD panel with LED backlight and user-friendly touch screen. It provides two expansion slots to support PROFINET, PROFIBUS, DeviceNet, EtherNet/IP and EtherCAT protocols. The NEMA4/IP66 rated heavy-duty aluminum front bezel and the vibration-resistant rugged chassis are specifically designed for outdoor and harsh industrial environments. IPPC 1960T is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area.

Specifications

System

- CPU: Support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
 - Intel® Core™ i7-3520ME (2 x 2.9GHz, 4M cache, Max. TDP 35W)
 - Intel® Core™ i5-3610ME (2 x 2.7GHz, 3M cache, Max. TDP 35W) (Default)
 - Intel® Core™ i3-3120ME (2 x 2.4GHz, 3M cache, Max. TDP 35W)
 - Intel® Celeron® B810 (2 x 1.6GHz, 2M cache, Max. TDP 35W)
 - Intel® Pentium® B950 (2 x 2.1GHz, 2M cache, Max. TDP 35W)
- BIOS: AMI BIOS
- System chipset: Intel® HM76 Express chipset
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 4G DDR3 (Default), support up to 8GB DDR3-1066/1333, non-ECC and un-buffered
- Storage device:
 - 1 x external locked CFast socket
 - 2 x hard drive bay: optional 2 x 2.5" SATA HDD
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion:
 - 2 x mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
 - 2 x expansion slots for add-on PCI or/and PCIe cards
 - 1 x PCI and 1 x PCIe4 slots (default)
 - 2 x PCIe4 slots
 - 2 x PCI slots
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off (for IPPC 1960TP2E-AC only)

Rear I/O

For All

- 2 x PS2 keyboard/mouse
- 2nd display VGA port: 1 x DB15
- Ethernet: 2 x RJ45
- USB: 5 x USB2.0 (1 in front)
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in

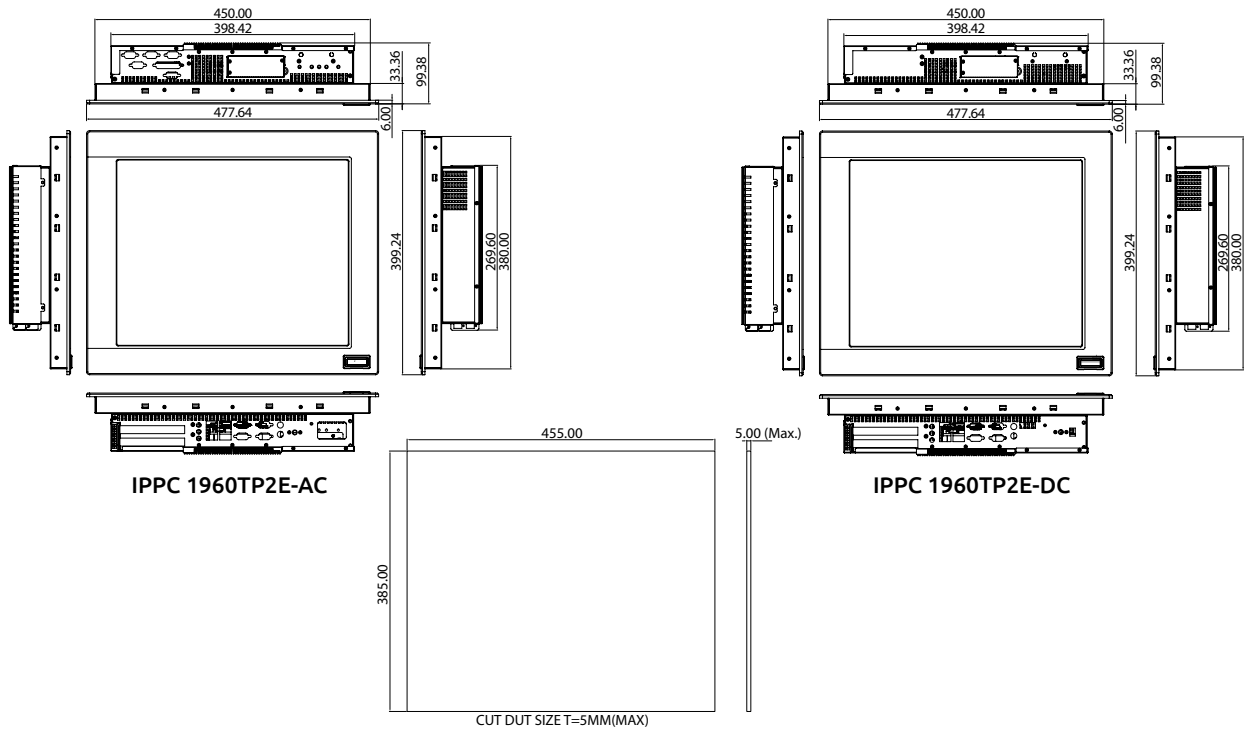
For IPPC 1960TP2E-DC only

- COM #1: RS232/422/485 w/ RI or 5V or 12V selection
- COM #2: RS232/422/485 w/ RI or 5V or 12V selection
- COM #3: RS232 w/ RI or 5V or 12V selection
- ATX power switch
- Reset button

For IPPC 1960TP2E-AC only

- COM #1: RS232/422/485 w/ 2.5kv isolated protection
- COM #2: RS232/422/485 w/ 2.5kv isolated protection
- COM #3: RS232 w/ RI or 5V or 12V selection
- COM #4: RS232 w/ RI or 5V or 12V selection
- COM #5: RS232
- COM #6: RS232
- DIO w/ 2.5kv isolated protection:
 - 4 x digital input (source type)
 - 4 x digital output (sink type)
- GPIO: 4 x Digital In/4 x Digital Out
- LPT: parallel port
- AC power switch
- Reset button

Dimension Drawing



Audio

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet

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

Fieldbus

- IPPC 1960TP2E-DC: support up to two Fieldbus Module (1 universal Kit and 1 special kit)
- IPPC 1960TP2E-AC: support one special Fieldbus Module kit

Mechanical & Environment

- Color: pantone 432C\RAL 70 24 front bezel
- Enclosure: aluminum front bezel with SPPC nickel plated housing
- IP protection: IP66 front
- Mounting: panel/wall/stand/VESA 100mm x 100mm
- Power

For IPPC 1960TP2E-DC

- Power input: +9 to 30VDC
- Power adapter: optional AC to DC DIN rail power adapter (+24V, 120W)

For IPPC 1960TP2E-AC

- Power input: 100-240V~, 1.5A, 50-60Hz; Fuse: 250VAC/3A
- Power connector: AC inlet (IEC60320 C14)
- Power supply: 120W

Vibration:

- IEC 68 2-64 (w/ HDD)
- 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
- 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
- 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)

Shock:

- IEC 68 2-27
- HDD: 20G @ wall mount, half sine, 11ms

Operating temperature: -10°C to 50°C

- * Intel® Core™ i7/Intel® Celeron® B810/Intel® Pentium® B950: -10°C to 40°C

Storage temperature: -20°C to 75°C

- Operating humidity: 10% to 90% relative humidity, non-condensing
Limits to be at 90% RH at max 50°C

Certifications

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

Ordering Information

System

- **IPPC 1960TP2E-DC (P/N: 10II1960T00X0)**
19" SXGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 3 x COMs, DC power input
- **IPPC 1960TP2E-AC (P/N: 10II1960T01X0)**
19" SXGA LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, touch screen, 4GB DDR3, 6 x COMs, 4 x 4GPIO, 4 x 4DIO with isolated protection, AC power input

Optional

- **24V/5A, 120W AC to DC DIN rail power adapter w/o power cord (P/N: 7440120001X00)** (for IPPC 1960TP2E-DC only)
- **Riser card 2 x PCI slots (P/N: 20JK036P200X0)**
- **Riser card 2 x PCIe4 slots (P/N: 20JK036E200X2)**
- **Fieldbus module universal kit (for IPPC 1960TP2E-DC only)**

88J50090E00X0	FBI90E-PNM kit (w/ 25 cm cable)	PROFINET master
88J50090E01X0	FBI90E-EP kit (w/ 25 cm cable)	EtherNet/IP master
88J50090E02X0	FBI90E-ECM kit (w/ 25 cm cable)	EtherCAT master
88J50090E03X0	FBI90E-PBM kit (w/ 25 cm cable)	PROFIBUS master
88J50090E04X0	FBI90E-DNM kit (w/ 25 cm cable)	DeviceNet master



Main Features

- Intel® Atom™ D2550, dual core, low power consumption CPU
- 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
- USB x 4/2 x mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- DDR3 4GB/2.5" HDD bracket
- IP66 compliant front panel
- Support fieldbus module, JMobile HMI, Citect SCADA and CODESYS SoftLogic (optional)
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12V to 30VDC

Product Overview

The 15.6" fanless panel PC IPPC 1632P 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 1632P 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 12V to 30V, IPPC 1632P can gain a strong foothold in industrial field and machine devices. In addition, IPPC 1632P can hook 2nd display via a VGA port for dual independent display. IPPC 1632P has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and optional fieldbus ports.

Specifications

Panel

- LED size: 15.6", 16:9
- Resolution: WXGA 1366 x 768
- Luminance: 300cd/m²
- Contrast ratio: 500
- LCD color: 16.7M
- Viewing angle: 80(U), 80(D), 85(L), 85(R)
- Backlight: LED

Touch

- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

System

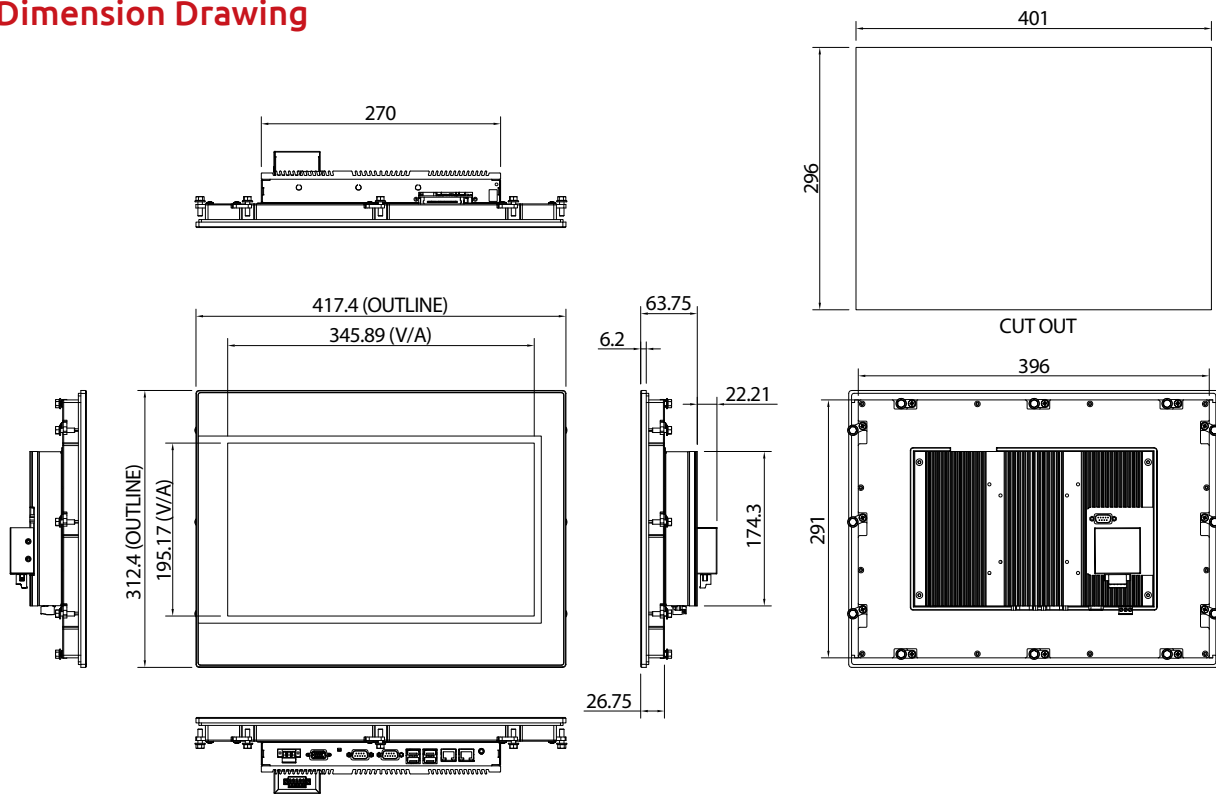
- CPU: On-board Intel® Atom™ dual core processor D2550, 1.86GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System chipset: Intel® NM10 Express chipset
- System memory: 2 x 204-pin DDR3 SO-DIMM socket, 4GB DDR3 (Default), Support up to 4GB DDR3-800/1066, Non-ECC and Un-buffered
- Storage Device:
 - 1 x external locked CFast socket
 - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM

- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 2 x mini-PCIe sockets (support optional Wi-Fi, 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: 4 x USB 2.0
- Power switch
- Reset button
- DIO w/ 2.5kv isolated:
 - 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 (sink type)
 - Output voltage: 3.6V to 5V
 - Sink current: 200 mA max. per channel

Dimension Drawing



- 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

Audio

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet

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

Mechanical & Environment

- 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: 12V to 30VDC
- Power adapter: optional AC to DC power adaptor (+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% to 90% relative humidity, non-condensing
- Dimension: 417.8mm x 312.8mm x 63.75mm
- Weight: 6.4Kg

Certifications

- CE (including EN61000-6-1/EN61000-6-2/EN61000-6-3/EN61000-6-4)
- FCC Class B
- cUL 60950

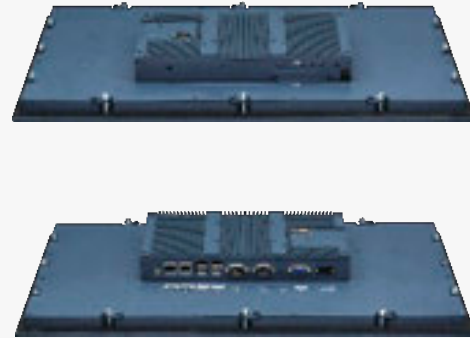
Ordering Information

Barebone

- **IPPC 1632P (P/N: 10I1632P00X0)**
15.6" WXGA LED backlight touch panel PC, Intel® Atom™ D2550 1.86 GHz, touch screen, 4GB DDR3, 2 x RS232/422/485 and 4 x 4 DI/O with isolated protection, brightness adjustment buttons, optional fieldbus module

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**
- **PROFINET master interface module: FBI90E-PNM for APPC (P/N: 88IA1932T00X0)**
- **EtherNet/IP master interface module: FBI90E-EP for APPC (P/N: 88IA1932T01X0)**
- **EtherCAT master interface module: FBI90E-ECM for APPC (P/N: 88IA1932T02X0)**
- **PROFIBUS master interface module: FBI90E-PBM for APPC (P/N: 88IA1932T03X0)**
- **DeviceNet master interface module: FBI90E-DNM for APPC (P/N: 88IA1932T04X0)**



Main Features

- Intel® Atom™ D2550, dual core, low power consumption CPU
- 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
- USB x4/2 x mini-PCle sockets/1 x CFast/2 x RS232/422/485
- DDR3 4GB/2.5" HDD bracket
- IP66 compliant front panel
- Support fieldbus module, JMobile HMI, Citect SCADA and CODESYS SoftLogic (optional)
- Mounting support: panel/wall/stand/VESA 100mm x 100mm
- Wide range power input 12V to 30VDC

Product Overview

The 21.5" fanless panel PC IPPC 2132P 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 2132P supports WWAN/WLAN expansion and others via dual Gigabit Ethernet connectors, two mini-PCle slots and one SIM card holder. With support for wide power input of 12V to 30V, IPPC 2132P can gain a strong foothold in industrial field and machine devices. In addition, IPPC 2132P can hook 2nd display via a VGA port for dual independent display. IPPC 2132P has two isolated RS232/422/485 ports, four isolated channels of DI and DO, and optional fieldbus ports.

Specifications

Panel

- LED size: 21.5", 16:9
- Resolution: Full HD 1920 x 1080
- Luminance: 300cd/m²
- Contrast ratio: 5000
- LCD color: 16.7M
- Viewing angle: 89(U), 89(D), 89(L), 89(R)
- Backlight: LED

Touch

- Ten points P-Cap (Projected Capacitive Touch)
- Touch light transmission: 87%
- Anti-scratch surface: 7H hardness
- Touch interface: USB
- Windows 8 compliance

System

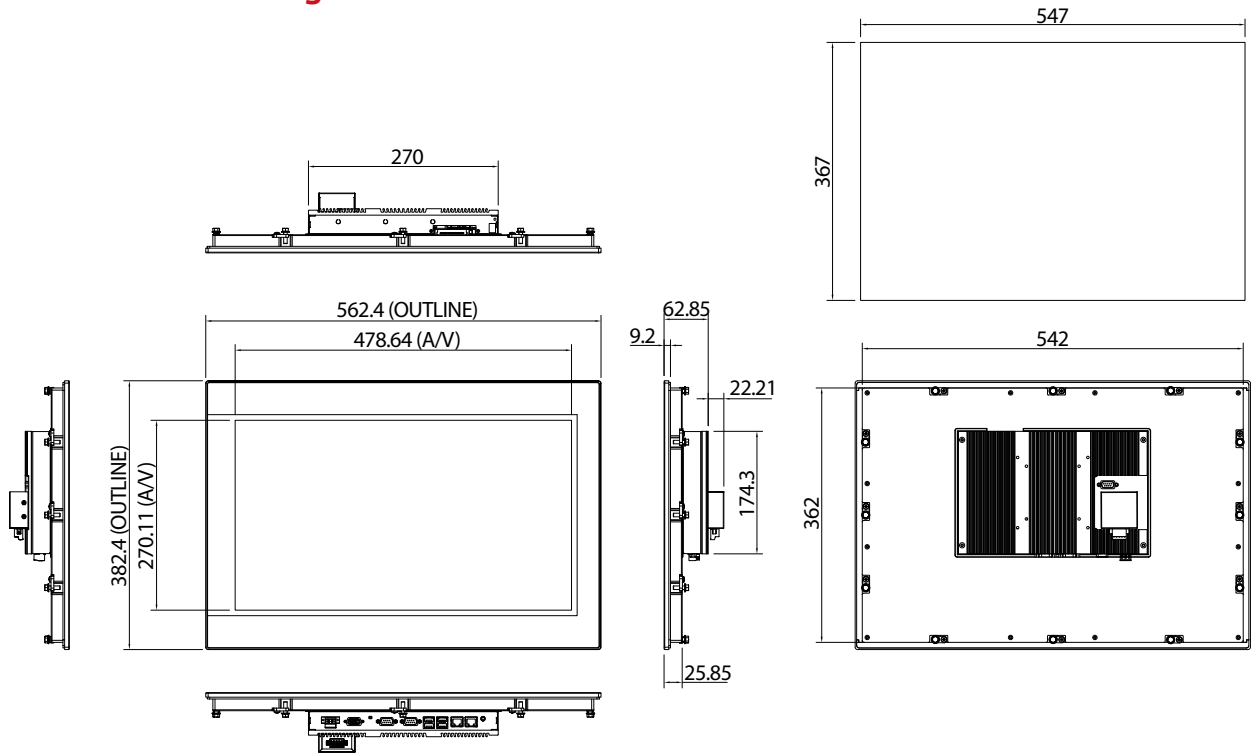
- CPU: On-board Intel® Atom™ dual core processor D2550, 1.86GHz, 1M L2 Cache
- BIOS: AMI BIOS
- System chipset: Intel® NM10 Express chipset
- System memory: 2 x 204-pin DDR3 SO-DIMM socket, 4GB DDR3 (default), support up to 4GB DDR3-800/1066, non-ECC and un-buffered
- Storage device:
 - 1 x external locked CFast socket
 - 1 x hard drive bay: optional 1 x 2.5" SATA HDD or 1 x SATA DOM

- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 2 x mini-PCle 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: 4 x USB 2.0
- Power switch
- Reset button
- DIO w/ 2.5kv isolated:
 - 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 (sink type)
 - Output voltage: 3.6V to 5V
 - Sink current: 200 mA max. per channel

Dimension Drawing



- 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

Audio

- AC97 codec: Realtek ALC886-GR
- Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet

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

Mechanical & Environment

- 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: 12V to 30VDC
- Power adapter: Optional AC to DC power adaptor (+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% to 90% relative humidity, non-condensing
- Dimension: 562.4 x 382.4 x 62.85mm
- Weight: 9.26Kg

Certifications

- CE (including EN61000-6-1/EN61000-6-2/EN61000-6-3/EN61000-6-4)
- FCC Class B
- UL 60950

Ordering Information

Barebone

- **IPPC 2132P (P/N: 10II2132P00X0)**
21.5" Full HD LED backlight touch panel PC, Intel® Atom™ D2550 1.86 GHz, touch screen, 4GB DDR3, 2 x RS232/422/485 and 4 x 4 DI/O with isolated protection, brightness adjustment buttons, optional fieldbus module

Options

- **12V, 60W AC/DC power adapter w/o power cord (P/N: 7400060019X00)**
- **PRONET master interface module: FBI90E-PNM for APPC (P/N: 88IA1932T00X0)**
- **EtherNet/IP master interface module: FBI90E-EP for APPC (P/N: 88IA1932T01X0)**
- **EtherCAT master interface module: FBI90E-ECM for APPC (P/N: 88IA1932T02X0)**
- **PROFIBUS master interface module: FBI90E-PBM for APPC (P/N: 8IA1932T03X0)**
- **DeviceNet master interface module: FBI90E-DNM for APPC (P/N: 88IA1932T04X0)**



Main Features

- 16:9 21.5" Full HD fanless LED panel computer
- Powerful 2nd/3rd generation Intel® Core™ processor
- Two expansion slots for add-on PCI or/and PCIe cards
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x Coms/GPIO/DIO/Dimming control button
- 10 points P-Cap multi-touch with zero bezel flush front design
- Metal housing with robust aluminum front bezel for harsh environment
- IP66 compliant front panel
- Anti-scratch surface: 7H hardness
- Support fieldbus module, JMobile HMI, Citect SCADA and CODESYS SoftLogic (optional)
- Optional: AC power input model/DC power input model

Product Overview

IPPC 2160P is a heavy industrial panel PC equipped with powerful 2nd/3rd generation Intel® Core™ processor, TFT LCD panel with LED backlight and user-friendly touch screen. It provides two expansion slots to support PROFINET, PROFIBUS, DeviceNet, EtherNet/IP and EtherCAT protocols. The NEMA4/IP66 rated heavy-duty aluminum front bezel and the vibration-resistant rugged chassis are specifically designed for outdoor and harsh industrial environments. IPPC 2160P is ideal for use in oil and gas rig, wind farms, chemical factories, pharmaceutical factories, and hazardous working area. IPPC 2160P has two isolated RS232/422/485 ports and fieldbus ports.

Specifications

Panel

- LED size: 21.5", 16:9
- Resolution: Full HD 1920 x 1080
- Luminance: 300cd/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

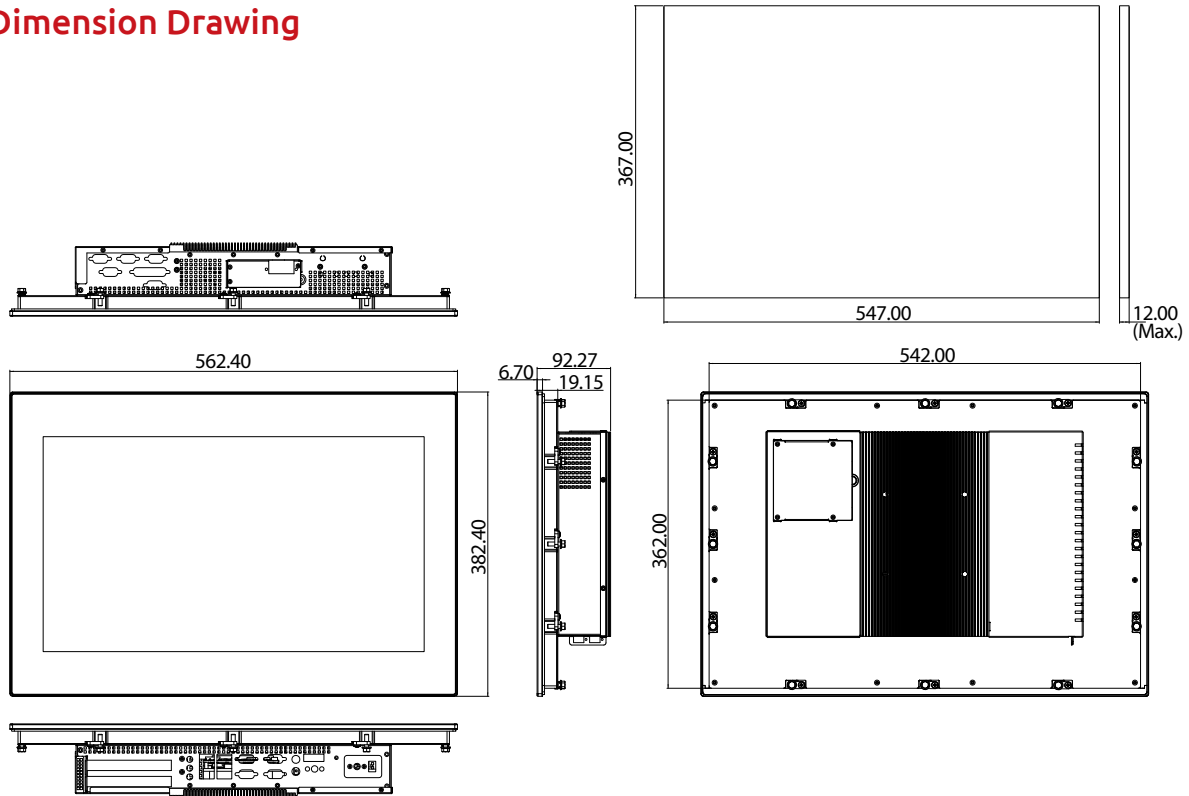
- CPU: support 2nd/3rd gen. Intel® Core™ processor family, rPGA 988
 - Intel® Core™ i7-3520ME (2 x 2.9GHz, 4M cache, Max. TDP 35W)
 - Intel® Core™ i5-3610ME (2 x 2.7GHz, 3M cache, Max. TDP 35W) (default)
 - Intel® Core™ i3-3120ME (2 x 2.4GHz, 3M cache, Max. TDP 35W)
 - Intel® Celeron® B810 (2 x 1.6GHz, 2M cache, Max. TDP 35W)
 - Intel® Pentium® B950 (2 x 2.1GHz, 2M cache, Max. TDP 35W)
- BIOS: AMI BIOS
- System chipset: Intel® HM76 Express chipset
- System memory: 1 x 204-pin DDR3 SO-DIMM socket, 4G DDR3 (default), Support up to 8GB DDR3-1066/1333, non-ECC and un-buffered

- Storage device:
 - 1 x external locked CFast socket
 - 2 x hard drive bay: optional 2 x 2.5" SATA HDD
- Watchdog timer: Watchdog timeout can be programmable by software from 1 second to 255 seconds and from 1 minute to 255 minutes (tolerance 15% under room temperature 25°C)
- H/W status monitor: monitoring system temperature, and voltage
- Expansion: 2 x mini-PCIe sockets (support optional Wi-Fi or 3.5G module)
 - 2 x expansion slots for add-on PCI or/and PCIe cards
 - 1 x PCI and 1 x PCIe4 slots (default)
 - 2 x PCIe4 slots
 - 2 x PCI slots
- Panel backlight control button: increase brightness/decrease brightness/backlight on/off

Rear I/O

- Ethernet: 2 x RJ45
- 2nd display VGA port: 1 x DB15
- Audio port: 1 x Line-out; 1 x Line-in; 1 x MIC-in
- USB: 4 x USB 2.0
- 2 x PS2 keyboard/mouse
- AC power switch
- Reset button
- DIO w/ 2.5kv isolated protection:
 - 4 x digital input (source type)
 - Input voltage (dry contact): Logic 0: Close to GND
 - Logic 1: open

Dimension Drawing



- Input voltage: Logic 0: 3V max.
Logic 1: +5 to 30V
- 4 x digital output (Sink type)
- Output voltage: +3.6 to 5V
- Sink current: 200mA max. per channel
- ♦ GPIO: 4 x digital in/4 x digital out
- ♦ COM #1: RS232/422/485 w/ 2.5kv isolated protection
- ♦ COM #2: RS232/422/485 w/ 2.5kv isolated protection
- ♦ COM #3: RS232 w/ RI or 5V or 12V selection
- ♦ COM #4: RS232 w/ RI or 5V or 12V selection
- ♦ COM #5: RS232
- ♦ COM #6: RS232
- ♦ LPT: 1 x parallel port

Audio

- ♦ AC97 codec: Realtek ALC886-GR
- ♦ Audio interface: Line-out/Line-in/MIC-in audio Jack

Ethernet

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

Fieldbus

- ♦ Support one special fieldbus module kit

Mechanical & Environment

- ♦ Color: pantone 432C\RAL 70 24 front bezel
- ♦ Enclosure: aluminum front bezel with SPCC nickel plated housing
- ♦ IP protection: IP66 front
- ♦ Mounting: panel/wall/stand/VESA 100mm x 100mm
- ♦ System with panel mounting kit w/o Panel mounting hole
- ♦ Power input: 100-240V~,1.5A,50-60Hz; Fuse: 250VAC/3A
- Power connector: AC inlet (IEC60320 C14)
- Power supply: 120W
- ♦ Vibration:
 - IEC 68 2-64 (w/ HDD)
 - 1Grms @ sine, 5~500Hz, 1hr/axis (HDD operating)
 - 2Grms @ sine, 5~500Hz, 1hr/axis (CFast operating)
 - 2.2Grms @ random condition, 5~500Hz, 0.5hr/axis (non-operating)

- ♦ Shock:
 - IEC 68 2-27
 - HDD: 20G @ wall mount, half sine, 11ms
- ♦ Operating temperature: -10°C to 50°C
 - * Intel® Core™ i7/Intel® Celeron® B810/Intel® Pentium® B950: -10°C to 40°C
- ♦ Storage temperature: -20°C to 75°C
- ♦ Operating humidity: 10% to 90% relative humidity, non-condensing
- ♦ Dimension: 562.4 x 382.4 x 92.27mm
- ♦ Weight: 12.51Kg

Certifications

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

Ordering Information

System

- ♦ **IPPC 2160PP2E-AC (P/N: 10I12160P00X0)**
21.5" Full HD LED backlight fanless touch panel PC, Intel® Core™ i5-3610ME 2.7GHz, ten points P-Cap touch screen, 4GB DDR3, 6 x COMs, 4 x 4 GPIO, 4 x 4 DI/O with isolated protection, AC power input

Option

- ♦ **Riser card 2 x PCI slots (P/N: 20JK036P200X0)**
- ♦ **Riser card 2 x PCIe4 slots (P/N: 20JK036E200X2)**



Main Features

- Onboard Intel® Quark™ processor X1021 single core 400MHz
- Wind River® or Yocto (only for NIO100Y) operating system and McAfee® security software solutions
- Optional Wi-Fi or wireless module
- 2 x 10/100 Fast Ethernet ports
- 1 x mPCIe slots for Radio module (only for NIO100)
- 1 x mPCIe slot for FBI module (only for NIO101)
- 2 x USB 2.0 type A
- 1 x RS232/485 selectable
- DIO 4x4
- Support 9 to 36V wide range DC input with phoenix x 2 pin terminal block
- Support -20 to 70°C extended operating temperature

Product Overview

NIO100, designed as an IoT (Internet of Thing) gateway for cloud application specifically focused in industrial field, collects sensor data via RS232/485/DIO and transmitting data to cloud by 3G, Wi-Fi or Ethernet. NIO100 has power 9 to 36V wide range DC inputs for industrial environment. NIO100 is an innovative and compactable new gateway for IoT target market to Industrial 4.0 a good product.

Specifications

CPU Support

- Onboard Intel® Quark™ SoC processor X1021 Single Core 400MHz

Main Memory

- DDR3 1GB
- eMMC 4GB

Serial Port

- 1 x RS232/485 (software selectable)

DIO

- 4 x 4 DIO supports

USB

- 2 x USB 2.0 Type A

Ethernet

- 2 x 10/100 Base-TX
- MDI/MDIX Auto cross

Reset

- 1x reset button

Expansion Slot

- 1x mPCIe, half/short size
- One for Wi-Fi/3G module (Optional)

Physical and Power

- DC 9 to 36V with 2 pins phoenix terminal block
- Din-Rail(optional)/Wall mountable
- Dimension: 130 x 130 x 40 mm
- Weight: 700g (w/o bracket)

SW Features

- Moon Island Liunx 5.0.1
- Macfee security
- Web GUI management
- Xcare client
- Modbus TCP

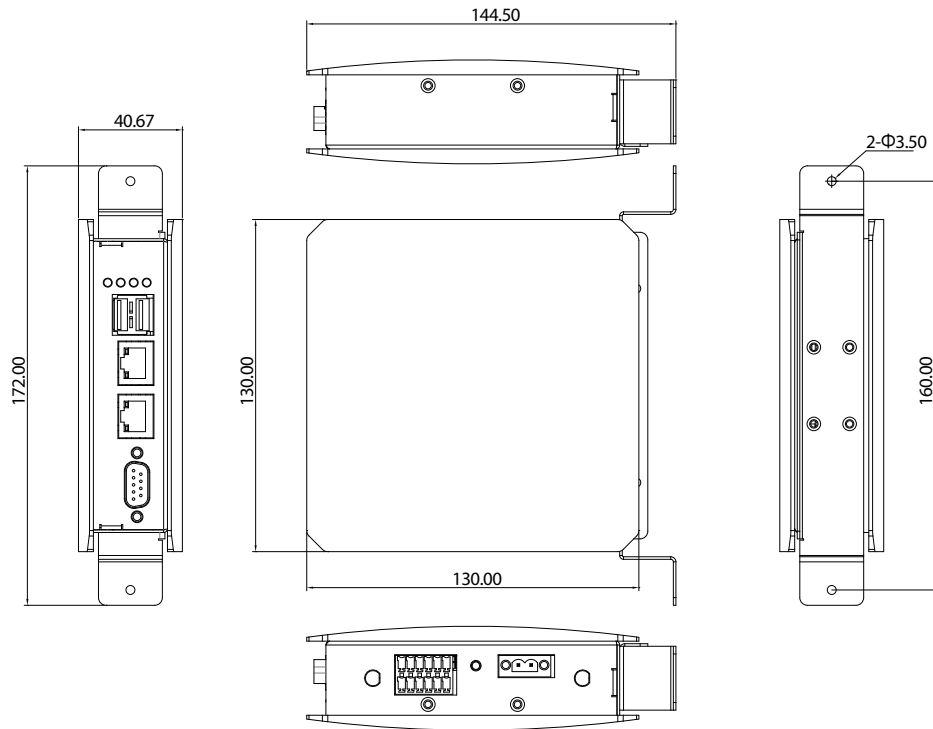
Environment Protection

- Operating temperature: -20°C to 70°C
- Storage temperature: -30°C to 80°C
- Pole/Wall mount kit x1

Mechanical Draft

- Wall Mounting
- PCB: 110 x 110 x 30 mm
- Operating temperature: -20°C to 70°C
- Storage temperature: -25°C to 75°C
- Humidity: 0% to 95% maximum (Non-condensing)

Dimension Drawing



Ordering Information

- **NIO100 (P/N: 10T00010005X0)**
Quark/Moon Island IoT gateway w/ Modbus
- **NIO100Y (P/N: 10T00010006X0)**
Quark/Yocto IoT gateway w/ Modbus
- **NIO101 (P/N: 10T00010100X0)**
Quark/Moon Island IoT gateway w/ FBI (Filed Bus Interface) supported
- **NIO101Y (P/N: 10T00010101X0)**
Quark/Yocto IoT gateway w/ FBI (Filed Bus Interface) supported

Accessories

- **Wi-Fi/BT Combo module: 802.11b/g/n WLAN+BT 3.0/4.0 (P/N: 7570LAN074X00)**
- **RF Antenna for Wi-Fi/3G by customer request**
- **3G module: Telit HE910 5-bands, 21M/5.7M DL/UL, w/ GPS and voice (P/N: 7570LAN031X00)**
- **Adaptor: Phonix 2-pin EU/Wall mount/ 12V/2A (P/N: 7400024010X00)**
- **Adaptor: Phonix 2-pin US/Wall mount/ 12V/2A (P/N: 7400024009X00)**
- **Mounting: DIN Rail Mount (P/N: 10T00010002X0)**



Main Features

- 4.3" TFT color display, LED backlight
- 480 x 272 pixel (WQVGA) resolution, 16.7M colors
- Resistive touchscreen
- 1 x Ethernet port
- 1 x USB host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

Product Overview

The eLITE Series 500 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 eLITE504 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.

Highlight

- JMobile runtime included. Full compatibility with JMobile Studio.
- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far East languages are supported. Tools available in JMobile studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for factory and building automation systems.
- Multiple drivers communication capability
- Remote monitoring and control. Client- server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%

Specifications

Panel

- LED Size: 4", 16:9
- Resolution: WQVGA 480x272
- Luminance: 240cd/m²
- LCD color: 16.7M
- Active display area: 95.04x53.86mm
- Backlight: LED

System Resources

- Operating System: Linux 3.8x
- Memory: 2G eMMC Flash
- RAM: 256MB DDR

Operator Interface

- Touchscreen: Analog resistive

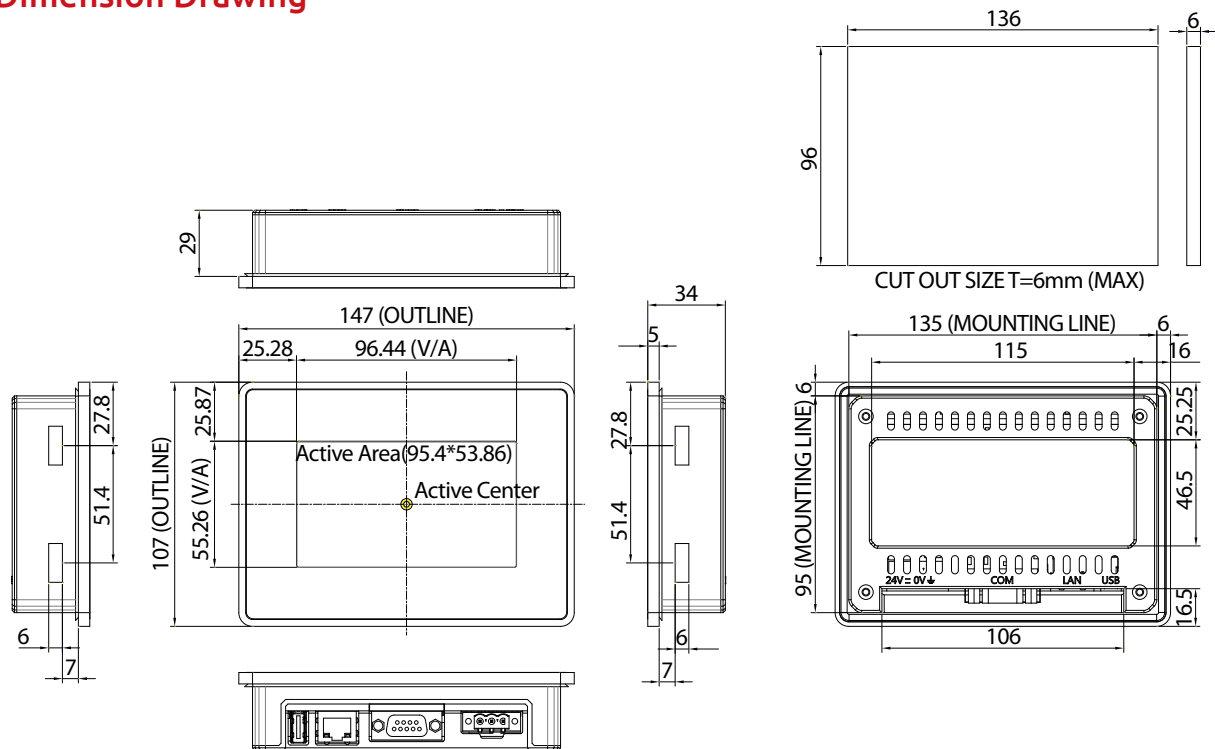
Interface

- Ethernet: 1 x 10/100 Mbit
- USB: 1 x USB2.0 host interface
- Serial: 1 x RS232/422/485 software configuration

Functionality

- Vector graphic: Yes, includes SVG support
- Object dynamics: Yes, visibility, opacity, position, size, rotation for most object types

Dimension Drawing



- True-type Font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and passwords: Yes
- Hardware real time clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings

- Power supply voltage: 24VDC (18 to 32VDC)
- Current consumption: 0.5A at 24VDC (max.)
- Fuse: Automatic
- Weight: 0.35Kg

Environmental Conditions

- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 7°C
- Operating and storage humidity: 5% to 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions

- Faceplate LxH: 147x107 mm
- Cutout AxB: 136x96 mm
- Depth D+T: 29+5 mm

Certifications

- CE (emission EN61000-6-3/4; Immunity EN61000-6-1/2 for installation in industrial environments)
- UL (UL508 listed)

Ordering Information

• eLITE504 (P/N: TBD)

4.3" widescreen true color TFT WQVGA touchscreen with Ethernet and USB interfaces. JMobile run-time



Main Features

- 7" TFT color display, LED backlight
- 800 x 480 pixel (WVGA) resolution, 16.7M colors
- Resistive touchscreen
- 1 x Ethernet port
- 1 x USB host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

Product Overview

The eLITE Series 500 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 eLITE507 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.

Highlight

- JMobile runtime included. Full compatibility with JMobile Studio.
- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far east languages are supported. Tools available in JMobile studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for factory and building automation systems.
- Multiple drivers communication capability
- Remote monitoring and control. Client- Server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%

Specifications

Panel

- LED Size: 7", 16:9
- Resolution: WVGA 800x480
- Luminance: 200cd/m²
- LCD color: 16.7M
- Active display area: 154.08x85.92mm
- Backlight: LED

System Resources

- Operating system: Linux 3.8x
- Memory: 2G eMMC flash
- RAM: 256MB DDR

Operator Interface

- Touchscreen: analog resistive

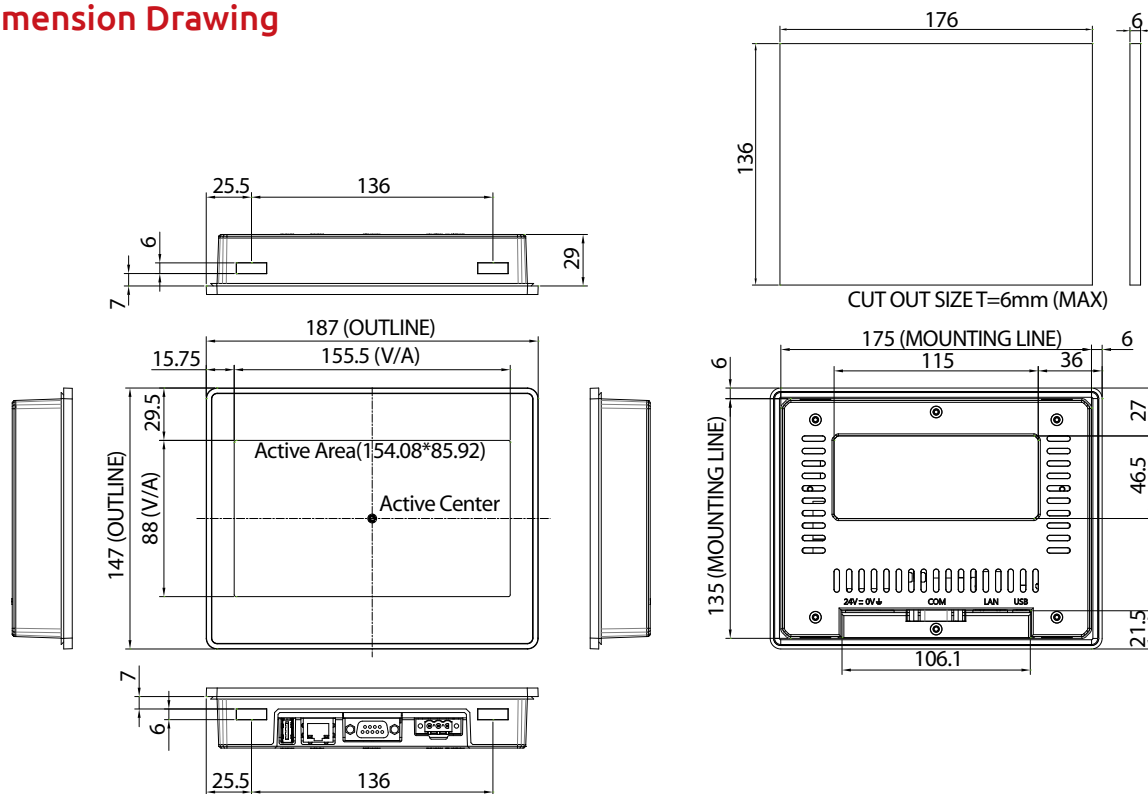
Interface

- Ethernet: 1x 10/100 Mbit
- USB: 1x USB2.0 host interface
- Serial: 1x RS232/422/485 software configuration

Functionality

- Vector graphic: Yes, includes SVG support
- Object dynamics: Yes, visibility, opacity, position, size, rotation for most object types

Dimension Drawing



- True-type font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, Flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, Flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and passwords: Yes
- Hardware real time Clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings

- Power supply voltage: 24VDC (18 to 32 VDC)
- Current consumption: 0.6A at 24VDC (max.)
- Fuse: Automatic
- Weight: 0.54Kg

Environmental Conditions

- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 7°C
- Operating and storage humidity: 5% to 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions

- Faceplate LxH: 187x147mm
- Cutout AxH: 176x136mm
- Depth D+T: 29+4.81mm

Certifications

- CE (emission EN61000-6-3/4; immunity EN61000-6-1/2 for installation in industrial environments)
- UL (UL508 Listed)

Ordering Information

• eLITE507 (P/N: TBD)

7" widescreen true color TFT WVGA touchscreen with Ethernet and USB interfaces. JMobile run-time



Main Features

- 10.1" TFT color display, LED backlight
- 1024 x 600 pixel (WSVGA) resolution, 16.7M colors
- Resistive touchscreen
- 1 x Ethernet port
- 1 x USB host port
- 1 x RS232/422/485 communication port
- Extremely cost efficient HMI with plastic chassis
- Slim design. Mounting depth less than 30mm

Product Overview

The eLITE Series 500 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 eLITE510 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.

Highlight

- JMobile runtime included. Full compatibility with JMobile Studio.
- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far east languages are supported. Tools available in JMobile studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for factory and building automation systems.
- Multiple drivers communication capability
- Remote monitoring and control. Client- Server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%

Specifications

Panel

- LED Size: 10.1", 16:9
- Resolution: WSVGA 1024x600
- Luminance: 240cd/m²
- LCD color: 16.7M
- Active display area: 222.72x125.28mm
- Backlight: LED

System Resources

- Operating System: Linux 3.8x
- Memory: 4G eMMC flash
- RAM: 512MB DDR

Operator Interface

- Touchscreen: analog resistive

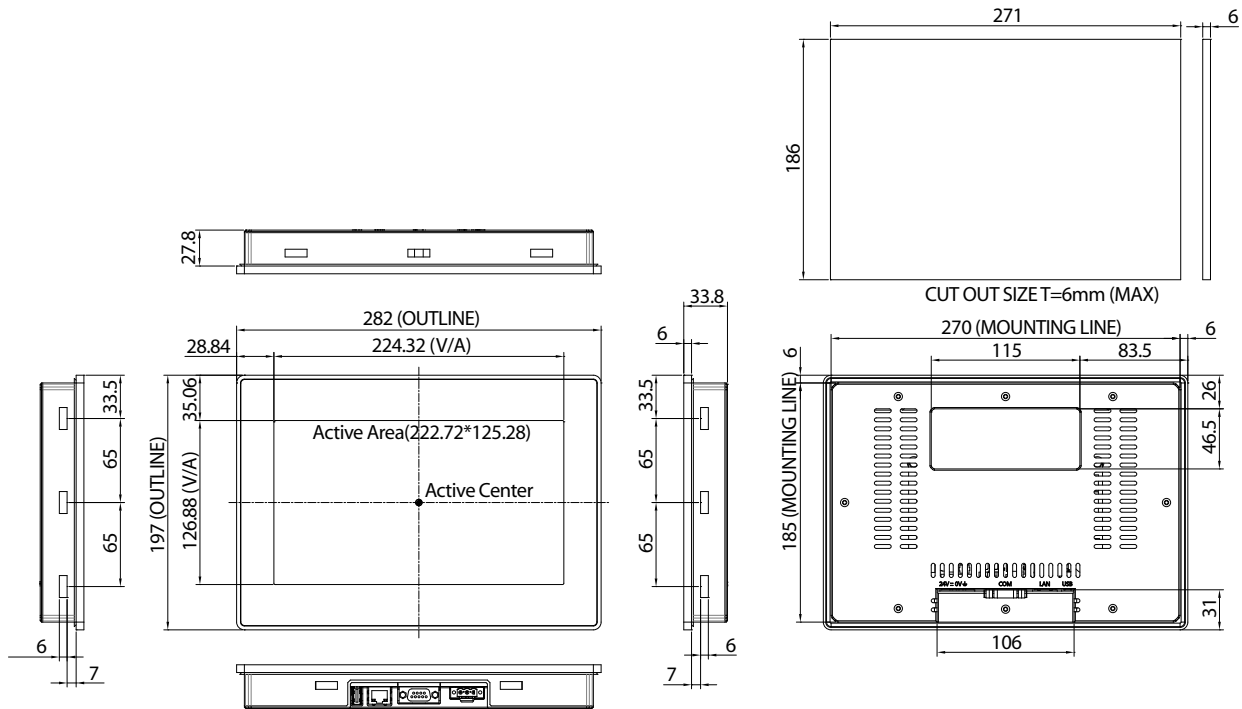
Interface

- Ethernet: 1 x 10/100 Mbit
- USB: 1 x USB2.0 host interface
- Serial: 1 x RS232/422/485 software configuration

Functionality

- Vector Graphic: Yes, includes SVG support
- Object dynamics: Yes, visibility, opacity, position, size, rotation for most object types

Dimension Drawing



- True-type font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and passwords: Yes
- Hardware real time clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings

- Power supply voltage: 24VDC (18 to 32VDC)
- Current consumption: 0.9A at 24VDC (max.)
- Fuse: Automatic
- Weight: approx. 1Kg

Environmental Conditions

- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 7°C
- Operating and storage humidity: 5% to 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions

- Faceplate LxH: 282x197mm
- Cutout AxH: 271x186mm
- Depth D+T: 27.8+6mm

Certifications

- CE (emission EN61000-6-3/4; immunity EN61000-6-1/2 for installation in industrial environments)
- UL (UL508 listed)

Ordering Information

• eLITE507 (P/N: TBD)

10.1" widescreen true color TFT WSVGA touchscreen with Ethernet and USB interfaces. JMobile run-time



Main Features

- 7" TFT color display, LED backlight
- 800 x 480 pixel (WVGA) resolution, 64K colors
- Resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD card slot
- Connection to fieldbus systems and I/O using optional plug-in modules
- Slim design. Mounting depth less than 50mm

Product Overview

As a partner of well-known EXOR International S.p.A., NEXCOM integrates EXOR's HMI solution into eTOP HMI series. The eTOP Series 500 HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for all demanding HMI applications including factory and building automation. The eTOP507 features a bright 7" TFT widescreen (16:9) display with a fully dimmable LED backlight. The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

JMobile runtime included. Full compatibility with JMobile Studio.

- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far East languages are supported. Tools available in JMobile Studio support easy third-party translations and help reducing development and maintenance costs of the application.
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus
- Includes support for a wide range of communication drivers for Factory and Building Automation systems.
- Multiple drivers communication capability
- Remote monitoring and control. Client- Server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile Studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects.
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%.

Specifications

Panel

- LED Size: 7", 16:9
- Resolution: WVGA 800 x 480
- Luminance: 300cd/m²
- LCD color: 64K
- Active display area: 7" diagonal
- Backlight: LED

System Resources

- Operating System: Microsoft Windows CE6.0

- User Memory: 128MB Flash
- RAM: 256MB DDR

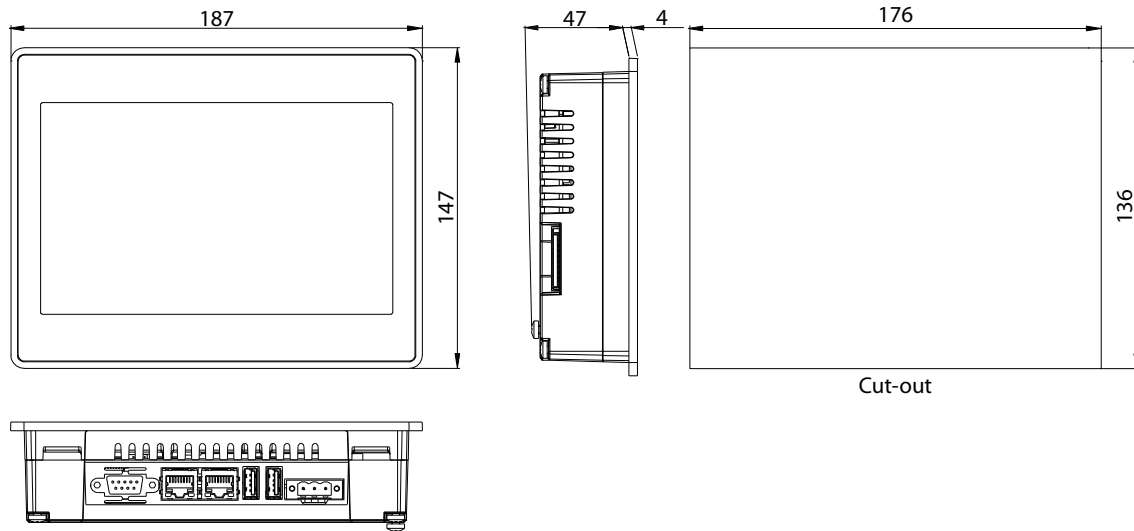
Operator Interface

- Touchscreen: Analog resistive
- LED indicators: 1 (dual color)

Interface

- Ethernet: 2 10/100Mbit with integrated Switch
- USB: 2 Host Interface (1 version 2.0, 1 version 2.0 and 1.1)

Dimension Drawing



- Serial: RS232/422/485 software configuration
- Expansion Slot: 2 Optional plug-in
- Memory Card: SD Card Slot

Functionality

- Vector Graphic: Yes, includes SVG support
- Object dynamics: Yes, Visibility, opacity, position, size, rotation for most object types
- TrueType Font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, Flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, Flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and Passwords: Yes
- Hardware Real Time Clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings

- Power supply voltage: 24VDC (10 to 32VDC)
- Current consumption: 0.65A at 24VDC (max.)
- Fuse: Automatic
- Weight: Approx. 1Kg
- Battery: Rechargeable Lithium battery, not user- replaceable

Environmental Conditions

- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 70°C
- Operating and storage humidity: 5% to 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions

- Faceplate LxH: 187 x 147mm
- Cutout AxH: 176 x 136mm
- Depth D+T: 47 + 4mm

Certifications

- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments)
- DNV Type Approval Certificate
- 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



Main Features

- 10.4" TFT color display, LED backlight
- 800 x 600 pixel (SVGA) resolution, 64K colors
- Resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports
- SD card slot
- Connection to fieldbus systems and I/O using optional plug-in modules
- Slim design. Mounting depth less than 50mm

Product Overview

As a partner of well-known EXOR International S.p.A., NEXCOM integrates EXOR's HMI solution into eTOP HMI series. The eTOP Series 500 HMI products combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for all demanding HMI applications including factory and building automation. The eTOP510 features a bright 10.4" TFT display with a fully dimmable LED backlight. The JMobile software offers full vector graphic capabilities and plenty of connectivity options.

JMobile runtime included. Full compatibility with JMobile Studio.

- Full vector graphic support. Native support of SVG graphic objects. Transparency and alpha blending.
- Full object dynamics: control visibility and transparency, move, resize, rotate any object on screen. Change properties of basic and complex objects.
- Multilanguage applications. Easily create and manage your applications in multiple languages to meet global requirements. Far East languages are supported. Tools available in JMobile Studio support easy third-party translations and help reducing development and maintenance costs of the application
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, users and passwords, e-mail and RSS feeds, rotating menus.
- Includes support for a wide range of communication drivers for Factory and Building Automation systems.
- Multiple drivers communication capability.
- Remote monitoring and control. Client- Server functionality. Mobile clients supported.
- Remote maintenance and support with VNC-based functionality.
- Off-line simulation of the HMI application with JMobile Studio.
- Powerful scripting language for automating HMI applications. Script debugging improves efficiency in application development.
- Rich gallery of symbols and objects.
- Project templates
- Optional plug-in modules for fieldbus systems, I/O and controllers.
- Display backlight dimmable to 0%.

Specifications

Panel

- LED Size: 10.4"
- Resolution: SVGA 800 x 600
- Luminance: 300cd/m²
- LCD color: 64K
- Active display area: 10.4" diagonal
- Backlight: LED

System Resources

- Operating System: Microsoft Windows CE6.0
- User Memory: 256MB Flash
- RAM: 256MB DDR

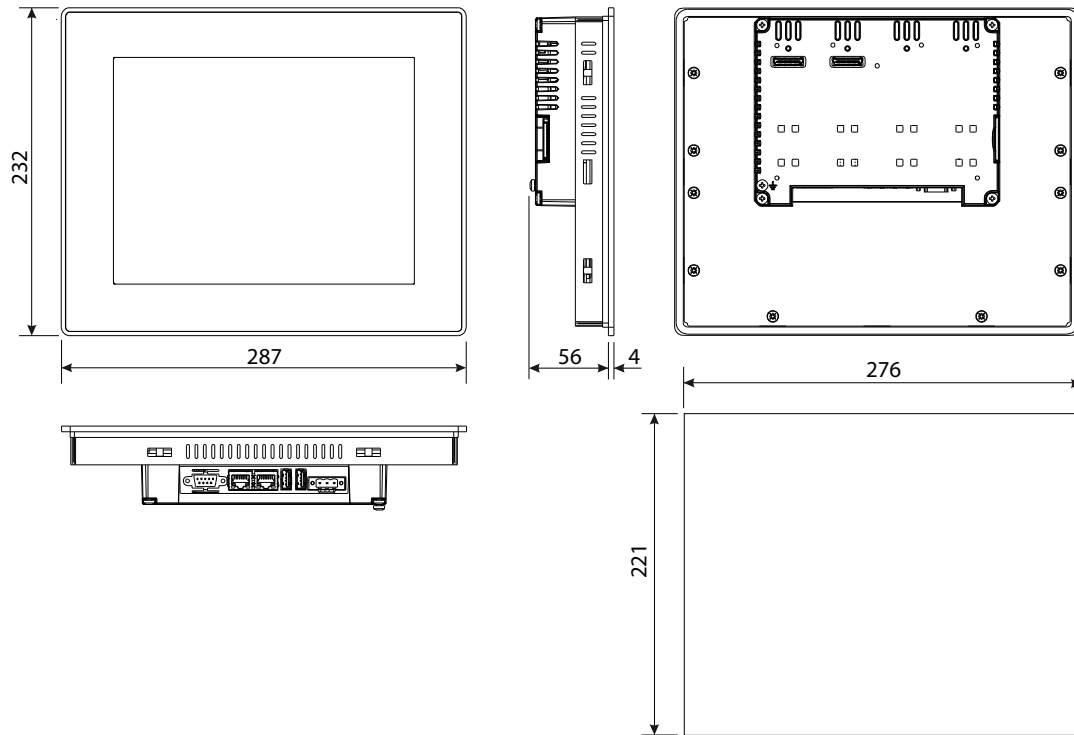
Operator Interface

- Touchscreen: Analog resistive
- LED indicators: 1 (dual color)

Interface

- Ethernet: 2 10/100Mbit with integrated Switch
- USB: 2 Host Interface (1 version 2.0, 1 version 2.0 and 1.1)
- Serial: RS232/422/485 software configuration
- Expansion Slot: 2 Optional plug-in
- Memory Card: SD Card Slot

Dimension Drawing



Functionality

- Vector Graphic: Yes, includes SVG support
- Object dynamics: Yes, Visibility, opacity, position, size, rotation for most object types
- TrueType Font: Yes
- Multiple driver communication: Yes
- Data acquisition and trend presentation: Yes, Flash memory storage limited only by available memory
- Multilanguage: Yes, with runtime language switching
- Recipes: Yes, Flash memory storage limited only by available memory
- Alarms: Yes
- Historical event list: Yes
- Users and Passwords: Yes
- Hardware Real Time Clock: Yes, with battery back-up
- Screen saver: Yes
- Buzzer: Yes, audible feedback for touch screen

Ratings

- Power supply voltage: 24VDC (10 to 32VDC)
- Current consumption: 0.95A at 24VDC (max.)
- Fuse: Automatic
- Weight: Approx. 2.1Kg
- Battery: Rechargeable Lithium battery, not user- replaceable

Environmental Conditions

- Operating temperature: 0°C to 50°C (vertical installation)
- Storage temperature: -20°C to 70°C
- Operating and storage humidity: 5% to 85% relative humidity, non-condensing
- Protection class: IP66 (front), IP20 (rear)

Dimensions

- Faceplate LxH: 287 x 232mm
- Cutout AxH: 276 x 221mm
- Depth D+T: 56 + 4mm

Certifications

- CE (Emission EN61000-6-4; Immunity EN61000-6-2 for installation in industrial environments)

- DNV Type Approval Certificate
- cULus (UL508 Listed Haz. Loc. Class I, Division 2, Group A,B,C, and D)
- C-Tick

Ordering Information

- **eTOP510 (P/N: 79IE051001X00) + eTOP510U3P1**
10"4 TFT color touchscreen with Ethernet and USB interfaces. JMobile run-time

HMI Product Selection

eTOP506

5.7" TFT color display, LED backlight

- 320 x 240 pixel (QVGA) resolution, 64K colors, resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports, 1 x SD card slot
- Connection to bus systems using optional plug-in modules
- Slim design. Mounting depth less than 50mm
- Powerful and intuitive programming with JMobile software
- Available in three front colors (White/Black/Silver)
- CE, DNV, cULus Class I, Div. 2



eTOP512

12"1 SVGA TFT color display, LED backlight

- 800 x 600 pixel (SVGA) resolution, 64K colors, 256MB Flash, resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports, 1 x SD card slot, 1 x PDF reader
- Connection to bus systems using optional plug-in modules
- Slim design. Mounting depth less than 50mm
- Powerful and intuitive programming with JMobile software
- Available in three front colors (White/Black/Silver)
- CE, DNV, cULus Class I, Div. 2



eTOP513

13"3 WXGA TFT wide color display, LED backlight

- 1280 x 800 pixel resolution, 64K colors, 256MB Flash, resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports, 1 x SD card slot, 1 x PDF reader
- Connection to bus systems using optional plug-in modules
- Slim design. Mounting depth less than 50mm
- Powerful and intuitive programming with JMobile software
- Available in three front colors (White/Black/Silver)
- CE, DNV, cULus Class I, Div. 2



eTOP515

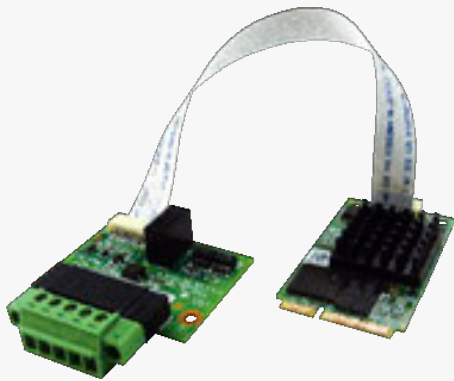
15" XGA TFT color display, LED backlight

- 1024 x 768 pixel resolution, 64K colors, 256MB Flash, resistive touchscreen
- 2 Ethernet ports with switch function
- 2 USB Host ports, 1 x SD card slot, 1 x PDF reader
- Connection to bus systems using optional plug-in modules
- Slim design. Mounting depth less than 50mm
- Powerful and intuitive programming with JMobile software
- Available in three front colors (White/Black/Silver)
- CE, DNV, cULus Class I, Div. 2



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-PCle 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-PCle card with separated connector board

Slaves Max.

- ♦ 63

Cyclic Data Max.

- ♦ 7168, 255 Bytes/Slave

Acyclic 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)

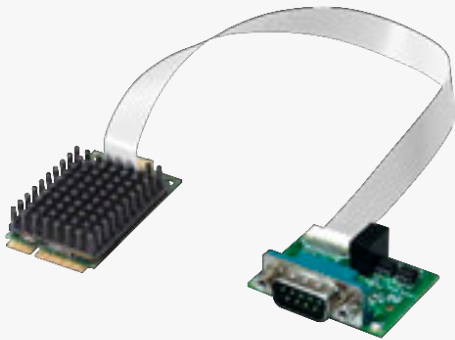
mini-PCle DeviceNet master card

Cable length: 15cm

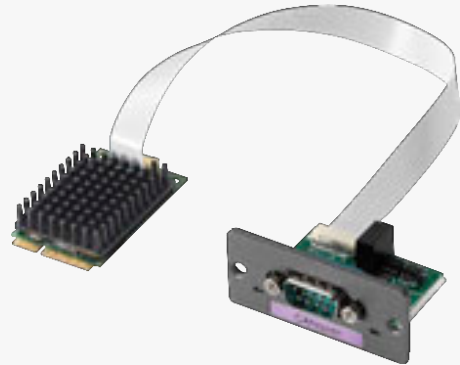
♦ FBI90E-DNM Universal Kit (P/N: 10J50090E10X0)

mini-PCle DeviceNet master module kit w/ universal bracket

Cable length: 25cm



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. 200Bytes/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 Management
- SYNC, Emergency

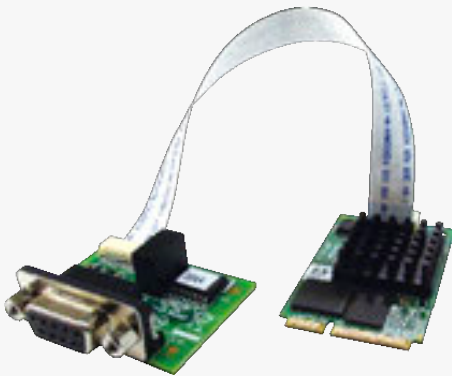
Ordering Information

♦ FBI90E-COM (P/N: 10J50090E14X0)

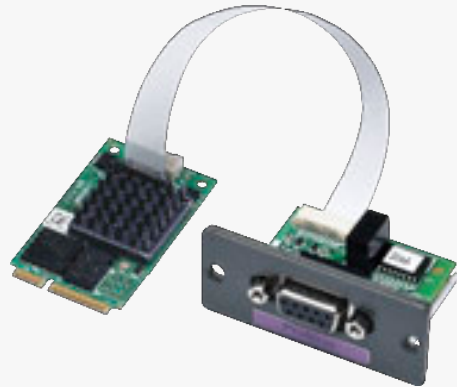
mini-PCIe CANOpen master card
Cable Length: 25cm

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

mini-PCIe CANOpen master module kit w/ universal bracket
Cable length: 25cm



FBI90E-PBM (P/N: 10J50090E01X0)



FBI90E-PBM Universal Kit (P/N: 10J50090E09X0)

Main Features

- ♦ Support PROFIBUS-DP master interface
- ♦ mini-PCle 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-PCle 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)

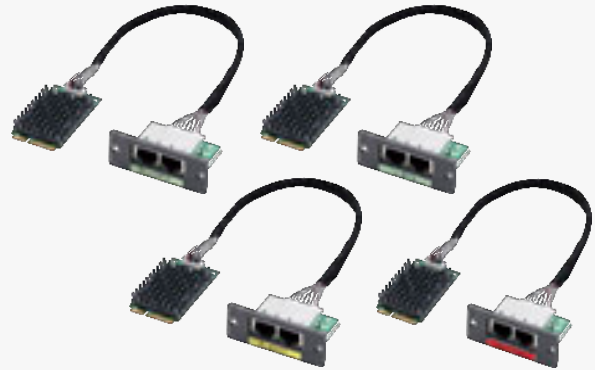
mini-PCle PROFIBUS master card
Cable length: 15cm

♦ FBI90E-PBM Universal Kit (P/N: 10J50090E09X0)

mini-PCle PROFIBUS master module kit w/ universal bracket
Cable length: 25cm



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-PCle 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 FBI90E-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-PCle card with separated connector board

PROFINET Master

- I/O Devices max.: 128
- Cyclic Data max.: 11472 Bytes
- Acyclic 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

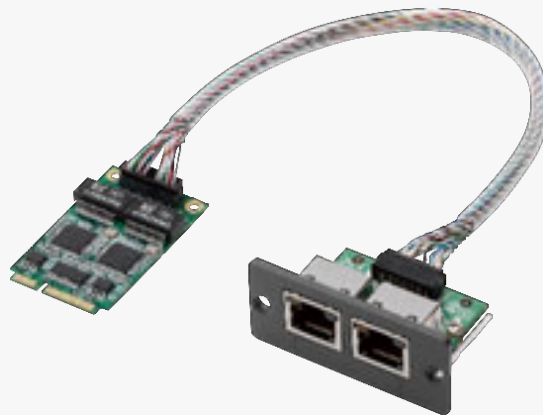
EtherCAT Master

- Slaves max.: 200
- Cyclic Data max.: 11520 Bytes

- Acyclic 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-PCle PROFINET, EtherNet/IP, EtherCAT, SERCOS III master/slave card
Cable length: 15cm
- **FBI90E-REM Universal Kit (P/N: 10J50090E08X0)**
mini-PCle PROFINET, EtherNet/IP, EtherCAT, SERCOS III master/slave module kit w/ universal bracket
Cable length: 25cm



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 NISE 300 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

- 30mm (W) x 51mm (L)

LAN LED Definitions

LAN Speed	Activity LED	Link type LED
10/100 Mbps	Orange (Left, Flashing)	Orange (Right, permanent)
1000 Mbps (Gigabit)	Orange(Left, Flashing)	Green (Right, permanent)

Environment

- Environment Operating Temperature: 0°C to 70°C
- Storage Temperature: -20°C to 75°C

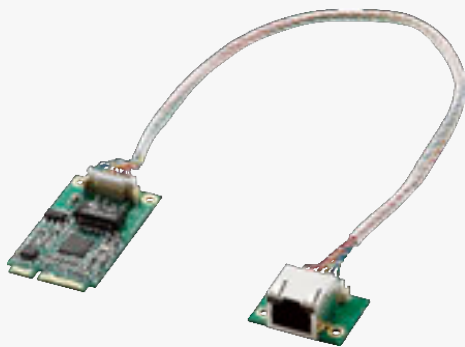
OS Support

- Windows 7 32bits and 64bits
- Windows 8 32bits and 64bits

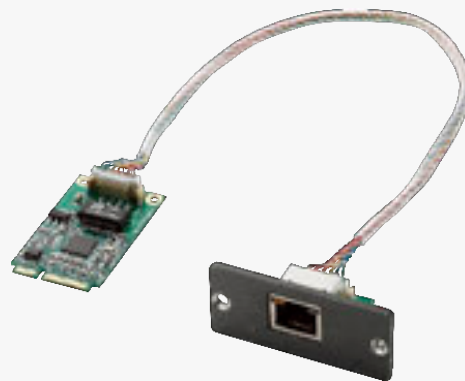
Ordering Information

Barebone

- NISK300LAN Kit with universal I/O bracket, Cable Length 25CM (P/N: 10JK0030000X0)



**NISKLAN01 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

- 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

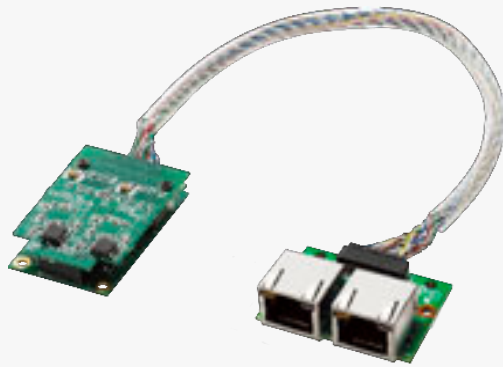
OS Support

- Windows 7 32bits and 64bits
- Windows 8 32bits and 64bits

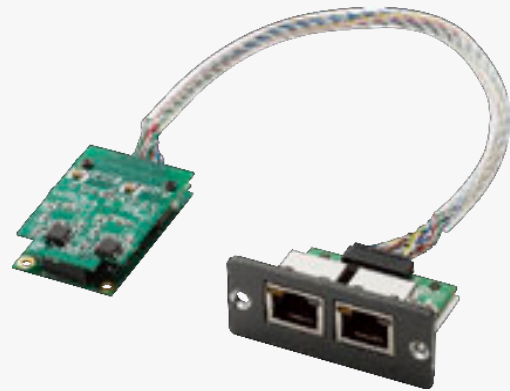
Ordering Information

Barebone

- **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
(Cable Length: 25cm, LAN Controller: 82574L)



**NISKLAN02 without bracket, Cable Length 250mm
(P/N: 10JKLAN0200X0)**



**NISKLAN02 with universal I/O bracket, Cable Length 250mm
(P/N: 10JKLAN0201X0)**

Main Features

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

Product Overview

NISKLAN02 with universal I/O bracket is specifically designed with all NISE models for network connectivity expansions. It provides dual Intel® Gigabit Ethernet ports with latest I210-AT controllers, which gives great network connectivity and less power consumption compared to the previous generation Intel® 82574L controllers. The dual LAN ports on NISKLAN02 supports WOL, PXE and teaming functions for managing network activities.

Specifications

Form Factor

- mini-PCIe Form Factor

Chipset

- Intel® Ethernet Controller I210-AT
- Compliant with IEEE802.3, 802.3u, and 802.ab

Transfer Rate

- Support 10/100/1000 Mbps transfer rates

Functions

- Support WOL, PXE and Teaming Functions

Dimensions

- Dimensions 30mm (W)x 51mm (L)

LAN LED Definitions

LAN Speed	Activity LED	Link type LED
10/100 Mbps	Orange (Left, Flashing)	Orange (Right, permanent)
1000 Mbps (Gigabit)	Orange (Left, Flashing)	Green (Right, permanent)

Environment

- Environment Operating Temperature: 0°C to 70°C
- Storage Temperature: -20°C to 75°C

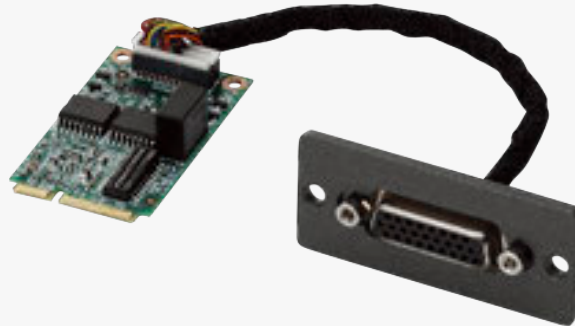
OS Support

- Windows 7 32bits and 64bits
- Windows 8 32bits and 64bits

Ordering Information

Barebone

- **NISKLAN02 Universal Kit (P/N: 10JKLAN0201X0)**
mini-PCIe to two GbE LAN Module w/ Universal Bracket
(Cable Length: 25cm, Lan Controller: I210-AT)
- **NISKLAN02 Kit (P/N: 10JKLAN0200X0)**
mini-PCIe to two GbE LAN Module w/o Bracket
(Cable Length: 25cm, Lan Controller: I210-AT)



Main Features

- mini-PCle 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-PCle 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

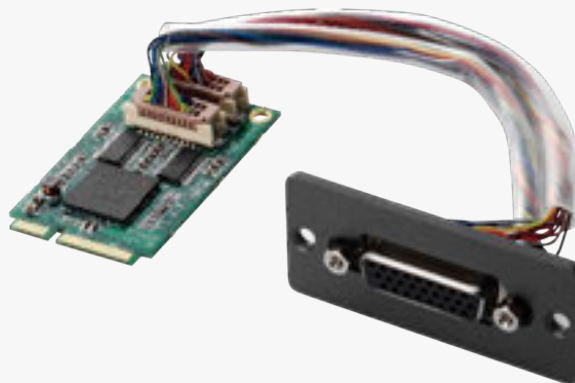
OS Support

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

Ordering Information

Barebone

- **NISKECOM3 Universal Kit (DB26)**
(P/N: 10JK0ECOM04X0)
mini-PCle to 4xCOM Module (RS232/422/485 auto) w/ 2.5KV Isolation via internal DB26 cable w/ Universal Bracket
(Cable Length: 25cm)



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

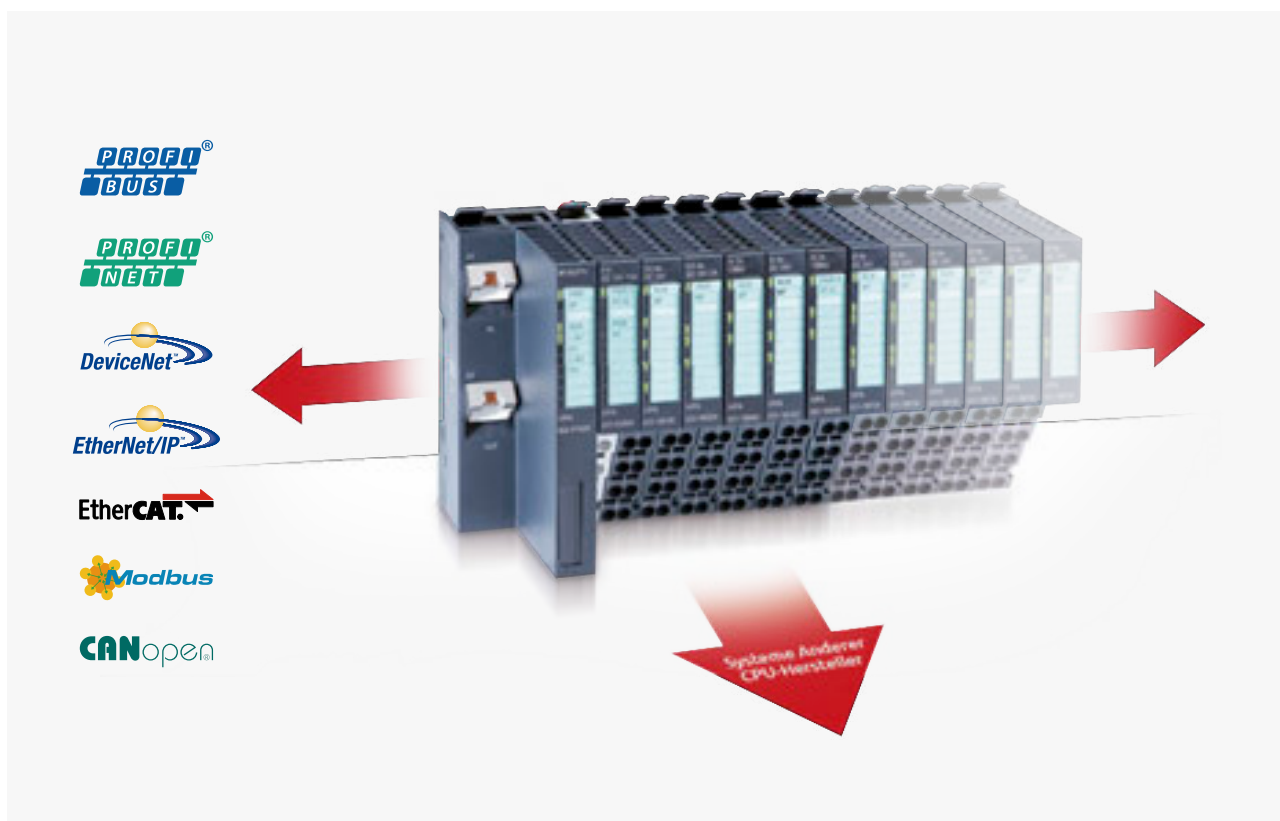
OS Support

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

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)



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, users 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 Performance

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

Ordering Information

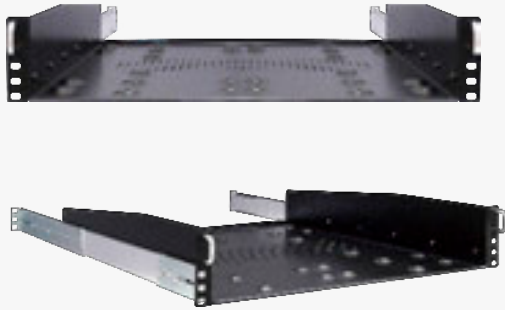
Order No.	Description
Clamp Modules	
001-1BA00	CM 001 - Potential distributor module 8x DC 24V clamps
001-1BA10	CM 001 - Potential distributor module 8x DC 0V clamps
001-1BA20	CM 001 - Potential distributor module 4x DC 24V, 4x DC 0V clamps
Power Modules	
007-1AB00	PM 007 - Power module Power supply DC 24V, 10A Reverse polarity protection Overvoltage protection
007-1AB10	PM 007 - Power module Power supply DC 24V, 4A Power supply DC 24V for bus supply 5V, 2A Reverse polarity protection Overvoltage protection
Digital Input Modules	
021-1BB00	SM 021 - Digital input 2 inputs
021-1BB10	SM 021 - Digital input 2 fast inputs Input filter time delay parameterizable 2µs...4ms
021-1BB50	SM 021 - Digital input 2 inputs Active low input
021-1BB70	SM 021 - Digital input 2 inputs Time stamp
021-1BD00	SM 021 - Digital input 4 inputs
021-1BD10	SM 021 - Digital input 4 fast inputs Input filter time delay parameterizable 2µs...4ms

021-1BD40	SM 021 - Digital input4 inputsConnect 2/3 wire
021-1BD50	SM 021 - Digital input4 inputsActive low input
021-1BD70	SM 021 - Digital input4 inputsTime stamp
021-1BF00	SM 021 - Digital input8 inputs
021-1BF50	SM 021 - Digital input8 inputsActive low input
021-1SD00	SM 021 - Digital input4 inputsSafety
Digital Output Modules	
022-1BB00	SM 022 - Digital output2 outputsOutput current 0,5 A
022-1BB20	SM 022 - Digital output2 outputsOutput current 2 A
022-1BB50	SM 022 - Digital output2 Low-Side outputsOutput current 0,5 A
022-1BB70	SM 022 - Digital output2 outputsTime stampOutput current 0,5 A
022-1BB90	SM 022 - Digital output2 outputsPWM
022-1BD00	SM 022 - Digital output4 outputsOutput current 0,5 A
022-1BD20	SM 022 - Digital output4 outputsOutput current 2 A
022-1BD50	SM 022 - Digital output4 Low-Side outputsOutput current 0,5 A
022-1BD70	SM 022 - Digital output4 outputsTime stampOutput current 0,5 A
022-1BF00	SM 022 - Digital output8 outputsOutput current 0,5 A
022-1BF50	SM 022 - Digital output8 Low-Side outputsOutput current 0,5 A
022-1HB10	SM 022 - Digital output2 relay outputsDC 30V /AC 230 VOutput current 3 A
022-1SD00	SM 022 - Digital output4 outputsSafetyOutput current 0,5 A
Analog Input Modules	
031-1BB10	SM 031 - Analog input2 inputs 12BitCurrent 4...20 mA2 wire
031-1BB30	SM 031 - Analog input2 inputs 12BitVoltage 0...10 V
031-1BB40	SM 031 - Analog input2 inputs 12BitCurrent 0(4)...20mA
031-1BB60	SM 031 - Analog input2 inputs 12BitCurrent 4...20mA2wire
031-1BB70	SM 031 - Analog input2 inputs 12BitVoltage -10 V...+10 V
031-1BB90	SM 031 - Analog input2 inputs 16BitThermocoupleVoltage -80mV...+80mV
031-1BD30	SM 031 - Analog input4 inputs 12BitVoltage 0...10 V
031-1BD40	SM 031 - Analog input4 inputs 12BitCurrent 0(4)...20mA
031-1BD70	SM 031 - Analog input4 inputs 12BitVoltage -10 V...+10 V
031-1BD80	SM 031 - Analog input4 inputs 16Bit0...3000 ohm resistanceResistance measurement with 2-, 3- and 4-wires
031-1CB30	SM 031 - Analog input2 inputs 16BitCurrent 0(4)...10mA
031-1CB40	SM 031 - Analog input2 inputs 16BitCurrent 0(4)...20mA
031-1CB70	SM 031 - Analog input2 inputs 16BitVoltage -10 V...+10 V
031-1CD30	SM 031 - Analog input4 inputs 16BitVoltage 0...10 V
031-1CD40	SM 031 - Analog input4 inputs 16BitCurrent 0(4)...20mA
031-1CD70	SM 031 - Analog input4 inputs 16BitVoltage -10 V...+10 V
031-1LB90	SM 031 - Analog input2 inputs 16BitThermocoupleVoltage -80mV...+80mV
031-1LD80	SM 031 - Analog input4 inputs 16Bit0...3000 ohm resistanceResistance measurement with 2, 3 and 4-wires
Analog Output Modules	
032-1BB30	SM 032 - Analog output2 outputs 12BitVoltage 0...10 V
032-1BB40	SM 032 - Analog output2 outputs 12BitCurrent 0(4)...20 mA
032-1BB70	SM 032 - Analog output2 outputs 12BitVoltage -10 V...+10 V
032-1BD30	SM 032 - Analog output4 outputs 12BitVoltage 0...10 V
032-1BD40	SM 032 - Analog output4 outputs 12BitCurrent 0(4)...20mA
032-1BD70	SM 032 - Analog output4 outputs 12BitVoltage -10 V...+10 V
032-1CB30	SM 032 - Analog output2 outputs 16BitVoltage 0...10 V
032-1CB70	SM 032 - Analog output2 outputs 16BitVoltage -10 V...+10 V
032-1CD30	SM 032 - Analog output4 outputs 16BitVoltage 0...10 V
032-1CD70	SM 032 - Analog output4 outputs 16BitVoltage -10 V...+10 V

RS232/422/485 - and Other CPs	
040-1BA00	CP 040 - Communication processorRS232 interface
040-1CA00	CP 040 - Communication processorRS422/485 interface
Counter Modules	
050-1BA00	FM 050 - Counter module1 Counter 32 Bit (AB)DC 24 V
050-1BA10	FM 050 - Counter module1 Counter 32 Bit (AB)DC 5 V
050-1BB00	FM 050 - Counter module2 Counter 32 Bit (AB)DC 24V
050-1BB30	FM 050 - Counter module2 Counter 32 Bit (AB)DC 24 V
050-1BB40	FM 050 - Counter module2 Channels 24 Bit (AB)DC 24 V
SSI Modules	
050-1BS00	FM 050S - SSI moduleSSI EncoderMaster or slave modeEncoder frequency 125 kHz...2 MHz μ s 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 x SM 022 digital output (DO 4xDC 24V, 0,5A), 1 x SM 031 analog input (AI 2x12Bit, U), 1 x SM 032 analog output (AO 2x12Bit, U)1 x ready to fit PROFIBUS cable incl. 2 x PB connector (972-0DP01+972-0DP10), 1 x profile rail, 1 x SLIO USB-Stick (GSD-files, manuals, catalogue (German/English), example program), 1 x transport case
35 mm Profile Rail	
290-1AF00	35 mm profile railLength 2000 mm
290-1AF30	35 mm profile railLength 530 mm
Miscellaneous	
000-0AA00	SLIO bus cover1 piece
000-0AB00	SLIO shield bus carrier10 pieces
000-0AC00	SLIO coding keys100 pieces
000-0DN00	SLIO DeviceNet jack for IMDeviceNet jack for IM053-1DN00Contact surface: gold Pole number: 5 Contact termination: spring force connection

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

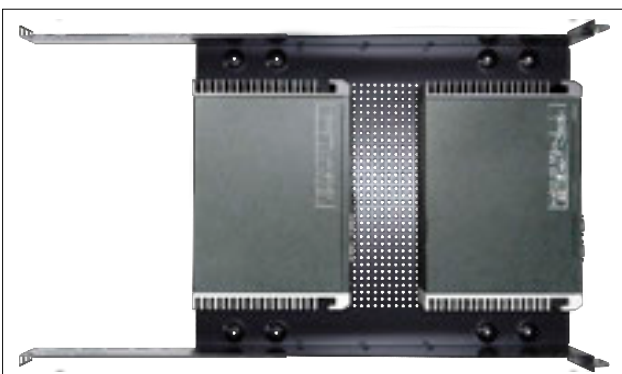
Form Factor

- 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)

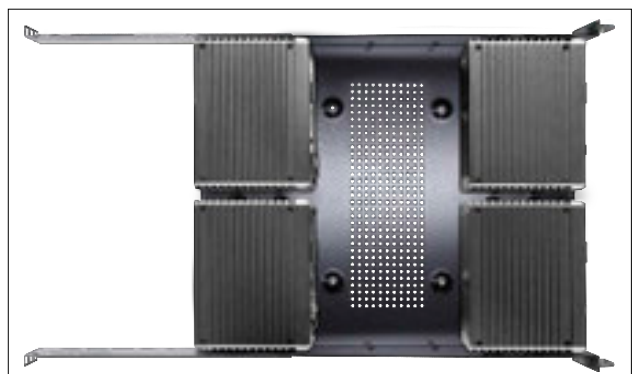
Dimensions

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

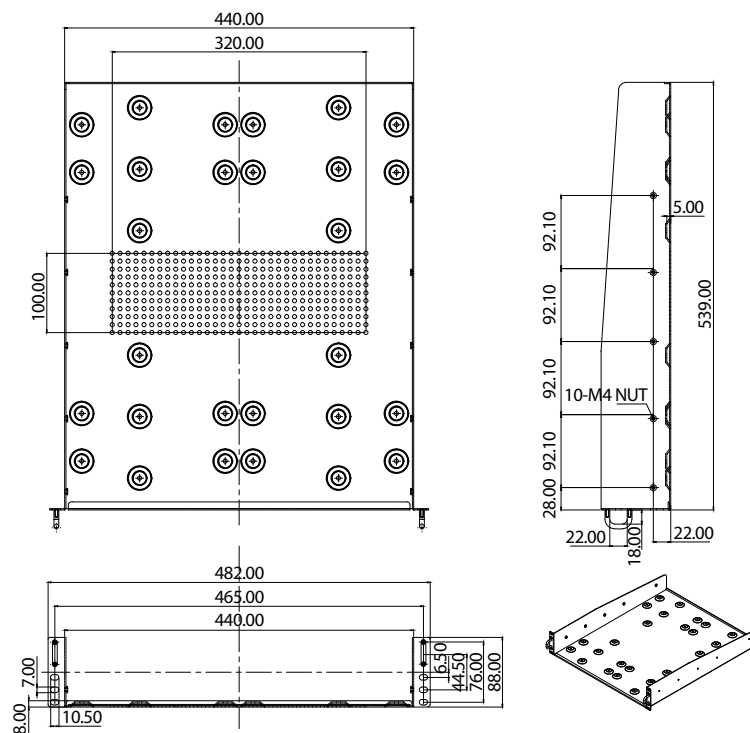
NISK2U Tray with NISE 300



NISK2U Tray with NISE 301



Dimension Drawing



Ordering Information

Barebone

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

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The Intelligent Systems

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