Building Forward Together | ADLINK

Leading Edge Application Ready Intelligent Platforms

Measurement and Automation

Intelligent Computing Platforms
Industrial Automation Control
Test and Measurement Solutions
Handheld Computers



www.adlinktech.com
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About ADLINK

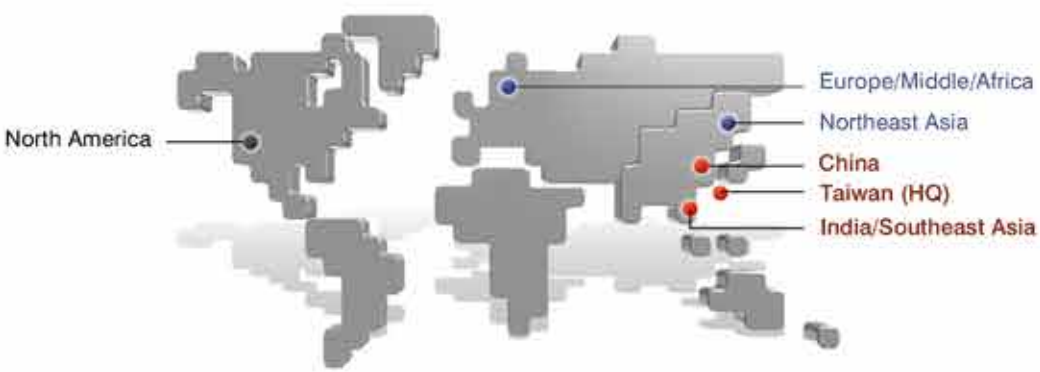
A Global Company

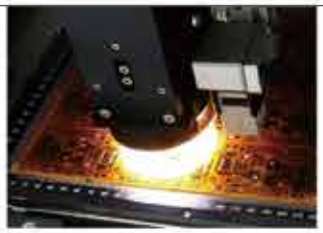
ADLINK, a manufacturer of embedded computing technology, leads the field with integration of computing power, rugged design, high availability, and industrial I/O. Dedicated to test & measurement, industrial automation, defense and aerospace, gaming, communications, medical, and transportation applications, ADLINK has made a name for itself providing reliable products of superior quality for cost-effective solutions, allowing our customers around the world to significantly reduce time-to-market burdens while increasing their competitive edge.

By providing leading-edge application-ready platforms and industrial building blocks, ADLINK empowers our customers, allowing them to minimize total cost of ownership (TOC) with customization and system integration advantages, keeping manufacturing costs low and extending product lifecycles.

ADLINK is a Premier Member of the Intel® Internet of Things Solutions Alliance and is active in several standards organizations, including the PCI Industrial Computer Manufacturers Group (PICMG), the PXI Systems Alliance (PXISA), and the Standardization Group for Embedded Technologies (SGET).

ADLINK is a global company with headquarters in Taiwan; manufacturing in Taiwan and China; R&D and integration in Taiwan, China, the US, and Germany; and an extensive network of worldwide sales and support offices. ADLINK is ISO-9001, ISO-14001, ISO-13485 and TL9000 certified and is publicly traded on the TAIEX Taiwan Stock Exchange (stock code: 6166). ADLINK products are currently available in over 40 countries across 5 continents, supported by worldwide distribution networks and offices and over 1600 employees.








Products and Services

Measurement and Automation

ADLINK's is dedicated to providing reliable, top quality products for industrial I/O control, motion control, digital imaging, data acquisition, and modular instrument applications. Our comprehensive portfolio of measurement and automation products, application ready platforms, and easy-to-use software packages, with integrated value-added service, continually meet and exceed customer requirements for industrial automation systems, machine vision systems, and automated test and measurement equipment.

- *PXI & Modular Instruments*
- *Data Acquisition*
- *GPIB & Bus Expansion*
- *Machine Vision*
- *Motion Control*
- *Distributed I/O*
- *Intelligent Computing Platforms*
- *Handheld computers*



Display & Computing

To providing our customers the best user experience with products for Medical, Industrial, and Logistics applications, including panel PCs, touchscreen monitors, and tablets that meet the demanding requirements of these industries and provide ease of use and protection from extreme environmental hazards. DCPS product lines include:

- *Industrial Monitors and Panel Computers*
- *Medical Monitors and Panel Computers*
- *Rugged Tablets*



Modular & SFF Computing

With the combined experience and technical knowledge of ADLINK, Ampro Computers and LiPPERT Embedded Computers, ADLINK is able to provide a wide range of Computer-on-Modules and Small Form Factor (SFF) Single Board Computers. Our Extreme Rugged product lines have wide operating temperature ranges and meet MIL-STD shock and vibration specifications.

- *COM Express*
- *SMARC*
- *Qseven*
- *ETX*
- *PC/104-Plus*
- *PCI/104*
- *PCI/104-Express*
- *Mini-ITX*
- *SEMA Cloud*



Embedded Computing

ADLINK works closely with Intel® to ensure that we develop and introduce innovative computing technologies by implementing embedded computing roadmaps and selecting computer solutions that best fit our target markets. This enables ADLINK to provide the highest quality and performance products with the long life cycles required by our embedded computing customers.

- *Network Appliances*
- *Extreme Outdoor Severs*
- *Media Cloud Servers*
- *AdvancedTCA*
- *6U/3U CompactPCI Platforms*
- *VPX Blades and Development Kits*
- *Extreme Rugged Systems*
- *Embedded Flash Storage*



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Design and Manufacturing Services

To fulfill your requirement of high quality, cost-effective products, with quick time to market in product development, ADLINK has established and assembled an Design and Manufacturing Services team to cater to the specific demands that off-the-shelf products could not meet.

From embedded computers, data acquisition cards, and CompactPCI systems to related software packages, our DMS design team has the expertise to rapidly prototype upon the approval of finalized specifications. In addition, the winning of ISO-9001 certification ensures the exactitude of our research and development procedures with the highest product quality.

ADLINK owns and operates the manufacturing facilities in our Asia headquarters. Complete capabilities include our own PCB layout teams, SMT lines, system integration, and test capabilities. In short, ADLINK controls the whole manufacturing process, from layout and design to prototyping and volume production.









Customer Services

ADLINK is not only devoted to providing local service worldwide, but also to providing convenient online service, The following services are available around the clock on the Internet.

eRMA

ADLINK customers can send their RMA requests via our eRMA system. After obtaining an RMA number, you can track your RMA status online at any time.

Partner Center

The ADLINK Partner Center is specifically designed for worldwide sales and marketing support to allow our global sales representatives and distributors access to real-time product and marketing information and materials as soon as they are released at ADLINK headquarters. More than a resource database, the ADLINK Partner Center will also facilitate your business in serving customers.

Ask An Expert

This is the place to get help for ADLINK products. 'Ask an Expert' provides answers to commonly asked questions, or you can click on the 'Ask a Question' tab to contact ADLINK's knowledgeable staff about a specific product or issue. ADLINK AAE (Ask an Expert) is available 24/7 online and is staffed by dedicated professionals who are available to address customers' needs and answers question. All issues and comments are recorded into a database and can be tracked/reviewed at anytime. ADLINK customers are invited to access the AAE system at: http://www.adlinktech.com/AAE

Environmental Protection Policy

ADLINK implemented a Green Product Policy in May 2004 to align the purchasing and use of green products meeting requirements from international environment protection statutes. Environmental protection is a top priority for the management at ADLINK. Measures have been taken to ensure that our products have little impact on the environment. In addition to planning a leadless process, the affect on the environment of components and raw materials will also be reduced. The Green Product concept has been built into our new product development system to ensure protection of the environment and continued business success.

RoHS Compliant Computing

ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive, which restricts the use of harmful substances such as lead, mercury and cadmium in new equipment.

Most end-user applications in which ADLINK products are used do not require RoHS compliance. However, ADLINK will actively work with customers whose products are not RoHS exempt under category 8 or category 9 classifications. Our lead-free production line and process, including solder paste, solder bar and process control parameters, has been developed and standardized in our manufacturing system.

Management Flow

The management flow of ADLINK's Green Policy begins during the development stage of a product. Only parts and raw materials that meet RoHS requirements are sourced. Our engineers specifically design products using only qualified components. A lead-free process ensures that manufactured products are "green." Green products do not contain environmentally hazardous elements and can easily be recycled.

REACH Declaration

The Registration, Evaluation, Authorization and Restriction of Chemicals Regulation 1907/2006, commonly referred to as "REACH", is Europe's new chemicals legislation. The products that we supply are non-chemical products and under normal and reasonable use, they will not release harmful substance. Furthermore, we will immediately inform you in correspondence to REACH-Article 33 if any substance of content (as from a content of >0.1%) in our products will be classified alarming by the European Agency for Chemicals ECHA.

Conflict Free Minerals Policy

ADLINK TECHNOLOGY INC. will not knowingly procure material supplies and components that contain minerals that directly or indirectly finance or benefit armed groups in the Democratic Republic of Congo (DRC) or an adjoining country.

We urge our suppliers to support this policy in their own procurement guidelines and provide us with accurate country of origin information.
ADLINK shall:

- *Comply fully with requests from EICC-GeSI.*
- *Conduct a reasonable country of origin inquiry to clarify the origins of the Gold, Tantalum, Tungsten and Tin used in our products.*
- *Establish reasonable objectives and targets with a goal of ascertaining and minimizing ADLINK's risk. With a goal of c ontinuous improvement for our Conflict Free Minerals Program, develop a means to measure objectives and targets. ADLINK will also review, revise and report these measures, and overall program updates, on an annual basis.*
- *Empower all employees, suppliers, vendors and contractors to take ownership in complying with the Conflict Free Minerals Policy and to escalate risks in the supply chain to management's attention.*
- *Effectively communicate to all employees this Conflict Free Minerals Policy and our Conflict Free Minerals Program.*

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New Product Showcase



MVP-6000

Page 45

6th Gen Intel® Core™ i7/i5/i3 Processor-Based Value Series Expandable Fanless Embedded Computer

- 2x DDR4 SO-DIMM sockets support up to 32GB memory
- Support for two independent displays with 1x VGA, 1x DVI, and 2 DisplayPort I/O
- 1x PCIe x16 and 1x PCI expansion slots
- Front-accessible I/O for simplified installation and maintenance



MXC-6400

Page 45

6th Gen Intel® Core™ i7/i5/i3 Processor-Based Expandable Fanless Embedded Computer

- 2x DDR4 SO-DIMM sockets support up to 32GB memory
- 1x PCI + 2 PCIex8 or 1x PCI + 1x PCIex16 slots, supporting PCIe Gen2 cards
- Support for 3 independent displays with 2x DisplayPort and 1x DVI-I I/O
- Front-mounted remote power on/off switch connector



MXC-5500

Page 47

6th Gen Intel® Core™ i7/i5/i3 Processor-Based Integrated Fanless Embedded Computer

- Single-side I/O with two easy-to-swap SATA drive bays
- Rugged construction delivering fanless -20°C to 70°C operability (w/industrial SSD)
- Rich I/O includes 1x DVI-I, 2x DisplayPort, 4x USB 2.0, 4x USB 3.0, 4x GbE ports, 6x COM ports, and 8x isolated DI/O
- 2x SATA-III (6.0 Gb/s) port, 2x mPCIe slots, and 1x M.2 2280



Intelligent IoT Gateway Starter Kit

Page 50

Intelligent IoT Gateway and EdgePro IoT Device & Sensor Management Application based on Intel® IoT Gateway

- A complete connection solution for accelerated IoT application development
- MXE-202i IoT Gateway based on dual-core Intel® Atom™ SoC processor E3826 on Wind River® IDP XT 2.0
- Preloaded ADLINK EdgePro IoT device & sensor management application
- Easy configuration with user-friendly administrator interface and dashboards

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NuPRO-E43 Page 54

PICMG® 1.3 Full-Size LGA1151 6th Gen Intel® Core™ i7/i5/i3 Processor-Based SHB

- Intel® Q170 Express chipset supporting PCI Express 3.0
- 2x DDR4 DIMM sockets support up to 16 GB memory
- 4x SATA 3.0 onboard with RAID support
- 4x COM ports (including RS-232/422/485)
- Intel® PCIe slot bifurcation support



IMB-M43 Page 56

Industrial ATX Motherboard with 6th Gen Intel® Core™ i7/i5/i3 Processor

- Dual-channel DDR4 2133 MHz memory up to 64 GB
- Intel® PCIe 3.0 slot bifurcation supports up to 5x PCIe 3.0 expansion slots
- Rugged I/O design to enhance I/O port compatibility and reliability
- Unique power design to ensure stable USB power of 5V +-5%
- IEC 61000-4-2~6 (Performance Criterion A), CE/FCC class B certified



PCIe-HDV72 Page 72

1-CH PCI Express® 4K2K HDMI Video/Audio Capture Card

- Uncompressed 4096 x 2160P and 3840 x 2160P, 60 fps video stream with no CPU usage
- Consumer Electronics Control (CEC) compliant
- Support for HDCP (High-Bandwidth Digital Content Protection) and configurable EDID
- Hardware color space conversion
- PCI Express® x4 Gen3 interface
- Support for 32/64-bit Direct SDK and NI IMAQdx middleware
- Support for 3rd party software, NI LabVIEW and NI PQA



EtherCAT Solution Page 73

Talos Master Controller and EPS Slave System

- Supports IEC-61131-3-compliant programming environment
- Minimal control cycle time within 250 µs
- Motion control of up to 64 axes and up to 10,000 I/O points of control
- Supports EtherCAT COE, FOE as well as EOE protocols
- Slave module health monitoring
- Wide operation temperature range: -20°C - 60°C
- Powered by ADLINK Softmotion



IMX-2200 Page 120

Android 5.0 Industrial Mobile Handheld Computer

- 3.2" (240 x 320) TFT-LCD; sunlight readable; five point capacitive touch screen
- WLAN: IEEE 802.11 a/b/g/n (CCX optional); WPAN: V4.0 BLE
- Data capture: CCD/1D laser engine/ 2D imager/ NFC 13.56 MHz
- 5M pixel camera with AF flash LED
- Rechargeable 2600 mAh Li-ion battery/3.7V; 3900mAh Li-ion battery/3.7V (optional)
- 1.5m drop and IP65 rating

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Towards a new IIoT Era



Significant Industrial IoT potential is realized with system integration of ADLINK's leading embedded computing capability. Optimized solutions allow your enterprise to take full advantage of the IoT, with a comprehensive portfolio of gateway devices, network infrastructure support, and a wide range of cloud services accelerating implementation of the IoT in a host of vertical markets.

The IoT demands effective communication between distributed intelligent devices and the network or cloud infrastructure. ADLINK's IoT solutions provide pre-validated hardware and software platforms for fast and trouble-free device-to-cloud transfers, maximizing system security, smart connectivity, rich network options, and powerful device management.



End-to-end solutions to build your IoT

ADLINK offers a full range of offerings for IoT ecosystem optimization, from edge devices to cloud control centers, including I/O modules, embedded modules, embedded systems based on industry-standard form factors, mobile computers, network infrastructure, and cloud services. ADLINK's Application-Ready Intelligent Platforms and services support and empower you with fast time-to-market and reduced development burdens for new applications. ADLINK works closely with our customers to understand their unique requirements whether for individual devices or full end-to-end solutions, helping to solve the specific development challenges of every individual market.

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High bandwidth network infrastructure for big data processes

Network infrastructure is critical as a connectivity platform for control and operational systems, sensors, machines, and devices in the Industrial IoT. Required are secure high bandwidth pathways capable of supporting billions of connected devices, people, processes, and data. ADLINK's industrial networking products for network infrastructure offer the communications capabilities necessary to handle all your big data needs today and into the future.



Create business value with intelligent central management

Application of IoT technology helps to implement real-time remote monitoring, allowing more precise forecasting and reducing maintenance and manpower costs. Most importantly, intelligence gained from accumulated big data aids development of more advanced insight into equipment management and purchasing.

ADLINK's IIoT solution, based on the Intel IoT gateway platform and ADLINK's embedded SEMA Cloud utility, provides an application-ready intelligent platform delivering the computing power, connectivity, security, and manageability needed for developing IoT applications with minimized development time and cost.









Remote monitoring and management



Edge device management agent



Intelligent IoT Gateways



EdgeServer



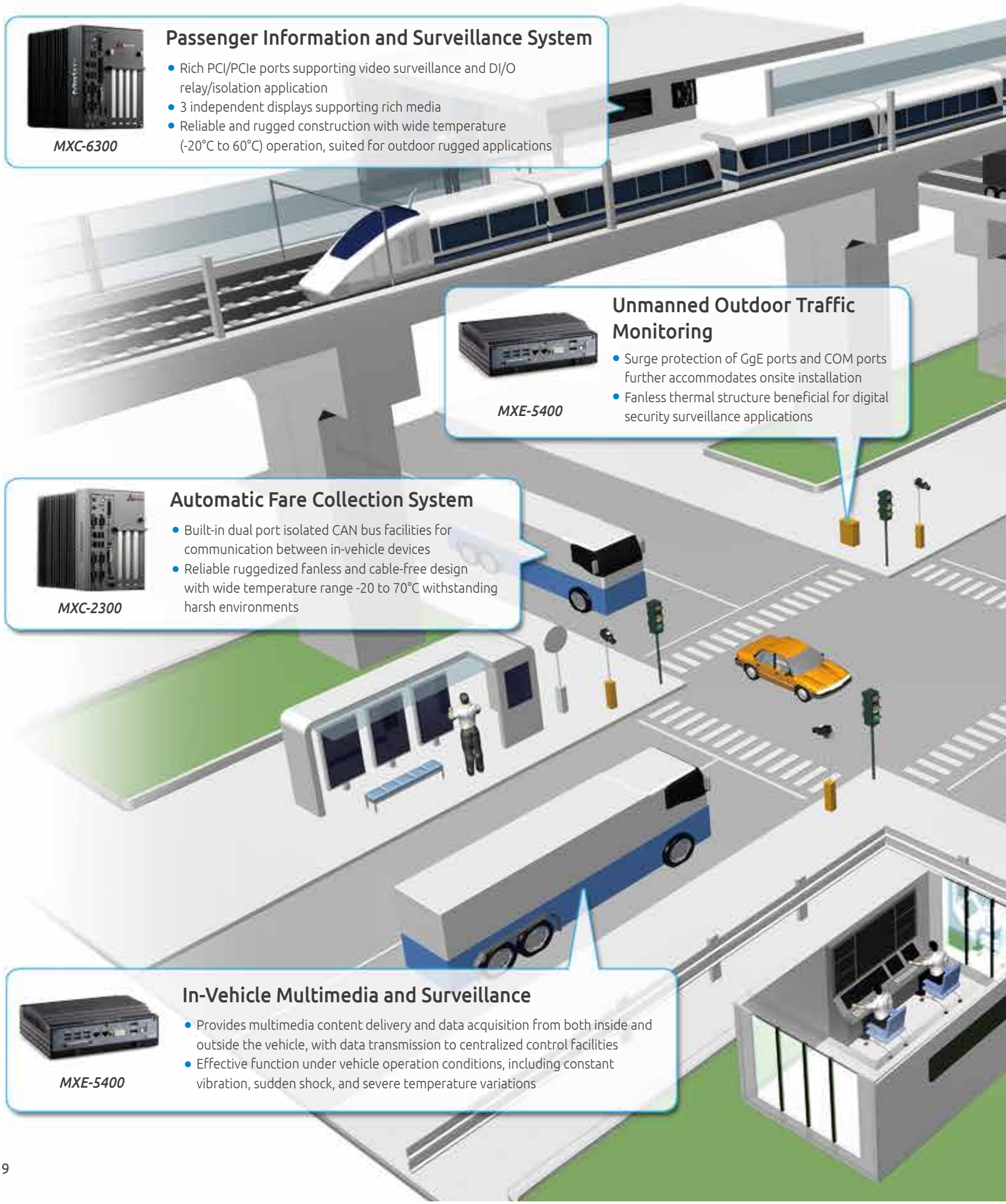
Building blocks for Intelligent devices



Ready to use Edge devices

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Intelligent Transportation Systems



Passenger Information and Surveillance System

MXC-6300

- Rich PCI/PCIe ports supporting video surveillance and DI/O relay/isolation application
- 3 independent displays supporting rich media
- Reliable and rugged construction with wide temperature (-20°C to 60°C) operation, suited for outdoor rugged applications

Unmanned Outdoor Traffic Monitoring

MXE-5400

- Surge protection of GgE ports and COM ports further accommodates onsite installation
- Fanless thermal structure beneficial for digital security surveillance applications

Automatic Fare Collection System

MXC-2300

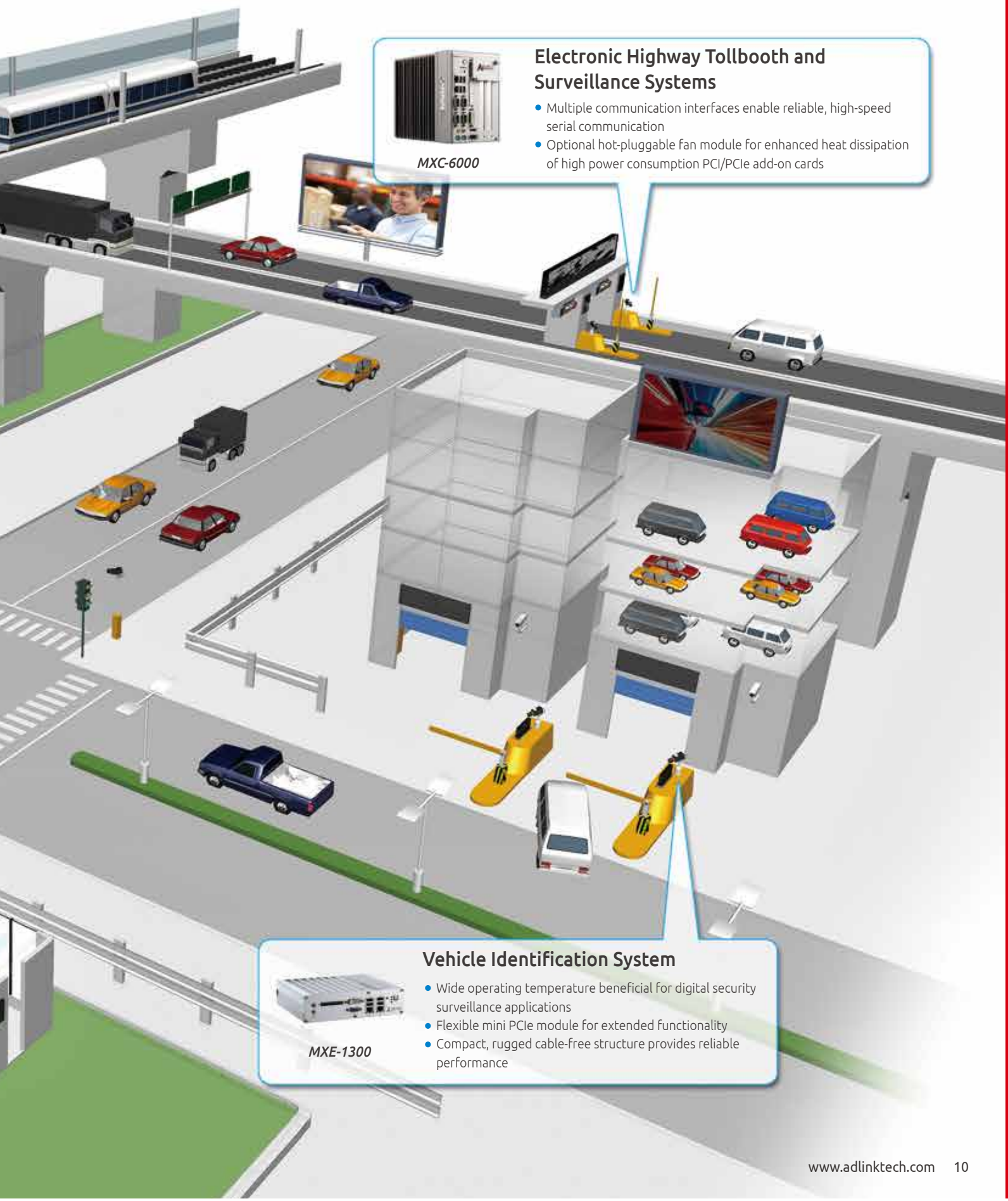
- Built-in dual port isolated CAN bus facilities for communication between in-vehicle devices
- Reliable ruggedized fanless and cable-free design with wide temperature range -20 to 70°C withstanding harsh environments

In-Vehicle Multimedia and Surveillance

MXE-5400

- Provides multimedia content delivery and data acquisition from both inside and outside the vehicle, with data transmission to centralized control facilities
- Effective function under vehicle operation conditions, including constant vibration, sudden shock, and severe temperature variations

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Electronic Highway Tollbooth and Surveillance Systems

MXC-6000

- Multiple communication interfaces enable reliable, high-speed serial communication
- Optional hot-pluggable fan module for enhanced heat dissipation of high power consumption PCI/PCIe add-on cards

Vehicle Identification System

MXE-1300

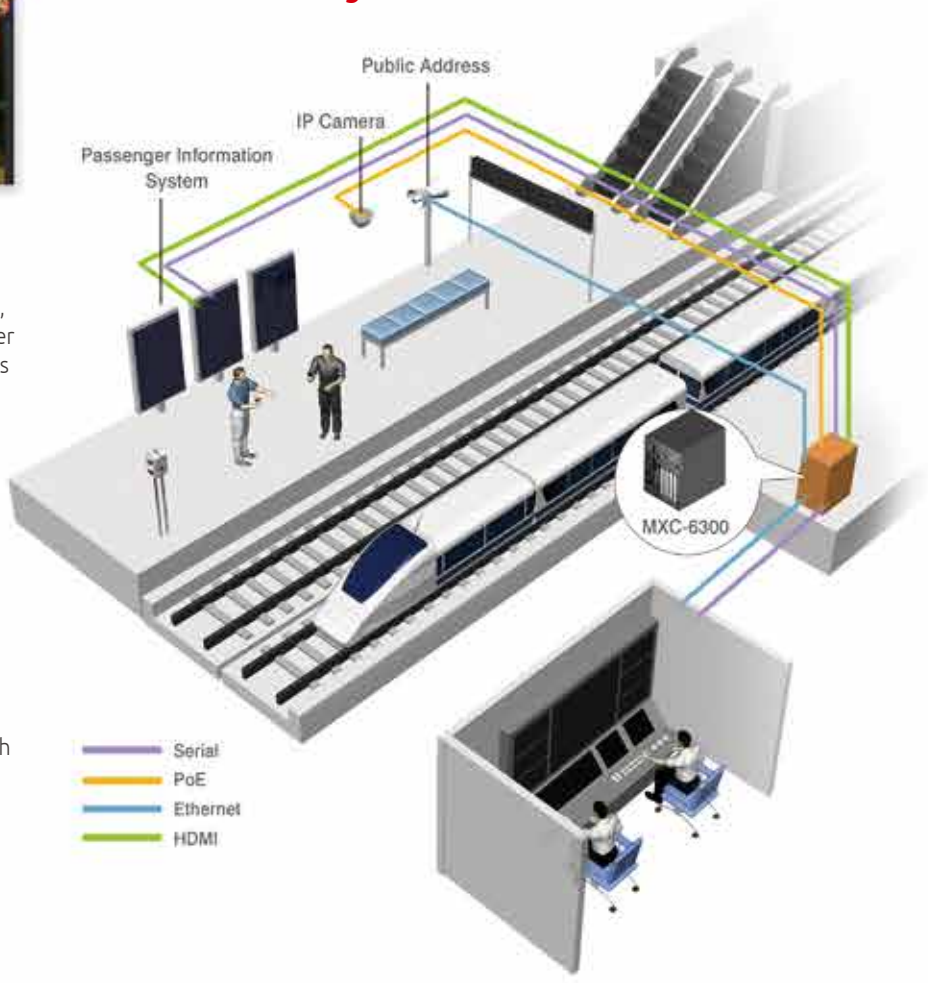
- Wide operating temperature beneficial for digital security surveillance applications
- Flexible mini PCIe module for extended functionality
- Compact, rugged cable-free structure provides reliable performance

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Applications



Railway Platform Passenger Information System



Application

Passenger Information Systems (PIS) for rail transport, comprising a server and communication link to transfer train arrival/departure information between operators and large screen displays, can experience significantly increased efficiency with the integration of voice transmission and PoE IP camera deployment for real-time surveillance. The upgrade, while requiring increased computing power and graphics performance, can even provide expansion capabilities to utilize various applications.

Since the system is installed onsite, fanless operation in a sealed structure is critical, not only for enhanced MTBF and reduced maintenance burden, but further since lowered breakdown rate is especially critical for public transportation Quality of Service. Finally, in such demanding environments, isolation/relay IO improves data accuracy, system stability and noise reduction.

ADLINK Solutions

ADLINK's MXC-6300 fanless expandable embedded computers, powered by Intel 3rd Gen Core i7/i5/i3/Celeron processor and QM77 PCH, are equipped with 2x RS-232/422/485 and 2x RS-232 for communication, 2x Intel GbE supporting teaming, iAMT8.0 and WoL for IP Camera. Integrating ADLINK's PCIe-GIE64+ PCIe card further allows PoE frame grabber support and video surveillance applications. With flexible PCI/PCIe expandability from the PCI-7250 8CH relay/isolation DI/O PCI card, high current I/O control is realized. As well, built in 9-32V power input design significantly increases system integration flexibility.

Features and Benefits

- *Superior and cost-effective computing and graphics performance*
- *Rich PCI/PCIe I/O maximizes video surveillance and DI/O relay/isolation application capabilities*
- *Support for 3 independent displays with 2 DisplayPort and 1 DVI-I ports onboard enabling rich media function*
- *Reliable and rugged design with wide operating temperature (-20°C to 60°C) range, fanless performance, ESD contact ±4kV/air ±8kV protection, and 16CH isolation DI/O, ideal for rugged application requirements*

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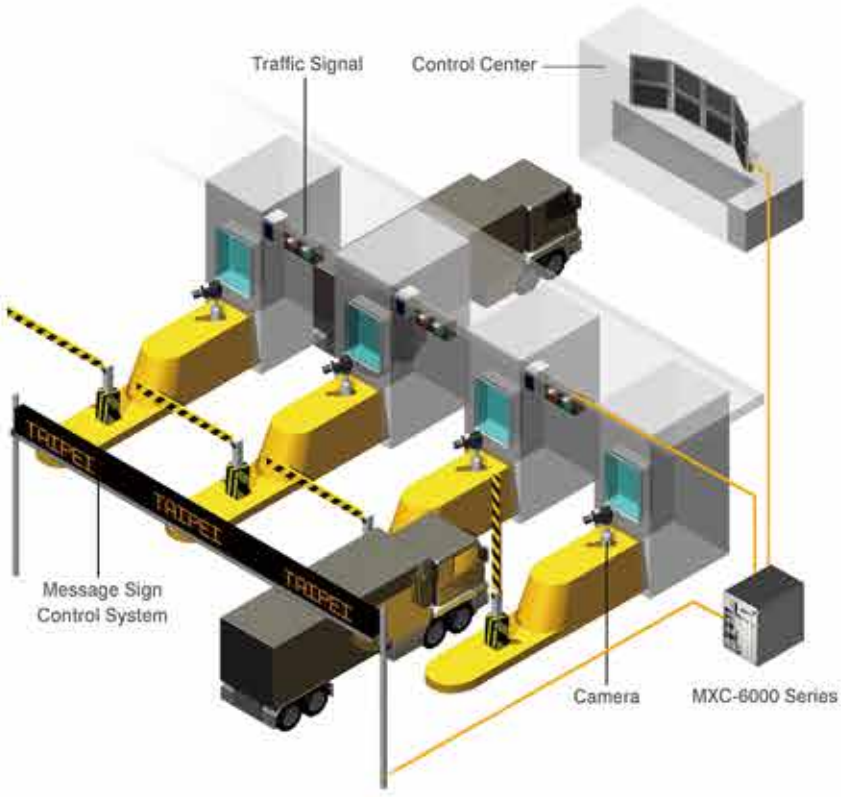
Electronic Highway Tollbooth and Surveillance Systems

Application

Tollbooth lanes are often utilized to allow motorists in single-occupant vehicles to access high-occupancy vehicle lanes. Tolls are collected either by manned tollbooths, automatic number plate recognition, or electronic toll collection systems.

The main function of a tollbooth lane is to identify, record, and control passage of vehicles, to carry out toll payments and transmit acquired information to monitoring and local toll plaza facilities. Toll payment information is monitored and aggregated at each toll plaza and reported to central administration for further custom processing.

Toll systems require an industrial platform integrated with serial communication cards to connect and control the systems, remit related data to the control center, and control barriers, read vehicle license plates, and control trigger settings via capture cards.



ADLINK Solutions

The MXC-6000 fanless expandable embedded system is perfectly suited for electronic toll gate and surveillance applications with high performance Intel® Core™ i7 Processor with superior graphic performance, two GbE ports, four serial ports and two PCI/PCIe expansion slots. All electronics are securely housed in a compact, rugged chassis with thermal cooling fins, for easy and dependable deployment, even in severe conditions.

Each surveillance camera is connected to a 2/4-port PCI/PCIe video capture card or PoE frame grabber. Captured images transferred to system storage can be scaled down with application software. Entry systems are connected to the control center via Ethernet, and onboard serial ports or add-on serial communication cards enable reliable, high-speed serial communication.

Features and Benefits

- *Cable-free, fanless design for reliable system operation*
- *Compact and rugged, supporting a variety of applications in different fields*
- *Easy to maintain and install add-on cards reduce maintenance costs*
- *Optional hot-pluggable fan module for enhanced heat dissipation of high power consumption PCI/PCIe add-on cards*

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Applications

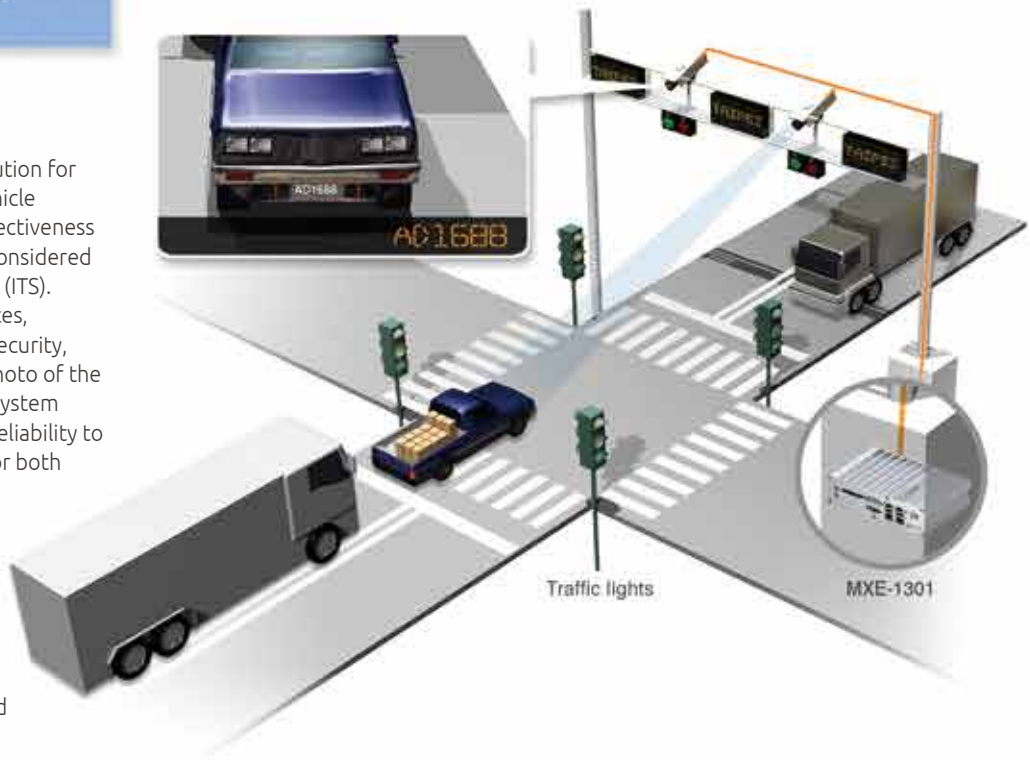


Using an Integrated Fanless Embedded Computer for a Vehicle Identification System

Application

A vehicle identification system (VIS) is a solution for automatic licence plate recognition and vehicle identification that helps to increase the effectiveness of modern security systems, which is now considered part of an intelligent transportation system (ITS). VIS technology captures vehicle licence plates, analyzes images, and increase the level of security, based on a multi-criteria comparison of a photo of the vehicle and a photo stored in storage. The system needs to provide long-term durability and reliability to operate effectively day and night to monitor both static and moving vehicles.

In light of the increasing demands for VIS, ADLINK developed a series of embedded computers—the Matrix MXE series—to provide a robust solution with versatile integrated I/O options suitable for many different fields, such as access control to public or private car lots, logistics, roads and motorways, police force applications and automatic detection of traffic violations.



ADLINK Solutions

The ADLINK MXE series is an exceptionally rugged embedded controller for operating in harsh environments. Its -20°C to 70°C (-4˚F to 158˚F) temperature range allows it to operate outdoors in both hot summer days and cold winter nights. The Matrix can also be deployed on vehicles as it can withstand 5 Grms vibration. And, its fanless and cable-less structure ensures extensive durability for long-term usage.

The Matrix MXE series features an Intel® embedded processor to deliver adequate performance at low-power. The MXE series also integrates versatile generic and special purpose I/O features to support a wide variety of applications. The on-board Gigabit Ethernet is designed for connecting cameras for surveillance and image recognition applications, while its COM ports meet the requirements in most machine automation and facility management applications. Combining rugged design and integrated I/O functions, the ADLINK MXE series offers the most versatile choice for your applications.

Features and Benefits

- *Cable-free structure provides more reliable performance*
- *Fanless thermal structure beneficial for digital security surveillance applications*
- *Flexible mini PCIe module for extended functionality*
- *Compact and rugged to handle any application*

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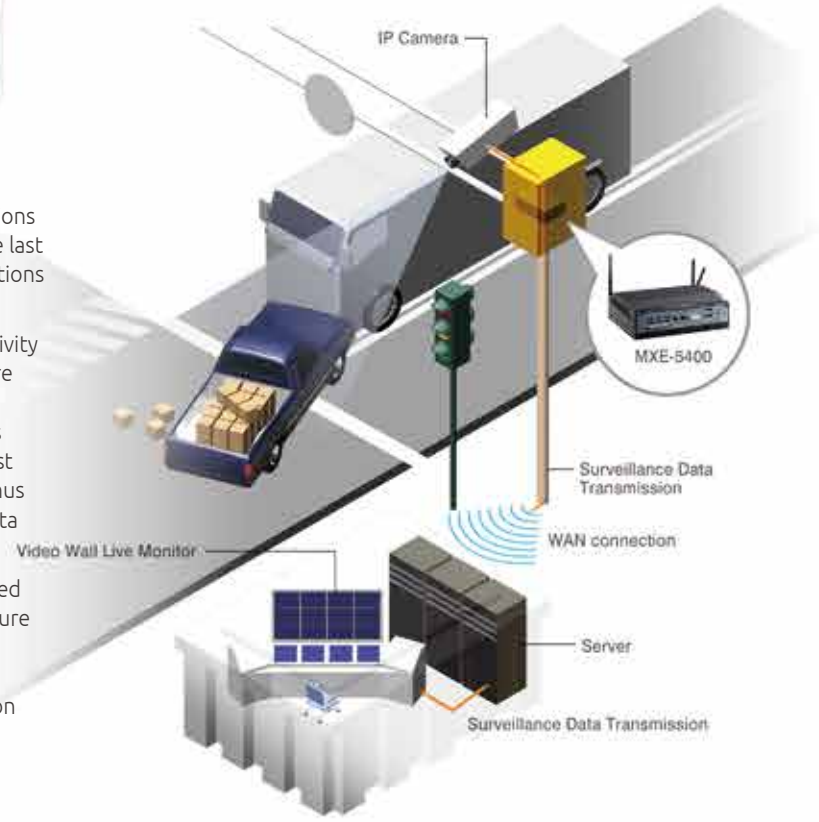
Outdoor Unmanned Traffic Monitoring System

Application

Remote observation and identification of traffic infractions in urban settings has become standard procedure in the last decade. As technologies evolve, challenges in such solutions increase commensurately.

The system must integrate diversified functionality. Activity must be accurately monitored and desired event capture accomplished efficiently. The internal application then performs further analysis to determine if a violation has occurred. Finally, the pertinent media-based record must be remitted to a control center. Critical requirements thus comprise powerful computing performance and rich data transmission capabilities.

Additionally, however, the systems are primarily deployed in environments with little or no protection from exposure to the elements and pollutants, factors which must be prevented from impairing system results. Finally, since limited physical access to system components is common to deployment locations, remote maintenance and management are essential to system administrators.



ADLINK Solutions

ADLINK's MXE-5400, based on 4th Gen Intel® Core™ i7-4700EQ quad-core processors, delivers outstanding performance, excellent manageability, optimized connectivity, and rugged design in a compact package. To enhance data reliability, an internal dual SATA-III interface provides RAID support and the dual mini PCIe interfaces support rich wireless communication options, with one configurable to mini SATA access by jumper selection. In addition, surge protection of GgE ports and COM ports further accommodate outdoor applications.

Features and Benefits

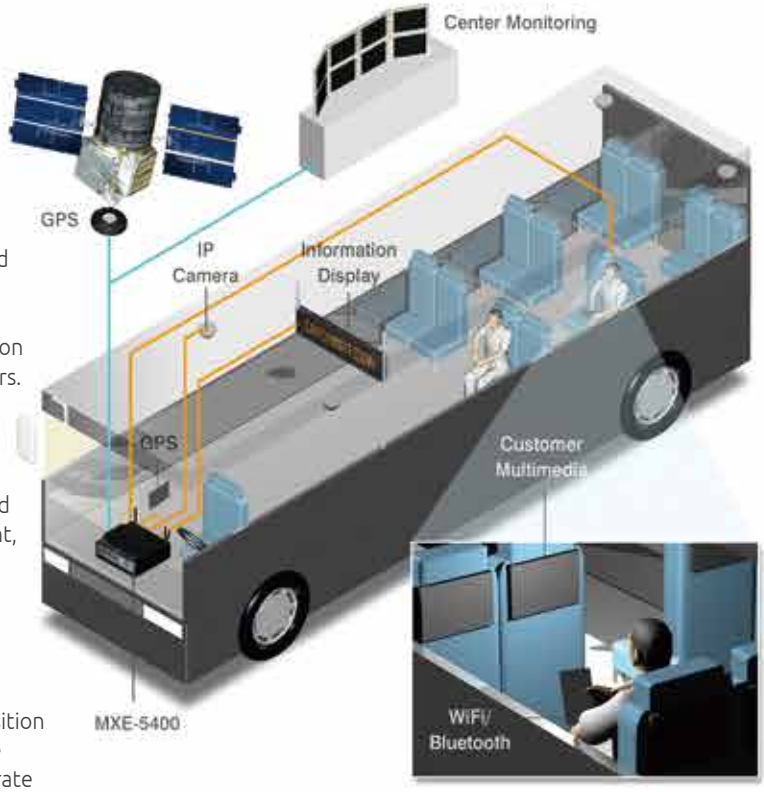
- *Cable-free structure provides more reliable performance*
- *Fanless thermal structure beneficial for digital security surveillance applications*
- *Flexible mini PCIe module for extended functionality*
- *Compact and rugged to handle any application*
- *Surge protection of GgE ports and COM ports further accommodate outdoor applications*

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Applications



In-vehicle Multimedia and Surveillance Technologies



Application

The popularity of in-vehicle multimedia access is increasing with the evolution of digital content and distances travelled. Mass transit system or long-distance bus users can experience improved quality of travel when accompanied by music, video, and even interactive internet content. Also increasing in desirability is personal access to the internet. Wireless AP can be implemented on public transport to provide wireless internet services to passengers.

In addition, with growing concerns over security, the demand for in-vehicle surveillance technologies is also expanding. With the convenience and cost-effectiveness of Ethernet networks and wireless technologies, IP surveillance systems can be implemented on buses or trains to enhance passenger safety, fleet management, and traffic monitoring, especially in combination with vehicle positioning provided by GPS, delivering real-time driving status to operators and system administrators.

Given the limited space available in vehicles, meeting the various requirements of such systems is clearly a challenge. In-vehicle systems must provide multimedia content, along with data acquisition from both inside and outside the vehicle, with transmission of the data to centralized control facilities. Finally, the system must operate effectively under the conditions unique to moving vehicles, including high frequency of vibration and shock and severe temperatures.

ADLINK Solutions

With sophisticated mechanical design and discreet circuit layout, the ADLINK Matrix series offers rugged platform suitable for severe operating environments. The Matrix series packs versatile I/O application solutions into minimized form factors, to meet the needs of a huge variety of applications. Matrix provides a full spectrum of fanless embedded computers to fulfill every application-specific task.

The Matrix MXE series accommodates powerful Intel® processors to fulfill delivery of digital content while processing surveillance data received through multiple GbE Ethernet ports. With the flexibility of an internal mini PCIe module, the Matrix-E series takes full advantage of a diversity of wireless protocols such as 3G/UMTS/WiFi and Bluetooth.

Features and Benefits

- *Cable-free structure provides more reliable performance*
- *Fanless thermal structure beneficial for critical applications*
- *Flexibility mini PCIe module for extended functionality*
- *Compact and rugged, ready for various in-vehicle applications*

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Automatic Fare Collection System

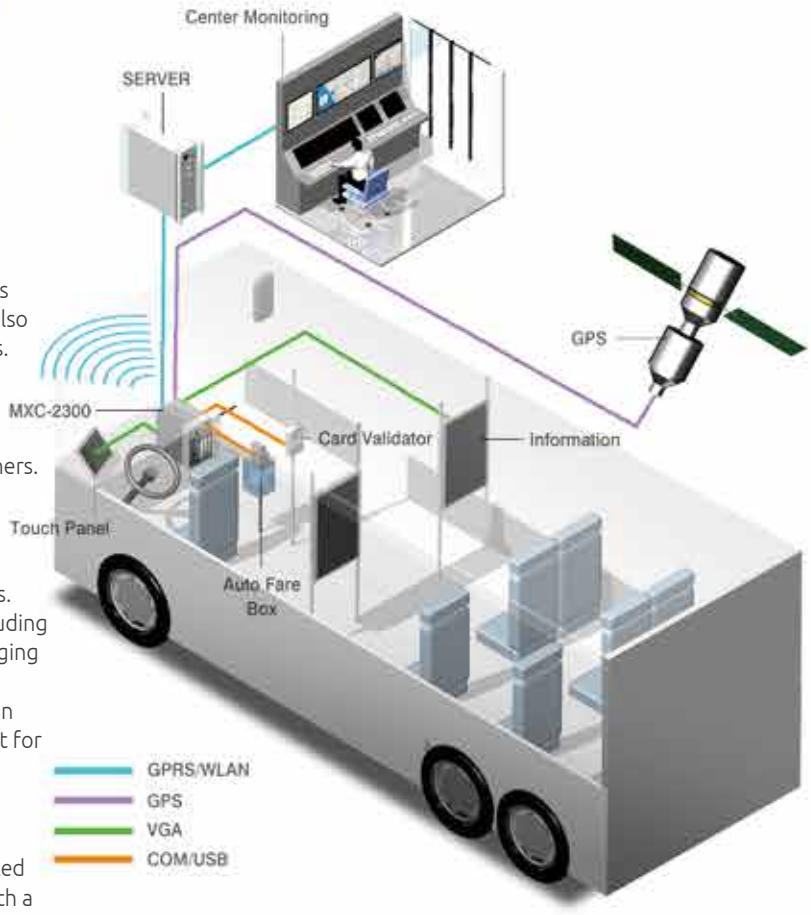


Application

Currently operational Automated Fare Collection Systems not only perform automatic bill and coin validation, but also execute advanced data collection, reporting, and analysis. Also available are stop level fare reporting, point of sale fare media, and wireless data collection upload via wireless, as well as GPS-based completed trip reporting including schedule adherence, dwell times, and many others.

Operators can extract vehicle-specific revenue data per vehicle and route and generate other information in real-time, including fare boxes, card validator, next stop announcement systems, and automatic passenger counts. The system also delivers relevant status information including minutes ahead or behind schedule, text and voice messaging with the dispatcher, navigation, or emergency alarms. All generated information is securely processed and stored in the system database before conversion to usable content for the operators' financial, planning and operational needs, and increased efficiency, productivity, flexibility and customer satisfaction are the result.

In this application, important considerations include limited space and support for future flexibility and expansion with a variety of functions, operability under harsh environments.



ADLINK Solutions

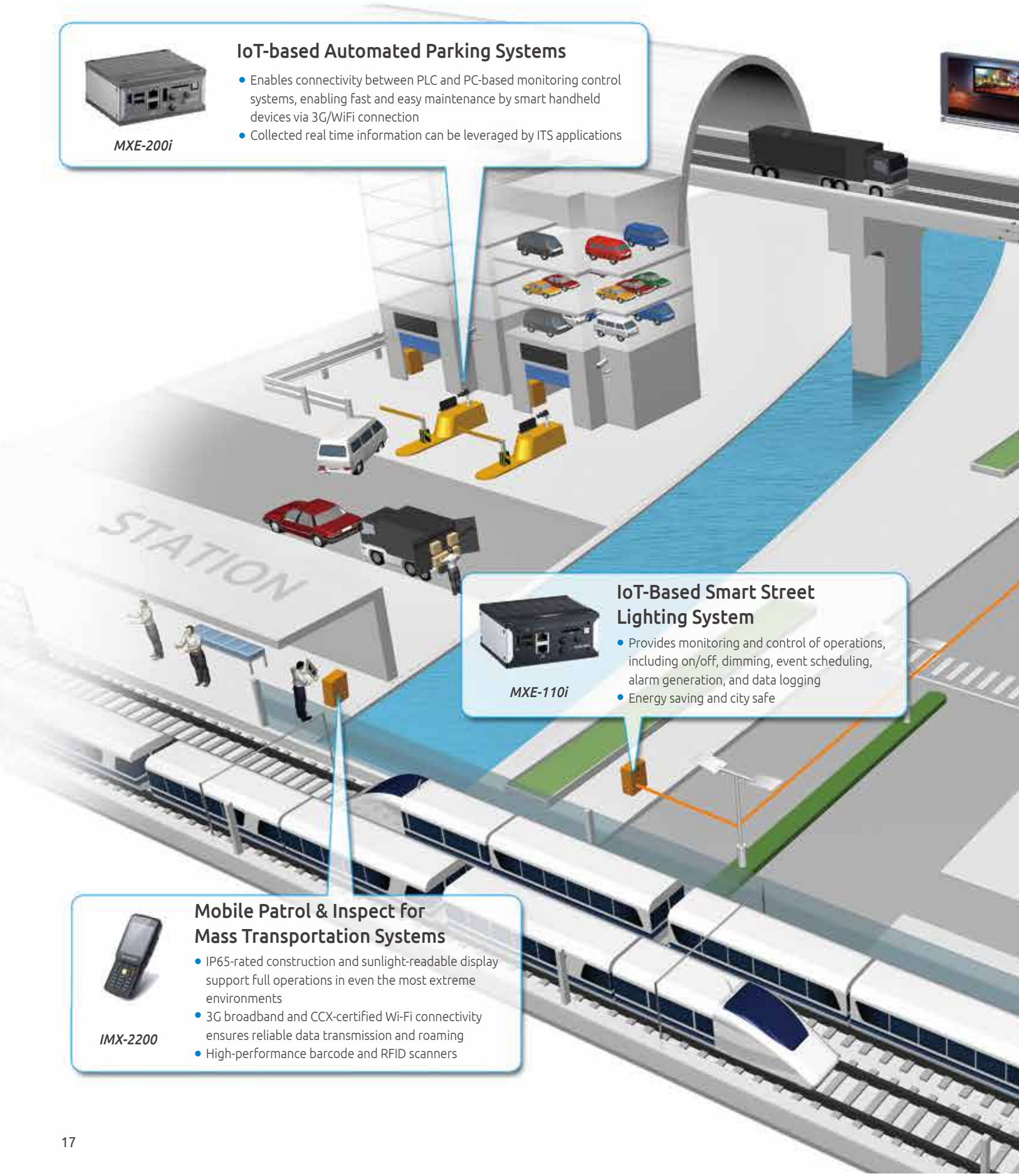
With rugged construction, compact size, and operating tolerance of -20°C to 70°C and 50G Shock and 5G Vibration, along with rich I/O, dual port isolated CAN bus design, and expansion slots for flexibility, the Matrix MXC-2300 proves itself as the most suitable platform to meet all these requirements in moving vehicle applications.

Features and Benefits

- *PCI/PCIe expansion slots for integrating specific J1708/J1587/J1939 cards supporting Transit Interface*
- *Built-in dual port isolated CAN bus facilities for communication between in-vehicle devices*
- *Reliable ruggedized fanless and cable-free design with wide temperature range -20 to 70°C withstanding harsh environments for in-vehicle application*
- *Easy connectivity with front accessible for streamlined installation and maintenance*

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Smart City



IoT-based Automated Parking Systems

MXE-200i

- Enables connectivity between PLC and PC-based monitoring control systems, enabling fast and easy maintenance by smart handheld devices via 3G/WiFi connection
- Collected real time information can be leveraged by ITS applications

IoT-Based Smart Street Lighting System

MXE-110i

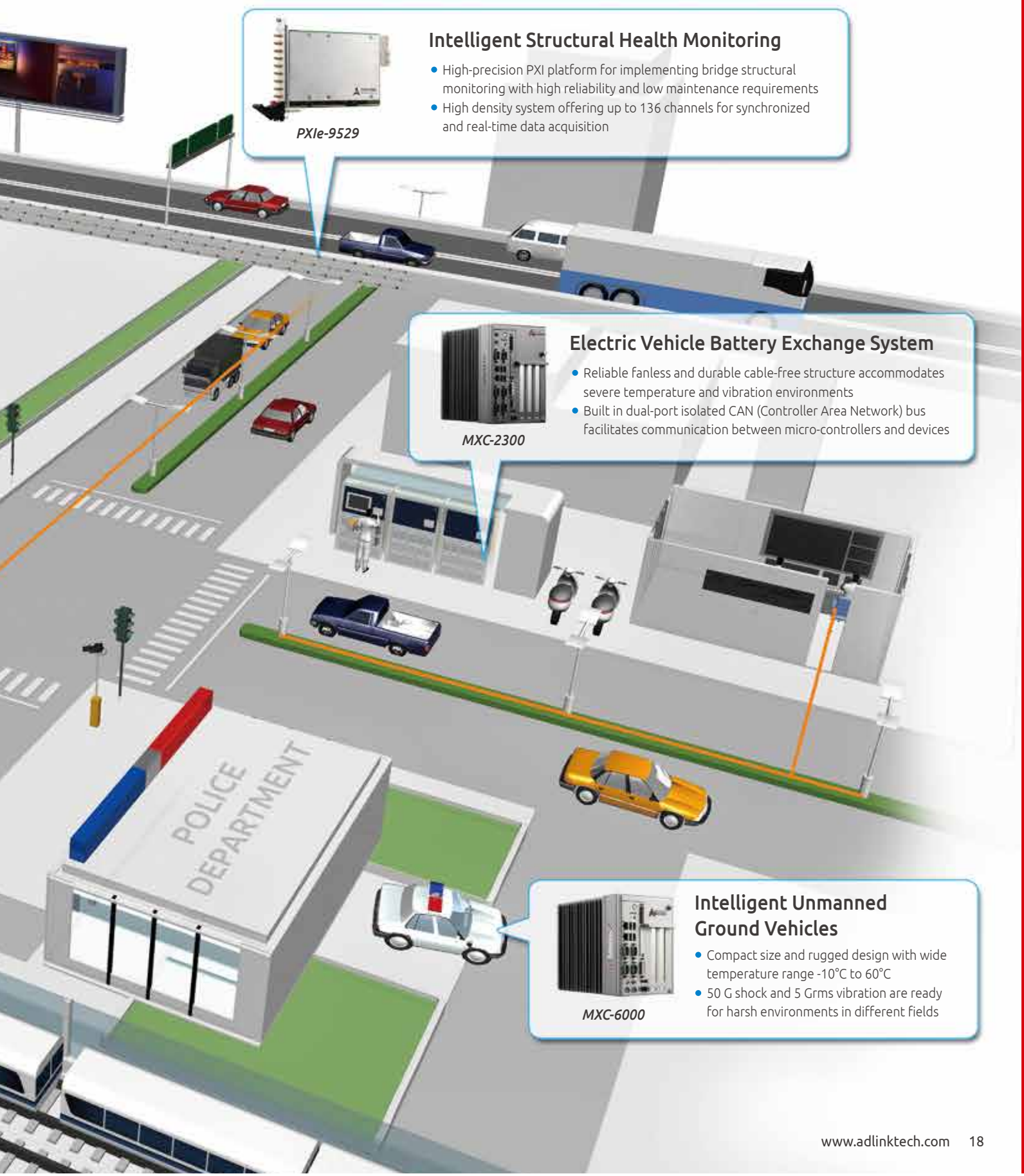
- Provides monitoring and control of operations, including on/off, dimming, event scheduling, alarm generation, and data logging
- Energy saving and city safe

Mobile Patrol & Inspect for Mass Transportation Systems

IMX-2200

- IP65-rated construction and sunlight-readable display support full operations in even the most extreme environments
- 3G broadband and CCX-certified Wi-Fi connectivity ensures reliable data transmission and roaming
- High-performance barcode and RFID scanners

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Intelligent Structural Health Monitoring

PXIe-9529

- High-precision PXI platform for implementing bridge structural monitoring with high reliability and low maintenance requirements
- High density system offering up to 136 channels for synchronized and real-time data acquisition

Electric Vehicle Battery Exchange System

MXC-2300

- Reliable fanless and durable cable-free structure accommodates severe temperature and vibration environments
- Built in dual-port isolated CAN (Controller Area Network) bus facilitates communication between micro-controllers and devices

Intelligent Unmanned Ground Vehicles

MXC-6000

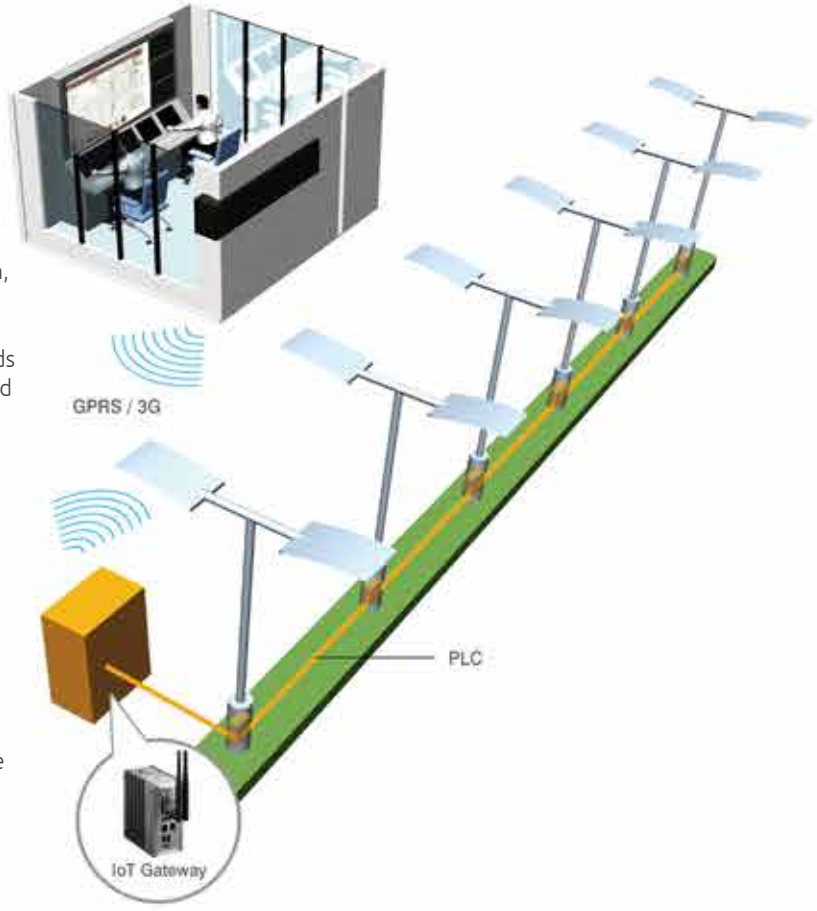
- Compact size and rugged design with wide temperature range -10°C to 60°C
- 50 G shock and 5 Grms vibration are ready for harsh environments in different fields

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Applications



IoT-Based Smart Street Lighting System



Application

Conventional street lighting, with isolated and low-degree automation, can account for as much as half of a city's electrical consumption. One of the major constituent concepts of smart city initiatives has been utilization of IoT technology to control the hundreds of thousands of functioning street lights via cloud-based management, for optimized power consumption efficiency and reduced operational costs and carbon footprint.

Powerline Communications (PLC) provides the means to convert existing utility infrastructures into a carrier for IoT data transmission, adding communications to street light control networks. Accordingly, real-time control, automated on/off scheduling, event notifications, lamp failure prediction for optimized maintenance, and many more applications are easily achieved.

ADLINK's IoT gateways, with full support for Intel® Gateway Solutions for the IoT, when deployed in the scenario as IoT gateway or PLC transceiver, enables modulation of digitally formatted IoT commands originating at cloud-based control into analog packets. The packets are suitable for transmission via alternating current (AC) over existing power lines, and the system can, in turn, return RF-based data from environmental sensors and other devices in the field back to cloud-based management.

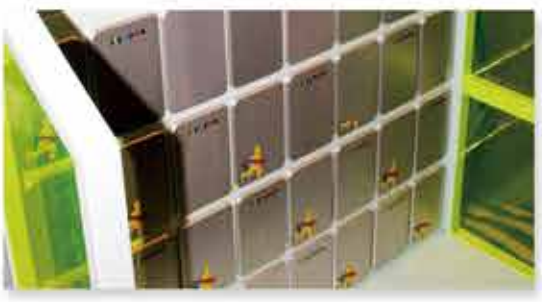
ADLINK Solutions

ADLINK IoT gateways is a dedicated IIoT gateway based on the Intel® IoT Gateway portfolio of pre-integrated and pre-validated software and hardware bundles developed to address the challenges facing IIoT, enabling connectivity of legacy industrial devices and other systems. With the implementation of ADLINK"s proprietary SEMA Cloud solution and integration of Wind River® Intelligent Device Platform XT and McAfee Embedded Control, the IoT gateways maximizes manageability and security critical for IoT-based operation. Rich IO includes USIM socket supporting communication with connections such as, WiFi, BT and 3G, IoT gateways is an optimal communication gateway and controller between luminaires and user interface to serve hundred lights with efficient remote monitoring and control. Enabling system integrators to quick develop and deploy to applications.

Features and Benefits

- *Enables connectivity between PLC and PC-based monitoring control systems, serving as a PLC transceiver ready with the Intel IoT solution*
- *Provides a single unified network connecting PLC street lights and heterogeneous 3G/WIFI/Blutooth input for complete system interoperability*
- *Ultra-compact and rugged construction equip the Iot gateway for powerful and reliable outdoor field deployment with low power consumption and maintenance requirements.*
- *Full fanless operational and structural resistance to constant vibration, sudden shock, and extreme temperature variation.*

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Electric Vehicle Battery Exchange System

Application

To encourage the use of electric scooters to help improve air quality and gradually eliminate fossil fuel use within the next 10 years, Taipei City Government plans to set up hundreds of battery exchange stations which will accommodate thousands of electric scooters.

The Electric Vehicle Battery Exchange System classifies batteries as Waiting to Charge, Charging, and Charged. Users simply pay with a debit card, enter instructions on a computer screen, and insert a depleted lithium battery in exchange for a charged one. The entire process takes only a few minutes as opposed to the hours spent waiting for a battery to charge.



ADLINK Solutions

The Matrix MXC-2300 provides system stability and reliability required to best support the Electric Vehicle Battery Exchange System. The system design, with one PCI and one PCIe slot, built in dual-port isolated CAN allow micro-controllers and devices to communicate with each other for utilizing the transactions.

The MXC-2300, compact and reliable with a fanless and cable-free design, accommodates -20°C to 70°C (-4˚F to 158˚F) operating environments, and is equipped with thermal fins for efficient cooling in harsh environments.

Features and Benefits

- *Compact and rugged design are suited to harsh environments and outdoor applications*
- *Reliable fanless and durable cable-free design accommodate severe temperature and vibration environments*
- *Easily to maintained and installed with the PCI/ PCIe add-on cards for various applications*
- *Optional hot-pluggable fan module for enhanced heat dissipation of high power consumption PCI/ PCIe add-on cards*
- *Built in dual-port isolated CAN (Controller Area Network) bus facilitates communication between micro-controllers and devices.*

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Applications



IoT-based Automated Parking Systems



Application

The automated parking solution monitors parking areas and gathers real time occupancy data, providing intelligent and innovative parking solutions for both operators and customers. When arriving in an active area, customers can use their phone to access information through text message, application, and the Internet. With the smart solution, operators can access real-time data to exploit their parking resources fully, via continuous updates on variations in parking needs by area.

In this way, data showing the current state of the automated parking system enables real-time and remote facility monitoring and advanced cloud services without affecting legacy infrastructure, thereby reducing maintenance costs while increasing efficiency.

ADLINK Solutions

ADLINK's Matrix MXE-200i and MXE-110i IoT gateways, based on the Intel® IoT Gateway portfolio combine the advantages of the Intel Wind River® Intelligent Device Platform, McAfee® security packs, and ADLINK's SEMA Cloud utility. The MXE-200i and MXE-110i pre-integrated, pre-validated hard-and-software building blocks deliver all the computing, communication, connectivity, security, and manageability necessary to establish an industrial-grade cloud-based IoT application. Enabling system integrators to quickly develop and deploy IoT applications, real time remote facility monitoring and advanced cloud services are delivered, without affecting legacy infrastructure. Increases in capital investment for the parking facility are minimal while resulting benefits are considerable, including reduced maintenance costs and enhanced operational efficiency.

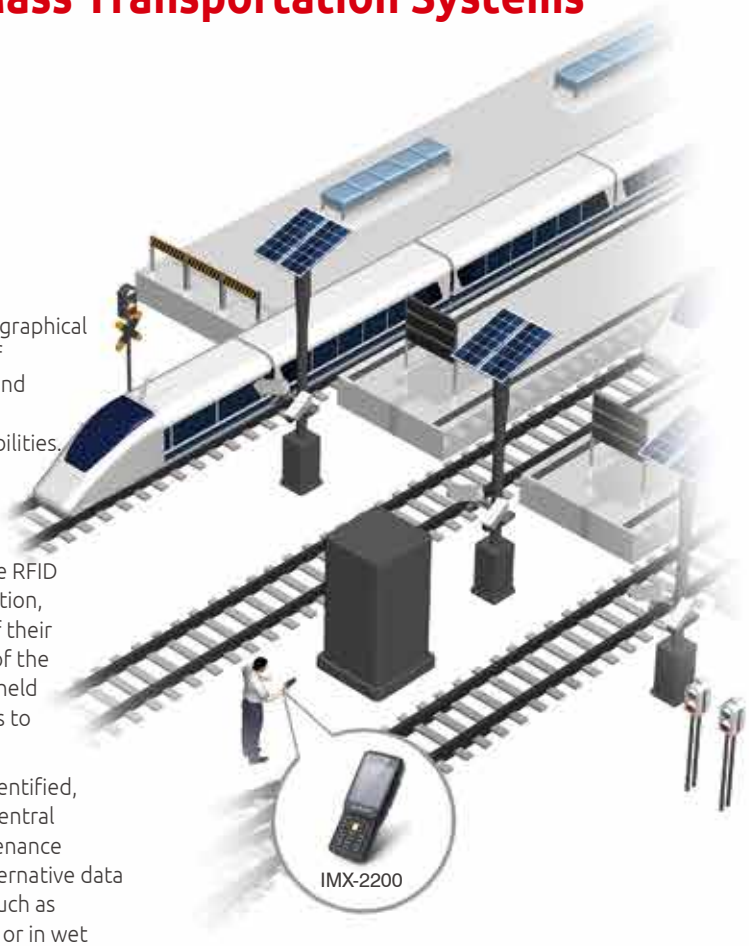
Features and Benefits

- *Ruggedized fanless and cable-free design with wide temperature range -20 to 70°C operating range*
- *Enables connectivity between PLC and PC-based monitoring control systems, enabling fast and easy maintenance by smart handheld devices via 3G/WiFi connection*
- *Collected real time information can be leveraged by ITS applications*

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Mobile Patrol & Inspect for Mass Transportation Systems



Application

Mass transportation systems, by definition, cover immense geographical areas, posing significant challenges to efficient management of inspection, repair, and maintenance operations. Mobile patrol and inspection systems can provide dramatic advances in efficiency, accuracy, convenience, and cost-effectiveness of such responsibilities.

The ADLINK IMX-2200 handheld computer presents a perfect solution to the mobile patrol and inspection needs of a wide range of applications, including those of mass transportation. Terminal, yard, and track administrators, for example, can utilize RFID or barcode scanning to confirm their presence at a specific location, with the help of GPS for field positioning. Once confirmation of their location at the equipment or facility is accomplished, specifics of the task at hand can be simultaneously displayed on the their handheld computer, an operation accomplished all the more easily thanks to the IMX-2200's sunlight-readable display.

When equipment fault, malfunction, or failure is located and identified, the handheld computer enables instant relay of the details to central management center, enabling speedy dispatch of repair/maintenance personnel. The ADLINK IMX-2200's integral keyboard allows alternative data input under conditions prohibitive to touch screen operation, such as environments fouled by contaminants such as lubricant or fuel, or in wet or otherwise adverse weather conditions.

ADLINK Solutions

The ADLINK IMX-2200 is an Android 5.0-based handheld computer providing a 3.2" TFT-LCD sunlight-readable display. Rare among Android-based products using platform, it provides an integral keyboard for alternate data input for environments adverse to touchscreen use. Reinforced IP65-rated water and contaminant resistance, as well as 1.5m drop protection, further suits the IMX-2200 for harsh outdoor applications. Real-time data capture is enabled by CCD/1D laser engine/ 2D imager/NFC 13.56 MHz.

Features and Benefits

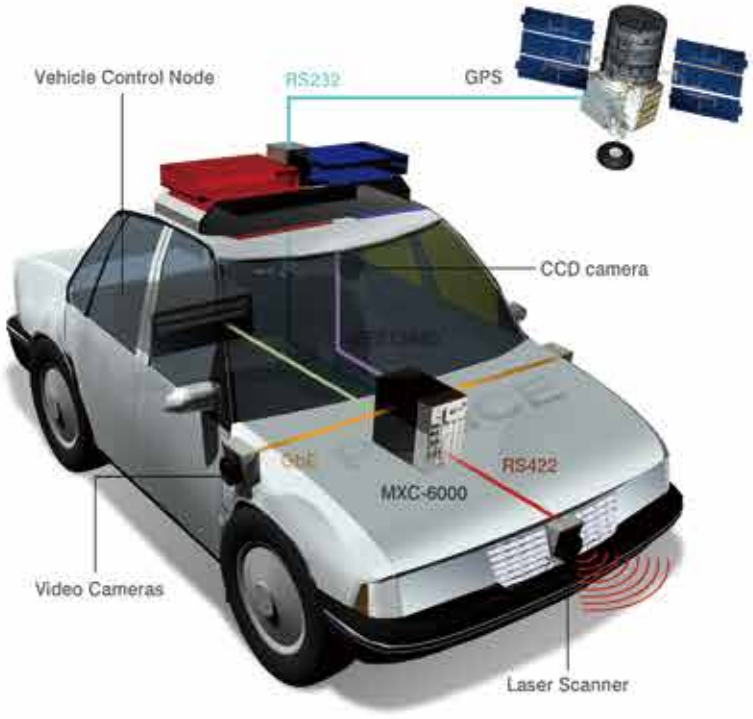
- *IP65-rated construction and sunlight-readable display support full operations in even the most extreme environments*
- *Multiple data input methods, including touch screen, barcode/RFID,, and keyboard*
- *High-performance barcode and RFID scanners*
- *3G broadband and CCX-certified Wi-Fi connectivity ensures reliable data transmission and roaming*
- *Built-in camera to capture onsite and field events and conditions*

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Applications



Intelligent Unmanned Ground Vehicles



Application

Intelligent Unmanned Ground Vehicle systems consist of vehicles functioning with no human operator onboard. The unmanned vehicles can be remotely controlled or guided, or autonomous vehicles capable of self-navigation based on detected environmental factors.

The systems are valuable in many scenarios in which it may be dangerous, inconvenient, or impractical to have a human operator present. Vehicles are outfitted with sensors to detect environmental conditions, and either autonomously operate in response, or feed gathered information back to a central or remote operator who then applies vehicle control accordingly through a command transmission system.

The initial goal of UGV systems was to equip off-road vehicles with computer-controlled unmanned operability, including integrated remote control systems; on-road and off-road navigation; detection capability; and route planning algorithms, all in addition to standard mobility.

ADLINK Solutions

ADLINK's high performance MXC-6000 fanless computer proves to be the ideal platform for these in-vehicle systems. With a wide range of input power options and built-in resilience, the MXC-6000 more than fulfils the application's specific requirements. PCI/PCIe expansion slots allow installation of a variety of PCI, PCIe add-on cards and a rich I/O front panel connectivity supports UGV needs to accommodate vision card, camera, navigation node, vehicle control node via GbE Ethernet ports, COM ports, and USB ports.

Features and Benefits

- *Offering one PCI and one PCIe x4 expansion slot for various add-on cards for increased vertical applications*
- *Fanless and cable-free design provide more reliable performance, easier installation and maintenance*
- *Compact size and rugged design with wide temperature range -10°C to 60°C,*
- *50 G shock and 5 Grms vibration are ready for harsh environments in different fields*
- *Competitive price/performance ratio solutions*

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Intelligent Structural Health Monitoring



Application

Advancements in bridge engineering have significantly increased the number of long-span bridges combining complicated functions. Increasing precision and effectiveness of structural monitoring of such structures, in light of potential deterioration from complicated time variations and environmental factors, is, obviously, a critical concern. Intelligent bridge structure monitoring systems combine state-of-the-art ICT, remote detection, civil engineering, and structural analytics technologies. Sensors and transducers, installed at key parts of the structure collect structural parameters and return the data to requisite controllers and/or gateways, for subsequent transmission to remote central control for analysis.

In this case, accelerometers and FBG transducers are deployed throughout the bridge structure, accompanied with data acquisition stations at critical points, implementing real-time monitoring of the effects of typhoon, earthquake, and other climactic influences, as well as damage inflicted by saline corrosion and other environmental factors on the structural health of the bridge over time. To sustain operability irrespective of environmental extremes, the system demands ultra-rugged construction and operability with minimal maintenance requirements.

ADLINK Solutions

ADLINK's PXI system provides a high density, high-precision, ultra-rugged, and modularized platform for implementing onsite bridge structural monitoring with high reliability and low maintenance requirements. Data can be stored for implementing online/offline analytics. The PXIe-9529, featuring up to eight 24-bit analog input channels simultaneously sampling at 192kS/s, and a 108dB dynamic range, provides ample power for high-density high channel count signal measurement.

Features and Benefits

- *High density system offering up to 136 channels for synchronized and real-time data acquisition*
- *Extremely low 0.5Hz AC cutoff frequency for effective micro-vibration monitoring*
- *Maximized 110dB dynamic range for leading SNR*

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Industry 4.0

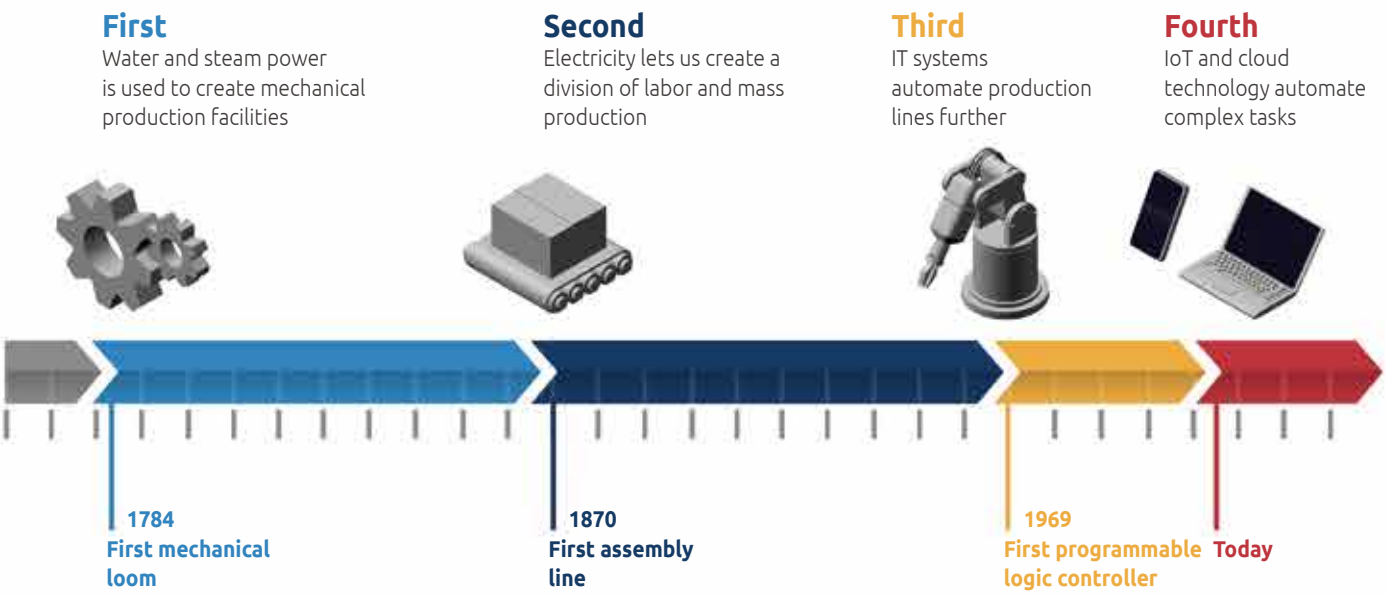
Industry 4.0, or the fourth industrial revolution, is a term recently employed to collectively reference various technologies currently featured in data exchange, automation, and manufacturing environments. It draws strongly on the combination of CPS (Cyber-Physical Systems), IoT (Internet of Things) and IoS (Internet of Services) concepts.

Industry 4.0 is strongly tied to the contemporary definition of the Smart Factory. In terms of general consensus, such systems provide monitoring of all functional operations, often involving the provision of a digital replica of the actual environment, supporting system-wide remote management. Over the Internet of Things, such systems, especially those falling within the CPS designation, are enabled to, in real time, share information and fully co-function among both the individual system elements as well as operators/administrators. IoS utilization allows full in-house and inter-departmental access to services by all.



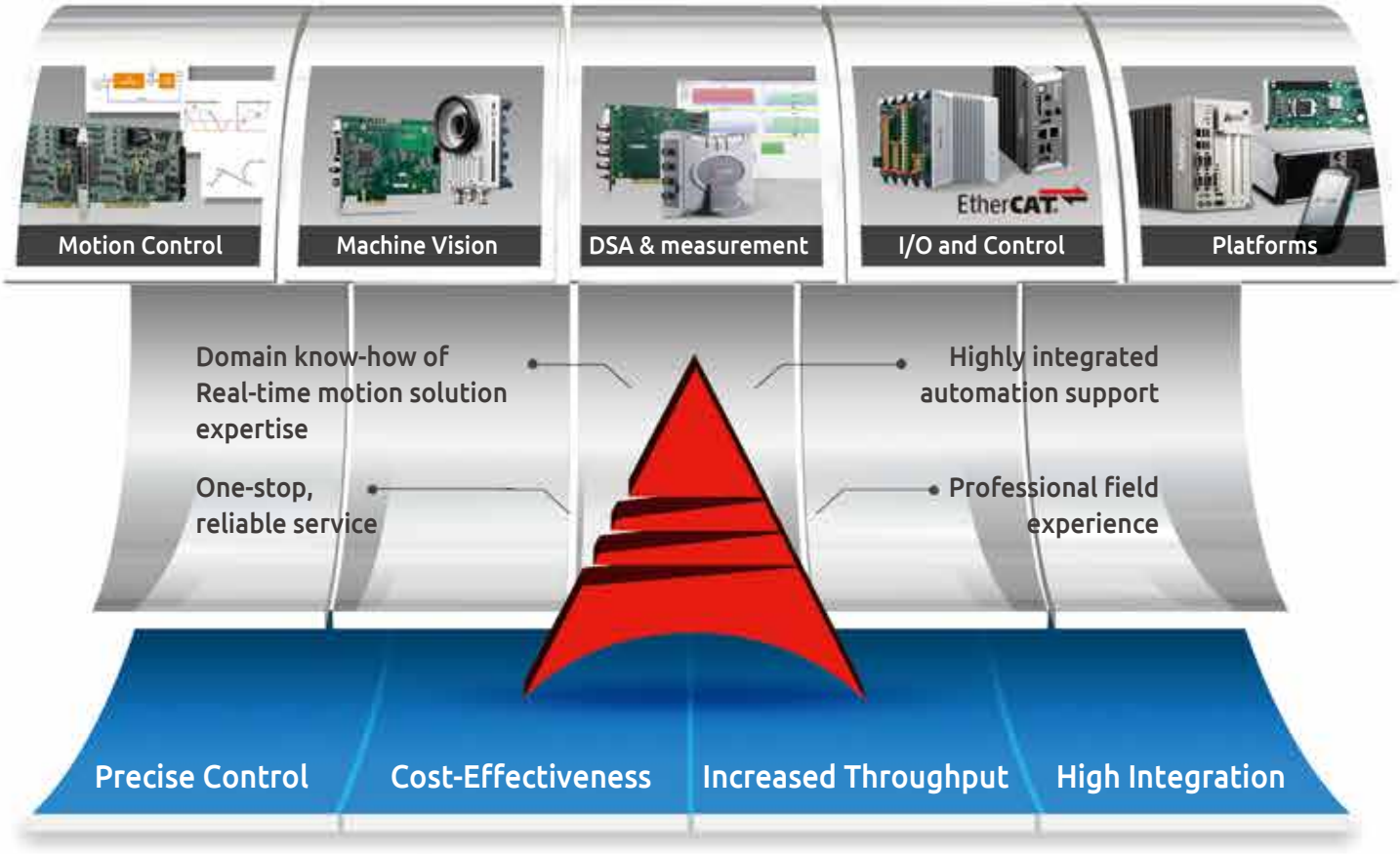


Industrial Revolution Timeline



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The Measurement and Automation Experts



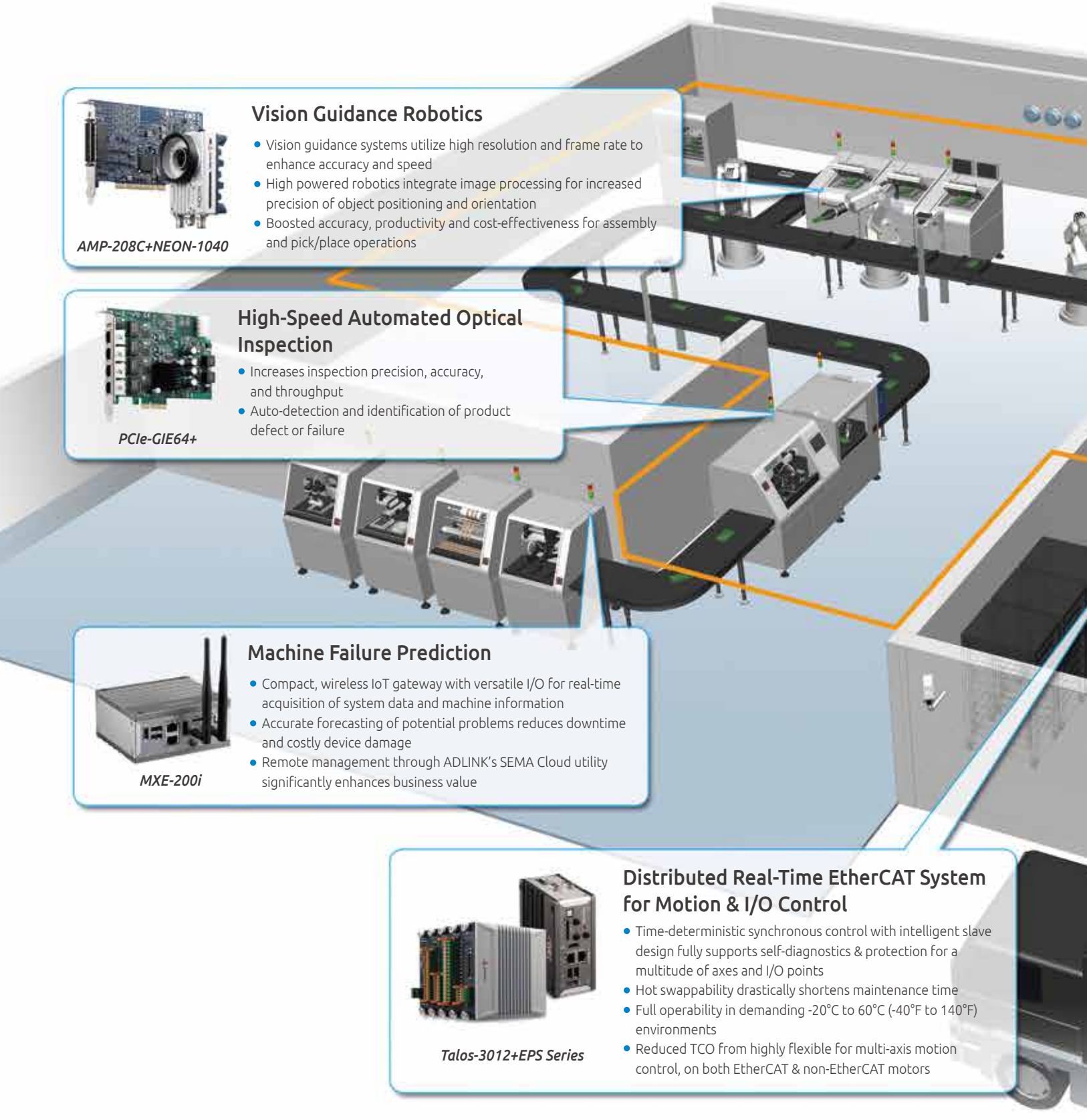
ADLINK Technology Inc., with years of market-proven expertise in measurement and automation technologies, provides a leading range of industrial automation products empowering motion control, machine vision, data acquisition, I/O control, and intelligent computing platforms.

To enhance competiveness and maximize return on investment, automatic system vendors and users require cost-effective and highly integrated solutions that can realize precise control and high throughput. ADLINK, with superior domain knowhow and field experience, meet and exceed customer needs, with a wealth of highly integrated automation solutions enabling real-time I/O and motion control, backed up with reliable one-stop service.

ADLINK has consistently delivered value by overcoming a wide variety of industrial challenges, with proven platforms optimizing operations, driven by a commitment to long-term sustainability and intelligent manufacturing design. ADLINK's flexible roster of system-, platform-, and product-based solutions means customers can quickly deploy automated systems that can easily withstand the rigors of the most extreme manufacturing conditions, seamlessly meshing with enterprise-level management platforms to deliver fault-free performance on the front lines of the modern production environment.

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Smart Factory



AMP-208C+NEON-1040

Vision Guidance Robotics

- Vision guidance systems utilize high resolution and frame rate to enhance accuracy and speed
- High powered robotics integrate image processing for increased precision of object positioning and orientation
- Boosted accuracy, productivity and cost-effectiveness for assembly and pick/place operations

PCIe-GIE64+

High-Speed Automated Optical Inspection

- Increases inspection precision, accuracy, and throughput
- Auto-detection and identification of product defect or failure

MXE-200i

Machine Failure Prediction

- Compact, wireless IoT gateway with versatile I/O for real-time acquisition of system data and machine information
- Accurate forecasting of potential problems reduces downtime and costly device damage
- Remote management through ADLINK's SEMA Cloud utility significantly enhances business value

Talos-3012+EPS Series

Distributed Real-Time EtherCAT System for Motion & I/O Control

- Time-deterministic synchronous control with intelligent slave design fully supports self-diagnostics & protection for a multitude of axes and I/O points
- Hot swappability drastically shortens maintenance time
- Full operability in demanding -20°C to 60°C (-40°F to 140°F) environments
- Reduced TCO from highly flexible for multi-axis motion control, on both EtherCAT & non-EtherCAT motors

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Automated Video/Audio Testing

- Eased system integration and shortened testing cycle with improved testing efficiency
- Speedy testing of system building and auto-execution of test items
- Ready-to-use audio/video testing software reduce application development and system integration burdens

PCIe-9529+PCIe-HDV72

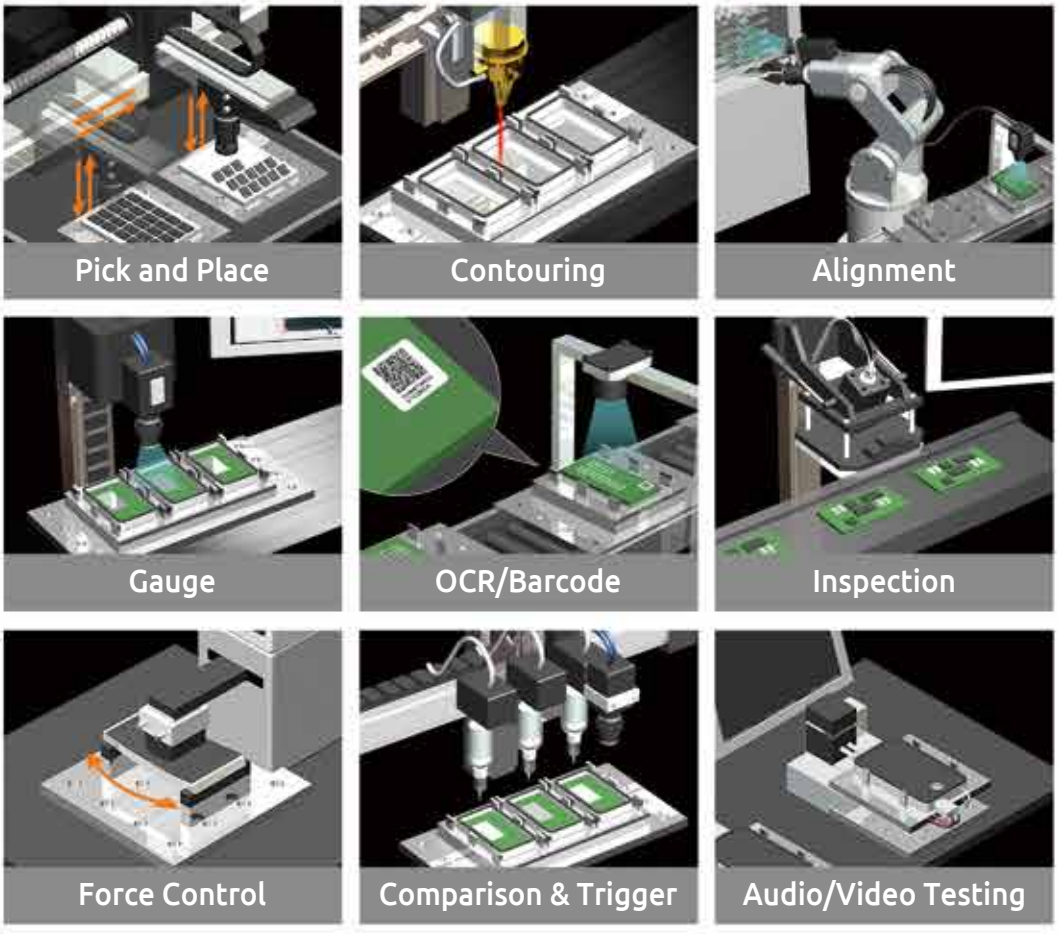
Logistics Management Systems

- Increased inventory control with high-performance barcode scanning and AGPS support
- Built-in cameras record onsite and field events and conditions
- Acquired ID data quickly links to data storage via 3G or WiFi

IMX-3000

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Maximizing Success for Mobile Device Production



Invigorate Applications with Powerful Functions

With the explosive popularity of mobile device use, supply chain deployment supporting highly efficient manufacturing of quality mobile products is being increasingly recognized as a critical factor in market dominance.

Accordingly, it has become more and more important for providers to introduce automated systems and quality assurance solutions across their production procedures, from material feeding, component production and functional testing, assembly, final product quality assurance, and inspection to shipping, to minimize defect rates while boosting quality and throughput. Intelligent precision manufacturing can easily be the deciding advantage in guaranteeing success and competitiveness for mobile device manufacturers.

The complex manufacturing procedures for mobile devices, from an automation perspective, can be organized into functional categories such as Pick & Place, Contouring, Alignment, Force Control, Inspection, and others.

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As an example, an automated dispenser unit can incorporate such functions as Position Comparison & Trigger and Contouring & Alignment, and, in the presence of automated function testing, Pick & Place as well, to enable robotic loading of workpieces onto the test equipment and Force Control to provide mobilization in lieu of manual function, achieving more consistent and precise test results.

Thus, if highly efficient and fully compatible solutions delivering such functionality are available to mobile manufacturers, system integrators will be able to effect customized organization of the solutions for their specific variety of equipment and applications, translating into quick and flexible satisfaction of production line requirements and timely support of product launches, guaranteeing vertical market success.

For the vertical mobile device market, ADLINK has provided a series of solutions built around specific functions involved in automated manufacturing and testing environments. These solutions have their foundation in the intensive field knowledge and experience crucial to the delivery of seamless integration and leading performance.

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Applications



Machine Failure Prediction



Application

Industrial machinery is subject to nearly constant shock and vibration which can generate fatigue and wear materials and components, with imprecision and eventual system failure the result. Forecasting potential problems in order to implement preventive measures and maintenance or even replacement are critical capabilities in sustaining performance and avoiding downtime and costly damage.

The advent of the cloud-based Internet of Things (IoT) has allowed data acquisition from a wide variety of sensor types, including vibration, noise, temperature, voltage, pressure, and many others, vastly improving the capabilities of machine failure prediction, with real-time data transmission, remote control and monitoring, and enhanced accuracy, all dramatically boosting efficiency and economy.

ADLINK Solutions

ADLINK MXE-200i is a dedicated IIoT gateway based on the Intel® IoT Gateway portfolio of pre-integrated and pre-validated software and hardware bundles developed to address the challenges facing IIoT, enabling connectivity of legacy industrial devices and other systems. In addition to collaboration with McAfee® and Wind River® with resulting intelligent systems integrating technologies and communication protocols for networking and embedded control with reinforced security, the ADLINK MXE-200i also provides the benefits of ADLINK's proprietary SEMA Cloud utility, with flexible connection to push data to the cloud, deliver remote monitoring and control capabilities, and offer rich libraries and tools allowing OEM customers to easily configure and design intuitive GUIs viewable on any browser-based device for 24/7 data access. Make it for easier and more cost-efficient deployment of IIoT applications with reduced development time.

Features and Benefits

- *Ruggedized fanless and cable-free construction with wide -20 to 70°C operating range*
- *Incorporation with ADLINK DAQ products empowers acquisition of real-time machine information*
- *Operable under harsh environments, with industrial grade EMI/EMS rating (EN 61000-6-4,61000-6-2), reducing space and wiring costs by combining controller and gateway functions in a single device*

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Logistics Management Systems



Application

Logistics providers compete constantly to providing the best possible service while minimizing cost from misplaced shipments. A logistics service provider in HK has utilized ADLINK IMX-3000 handheld computers for logistics management, enhancing efficiency for more effective delivery and process tracking. The IMX-3000 provided real-time reporting of potential delays, confirmation of successful deliveries, and newly logged pickups, including location information.



ADLINK Solutions

The IMX-3000 handheld computer's open Android platform allows easy application development, to facilitate tracking, communication, and process execution. Rugged IP54-rated construction and sunlight-readable display equip the IMX-3000 for use in most external environments. Built-in 1D and 2D barcode scanner and camera eliminate the inconvenience of paper documentation and manual process, increasing efficiency by streamlining data capture. ADLINK's IMX-3000 handheld computers further increase inventory control with high performance barcode scanning and AGPS support. Acquired identification data can be linked and sent via 3G or WiFi to data storage, available to staff and customers for more efficient tracking.

Features and Benefits

- *Android platform simplifies development*
- *IP54-rated robust construction*
- *Sunlight-readable display*
- *High performance 1D/2D barcode scanner*
- *Real time data transmission from 3G/WiFi connection*
- *AGPS support*
- *Built-in camera to record field events and conditions*

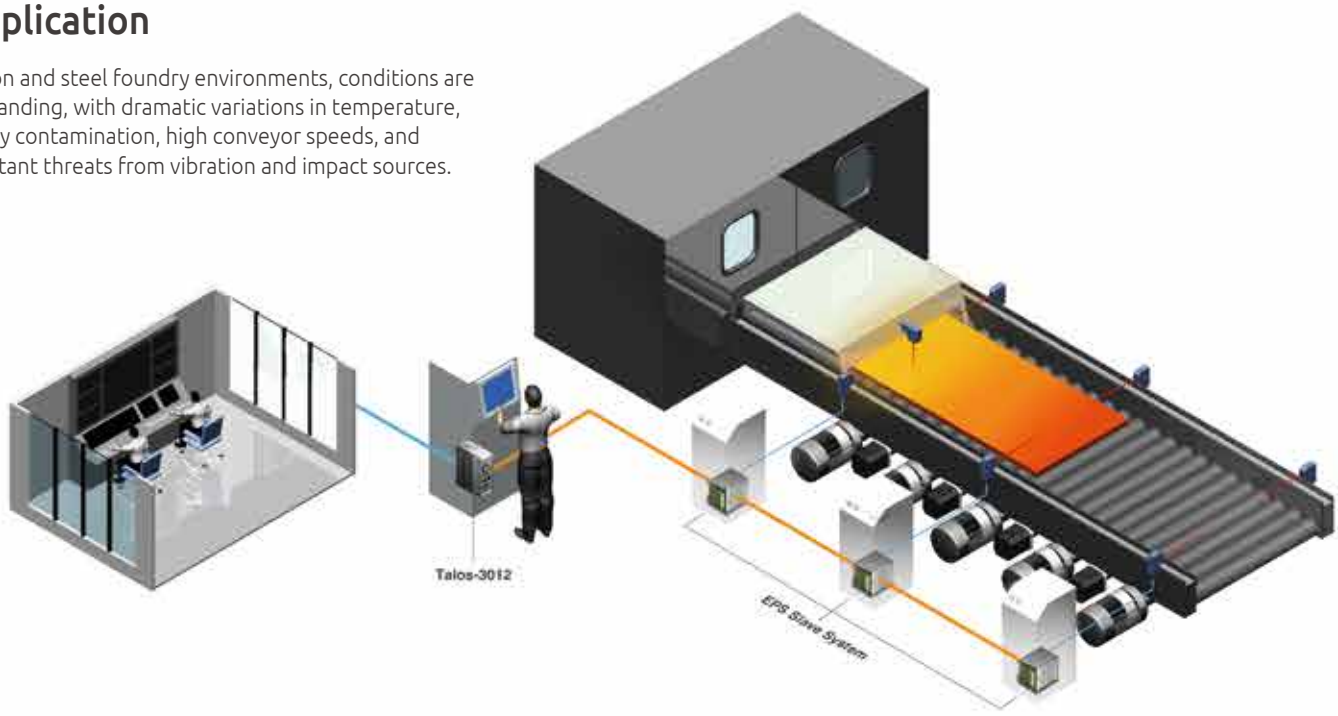
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Distributed Real-Time EtherCAT System for Demanding Industrial Automation Environment

Application

In iron and steel foundry environments, conditions are demanding, with dramatic variations in temperature, heavy contamination, high conveyor speeds, and constant threats from vibration and impact sources.



ADLINK Solutions

High-speed deterministic response time of conveyor sensor signals is required for precise control conveyor control. ADLINK offers a complete EtherCAT solution in which the Talos EtherCAT master controller not only governs time-deterministic EPS EtherCAT slaves to control common digital I/O devices, the analog I/O for measurement usage, but also connects EtherCAT type servos directly. ADLINK Softmotion, embedded in the Talos controller, benefits the user by managing complicated motion functions with simple and intuitive function blocks. ADLINK's EtherCAT products are fully operable in -20 to 60°C (-4°F to 140°F) environments and can withstand up to 50 G shock and 5 G vibration, fully supporting deployment in demanding conditions.

Features and Benefits

- *Compact and rugged structure withstands demanding environments*
- *Intelligent EPS series slave function for self-diagnosis & protection*
- *Time-deterministic synchronized I/O control for increased performance control*
- *Hot swappability shortens maintenance time*

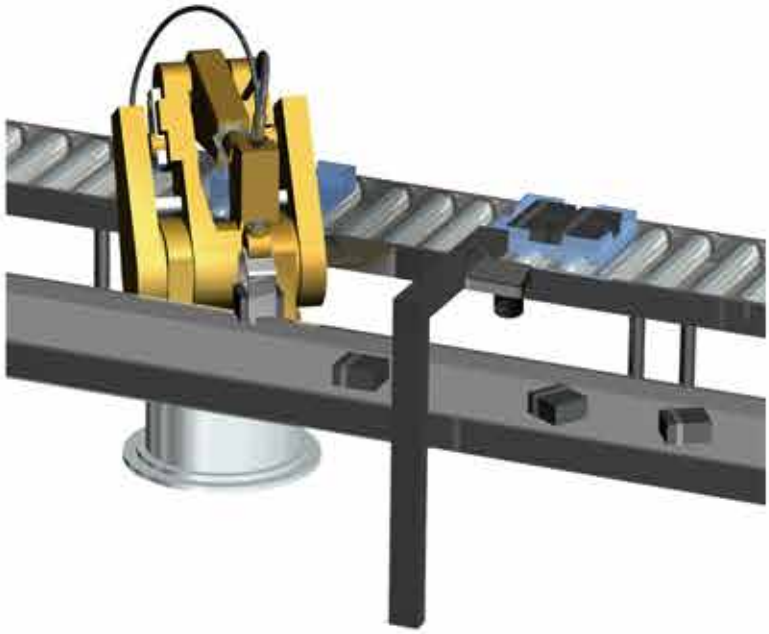
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Vision Guidance Robotics

Application

Robotics have been implemented in factory automation for applications such as assembly and pick/place operations, boosting accuracy, productivity and cost-effectiveness. Without vision guidance, however, considerable teaching time and tooling expense are required to guarantee correct, accurate, and speedy function, but the system can also lack the flexibility to meet a full range of production demands. High resolution and frame rates delivered by vision guidance systems provide enhanced accuracy and speed. Robotics integrating image processing such as pattern matching can acquire necessary object position and orientation. ADLINK's NEON-1040 x86 smart camera provides high performance imaging capability, global shutter sensor, frame rates up to 60 fps and up to 4 MP resolution with Intel® quad-core Atom processor.



ADLINK Solutions

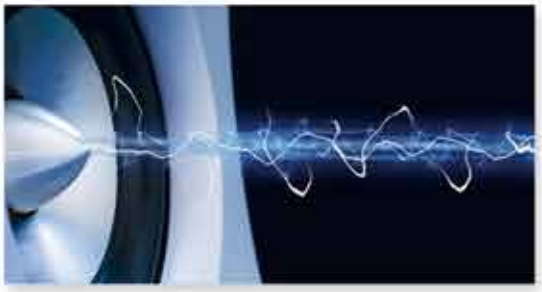
ADLINK' s new generation x86 NEON-1040 features 4MP 60fps global shutter sensor and the Intel® Atom™ quad core 1.9 GHz processor, with minimal footprint and rugged IP67-rated construction. The quad core CPU increases computing power and FPGA coprocessors and GPU deliver advanced image processing, both beyond the capabilities of conventional smart cameras. Rich software support and API compatibility enable easy migration from original x86 platforms, eliminating software and development language burdens across the platform, reducing time to market.

Features and Benefits

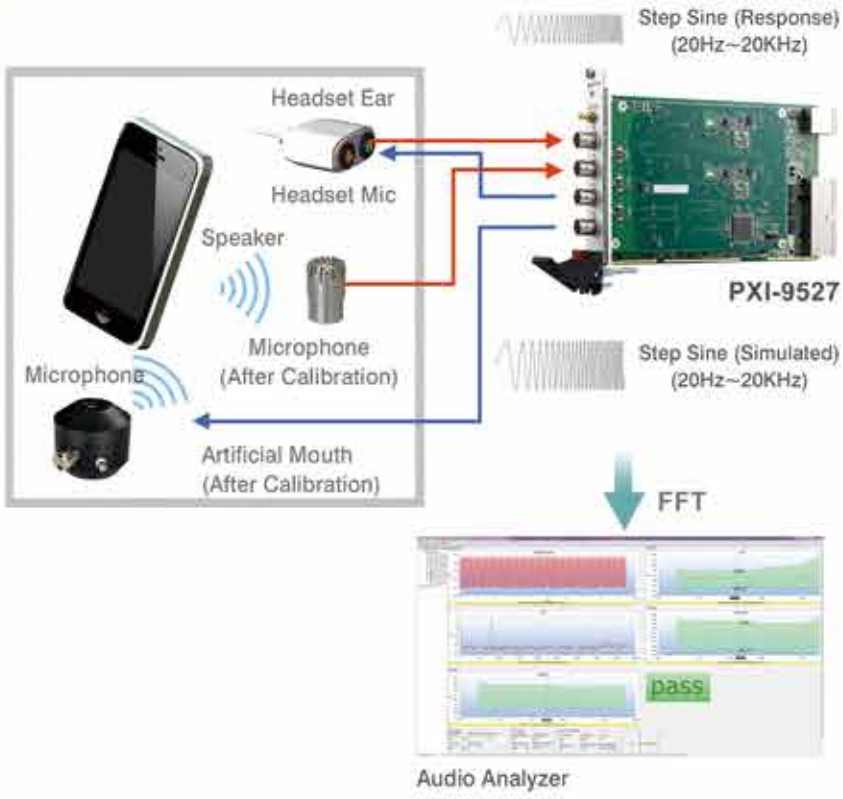
- *High performance efficient imaging*
- *Reduced total cost of ownership*
- *Easy deployment and development*
- *GenTL supports easy integration with a wide variety of machine vision applications*

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Applications



Audio Loop Back Testing



Application

As smart phones and tablets continue to gain popularity, multimedia content is becoming more important to users. To provide superior multimedia experience, device innovation is not limited to improvement of display quality and size, but also audio quality. As a result, integration of more and better quality electro-acoustic components, such as stereophonic loudspeakers and noise-canceling microphones, is a priority in product development. With audio quality recognized as an important factor in gaining market share, manufacturers must maximize the effectiveness of their audio testing systems to ensure product quality.

ADLINK Solutions

ADLINK's PXI-9527 24-bit high dynamic signal acquisition card provides an excellent solution for audio loop testing of smart phones. The PXI-9527 provides two analog input channels and two analog output channels capable of simultaneously detecting 3.5mm earphone audio circuit, speaker, and microphone to fully satisfy multiple electro-acoustic device testing requirements. Expandability allows users to easily and quickly reconfigure test settings, such that if the number of electro-acoustic components to be tested changes, simply adding a switch or installing another PXI-9527 handles the variation, with no need to redesign the entire test system.

Features and Benefits

- *24-bit ADCs and DACs with up to 118 dB dynamic range*
- *Up to 432 kS/s AI and up to 192 kS/s AO*
- *AC/DC coupling, IEPE conditioning, anti-aliasing filters, and auto calibration*
- *Simplified system integration and shortened testing cycle significantly improve testing efficiency*
- *Quick testing system building and auto-execution of test items*
- *Ready-to-use audio testing software reduces development and system integration time and costs*

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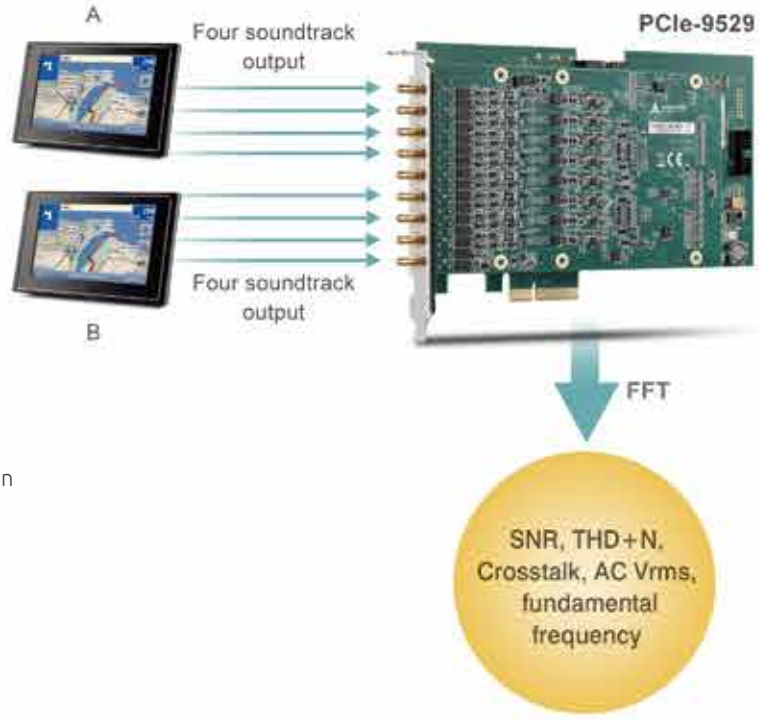


Car Navigation Audio Testing

Application

To secure a position in the in-vehicle infotainment and navigation market, manufacturers are required to provide superior audio and video capabilities, while optimizing audio reproduction quality. What is required is a cost-efficient audio testing solution.

In-vehicle infotainment and navigation device manufacturers require audio testing systems that can quickly measure four audio output channels (including multiple speakers in various vehicle locations), analyzing audio quality and identifying device defects. Previously, manufacturers have largely relied on manual testing requiring extended testing times, utilizing expensive testing instrumentation, often with fewer output channels (usually only two), which further extends the duration of testing events.



ADLINK Solutions

ADLINK's PCIe-9529 24-bit high-precision signal acquisition module with dynamic range up to 110dB and eight input channels easily meets multi-channel vehicle navigation testing requirements, measuring Signal-to-Noise Ratio (SNR), THD+N, channel crosstalk, volume, primary frequency, and items. Eight 24-bit sampling analog input channels mean the PCIe-9529 can simultaneously measure two 4-channel devices, and included LabVIEW drivers allow quick development of in-house testing programs. As shown, PCIe-9529's eight analog input channels connect to two DUT soundtracks, after which FFT is used to obtain testing values including SNR, THD+N, dynamic range, and others, to effectively and quickly determine whether the DUT conforms to specific requirements.

Features and Benefits

- *Eight 24-bit analog input channels simultaneously sampling at 192 kS/s*
- *High dynamic range up to 110 dB. (106 dB SFDR, 104 dB SNR, and -106 dB THD)*
- *The SDKs support C/C++, .NET and LabVIEW allowing quick development of required audio testing systems*
- *Increased bandwidth to shorten testing cycles and improve test efficiency*
- *Reduced cost of testing equipment*

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ADLINK Intelligent Computing Platforms

The embedded market is now transitioning from traditional fixed-function and isolated embedded systems to a new category of intelligent systems, offering vastly enhanced user experience while dramatically increasing the flow of information between cloud systems and data centers. ADLINK's intelligent computing platforms provide a core for intelligent systems, maximizing flexibility of Intel processors, and enhancing productivity, safety, and efficiency.

- ADLINK delivers energy-efficient performance processors ranging from the power-saving Intel® Atom™ processor family to the high-performance, Intel® Core™ processor family and Intel® Xeon® processor family.
- ADLINK Intelligent Computing Platforms utilize Intel® AMT, empowering users to remotely access, rescue, and manage the system via robust OOB internet connection.
- ADLINK SEMA enabled, monitoring health and access to management utility



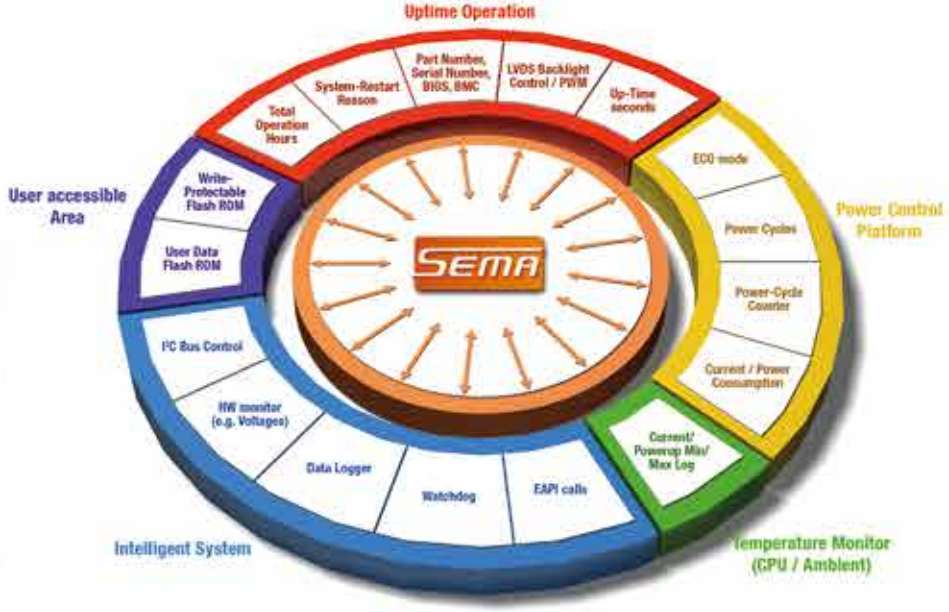
- ADLINK Intelligent Computing Platforms features optional TPM, providing a semi-permanent reference for encryption and security applications. It leads to a more reliable operating environment for critical tasks and protects the system from unauthorized usage.
- Application and device I/O security will continue to be enhanced commensurate with the development of individual Intelligent Computing Platforms components.
- ADLINK's Intelligent Computing Platforms provide optimized I/O design to serve a variety of applications.
- ADLINK's MXE series, with superior connectivity and inter-device communication, has been approved as an Intel® ISF (Intelligent Systems Framework-Ready) product.

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SEMA - Smart Embedded Management Agent

ADLINK's Smart Embedded Management Agent (SEMA) can resolve shortcomings found in many embedded PC systems. State of the art processors and chipsets have complex needs for housekeeping tasks such as monitoring power up and power saving modes. To flexibly handle these requirements, every new ADLINK Intelligent Computing platforms is equipped with a Board Management Controller (BMC) device supporting SEMA, an integrated onboard microcontroller, programmed to handle even the most complex sequences, while data logging stores important information such as up times and maximum temperatures.





Applications


Factory Automation


Maritime


Power and Energy


Intelligent Transportation


Medical

Benefits

- *Longevity*
- *Fast time to market*
- *Wide selection of CPUs meets the requirements of a wide variety of industries*
- *Increased efficiency and productivity*
- *Reduced management costs*
- *Easy connection with other devices*
- *Secured computing assets*

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Versatile IO Ready Intelligent Computing Platforms

ADLINK offers a comprehensive range of fanless embedded computers and industrial computers, with diverse designs for a variety of applications. Together with ADLINK's off-the shelf I/O cards, they more than meet the needs of your demanding industrial applications. Compare and discover the ideal ADLINK products for your needs!

	Intel® Quark™ Processor	Intel® Atom™ Processor			
 Factory Automation	 Coming soon MXE-110i	 MXE-200/200i	 NEW MXE-1400	 MXC-2300	 MXE-1300
 Intelligent Transportation	 Coming soon MXE-110i	 MXE-200/200i	 NEW MXE-1400	 MXC-2300	 MXE-1300
 Power and Energy	 Coming soon MXE-110i	 MXE-200/200i	 NEW MXE-1400	 MXC-2300	 MXE-1300
 Maritime		 MXC-2300	 MXE-1301M		
 Medical		 TPZ-1300			

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4+ High Expansion Sots

1 to 4 Expansion Slots

Non-Expandable

Intel® Core™ Processor	Intel® Xeon® Processor
Manageability	
NEW  IMB-M43	 IMB-M40H
 IMB-M42H	 TRL-40
NEW  NuPRO-E43	 NuPRO-E42
 NuPRO-A40H	 NuPRO-E72
NEW  MVP-6000	NEW  MXC-6400
 MXC-6300	NEW  MXE-5500
 MXE-5400	
NEW  MXC-6400	 MXC-6300
NEW  MXE-5500	 MXE-5400
 MXE-5300	 NuPRO-E72
 MXC-6300	 MXE-5400
 MXC-6300M	 MXC-6310M
 MXE-5104	
 MXC-6300	 TRL-40

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A Best Application-Specific Platform with Versatile ADLINK I/O Cards

Enabling integration of off-the-shelf ADLINK PCI/PCIe cards

like ADLINK's full spectrum of frame grabbers, motion controllers, and data acquisition cards. All this, plus the clear benefits of ADLINK's comprehensive expertise and experience, make ADLINK's intelligent computing platforms the ideal platform for a variety of applications.

Flexibility with PCI/PCIe/miniPCIe expansion slots

maximize functionality, and with ADLINK's application-ready intelligent computing platforms, you can concentrate on business!

- ***Guaranteed by strict verification testing***
- ***Fast time to market with reliable application control***



Digital Surveillance System



Factory Automation



Medical



Test and Measurement



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DAQ



PCI-7250
8-CH Relay Outputs & 8-CH Isolated DI PCI Cards



PCI-7260
8-CH High-Power Relay Outputs & 8-CH Isolated DI PCI Card



PCI-7300A
80 MB/s High-Speed 32-CH Digital I/O PCI Card



PCI-7432
64-CH Isolated Digital I/O PCI Card



PCI-9112
16-CH 12-Bit 110 kS/s Multi-Function DAQ Card



PCI-9221
Low-Cost 16-Bit Multi-Function DAQ Card with 2-CH Encoder Input



PCI-9223
32-CH 16-Bit 500 KS/s Multi-Function DAQ Cards with Encoder Input



PCIe-6208V
16-CH 16-Bit PCI Express Voltage Output Card



PCIe-7296
96-CH Opto-22 Compatible PCI Express DIO Card



LPCIe-7230
32-CH Isolated DIO Card



PCIe-7300A
80 MB/s High-Speed 32-CH Digital I/O PCI Express Card



PCIe-7350/7360
50/100 MHz 32-CH High-Speed Digital I/O Card



DAQ-2005
4-CH 16-Bit 500 kS/s Simultaneous-Sampling Multi-Function DAQ Card



DAQe-2005
4-CH 16-Bit 500 kS/s Simultaneous-Sampling Multi-Function PCI Express® DAQ Card

Digitizer / DSA



PCI-9527
24-Bit High-Resolution Dynamic Signal Acquisition and Generation



PCI-9846
4-CH 16-Bit 40 MS/s PCI Digitizer with 512MB Memory



PCIe-9852
2-CH 14-Bit 200 MS/s High-Speed PCI Express Digitizer/Oscilloscope



PCI-9820
2-CH 14-Bit 65 MS/s PCI Digitizer with SDRAM



PCI-9812
4-CH 10-Bit 20 MS/s Simultaneous-Sampling Analog Input Cards



PCIe-9814
4-CH 12-Bit 80MS/s PCI Express Digitizer



PCIe-9529
8-CH 24-Bit High-Resolution Dynamic Signal Acquisition Module

Motion Control



AMP-204C/AMP-208C
DSP-based 4/8-axis Advanced Pulse-Train Motion Controllers



PCI-8254/8258
DSP-based 4/8-axis Advanced Motion Controllers



PCI-8154/8158
Advanced 4/8-axis Servo & Stepper Motion Controller with Modular Design



PCI-8136
6-CH Quadrature Encoder and Multi-Function I/O Card



PCI-8144
4-axis Stepper Motion Controller



PCI-8164
Advanced 4-axis Servo & Stepper Motion Controller with High-Speed Triggering

Machine Vison



PCIe-2602
2-CH 3G/HD/SD-SDI Video/Audio Capture Card



PCIe-HDV62A/62
1-CH PCI Express® HDMI Video & Audio /Video Capture Card



PCIe-GIE64+/GIE62+
4/2-CH PCI Express® Power over Ethernet Frame Grabbers



PCIe-RTV24
4-CH PCI Express® Real-time Video Capture Card for Standard Cameras



PCIe-FIW64/FIW62
4-CH PCI Express® IEEE 1394b Frame Grabber



PCIe-CPL64/CPL64 Base
2-CH PCI Express® PoCL Frame Grabber

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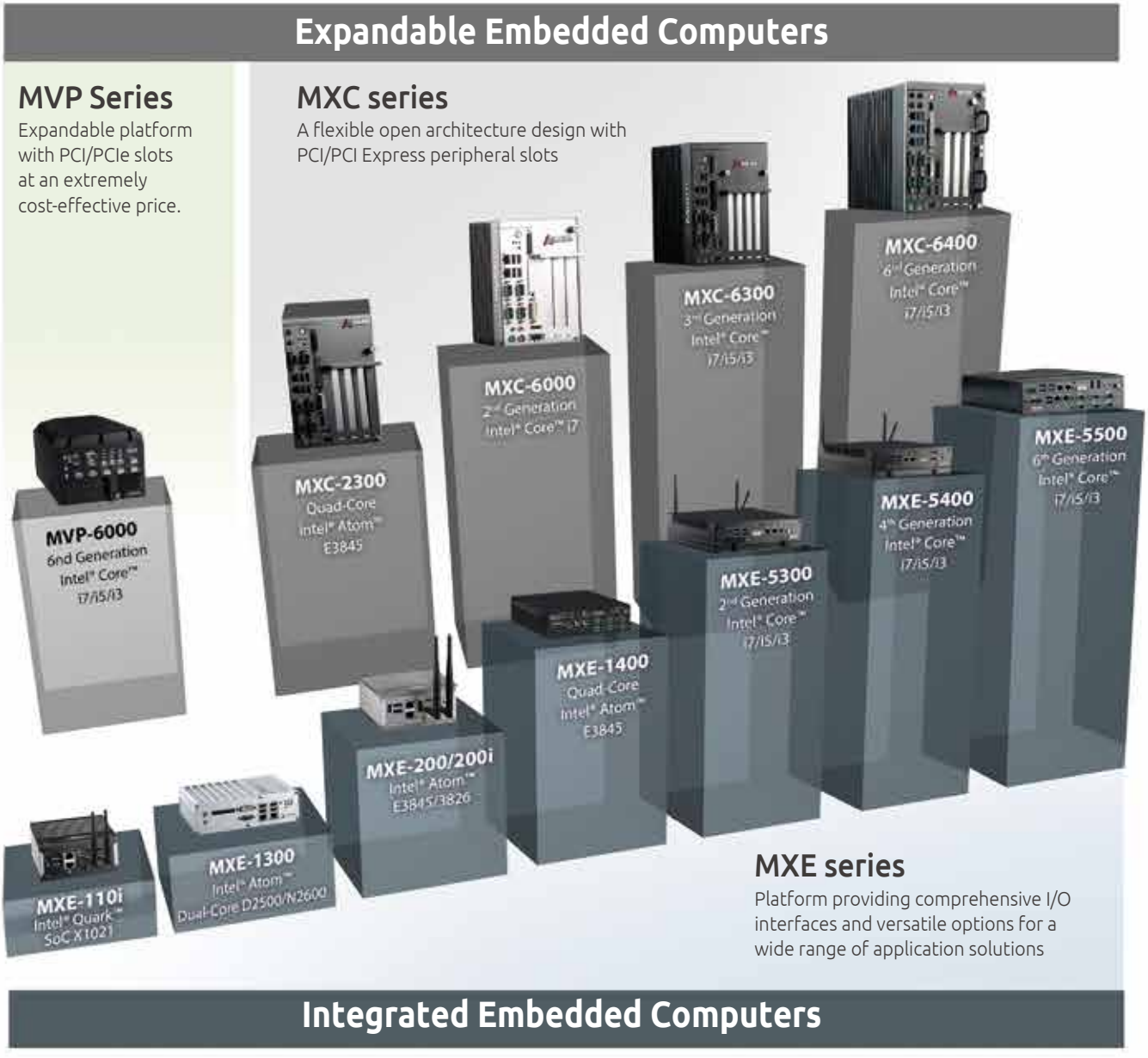
Your Trusted Embedded System Provider

Rugged, Reliable, and Flexible

ADLINK's revolutionary series of Matrix fanless embedded computers provide an optimal computing platform with expandable options to customers. These platforms are the result of combining ADLINK's expertise in x86 platform design, versatile I/O function development, and thermal design to push fanless systems to a higher standard, including a wide operating temperature, 5 Grms vibration, and cable-free durable structure.

With a sturdy hardware design, the Matrix MXC and MXE series are ideal for developing reliable embedded systems effortlessly and offering time-to-market solutions to mission-oriented industries. ADLINK takes the advantage of flexibility to offer diverse comprehensive I/O interfaces to meet requirements for a variety of industrial applications.

ADLINK Fanless Embedded Computers



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Video Surveillance/
Recognition



Facility
Management



Electrical
Substation



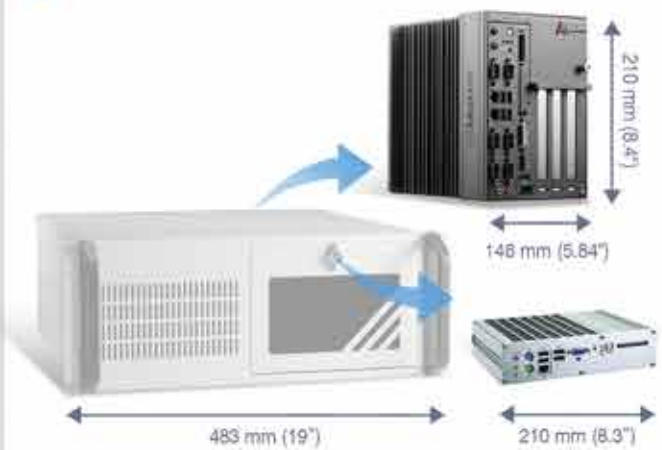
Intelligent
Transportation



Machine
Automation

Compact

Small form-factor for easier installation and maintenance



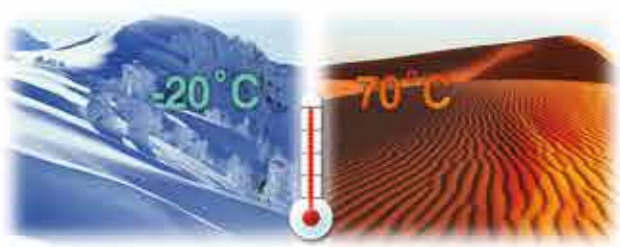
Fanless

Fanless construction significantly extends MTBF to 190,000 hours and minimizes Maintenance costs.



Rugged

Matrix products operate in a -20°C to 70°C (-4˚F to 158˚F) wide temperature range and withstand up to 100 G shock and 5 Grms vibration, making them ideal for deployment in harsh environments.



Note: Extending the operating temperature to is optional and requires use of an industrial solid-state drive storage device.

Application-specific

By integrating ADLINK DAQ, DIO, motion and vision technologies, the Matrix line provides specific onboard I/O functions.



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Fanless Embedded Computers Selection Guide

		Value Series			High Performance		
		MVP-6000 Series			MXC-6400 Series		
Expandable Embedded Computers							
Model Name		MVP-6001	MVP-6002	MVP-6003	MXC-6401D	MXC-6402D	MXC-6403D
System	*Processor*	Intel® Core™ i7-6700TE	Intel® Core™ i5-6500TE	Intel® Core™ i3-6100TE	Intel® Core™ i7-6820EQ	Intel® Core™ i5-6440EQ	Intel® Core™ i3-6100E
	Chipset	Intel® H110			Intel® QM170		
	Memory	4 GB DDR4 22133 MHz (up to 32 GB)			4 GB DDR4 22133 MHz (up to 32 GB)		
	Video	2 DisplayPort 1.2 (4096x2304) 1 DVI (4096x2160) 1 VGA			2 DisplayPort 1.2 (4096x2304) 1 VGA+DVI Dual display output by DVI-I connector		
I/O Interface	*Expansion Slots*	1 PCI+ 1PCIe x16			1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16 slots		
	Ethernet	3 Intel® GbE ports			3 Intel® GbE ports		
	Serial Port *COM1 & COM2*	2 RS-232/422/485			2 RS-232/422/485		
	Serial Port *COM3 & COM4*	2 RS-232			2 RS-232		
	USB Port	4 USB 3.0 + 2 USB2.0 1 internal USB 2.0			6 external USB 3.0 + 1 internal USB 2.0		
	CAN	-			-		
	DIO	8-CH DI + 8-CH DO			Isolated 16-CH DI + 16-CH DO		
Manageability	*Watchdog Timer*	√			√		
	SEMA	-			-		
Storage	*SATA HDD*	One 2.5. onboard SATA III HDD/SSD			Two 2.5" hot-swappable SATA III drive bay Two 2.5" onboard SATA III HDD/SSD		
	CompactFlash	1 type II CFAST socket			1 type II CFAST socket		
	*Operating Temperature**	Standard: 0°C to 50°C			Standard: 0°C to 50°C (w/HDD) Extended option: -20°C to 70°C (w/Ind. SSD or CFAST)		
	Vibration	With CFast/SSD: 5 Grms With HDD: 0.5 Grms			With CFast/SSD: 5 Grms With HDD: 0.5 Grms		
	ESD	Contact +/-4 KV and Air +/-8 KV			Contact +/-4 KV and Air +/-8 KV		
	Shock	With CFast/SSD: 50 G			With CFast/SSD: 50 G		
	EMC	CE and FCC Class A			CE and FCC Class A		
	Safety	UL/cUL,CB			UL/cUL,CB		
General	*Power Supply*	12-24 V_{DC}			9-32 V_{DC}		
Mechanical	*Dimensions*	220 (W) X 210(D) X 170(H) mm (8.66" x 8.27" x 6.69")			170(W) x 225(D) x 200(H) mm (6.69" x 8.86" x 7.87")		
Operation System		Win 10 / 7 / Embedded standard 7, Linux Ubunto 12.04 and Fedora 18**			Win 10 / 7 / Embedded standard 7, Linux Ubunto 12.04 and Fedora 18**		

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Expandable Embedded Computers

		High Performance						Entry Level	
		MXC-6300/6310/6320 Series				MXC-6000 Series		MXC-2300 Series	
									
Model Name		MXC-6301D /6311D /6321D	MXC-6302 /6312D /6322D	MXC-6303D /6313D /6323D	MXC-6305D / 6315D / 6325D	MXC-6101D	MXC-6201D	MXC-2300(CD)-3E1	MXC-2300(CD)-3S
System	*Processor*	Intel® Core™ i7-3610QE	Intel® Core™ i5-3610ME	Intel® Core™ i3-3120ME	Intel® Celeron 1020E	Intel® Core™ i7-620LE 2.0 GHz		Intel® Atom™ Processor E3845	
	Chipset	Intel® QM77				Intel® QM57		Intel® SoC	
	Memory	4 GB DDR3 1600 MHz (up to 16GB)				2 GB DDR3 800/1066 MHz (Up to 4 GB)		4 GB DDR3L 1333 MHz (up to 8 GB)	
	Video	2 DisplayPort + 1 VGA or 2 DisplayPort + 1 DVI-D				Analog CRT, supports QXGA (2048 x 1536) 1 VGA+DVI dual display output by DVI-I connector		1 DisplayPort (2560x1600) 1 VGA (2560x1600) 1 DVI (1920x1200)	
I/O Interface	*Expansion Slots*	1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16(MXC-6300 Series) 1 PCI + 1 PCIe x16 (MXC-6310 Series) 3 PCI + 1 PCIe x16 (MXC-6320 Series)				2 PCI slots	1 PCI slot and 1 PCIe x4 slot	2 PCI +1 PCIe x4	3 PCI
	Ethernet	2 Intel® GbE ports				2 Intel® GbE ports		2 Intel® GbE ports	
	Serial Port *COM1 & COM2*	2 RS-232/422/485				2 RS-232/422/485		2 RS-232/422/485	
	Serial Port *COM3 & COM4*	2 RS-232				2 RS-232		2 RS-232	
	USB Port	6 external USB ports (4 USB 3.0 + 2 USB 2.0) + 1 internal USB 2.0				4 external USB 2.0 ports + 1 internal USB 2.0 port 5		5 external USB ports (4 USB 2.0 + 1 USB 3.0) + 1 internal USB 2 .0	
	CAN	-				-		DB9 isolated CAN port with SjA1000 CAN controller	
	DIO	Isolated 16-CH DI + 16-CH DO				Isolated 16-CH DI + 16-CH DO		Isolated 16-CH DI + 16-CH DO	
Manageability	*Watchdog Timer*	√				√		√	
	SEMA	-				-		SEMA support with BMC	
Storage	*SATA HDD*	Two onboard 2.5" SATA III HDD/SSD				Two 2.5" HDD/SSD installation		One 2.5" HDD/SSD installation	
	CompactFlash	2 CFast socket (1 external + 1 internal)				2 Type II CF socket, (1 external + 1 internal)		1 Type II CF socket	
	*Operating Temperature**	Standard: 0°C to 50°C (w/HDD) Extended option: -20°C to 55°C for MXC-63x1D; -20°C to 60°C for MXC-63x2D/63x3D/ 63x5D (w/Ind. SSD or CFast)				Standard: 0°C to 50°C Extended option: -10°C to 60°C (w/Ind. SSD)		Standard: 0°C to 50°C Extended option: -20°C to 70°C (w/Ind. SSD or CF)"	
	Vibration	With CFast/SSD: 5 Grms With HDD: 0.5 Grms				With CF or SSD: 5 Grms With HDD: 0.5 Grms		With CFast/SSD: 5 Grms With HDD: 0.5 Grms	
	ESD	Contact +/-4 KV and Air +/-8 KV				-		Contact +/-4 KV and Air +/-8 KV	
	Shock	With CFast/SSD: 50 G				With CFast/SSD: 50 G		With CFast/SSD: 50 G	
	EMC	CE and FCC Class A				CE and FCC Class A		CE and FCC Class A	
	Safety	UL/cUL, CB, KCC				-		UL/cUL	
General	*Power Supply*	9-32 V_{DC}				9-32 V_{DC}		9-32 VDC	
Mechanical	*Dimensions*	MXC-6300/6320 Series: 172.5 (W) x 225 (D) x 213 (H) mm (6.9" x 9" x 8.52") MXC-6310 Series:154 (W) x 225 (D) x 213 (H) mm (6.16" x 9" x 8.52")				130 (W) x 225 (D) x 183 (H) mm (5.1" x 8.9" x 7.2")		142 (W) x 219 (D) x 210 (H) mm (5.84" x 8.76" x 8.4")	
Operation System		Win 7 / Embedded standard 7 / XP / XP Embedded, Linux **				Win XP /XP Embedded / 7, Linux**, INtime***		Win 8 / 8 Embedded / 7 / 7 Embedded, Linux Fedora 18**	

*Heat dissipation from inserted PCI/PCIe cards may affect thermal performance.
**Linux Distribution by request
***Custom BIOS is necessary to support INtime®

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Fanless Embedded Computers Selection Guide

			High Performance								
			MXE-5500 Series			MXE-5400 Series			MXE-5300 Series		
Integrated Embedded Computers											
Model Name			MXE-5501	MXE-5502	MXE-5503	MXE-5401	MXE-5402	MXE-5403	MXE-5301	MXE-5302	MXE-5303
System	*Processor*		Intel® Core™ i7-6820EQ	Intel® Core™ i5-6440EQ	Intel® Core™ i3-6100E	Intel® Core™ i7-4700EQ	Intel® Core™ i5-4400E	Intel® Core™ i3-4100E	Intel® Core™ i7-2710QE	Intel® Core™ i5-2510E	Intel® Core™ i3-2330E
	Chipset		Intel® QM170			Intel® QM87			Intel® QM67		
	Memory		4 GB DDR4 2133 MHz (up to 32 GB)			4 GB DDR3L 1066 MHz (up to 16 GB)			4 GB DDR3 1066 MHz (up to 16 GB)		
	Video		2 DisplayPort 1.2 (4096x2304) 1 DVI (4096x2160) 1 VGA			1 DVI-I +2 DisplayPort			Analog CRT, supports QXGA (2048 x 1536) 1 VGA+DVI dual display output by DVI-I connector		
I/O Interface	*Expansion Slots*		2 mPCIe + 1 m.2			2 mPCIe slots+ 1 mSATA			2 mPCIe slots		
	USIM		2 USIM slots			1 USIM slot			1 USIM slot		
	Ethernet		4 Intel® GbE ports			4 Intel® GbE ports			4 GbE (2 Realtek® 8111C + 1 Intel® 82574IT +1 82579 LM)		
	Serial Port	*COM1 & COM2*	2 RS-232/422/485			2 RS-232/422/485			2 RS-232/422/485		
		COM3 & COM4	2 RS-232/422/485			2 RS-232			2 RS-232		
		COM5 & COM6	2 RS-232			-			-		
	USB Port		4 USB 3.0 + 4 USB 2.0			6 USB 3.0 + 1 USB 2.0 (internal)			4 USB 2.0 +2 USB 3.0		
	DIO		Isolated 8-CH DI + 8-CH DO			Isolated 8-CH DI + 8-CH DO			Isolated 4-CH DI + 4-CH DO		
Manageability	*Watchdog Timer*		√			√			√		
	SEMA		SEMA 3.0			SEMA 2.2			-		
Storage	*SATA HDD*		2 x 2.5" HDD/SSD drive bay			Two 2.5" HDD/SS			One 2.5" HDD/SSD		
	CompactFlash		1Type II Cfast			1Type II Cfast			1 CFast socket		
	mSATA / M.2		1 M.2			1 mSATA (share slot w/ mPCIe)			-		
	SD		-			-			-		
Environment	*Operating Temperature**		Standard: 0°C to 50°C Extended option: -20°C to 60°C for MXE-5501; -20°C to 70°C for MXE-5502/5503: (w/Ind. SSD or CFast)			Standard: 0°C to 50°C Extended option: - 20°C to 60°C for MXE-5401; -20°C to 70°C for MXE-5402/5403: (w/Ind. SSD or CFast)			Standard: 0°C to 50°C Extended option: -20°C to 60°C for MXE-5301; -20°C to 70°C for MXE-5302/5303 (w/Ind. SSD or CFast)		
	Vibration		With CF/SSD: 5 Grms With HDDD: 0.5 Grms			With CF/SSD: 5 Grms With HDDD: 0.5 Grms			With CF/SSD: 5 Grms With HDDD: 0.5 Grms		
	ESD		Contact +/- 4 KV, Air +/- 8 KV			Contact +/- 4 KV, Air +/- 8 KV			Contact +/-4 KV and Air +/-8 KV		
	Shock		With CF/SSD: 100 G With HDD: 20 G			With CF/SSD: 100 G With HDD: 20 G			With CF/SSD: 50 G		
	EMC		CE and FCC Class A			CE and FCC Class A			CE and FCC Class A		
	Safety		UL by CB			UL by CB			UL by CB		
General	*Power Supply*		9-32 V_{DC}			9-32 V_{DC}			9-32 V_{DC}		
Mechanical	*Dimensions*		230 (W) x 205 (D) x 90 (H) mm (9" x 8" x 3.54")			230 (W) x 205 (D) x 75 (H) mm (9" x 8" x 2.9")			230 (W) x 205 (D) x 75 (H) mm (9" x 8" x 2.9")		
Operation System			Win 10/ 7 / Embedded Standard 7,Linux**			Win 7 / Embedded Standard 7, Linux**			Win 7 / Embedded Standard7,Linux**		

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Integrated Embedded Computers

			Value Series		Ultra Compact	
			MXE-1400 Series	MXE-1300 Series	MXE-200 Series	
						
Model Name			MXE-1401	MXE-1301/1302	MXE-201	MXE-202
System	Processor		Intel® Atom™ E3845	Intel® Atom™ D2550 / Intel® Atom™ N2600	Intel® Atom™ E3845	Intel® Atom™ E3826
	Chipset		SoC	Intel® NM10	SoC	
	Memory		2 GB DDR3L 1066 MHz (Up to 8 GB)	2 GB DDR3 1066 MHz (Up to 4 GB)	2 GB DDR3L 1066 MHz (Memory Down)	
	Video		1 DisplayPort + 1 DVI-I	1 VGA + 1 DVI (1920 x 1200)	1 HDMI	
I/O Interface	Expansion Slots		2 mPCIe slots	1 MPCIe slot	2 mPCIe Slots	
	USIM		1 USIM slot	1 USIM slot	1 USIM slot	
	Ethernet		3 Intel® GbE ports	3 Intel® GbE ports	2 Intel® GbE ports	
	Serial Port	COM1 & COM2	2 RS-232/422/485	2 RS-232/422/485	1 RS-232 + 1 RS-232/422/485**	
		COM3 & COM4	2 RS-232/422/485	2 RS-232	-	
		COM5 & COM6	2 RS-232	-	-	
	USB Port		6 USB 2.0 + 1 USB 3.0	6 USB 2.0	2 USB 2.0 + 1 USB 3.0	
	DIO		Isolated 8-CH DI + 8-CH DO	4-CH DI + 4-CH DO	Isolated 4-CH DI + 4-CH DO (optional)	
Manageability	Watchdog Timer		√	√	√	
	SEMA		SEMA support with BMC	-	SEMA support with BMC	
Storage	SATA HDD		2.5" HDD/SSD drive bay	2.5" HDD/SSD installation	-	
	CompactFlash		1 Type II Cfast	1 Type I CF socket	-	
	mSATA		-	-	1 mSATA (same slot with mPCIe)	
	SD		-	-	1 SD card slot (up to 16 GB)	
Environment	Operating Temperature*		Standard: 0°C to 50°C Extended option: -20°C to 70°C(w/Ind. SSD or CF)	Standard: 0°C to 50°C Extended option: -20°C to 70°C (w/Ind. SSD or CF)	Standard: 0°C to 50°C Extended option: -20°C to 60°C for MXE-201; -20°C to 70°C for MXE-202 (w/Ind. SD or mSATA)	
	Vibration		With SSD: 5 Grms	With CF/SSD: 5 Grms With HDD: 0.5 Grms	With SD/mSATA: 5 Grms	
	ESD		Contact +/-4 KV, Air +/-8 KV	Contact +/-4 KV and Air +/-8 KV	Contact +/-4 KV and Air +/-8 KV	
	Shock		With SD/mSATA: 100 G	duration w/ CF/SSD	With SD/mSATA: 100 G	
	EMC		CE and FCC Class A	CE and FCC Class A	CE & FCC Class A, EN 61000-6-4/EN 61000-6-2	
	Safety		UL by CB	-	UL by CB	
General	Power Supply		9-32 V_{DC}	6-36 V_{DC}	6-36 V_{DC}	
Mechanical	Dimensions		210 (W) x 170 (D) x 70 (H) mm (8.3" x 6.75" x 2.8")	210 (W) x 170 (D) x 53 (H) mm (8.3" x 6.75" x 2.1")	120 (W) x 100 (D) x 55 (H) mm (4.68" x 3.9" x 2.17")	
Operation System			Win 7 / Embedded Standard7,Linux**	Win 7 / Embedded Standard7,Linux**	Win 7 / Embedded Standard7,Linux**	

*Extending the operating temperature is optional and requires use of an industrial solid-state drive storage device.
** RS-232 support Tx, Rx signal only.
***Linux Distribution by request

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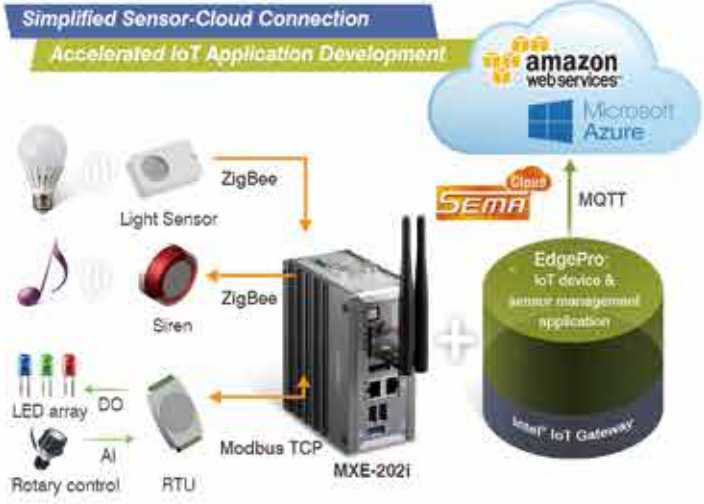
The Complete Intelligent IoT Solution

The ADLINK Intelligent IoT Gateway Starter Kit provides a complete IoT connection solution for reduced development time and quick deployment for every application environment. The IoT Gateway Starter Kit combines ADLINK's MXE-202i intelligent IoT gateway, based on Intel® Atom™ E3826 processors, ADLINK's EdgePro IoT device & sensor management application, one light sensor and corresponding siren output, Modbus TCP module, and accessories, utilizing industrial open standard protocol with security function powered by Intel® IoT Gateway.

The ADLINK EdgePro IoT device & sensor management application runs on the Intel® IoT Gateway, integrating the Wind River Intelligent Device Platform® (IDP) XT and McAfee® Embedded Control to provide complete, pre-validated communication and security. EdgePro enables device and sensor management via plug-in(s) for field protocols including ZigBee (Home Automation Profile) and the commonly adopted fieldbus Modbus TCP for industrial automation, all easily configured with sensors or I/O nodes. Interaction across devices/sensors is accomplished by an Event Execution Engine. A user-friendly Web-based dashboard allows remote monitoring of status and actuator control, with RESTFul Web-service APIs. In addition, EdgePro enables simple configuration of reliable and secure connectivity with Amazon Web Services (AWS) and Windows Azure Cloud.

The ADLINK MXE-202i presents a sturdy aluminum housing withstanding industrial grade EMI/EMS to an EN 61000-6-4, 61000-6-2 specification, and is fully operable under even harsh conditions. The MXE-202i provides two GbE LAN, two COM, two USB 2.0 and one USB 3.0 host ports, four optional isolated DI and four isolated DO, dual mini PCIe slots with one mSATA support and USIM socket support communication with connections such as WiFi, Bluetooth, and 3G cellular, to ensure interoperability between systems and maximize industrial connectivity to meet a wide variety of application requirements. The MXE-202i also includes ADLINK's proprietary SEMA application for quick setup of remote device management through SEMA Cloud, enabling monitoring and collection of system health and status information from the hardware in a timely, flexible, and precise manner.

ADLINK IoT End-to-End Gateway Solution



ADLINK EdgePro



IoT Device & Sensors Management Application

ADLINK's EdgePro IoT device & sensor management application enables fast deployment and easy configuration with user-friendly administrator interface and dashboards. Management capabilities include:

Device Joining:
Newly connected devices are set up for each supported protocol with no requirement for time-consuming configuration, and are immediately available to the remote server or Cloud

Device Provision:
Once detected, connected sensors and actuators are easily configured or renamed

Device Diagnostic:
When enabled, test procedures can provide readings and control, while confirming that devices and sensors are correctly connected

Execution:
Allows event definition based on sensor or actuator output, such as issuing an alert if temperature readout exceeds a threshold

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IoT Gateways

			MXE-110i Series	MXE-200i Series
				
Model Name			MXE-110i	MXE-202i
System	Processor		Intel® Quark™ X1021	Intel® Atom™ E3826
	Chipset		SOC	SOC
	Memory		1 GB DDR3 800	2 GB DDR3L 1066 (Memory Down)
	Video		-	1x HDMI
I/O Interface	Expansion Slots		2 mPCIe Slots	2 mPCIe Slots
	USIM		1 USIM slot	1 USIM slot
	Ethernet		2 10/100 LAN	2 GbE (Intel® I210-IT)
	Serial Port	COM1 & COM2	1 RS-232 + 1 RS-232/422/485**	1 RS-232 + 1 RS-232/422/485**
	USB Port		3 USB 2.0 host port	2 USB 2.0 + 1 USB 3.0
Manageability	Watchdog Timer		√	√
	SEMA		SEMA support with BMC	SEMA support with BMC
Storage	SATA HDD		-	-
	CompactFlash		-	-
	mSATA		-	1 mSATA ***
	SD/eMMC		1 eMMC (up to 16 GB)	1 SD card slot (up to 16 GB)
Environment	Operating Temperature*		Standard: 0°C to 50°C; Extended option: -20°C to 70°C(w/ eMMC)	Standard: 0°C to 50°C; Extended option: -20°C to 70°C for MXE-202i (w/Ind. SD/mSATA)
	Vibration		With SSD: 0.5 Grms	With SSD/mSATA: 0.5 Grms
	ESD		Contact +/-4 KV, Air +/-8 KV	Contact +/-4 KV, Air +/-8 KV
	Shock		With eMMC : 100 G	With mSATA: 100 G
	EMC		CE and FCC Class A	CE and FCC Class A
	Safety		UL by CB	UL by CB
	Certifications		EN 61000-6-4/EN 61000-6-2	EN 61000-6-4/EN 61000-6-2
General	Power Supply		6-36 VDC	6-36 VDC
Mechanical	Dimensions		120 (W) x 100 (D) x 50 (H) mm (4.68" x 3.9" x 1.97")	120 (W) x 100 (D) x 55 (H) mm (4.68" x 3.9" x 2.17")
Operation System			Wind River® IDP XT 3.1	Wind River® IDP XT 2.0/3.1, Win 10 IoT

*Extending the operating temperature is optional and requires use of an industrial solid-state drive storage device or CFast.
** RS-232 supports Tx, Rx signed only.
*** mSATA shares the same slot with mPCIe

Intelligent IoT Gateway Starter Kit

ADLINK's IoT Gateway Starter Kit simplifies connection and accelerates deployment. It's a great way to build your Internet of Things!

The Starter Kit combins ADLINK's MXE-202i intelligent IoT gateway, ADLINK's EdgePro IoT device & sensor management application, and sensor devices, all utilizing industrial open standard protocol with security function powered by Intel® IoT Gateway.



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Fanless Embedded Computers Selection Guide

	Power Adapters		
PN	**31-62138-0000**	**31-62139-0000**	**31-62120-0010**
Accessories			
Item Name	Industrial Grade AC-DC ADAPTER 40W	Industrial Grade AC-DC ADAPTER 90W	Industrial Grade AC-DC ADAPTER 160W
Description	Input: 90 to 264 Vac/47 to 63 Hz Output: 24 Vdc/ 1.67A Operating Temperature: -30~+70°C Safety: UL/TUV/BSMI/PSE/CE/FCC/CB/CCC/ DOE Level 6	Input: 90 to 264 Vac/47 to 63 Hz Output: 24 Vdc/3.75 A Operating Temperature: -30~+70°C Safety: UL/TUV/BSMI/PSE/CE/FCC/CB/CCC/ DOE Level 6	Input: 85 to 264 Vac Output: 24 Vdc/6.67 A Operating Temperature: -30~+70°C Safety: UL/TUV/BSMI//PSE/CE/FCC/CB/CCC/ DOE Level 6
For Use With	MXE-110i/200/200i	MXE-1300/1400 MXC-2300/6000	MXE-5300/5400/5500 MXC-6300/6400 MVP-6000

	Fans for MXC Series			
PN	**91-95123-0010**	**91-95096-0010**	**91-95095-0010**	**91-95143-000E**
Accessories				
Item Name	MXC-6300 Cooling Fan	MXC-6000 Cooling Fan	MXC-4000 Cooling Fan	MXC-2300 Cooling Fan
Description	Optional fan module kit with top cover for the MXC-6300 series, smart fan control	Optional fan module for the MXC-6000 series	Optional fan module for the MXC-4000 series	Optional fan module kit with top cover for the MXC-2300series, smart fan control
For Use With	MXC-6300/6320	MXC-6000	MXC-4000	MXC-2300

	Mini PCIe Modules					
PN	**91-95153-400E**	**91-95153-300E**	**91-95153-200E**	**91-95153-100E**	**91-95160-0010**	**91-95160-1010**
Accessories						
Item Name	3G/AGPS Kit for Matrix	3G Kit For Matrix	WiFi/BT Kit For Matrix	WiFi Kit For Matrix	WiFi KIT For Matrix	3G KIT for Matrix
Description	3G/AGPS mPCIe Module + Bracket + 2x Cable + 3G Antenna + GPS Antenna	3G mPCIe Module + Bracket + Cable + 3G Antenna	WiFi/BlueTooth mPCIe Module + Bracket + 2x Cable + 2x 2.4/ 5 GHz Antenna	WiFi mPCIe Module + Bracket + Cable + 2.4/5 GHz WiFi Antenna	WiFi mPCIe Module + Bracke t + Cable + 802.11 b/g/n WiFi Antenna	3G mPCIe Module + Cable + 3G Antenna
For Use With	MXE-1300/5300/5400 MXC-2300	MXE-1300/5300/5400 MXC-2300	MXE-1300/5300/5400 MXC-2300	MXE-1300/5300/5400 MXC-2300	MXE-110i/200i	MXE-110i/200i
Remark	mini PCIe 1.2	mini PCIe 1.2	mini PCIe 1.2	mini PCIe 1.2	mini PCIe 1.2	mini PCIe 1.2

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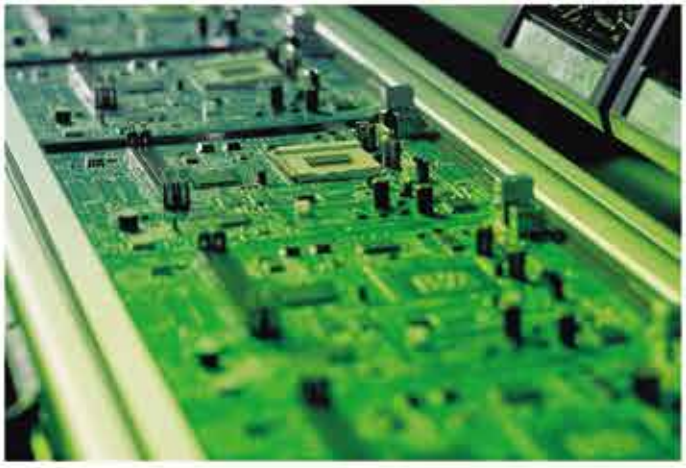
	Cables		
PN	30-20724-0000	30-20592-0000	30-01157-0000
Accessories			
Item Name	MXC-6300 Power Harness,4P	Power Cable_B4P-A2543	Display Port to DVI Active Adapter cable
Description	Providing PCI and PCIe card external power suppliers, connect with CN23 from system to ATX peripheral powerconnector on PCI/PCIe add-on card CN1:LTT H732-04 (Pitch2.00) or Equivalent, CN2:LTT H719-04 (Pitch5.08) or Equivalent,L=200 +/-10mm	Providing PCI and PCIe card external power suppliers, connect with CN12 from system to ATX peripheral power connector on PCI/PCIe add-on card CN1:YY-3300-H-4P CN2:A2543H0-4P-DL L=165mm	Connects DVI monitor to single-mode DisplayPort output from computer for independent three-display support Display Port (Plug) to DVI+PCB Adapter (F) L=100mm±10mm
For Use With	MXC-6300/2300	MXC-6000	MXE-5400、MXC-6300/2300

	Cables		
PN	30-01121-0000	30-01120-0000	30-01119-0000
Accessories			
Item Name	DisplayPort to VGA cable	DisplayPort to DVI cable	DisplayPort to HDMI cable
Description	Displayport (Plug) to D-DUB 15PIN (F) cable L=150mm	Displayport (Plug) to DVI (F) cable L=150mm	Displayport (Plug) to HDMI (F) cable L=150mm
For Use With	MXE-5400 MXC-6300/2300	MXE-5400 MXC-6300/2300	MXE-5400 MXC-6300/MXC-2300

	Cables			
PN	30-01115-0010	30-01107-2000	30-01107-0010	30-01010-0050
Accessories				
Item Name	DVI-I to VGA/DVI-D cable	DB62 to 5 port Cable	DB62 to 5 port Cable	ACL-10568-1
Description	P1:DVI (24+5)P Male*1 Black P2:D-SUB 15P Female*1 Blue P3:DVI (24+5)P Female*1 Black L=180mm	CN1 D-SUB 62P*1 CN2 D-SUB 9P*4 CN3 D-SUB 26P*1 L=150+/-10mm	CN1 D-SUB 62P*1 CN2 D-SUB 9P*4 CN3 D-SUB 26P*1 L=150+/-10mm	DIO cable SCSI-VHDCI 68P Male/ Male BLACK L=1M
For Use With	MXE-5400/5300 MXC-6300	MXE-5400	MXE-5300	MXC-6000/6300/2300

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Full Range of Industrial Computers Empowers Industrial Automation Applications



ADLINK's full range of industrial computers for automation, including off-the-shelf frame grabbers, motion controllers, and data acquisition cards integrated with industrial computers provide the assurance of strict verification testing, presenting an optimum solution for combined motion & vision applications.



PICMG Single Board Computers

ADLINK's PICMG 1.0/1.3 single board computers, based on latest generation Intel® processors, offer flexible I/O and superior expandability. Fully compatible with ADLINK's industry-proven I/O cards, they deliver a variety of solutions for industrial and embedded applications.



Passive Backplanes

A wide range of ADLINK backplanes are available for PICMG 1.0/1.3 CPU boards. Fully co-functional with ADLINK systems, they deliver flexible configuration and expandability for industrial applications.



Industrial Motherboards

ADLINK's industrial motherboards are powered by processors ranging from lower powered Intel® Pentium based solutions to server-grade Intel Xeon, in a variety of form factors, including ATX, Extended ATX and Mini-ITX. Featuring reliable industrial grade design, flexible expandability, and competitive price, they are an ideal solution for industrial applications requiring fast time to market with reliable application control.



Server-Grade IPC System

Industrial server-grade IPC systems feature maximum computing power and rich storage capacity delivers a scalable, high performance platform meeting the needs of the most demanding applications requiring high-performance, easy-to-deploy, reliable systems.



Industrial Chassis

ADLINK 's rackmount and wallmount industrial chassis are designed for variety of industrial automation applications. Aligned with integrated subsystem design and service, performance Is optimized for combined motion/vision/IO applications.

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PICMG Single board Computers

PICMG 1.3 SHB						
		NuPRO-E43	NuPRO-E72	NuPRO-E42	NuPRO-E340	NuPRO-E330
						
CPU	Socket	LGA1151	LGA1150	LGA1150	LGA1155	LGA1156
	CPU Support	Intel® Core™ i7/i5/i3/ Pentium® /Celeron®	Intel® Xeon® E3-1200 v3 Core™ i3/Pentium® /Celeron®	Intel® Core™ i7/i5/ i3/Pentium®	Intel® Core™ i7/i5/ i3/Pentium® /Celeron®	Intel® Core™ i7/i5/ i3/Pentium®
Chipset	PCH	Q170	C226	Q87	Q67	Q57
Memory	DIMM Type	DDR4	DDR3	DDR3	DDR3	DDR3
	Clock Speed	2133 MHz	1600/1333 MHz	1600/1333 MHz	1600/1333 MHz	1600/1333 MHz
	DIMM	2	2	2	2	2
	Max. Capacity	32 GB	16 GB	16 GB	16 GB	8 GB
	ECC/Reg	–	YES	–	–	-
Form Factor	Dimensions	338 mm x 126 mm (L x W)	338 mm x 126 mm (L x W)	338 mm x 126 mm (L x W)	338 mm x 126 mm (L x W)	338mm x 126mm (L x W)
Display	Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
	VGA support	YES	YES	YES	YES	YES
	DVI support	YES	YES	YES	YES	-
Ethernet	Gigabit	2	2	2	2	2
	Controller	Intel® I219LM and Intel® I211-AT	Intel® I217LM and Intel® I211-AT	Intel® I217LM and Intel® I211-AT	Intel® 82579LM and Intel® 82574L	Intel® 82578DM and Intel® 82574L
Storage	Serial ATA	4x SATA 6 Gb/s (onboard)	4x SATA 6 Gb/s (onboard)	4x SATA 6 Gb/s (onboard)	2x SATA 6 Gb/s 4x SATA 3 Gb/s (2x onboard + 2x backplane)	6x SATA 3 Gb/s (4x onboard, 2x backplane)
I/O Ports	USB	8x USB 3.0 (2x rear+6x pinheader) 4x USB 2.0 (backplane)	6x USB 3.0 (2x rear+4x pinheader) 4x USB 2.0 (backplane)	6x USB 3.0 (2x rear+4x pinheader) 4x USB 2.0 (backplane)	2x USB 3.0 (rear) 12x USB 2.0 (8x pinheader+4x backplane)	9x USB 2.0 (1x rear, 4x pinheader. 4x backplane)
	LPT	YES	–	–	YES	YES
	COM	2x RS-232 2x RS-232/422/485 auto flow onboard (pinheader)	5x RS-232, 1x RS-232/422/485 auto flow onboard (pinheader)	5x RS-232, 1x RS-232/422/485 auto flow onboard (pinheader)	5x RS-232, 1x RS-232/422/485 (pinheader)	5x RS-232, 1x RS-232/422/485 (pinheader)
	PS/2 KB/MS	YES (pinheader)	YES (pinheader)	YES (pinheader)	YES (pinheader)	YES (PS/2 combo port)
	Audio	Realtek® ALC262 DB-Audio 2 (Option)	Realtek® ALC262 DB-Audio 2 (Option)	Realtek® ALC262 DB-Audio 2 (Option)	Realtek® ALC262 DB-Audio 2 (Option)	Realtek® ALC262 DB-Audio 2 (Option)
Expansion		1x PCIe x8, 3x PCIe x4 with WBP-13E4	1x PCIe x8, 3x PCIe x4 with WBP-13E4, 4x PCI	1x PCIe x16 , 1x PCIe x4 or 4x PCIe x1, 4x PCI	1x PCIe x16 , 1x PCIe x4 or 4x PCIe x1 , 4x PCI	1x PCIe Mini Card slot 1x PCIe x16 1x PCIe x4 or 4x PCIe x1
TPM		Option	YES	YES	YES	-
Opearation System		Win 7 (32/64 bit), Win 8.1 / 10 (6 4bit), Win Server 2012 R2 64bit, Fedora 21, Redhat Enterprise Linux 7, Ubuntu 14.04	Win 7 / 8.1 (64 bit), Win Server 2008 R2 64 bit, Fedora 17, Redhat Enterprise Linux 6, Ubuntu 13.10	Win XP/7/8.1 (32 bit), Win 7/8.1/Server 2008 R2 (64 bit), Ubuntu 13.10	Win XP / 7 / 8.1 (32/64 bit),Fedora 14, Redhat Enterprise Linux 5	Win XP / Vision / 7 (32/64bit), Win Server 2008 R2 (64 bit), Fedora 10, Redhat Enterprise Linux 5

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Industrial Computers Selection Guide

		PICMG 1.0 SBC	
Model Name		**NuPRO-A40H**	**NuPRO-A331**
PICMG Single Board Computers			
CPU	*Socket*	LGA1155	LGA1156
	CPU Support	Intel® Core™ i7/i5/i3/Pentium®/Celeron®	Intel® Core™ i7/i5/i3/Pentium®
Chipset	*PCH*	H61	Q57
Memory	*DIMM Type*	DDR3	DDR3
	Clock Speed	1600/1333 MHz	1333/1066 MHz
	DIMM	2	2
	Max. Capacity	16 GB	8 GB
Form Factor	*Dimensions*	338 mm x 122 mm (L x W)	338 mm x 122 mm (L x W)
Display	*Graphics*	Intel® HD Graphics	Intel® HD Graphics
	VGA support	YES	YES
	DVI support	YES	YES
Ethernet	*Gigabit*	2	2
	Controller	Dual Intel® I211-AT	Dual Intel® 82574L
Storage	*Serial ATA*	4x SATA 3Gb/s	6x SATA 3 Gb/s
I/O Ports	*USB*	8x USB 2.0 (2x rear,6x pinheader)	8x USB 2.0 (2x rear,6x pinheader)
	LPT	YES	YES
	COM	5x RS-232, 1x RS-232/422/485 (pinheader)	4x RS-232, 2x RS-232/422/485 (pinheader)
	PS/2 KB/MS	Yes(pinheader)	Yes(pinheader)
	Audio	Realtek® ALC262 DB-Audio 2 (Option)	Realtek® ALC262 DB-Audio 2 (Option)
Expansion		-	1x PCIe Mini Card slot
Operation System		Win XP / 7 (32/64bit), Fedora 17, Redhat Enterprise Linux 6	Win XP / 7 (32/64bit), Win Server 2008 R2 64bit

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Industrial Motherboards

		Extend ATX	ATX			
Model Name		**IMB-S90**	**IMB-M43**	**IMB-M42H**	**IMB-M40H**	**M-342**
						
CPU	*Socket*	LGA2011	LGA1151	LGA1150	LGA1155	LGA1155
	CPU Support	Dual Intel Xeon E5-2658 v2	Intel® Core™ i7/i5/i3/ Pentium®	Intel® Core™ i7/i5/i3/ Pentium®/Celeron®	Intel® Core™ i7/i5/i3/ Pentium®/Celeron®	Intel® Core™ i7/i5/i3/ Pentium®
Chipset	*PCH*	C604	Q170	H81	H61	Q67
Memory	*DIMM Type*	DDR3	DDR4	DDR3	DDR3	DDR3
	Speed	1600 MHz	2133 MHz	1333/1600 MHz (based on CPU)	1333/1600 MHz (based on CPU)	1333/1600 MHz (based on CPU)
	DIMM Slots	8	4	2	2	4
	Max. Capacity	128 GB	64 GB	16 GB	16 GB	32 GB
	ECC/Reg	YES	–	–	–	–
Form Factor	*Dimensions*	305 mm x 330 mm (W x L)	305 mm x 244 mm (W x L)	305 mm x 244 mm (W x L)	305 mm x 218 mm (W x L)	305 mm x 244 mm (W x L)
Display	*Graphics*	Integrated in Aspeed® AS2300	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
	VGA Support	1	1	1	1	1
	DVI-D Support	–	–	–	1	1
	HDMI Support	–	–	1	–	2
	DisplayPort	–	2	1	–	–
	No. of Displays Support	1	3	2	2	2/3 (based on CPU)
Ethernet	*GbE port*	2	2	1	2	2
	Controller	Intel® I210-AT	Intel® I219LM and Intel® I210-AT	Intel® I217V	Realtek® RTL8111E	Intel® 82579LM and Intel® 82574L
Storage	*Serial ATA*	4x SATA 6 Gb/s from Marvell 88SE9230, 2x SATA 6 Gb/s from PCH, 2x SATA 3 Gb/s from PCH	6x SATA 6 Gb/s ports	2x SATA 6Gb/s, 2x SATA 3Gb/s	4x SATA 3 Gb/s	2x SATA 6 Gb/s ports, 4x SATA 3 Gb/s ports
	RAID	RAID 0/1/10, Marvell (H/W) and PCH 0/1/5/10 (S/W) RAID groups are independent	SW RAID 0/1/5/10	–	–	SW RAID 0/1/5/10
I/O Ports	*USB*	8x USB 2.0 (4x pin header + 4x rear)	8x USB 3.0 (2x pin header + 6x rear) 4x USB 2.0 (pinheader) 2x USB 2.0 (Vertical Type A)	8x USB 2.0 (4x pin header + 4x rear), 2x USB 3.0(rear)	10x USB 2.0 (6x pin header + 4x rear)	12x USB 2.0 (8x pin header + 4x rear)
	LPT	–	1	1	–	1
	COM	1x RS-232 (pinheader), 1x RS-232/422/485 (rear)	4x RS-232(pinheader), 2x RS-232/422/485 Auto flow control(rear)	2x RS-232/422/485(rear), (one support 485 Auto flow control), 4x RS-232pin header	5x RS-232(1x rear + 4x pinheader), 1x RS-232/422/485 (pinheader)	5x RS-232(pinheader), 1x RS-232/422/485 (pinheader)
	PS/2 KB/MS	–	1x PS/2 combo port	1x PS/2 combo port	1x KB 1x MS	1x KB 1x MS
	Audio	Realtek® ALC262 DB-Audio2(optional)	Realtek® ALC262	Realtek® ALC662 Audio Codec	Realtek® ALC892	Realtek® ALC892
Expansion Slots		4x PCIe x16, 1x PCIe x8 and 1x PCIe x4 slots	1x PCIe x8, 4x PCIe x4, 2x PCI slots	1 X PCIe x16, 1 x PCIe x4, 4x PCI slots	1x PCIe x16, 2x PCIe x1, 4x PCI slots	1x PCIe x16, 1x PCIe x4, 5x PCI slots
Opearation System		Win Server 2008 R2 64 bit, Win 7 64 bit, Redhat Enterprise Linux 6	Win 7 (32/64 bit), Win 8.1 / 10 (64bit), Ubuntu 13.10, Fedora™ 19, Red Hat Enterprise Linux 7.0	Win 7 / 8.1 (32/64bit) Win XP 32 bit, Ubuntu 13.10, Fedora™ 19, Redhat Enterprise Linux 7.0	Win XP/ 7 (32/64 bit), Fedora 17, Redhat Enterprise, Linux 6.2	Win XP/ 7 (32/64 bit), Redhat Enterprise Linux 6.0

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Industrial Computers Selection Guide

	Rackmount Industrial Chassis			
Model Name	**RK-110S / RK-110SE**	**RK-210S / RK-210E**	**RK-260 / RK-260MB-GC13 / RK-260-E**	**RK-410FS**
Industrial Chassis				
Type	Rackmount	Rackmount	Rackmount	Rackmount
Height	1U	2U	2U	4U
Depth	17.7" (450mm)	17.7" (450mm)	17.7" (450mm) / 19.7" (500mm)	17.8" (451mm)
Backplane/ Motherboard Option	HPCI-D5S2 (RK-110S) EBP-D3E1 (RK-110SE)	HPCI-D6S4 (RK-210S) EBP-D5E2 (RK-210E)	HPCI-D6S4 (RK-260)、 EBP-D5E2 (RK-260-E)、 ATX motherboard (RK-260MB-GC13)	HPCI-13S4LU、HPCI-14S7U HPCI-14S12U、HPCI-14S/ATX EBP-10E5、EBP-13E2 EBP-13E4、WBP-13E4

	Rackmount Industrial Chassis	
Model Name	**RK-440**	**RK-610**
Industrial Chassis		
Type	Rackmount	Rackmount
Height	4U	4U
Depth	26.4" (671mm)	17.8" (451mm)
Backplane/ Motherboard Option	HPCI-19S18A	HPCI-13S4LU、HPCI-14S12U、 HPCI-14S/ATX、EBP-10E5、 EBP-13E2、EBP-13E4、 WBP-13E4、 ATX motherboard

	Wallmount Industrial Chassis			Systems
Model Name	**RK-607B**	**RK-608B-E**	**RK-608MB**	**TRL-40**
Industrial Chassis				
Type	Standalone/Wallmount	Standalone	Wallmount	Rackmount
Height	6.9" (175mm)	6.9" (175mm)	7.7" (196mm)	4U
Depth	16.5" (418mm)	16.5" (418mm)	16" (406mm)	22.3" (567mm)
Backplane/ Motherboard Option	HPCI-6S4、EBP-5E1 EBP-6E2	HPCI-8S4、HPCI-9S7U EBP-7E2、EBP-9E2、EBP-9E5	ATX motherboard	IMB-S90

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	Rackmount Industrial Chassis									
PICMG 1.0	Slots per Segment			PCI-X	Compatible Chassis					
	Segment	PCI	ISA		RK-110S	RK210S	RK-260	RK-440	RK-410FS	RK-610
HPCI-D3S2	1	2	-	-	√					
HPCI-D6S4	1	4	1	-		√	√			
HPCI-13S4LU	3	4	9	-					√	√
HPCI-14S12U	2	12	2	-					√	√
HPCI-14S/ATX	2	4	9	-					√	√
HPCI-19S18A	2	18	1	-				√		

PICMG 1.3	PICMG	PCI	PCI-E			PCI-X	RK-110SE	RK-210E	RK-260E		
			x1	x4	x16						
EBP-10E5	1	4	4	-	1	-				√	√
EBP-13E2	1	10	-	1	1	-				√	√
EBP-13E4	1	7	-	3	1	-				√	√
EBP-D5E2	1	2	-	1	1	-		√	√		
EBP-D3E1	1	-	-	1	-	-	√				
WBP-13E4	1	8	-	3	1*	-				√	√

* PCIe x8 signal

	Wallmount Industrial Chassis					
PICMG 1.0	Slots per Segment			PCI-X	Compatible Chassis	
	Segment	PCI	ISA		RK-607B	RK-608B-E
HPCI-6S4	1	4	1	-	√	
HPCI-8S4	2	4	4	-		√
HPCI-9S7U	2	7	2	-		√

PICMG 1.3	PICMG	PCI	PCI-E			PCI-X		
			x1	x4	x16			
EBP-5E1	1	2	-	-	1	1	√	
EBP-6E2	1	3	-	1	1	-	√	
EBP-7E2	1	4	-	1	1	-		√
EBP-9E2	1	6	-	1	1	-		√
EBP-9E5	1	3	4	-	1	-		√

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Industrial Computers Selection Guide

PICMG 1.0	Single Board Computers				
	Slots per Segment		ISA	Compatible SBCs	
	Segment	PCI		NuPRO-A331	NuPRO-A40H
HPCI-D3S2	1	2	-	√	√
HPCI-D6S4	1	4	1	√	√
HPCI-6S4	1	4	1	√	√
HPCI-8S4	2	4	4	√	√
HPCI-9S7U	2	7	2	√	√
HPCI-13S4LU	3	4	9	√	√
HPCI-14S12U	2	12	2	√	√
HPCI-14S/ATX	2	4	9	√	√
HPCI-19S18A	2	18	1	√	√

PICMG 1.3	Single Board Computers										
	Slots per Segment			PCI-E			Compatible SBCs				
	Segment	PCI	PCI-X	x1	x4	x16	NuPRO-E42	NuPRO-E340	NuPRO-E330	NuPRO-E72	NuPRO-E43
EBP-5E1	1	2	1	-	-	1	√	√	√	√	√
EBP-6E2	1	3	-	-	1	1	√	√	√	√	√
EBP-7E2	1	4	-	-	1	1	√	√	√	√	√
EBP-9E2	1	6	-	-	1	1	√	√	√	√	√
EBP-9E5	1	3	-	4	-	1	√	√	√	√	√
EBP-10E5	1	4	-	4	-	1	√	√	√	√	√
EBP-13E2	1	10	-	-	1	1	√	√	√	√	√
EBP-13E4	1	7	-	-	3	1	√	√	√	√	√
EBP-D5E2	1	2	-	-	1	1	√	√	√	√	√
EBP-D3E1	1	-	-	-	1	1	√	√	√	√	√
WBP-13E4	1	8	-	-	3	1*	-	-	-	√	√

* PCIe x8 signal

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	PICMG® 1.3 Backplanes				
Model Name	**WBP-13E4**	**EBP-5E1**	**EBP-7E2**	**EBP-9E2**	**EBP-D3E1**
Passive Backplanes					
PCI-E® x16	1*	1	1	1	-
PCI-E® x4	3	-	1	1	1
PCI-X™	-	1	-	-	-
PCI™	8	2	4	6	-
AT	-	-	-	-	-
ATX	YES	YES	YES	YES	YES
Segments	1	1	1	1	1
Dimensions	328 mm x 312 mm	153 mm x 330 mm	328 mm x 206 mm	328 mm x 206 mm	331 mm x 39 mm
SATA	2	2	2	2	2
USB 2.0	4(2x vertical,2x pinheader)	4(pinheader)	4(pinheader)	4(pinheader)	4(pinheader)

* PCIe x8 signal

	PICMG® 1.3 Backplanes					
Model Name	**EBP-6E2**	**EBP-D5E2**	**EBP-10E5**	**EBP-13E2**	**EBP-13E4**	**EBP-9E5**
Passive Backplanes						
PCI-E® x16	1	1	1	1	1	1
PCI-E® x4	1	1	-	1	3	-
PCIe x1	-	-	4	-	-	4
PCI-X™	1	-	-	-	-	-
PCI™	3	2	4	10	7	3
AT	-	-	-	-	-	-
ATX	YES	YES	YES	YES	YES	YES
Segments	1	1	1	1	1	1
Dimensions	328 mm x 140 mm	331 mm x 84 mm	330 mm x 318 mm	330 mm x 318 mm	330 mm x 318 mm	244 mm x 348 mm
SATA	-	2	2	2	2	2
USB 2.0	4(pinheader)	4(pinheader)	4(pinheader)	4(pinheader)	4(pinheader)	4(pinheader)

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Industrial Computers Selection Guide

	PICMG® 1.0 Backplanes				
Model Name	**HPCI-D3S2**	**HPCI-D6S4**	**HPCI-6S4**	**HPCI-8S4**	**HPCI-9S7U**
Passive Backplanes					
PCI™	2	4	4	4	7
ISA	-	1	1	4	2
AT	-	YES	YES	YES	YES
ATX	YES	YES	YES	YES	YES
Segments	1	1	1	2	2
Dimensions	261 mm x 39 mm	261 mm x 79.6 mm	264.2 mm x 132.7 mm	264.2 mm x 218 mm	213.4 mm x 259.1mm

	PICMG® 1.0 Backplanes			
Model Name	**HPCI-13S4LU**	**HPCI-14S12U**	**HPCI-14S/ATX**	**HPCI-19S18A**
Passive Backplanes				
PCI™	4	12	4	18
ISA	9	2	9	1
AT	YES	YES	YES	YES
ATX	YES	YES	YES	YES
Segments	3	2	2	2
Dimensions	314.7 mm x 259 mm	314.7 mm x 259 mm	312 mm x 265 mm	415.3 mm x 264.2 mm

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Industrial Mini-Redundant AC Power Supply

Model Name	Power (typical)	Maximum DC Output Current						AC Voltage Input Range	Certifications
		+5V	+3.3 V	+12 V	-12 V	-5 V	+5 Vsb		
APS-946XAR	460 W	25 A	25 A	30 A	0.8 A	--	2 A	Universal	UL/cUL/TUV/CCC
APS-940XAR-EPS12(for RK-440)	400 W	35 A	25 A	28 A	1.2 A	0.5 A	2 A	Universal	UL/cUL/TUV/CCC

■ Dimensions: 195 x 160 x 86 (mm)



Industrial AC Power Supply PS2 Form Factor

Model Name	Power (typical)	Maximum DC Output Current									AC Voltage Input Range	Certifications
		+5 V	+3.3 V	+12 V1	+12 V2	+12 V3	+12 V4	-12 V	-5 V	+5 Vsb		
APS-930XA-ATX12	300 W	16 A	19 A	17 A	17 A	--	--	0.5 A	0.3 A	3 A	Universal	UL/cUL/ TUV/CCC
APS-946XA-EPS12	460 W	20 A	24 A	16 A	16 A	--	--	0.5 A	0.3 A	3 A	Universal	UL/cUL/ TUV/CCC
APS-960XA-EPS12	600 W	25 A	25 A	16 A	16 A	16 A	16 A	0.5 A	0.3 A	4 A	Universal	UL/cUL/ TUV/CCC
APS-946XA-EPS12 (for RK-440)	460 W	40 A	30 A	32 A	--	--	--	1 A	0.8 A	2 A	Universal	UL/cUL/ TUV/CCC

■ Dimensions : Standard PS2 form factor, 140 x 150 x 86 (mm) ; APS9100XA-EPS12 (for RK-470MB) form factor, 220 x 150 x 86 (mm)



Industrial DC-DC Power Supply PS2 Form Factor

Model Name	Power (typical)	Maximum DC Output Current						DC Voltage Input Range	Certifications
		+5 V	+3.3 V	+12 V	-12 V	-5 V	+5 Vsb		
APS-930/48X	300 W	35 A	30 A	18 A	1 A	0.5 A	1.5 A	40 ~ 72 VDC (48 VDC nominal)	UL/cUL/TUV
APS-930/24X	300 W	30 A	15 A	15 A	2 A	2 A	1.2 A	19 ~ 32 VDC (24 VDC norminal)	UL/CSA/TUV

■ Dimensions: 150 x 140 x 86 (mm)



Industrial AC Power Supply 1U/2U Form Factor

Model Name	Power (typical)	Maximum DC Output Current							AC Voltage Input Range	Certifications
		+5 V	+3.3 V	+12 V1	+12 V2	-12 V	-5 V	+5 Vsb		
APS-9130XU	300 W	16 A	14 A	16 A	16 A	0.5 A	0.3 A	3 A	Universal	UL/cUL/ TUV/CCC
APS-9235XU	350 W	25 A	20 A	28 A	--	0.5 A	0.5 A	2 A	Universal	UL/cUL/ TUV/CCC

■ Dimensions: APS-9130XU: 190 x 100 x 40.5 (mm) 、APS-9235XU : 215 x 100 x 70 (mm)

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Industrial Computers Selection Guide

	LGA1156 / LGA1151 / LGA1150			LGA2011
PN	**32-20131-0000**	**32-20113-2000**	**32-20113-0000**	**32-40289-0000**
CPU Cooler				
Thermal Dispatch Performance	73Watt	95Watt	95Watt	95Watt
FAN	75mm (blower)/11.83 CFM (5,500 ± 10%) R.P.M	95mm/ 78.74 CFM (6,100 ± 10%) R.P.M	95mm/ 42.73 CFM (4,200 ± 10%) R.P.M	6cm/ 50.40 CFM (9,000 ± 10%) RPM
Heatsink Materials	Copper	Aluminum + Cooper	Aluminum + Cooper	Copper
Heatsink Dimensions	84L x 84W x 13H (mm)	ø 95*24.8H (mm)	ø 90*39.3H (mm)	63.9L x 89.7W x64H (mm)
Dimensions	84L x 84W x 28H (mm)	ø 95*50.2H (mm)	ø 90*67.7H (mm)	89.2L x 89.7W x64H (mm)
Weight	382 g	295 g	--	396 g
Minimum Chassis Height	1U	2U	3U	2U
Recommended Chassis	RK-110S, RK-110SE	RK-210S, RK-210E, RK-260-E, RK-260MB, RK-440, RK-460MB, RK-610AM, RK-608MB-C	RK-440, RK-610MB, RK-608MB	TRL-40, RK-470MB
Supported Boards	NuPRO-A40H/A331/E72/ E42/E43, IMB-M43	NuPRO-A40H/A331/ E72/E42/E43, IMB-M42H/M40H/ M-342/M43	NuPRO-A40H/E42/E72/E43/ E340, IMB-M42H/M40H/ M-342/M43	IMB-S90

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Accessories

Item Name	HDD Adapter Brackets	4U Rear I/O Panel Kit	Riser Card	COM Cable	USB 3.0 Cable
					
Specification			■ 2UE1S2 Riser Card, PCIe x16 + 2 PCI slots ■ Designed for RK-260MB-GC13	■ COM cable with bracket	■ 2-port USB 3.0 cable with bracket, L=450mm
Ordering Information	■ One 3.5" HDD in one 5.25" bay:34-30264-1000 ■ 2.5" to 3.5" HDD adapter bracket:58-80024-0000	■ ATX rear I/O panel for RK-410: 58-80013-1000 ■ ATX rear I/O panel for RK-610A:34-90063-0000 ■ 15-slot rear I/O panel for RK-610A: 34-90064-0000	■ 92-97051-0010	■ 1 port (2.54 pitch,450mm): 30-25004-1000 (for IMB-M40H,M-342) ■ 1 port (2.0 pitch,450mm): 30-25003-2100 (for NuPRO-A40H/E42/E72/E43/E340) ■ 2 port (2.54 pitch,600mm): 30-25053-1000 (for IMB-M42H) ■ 2 port (2.54 pitch,450mm): 30-25003-3000 (for NuPRO-A40H/E42/E72/E340, IMB-M40H,M-342) ■ 2 port (2.0 pitch,230mm): 30-25003-1000 (for NuPRO-A40H/E42/E72/E43/E340) ■ 2 port (2.54 pitch,230mm): 30-25003-0020 (for NuPRO-A40H/E42/E72/E340)	■ 180° : 30-25046-0100 (for NuPRO-E42/E72/E43) ■ 90° : 30-25046-1100 (for NuPRO-E42/E72/E43)

Accessories

Item Name	USB 2.0 Cable	KB/MS Cable	DVI Cable
			
Specification	■ 2/4-port USB 2.0 cable with bracket	■ KB/MS cable with bracket	■ DVI-D cable with bracket for onboard connector
Ordering Information	■ 2-port (L=400mm): 30-25010-3010 (for NuPRO-A40H/E340, IMB-M42H/M40H,M-342) ■ 4-port (L=600mm): 30-25009-3000 (for IMB-M42H/M40H,M-342) ■ 4-port (L=600mm) with shielding ground: 30-25009-2000 (for IMB-M42H/M40H,M-342)	■ 2x Mini-DIN PS/2 KB/MS cable with bracket: 30-01019-2010 (for NuPRO-E340/E72/E42/E43) ■ 1x USB + 1x Mini-DIN PS/2 KB/MS "combo" cable with bracket: 30-25027-0000 (for NuPRO-E340/E72/E42/E43)	■ 30-01052-2000

Graphics & Audio Cards

Model Name	mPCIe-8770	DB-UVGA16	DB-Audio2
			
Item Name	PCIe 2D VGA Display Card	USB Graphics Adapter, internal mount, DB-15 connector	High Definition Audio Daughter Board with Linein, Line-out and Mic-in
Description	■ PCIe VGA Controller XGI™ Volari™ Z11 ■ PCI Express Spec. compliant ■ High performance 2D Accelerator ■ Supports 230 MHz pixel clock ■ Support 4:3 resolution up to 1600 x 1200, 256/32K/64K/16M colors (70Hz NI) ■ Driver support: Windows® 2000, XP, Vista 32/64-bit, 7 32/64-bit; Fedora™ 10, RHEL™ 5	■ Mounts in DB9 cutout on chassis or in PCI slot ■ Uses internal USB pin header ■ Display resolutions up to: 1600 x 1200 (4:3), 1680 x 1050 (16:10) ■ Supports multiple display modes: Primary, Extended, Mirror (up to 6 additional monitors)	■ Realtek ALC262 High Definition Audio codec ■ Three jacks: line-in, line-out and mic-in ■ 5x2 pin header for cable connection to external audio header on SBC ■ 4-pin header interface for CD audio output

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New Generation x86 Quad-Core Smart Camera

Overview

ADLINK's new generation x86 NEON-1040/1020 features 4MP 60fps global shutter sensor and the Intel® Atom™ quad core 1.9 GHz processor, featuring minimal footprint and rugged IP67-rated construction.
The quad core CPU increases computing power and FPGA coprocessors and GPU deliver advanced image processing, both beyond the capabilities of conventional smart cameras. Rich software support and API compatibility enable easy migration from original x86 platforms, eliminating software and development language burdens across the platform, reducing time to market.



Breaking the boundaries of smart camera and embedded vision systems

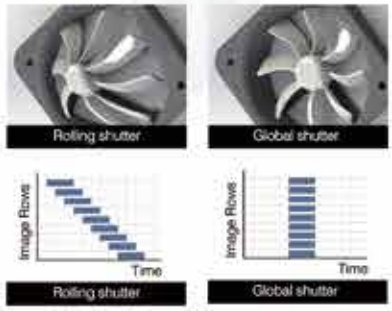
High performance increases speed and capture complexity

High end quad core processor

Intel® Atom™ processor E3845 at 1.91GHz improves dramatically on the performance of existing smart cameras. The high end processor provides up to 6 times the computing power of conventional smart cameras.

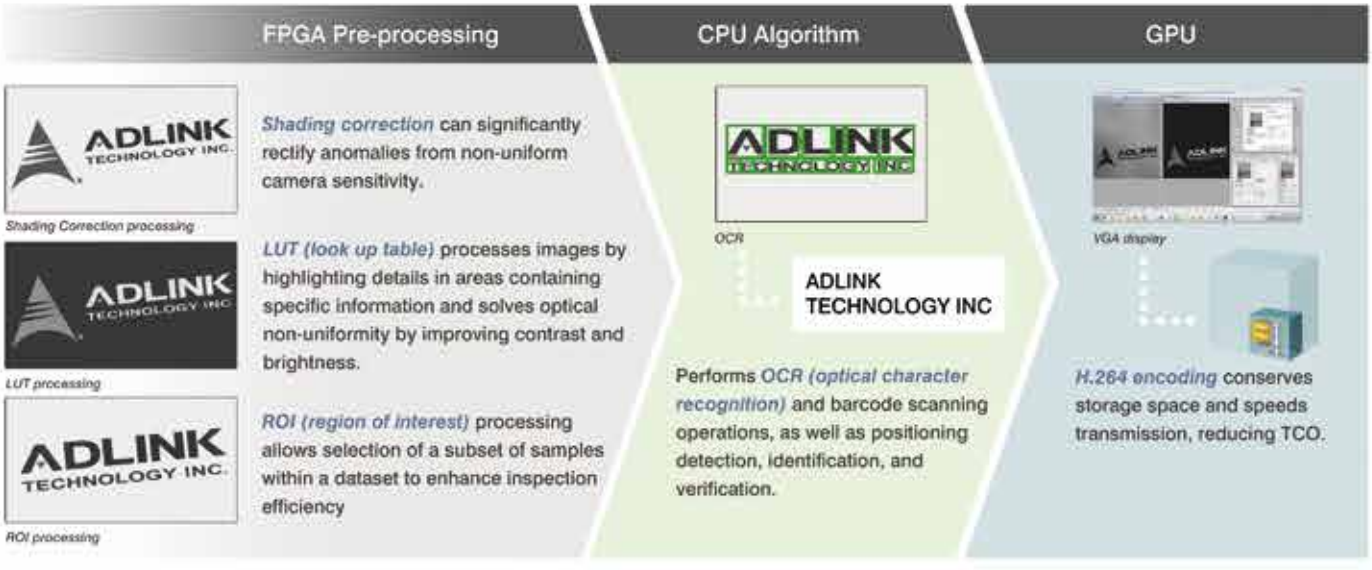
Improved detection sensitivity

The 4 MP 60 fps 1-inch global shutter sensor improves on rolling shutter sensors with improved raw image clarity, for high speed inspection precision.



Coordination among CPU, GPU and FPGA co-processor

The NEON-1040/1020's FPGA accelerates image pre-processing and reduces CPU loading, making it ideal for complex acquisitions like those in LUT (look up table), ROI (region of interest), and shading correction . Thanks for FPGA, the CPU resource can focus on algorithm and make inspection tasking more efficiency.



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Open architecture and easy development dramatically reduce time to market

In a real application environment, different development languages and software tools are required in machine vision, motion controller, smart camera and line scan camera stations . A platform allowing development in a single language, with easy deployment from existing platforms, conserving manpower costs and reducing time to market.

Programming in the x86 architecture

NEON-1040/1020 is based on x86 architecture, with all development environments familiar to users, for motion/HMI/IO solutions, seamless migration from the original x86 platform.

Rich third party software support

The NEON-1040/1020 provides flexible software support for STEMMER Common Vision Blox, MVTec HALCON, COGNEX VisionPro, Teledyne Dalsa Sherlock, Adaptive Vision Studio, Euresys Open eVision and more. As well, GeniCam and GenTL compatibility simplify communication with devices and allow third party software to control cameras and acquire image data.



Area scan camera | Line scan camera | ADLINK NEON-1040

64-bit computing

As image analyses software have to deal with great bulk of data, most mainstream software products in this segment support 64-bit instructions. Therefore, it is better for implementers to choose a vision system that supports 64-bit computing environment.

Maximum integration reduces TCO

Built-in PWM lighting control

The NEON-1040/1020's built-in PWM lighting control module eliminates the need for additional lighting controller equipment, reducing TCO.

Compact footprint

Small footprint enables easy integration into existing lines, saving space and simplifying configuration

GigE port enhances flexibility

With built-in GigE port, the NEON-1040/1020 can connect to multiple cameras via external hub. As well, existing CODESYS users can easily and quickly connect to other motion controllers via EtherCAT.

Versatile I/O for external device connection

NEON-1040/1020 provides 4x digital inputs, 4x digital outputs, USB 2.0 port, and RS-232 ports, supporting connection to a monitor, USB mouse and keyboard, enabling program and application development directly in smart camera.



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ADLINK Embedded Vision Systems



EOS-1200

EOS-4000

- ***Compact Design***
- ***High Computing Power***
- ***Multi-channel Connectivity***
- ***Ready to Deploy***

Introduction

Embedded vision systems, also referred to as compact vision systems, offer an alternative to Smart cameras and computer-based systems. The ADLINK EOS series is a complete embedded system that offers image acquisition, processing, archiving, and display capabilities. It is equipped with a multi-core CPU, ideal for applications requiring high computing power and multi-camera imaging, such as 3D vision and robotics guidance.

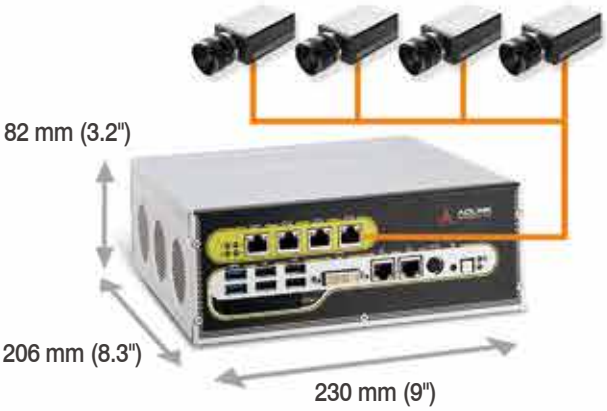
Featuring rich I/O connectivity with factory-floor networks, including RS-232/422/485, USB, and isolated digital I/O, as well as onboard storage, ADLINK's embedded vision system is ready to deploy.

A system monitoring feature, feeding back temperature and voltage data, combines with a watchdog timer to maximize robustness and reliability of the ADLINK EOS series in mission critical applications.

Highlights

Compact and Rugged Design

EOS series is a compact-size 230 (W) x 206 (D) x 82 (H) mm (9 x 8.3 x 3.2 in.) embedded vision system. Designed for mission critical applications, the EOS series underwent harsh vibration and shock testing during its design to ensure durability. While in operation, the EOS series can tolerate vibrations of up to 5 G.



Multi-Camera Support

Simultaneous vision inspection is commonly required on a production line as a cost-effective solution. The ADLINK EOS series provides multi-camera support through up to 4 channels, making it ideal for use in industrial automation, improving overall product quality and increasing efficiency.

Precision Time Protocol (IEEE1588)

Precise time information is especially important for industrial automation. With the Precision Time Protocol (PTP) described in IEEE1588, it is possible to synchronize several cameras with an accuracy of less than 1 µs via Ethernet networks. IEEE1588 PTP technology allows a single Ethernet cable to deliver both synchronization and image data.

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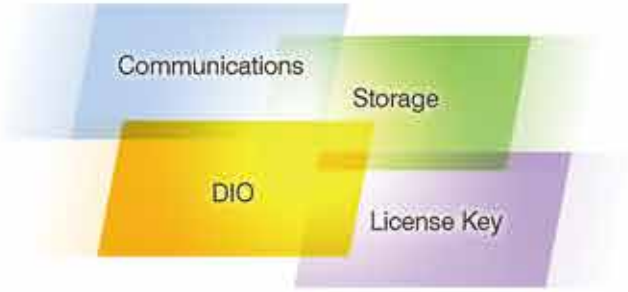
PoE Support

PoE (Power over Ethernet) technology provides power through a single Ethernet cable up to 100 m. This PoE solution simplifies system installation and lowers maintenance costs. The ADLINK EOS series also provides auto-detection to ensure compatibility with both PoE and conventional non-PoE devices. The camera power is automatically on when the PoE connection is established. With the smart PoE function in EOS-1200, users can program power status (PoE on, or power off) easily, delivering significant energy efficiency, especially when cameras are idle.



Ready to Deploy

A complete vision system includes software, digital I/O, storage, communication, and peripheral devices. The EOS-1200 features rich I/O capability, including four serial ports, two USB 3.0 ports, 32 PNP/NPN isolation digital I/Os, dual storage (two SATA interface, and one CFAST slot), an internal USB port, and 1 kbit programmable EEPROM, which make EOS-1200 ideal to integrate, deploy, and manage copy protection or authentication of software licenses for system development, and further accelerate time to market.



Easy Maintaintance

The ADLINK EOS series enables significant ease of system installation. The upper cover is easily opened by removal of a single screw. Hot-swappable filter design also reduces MTTR (Mean-Time-to-Repair) and increases system reliability.





▲ Open the top cover with easy thumbscrew, no tools needed!

◀ Hot swappable filter for easy replacement

Dual Data Storage

Most vision applications require two forms of data storage: one during operation and the other to archive gathered data or house a backup operating system. This system architecture of independent dual storage devices strongly enhances reliability and flexibility of the ADLINK EOS series.



CFast socket



Up to two HDD/SDD installation

Applications

Industrial Automation

- *Robot guidance*
- *AOI machinery*
- *Pick and place machinery*
- *Bonding machinery*



Medical and Life Sciences

- *In Vivo imaging*
- *X-Ray imaging*
- *Microscope*
- *Endoscope*



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Smart Camera Selection Guide

Model Name			NEON-1020	NEON-1040
Smart Camera				
Processing & Memory	*Processor*		Intel® Atom™ E3845 Processor, Quad Core @ 1.91 GHz	
	Display		VGA output, max. 2048 x 1152 at 60 Hz	
	RAM		4 GB DDR3L	
	Storage		16 to 32 GB solid state drive	
	Advanced Processing		ROI, LUT, Shading Correction	
Sensor	*Image Sensor*		CMOSIS CMV2000	CMOSIS CMV4000
	Resolution		2048 x 1088	2048 x 2048
	Sensor Size		2/3"	1"
	Format		Monochrome	
	Pixel Size (µm)		5.5	
	Frame Rate (fps)		120	60
	Shutter		Global	
	Trigger Mode		External trigger, software trigger, free run	
I/O Interface	*Trigger Input*		1x Opto-isolated trigger input	
	Digital Output		4x sink type output, max sink 100mA sink voltage max 30VDC	
	Digital Input		4x TTL level input	
	PWM Lighting Control	*Drive Method*	Constant current 500mA	
		Applicable Light Units	24 VDC illuminators	
		Dimming Resolution	1000:1	
	Ethernet		1 x GbE	
	Serial Communication		1 x RS-232 (TX and RX only)	
	USB		1 x USB 2.0	
Mechanical	*Dimensions*		68.5mm W x 110mm D x 52.7 mm H / 2.70" W x 4.33" D x 2.08" H (68.5mm x 110mm x 42.7mm reduced size option)	
	Lens mount		C mount	
	Connectors		1 x M12 8-pin (Female), 1xM12 17-pin (Male), 1x M12 12-pin (Male)	
Software Support	*Operation System*		Windows 7, Windows Embedded Standard 7	
Environmental & Electricalions	*Power Consumption*		24 VDC +/-10%, 13W (Typical)	
	Operating Temperature		Standard: 0˚C to 50˚C (32˚F to 122˚F) Extended temperature option: 0˚ to 60 ˚C (32˚ F to 140˚ F) (w/ industrial SSD)	0˚ to 50 ˚C (32˚ F to 122˚ F)
	Vibration		Operating, 5 Grms, 5-500 Hz, 3 axes	
Certification			IP67, CE, FCC Class A	

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Embedded Vision Systems Selection Guide

Model Name	EOS-4000	EOS-1200
Embedded Vision Systems		
CPU	Intel® Core™ i7-3610QE, i5-3610ME	Intel® Core™ i5-2510 3.1 GHz / Intel® Core™ i7-2710 3.0 GHz / Intel® Core™ i7-3610 3.3 GHz
Chipset	Intel® QM67 Express	Intel® QM67 Express chipsets
System Memory	DDR3 SODIM x2, up to 16 GB	Up to 8 GB DDR3
Video	VGA+DVI-D output by DVI-I connector, up to QXGA (2048 x 1536) resolution	VGA+DVI-D output by DVI-I connector, up to QXGA (2048 x 1536) resolution
Audio	None	AC97, mic in/speaker out
Ethernet	2x GbE port	2x GbE port
USB	4x external USB 2.0, 2x external USB 3.0, 1 x internal USB 2.0	Four USB 2.0 ports, two USB 3.0 ports
COM Ports	Two software-programmable RS-232/422/485 (COM1 & COM2), two RS-232 (COM3 & COM4)	Two software-programmable RS-232/422/485 (COM1 & COM2), two RS-232 (COM3 & COM4)
Keyboard/Mouse	PS/2 type mini-DIN connectors	PS/2 type mini-DIN connectors
Camera Interface	2-CH Camera Link base configuration, up to 85 MHz	4-CH Gigabit power over Ethernet IEEE 802.3af compliant, total max. power output 32 W
Digital I/O	32 DI, 32 DO	16-CH isolated digital input and output
	COS interrupt for all digital input	2x COS interrupt
	2.5 kV isolation protection	None
	Configurable Digital Filter (0.25 µs-131 ms)	None
Trigger I/O	2 trigger input, 1 encoder input	None
Weight	3 kg (6.6 lbs)	3 kg (6.6 lbs)
Mounting	Wall and DIN rail mounting (optional)	Wall and DIN rail mounting (optional)
Power Supply	DC: 10 to 30 VDC, ATX mode	DC: 10 to 30 VDC, ATX mode
Operating Temp.	0˚C to 55˚C (32˚F to 122˚F)	0˚C to +55˚C (32˚F to 131˚F)
Humidity	0% to 90%	0% to 90%
Dimensions	230 (W) x 206 (D) x 82 (H) mm (9 x 8.3 x 3.2 in.)	230 (W) x 206 (D) x 82 (H) mm (9" x 8.3" x 3.2")
Power Consumption	110 W (with 4 GB DDRAM and 4 GB CFAST)	110 W (with 4 GB DDRAM and 4 GB CFAST)
Storage	One CFAST slot, two 2.5" SATA interfaces	One CFAST slot, two 2.5" SATA interfaces
Random Vibration	Operating, 5 Grms, 5-500 Hz, 3 axes (w/CFAST or SSD)	Operating, 5 Grms, 5-500 Hz, 3 axes (w/CFAST)
Safety Compliance	CE/FCC, RoHS	CE/FCC, RoHS

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ADLINK Solutions for Machine Vision

Why ADLINK?

- *Full product line support, including analog, GigE Vision, IEEE 1394b, Camera Link, HDMI, 3G-SDI and CoaXPress*
- *Compatible with most popular cameras and software*
- *Carefully selected embedded components ensure long term availability*
- *Highly integrated with ADLINK I/O cards and embedded computing platforms*



Vision Interface

Note: Driver installation is required for frame grabbers or cameras.

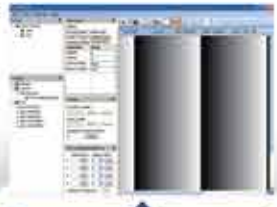
	CoaXPress	3G-SDI	HDMI	GigE Vision	IEEE 1394b	Camera Link	Analog
	CoaXPress	3G-SDI	HDMI	GigE Vision	IEEE 1394b	Camera Link	Analog
Max. Cable length (Meter)	Up to 100	100	5	100	4.5	Up to 15M (Depending on the Bandwidth)	100
Bandwidth (Mbps per Channel)	6500-25000	3000	216-2880	1000	800	2400-4800	216
Host CPU Loading	-	-	-	>5%	<5%	-	-
Realtime Signaling	v	v	-	-	-	v	v
Power over cable	13 (PoCXP)	-	-	13 (PoE only)	45	45 (PoCL)	-
Plug & Play *	v	v	v	v	v	-	v
Real time trigger	v	-	-	-	-	v	-
Standards	CoaXPress standard	SMPTE	DVI 1.0	AIA GigE Vision	Common IEEE 1394 Trade Association DCAM Standard	AIA Camera Link	-

ADLINK Machine Vision Software

ADLINK's powerful application tools, ViewCreatorPro™ and CamCreator™, provide simple and effective setup, configuration, testing, and debugging for vision systems. These utilities assist developers in evaluating initial test functions with ADLINK frame grabbers. Both ViewCreatorPro™ and CamCreator™ support 32/64-bit Windows® 8/7/XP operating systems. In addition, CamCreator™ provides continuous grab, pixel values, zoom in/out and console functionality to expedite a Camera Link installation.



ViewCreatorPro™



CamCreator™

Products	OS Information		Software Compatibility	Software Recommendations	
	Windows® Note(1)	Linux® Note(2)	LabVIEW™ Note(3)	ViewCreatorPro™	CamCreator™
PCIe-GIE64+	v				
PCIe-GIE62+	v				
PCIe-FIW64	v				
PCIe-FIW62	v				
PCIe-CPL64	v				v
PCIe-HDV62	v		v	v	
PCIe-HDV62A	v	v	v	v	
PCIe-RTV24/PCI-RTV24	v	v	v	v	v
PCIe-2602	v			v	
PCIe-HDV72	v		v	v	

Note: (1) Windows Support for Windows® 8/7 x64/x86 (2) Linux Support for Ubuntu 11.0 &12.04 and Fedora Core 3 (3) Compatible with LabVIEW™ 2009 and above

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Frame Grabber Selection Guide

	PCIe-HDV72	PCIe-HDV62A/PXIe-HDV62A	PCIe-GIE64+	PCIe-GIE62+
ADLINK Frame Grabber				
Standard	HDMI	HDMI	Power over Ethernet	Power over Ethernet
Configuration	4K, UHD	Full HD	Gigabit Ethernet	Gigabit Ethernet
Connector	HDMI	DVI-I	RJ45 x 4	RJ45 x 2
Resolution	4096 x 2160P, 3840 x 2160P	1920 x 1080p	depends on camera specification	depends on camera specification
Interface	PCIe x4 (3.0)	PCIe x4	PCIe x4	PCIe x4
Max. Video Input	1	1	4	2
Max. Frame Rate	up to 60	60	depends on camera specification	depends on camera specification
Audio Input	√	√	-	-
TTL I/O	√	√	-	√
Area Scan Camera	√	√	√	√
Line Scan Camera	-	-	√	√
Interlaced Scan	√	√	√	√
Progressive Scan	√	√	√	√
Camera Tap	-	-	-	-
Pixel Depth	8, 10, 12-bit	8-bit, 10-bit	depends on camera specification	depends on camera specification
Max. Clock Frequency	-	-	-	-
On-board memory	2 GB	512 MB	-	-

	PCIe-2602	PCIe-CPL64	PCIe-FIW64/PCIe-FIW62	PCIe-RTV24/PCI-RTV24
ADLINK Frame Grabber				
Standard	SDI	PoCL (Power over Camera Link)	IEEE 1394b	Color: PAL/NTSC Monochrome: CCIR/EIA (RS-170)
Configuration	SDI	base, medium	-	-
Connector Interface	BNC x 2	MDR26	IEEE 1394b	BNC x 4
Resolution	1920 x 1080p	depends on camera specification	depends on camera specification	640 x 480 (NTSC/RS170), 768 x 576 (PAL/CCIR)
Interface Bus	PCIe x4	PCIe x4	PCIe x4 / PCIe x1	PCIe-RTV24: PCIe x1 PCI-RTV24: PCI
Max. Video Input	2	2	4 / 2	4 to 16*
Max. Frame Rate	60	depends on camera specification	depends on camera specification	30 fps / channel
Audio Input	SDI embedded	-	-	-
TTL I/O	√	√	√ (FIW64)	√
Area Scan Camera	√	√	√	√
Line Scan Camera	-	√	-	-
Interlaced Scan	√	√	√	√
Progressive Scan	√	√	√	-
Camera Tap	-	1-tap, 2-tap, 3-tap, 4-tap	-	1-tap (PCIe-RTV24)
Pixel Depth	8, 10, 12-bit	8-bit, 10-bit	depends on camera specification (FIW64) 8 to 10-bit (FIW62)	8-bit
Max. Clock Frequency	-	85 MHz	-	-
On-board memory	-	128 MB	-	-

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ADLINK EtherCAT Solution

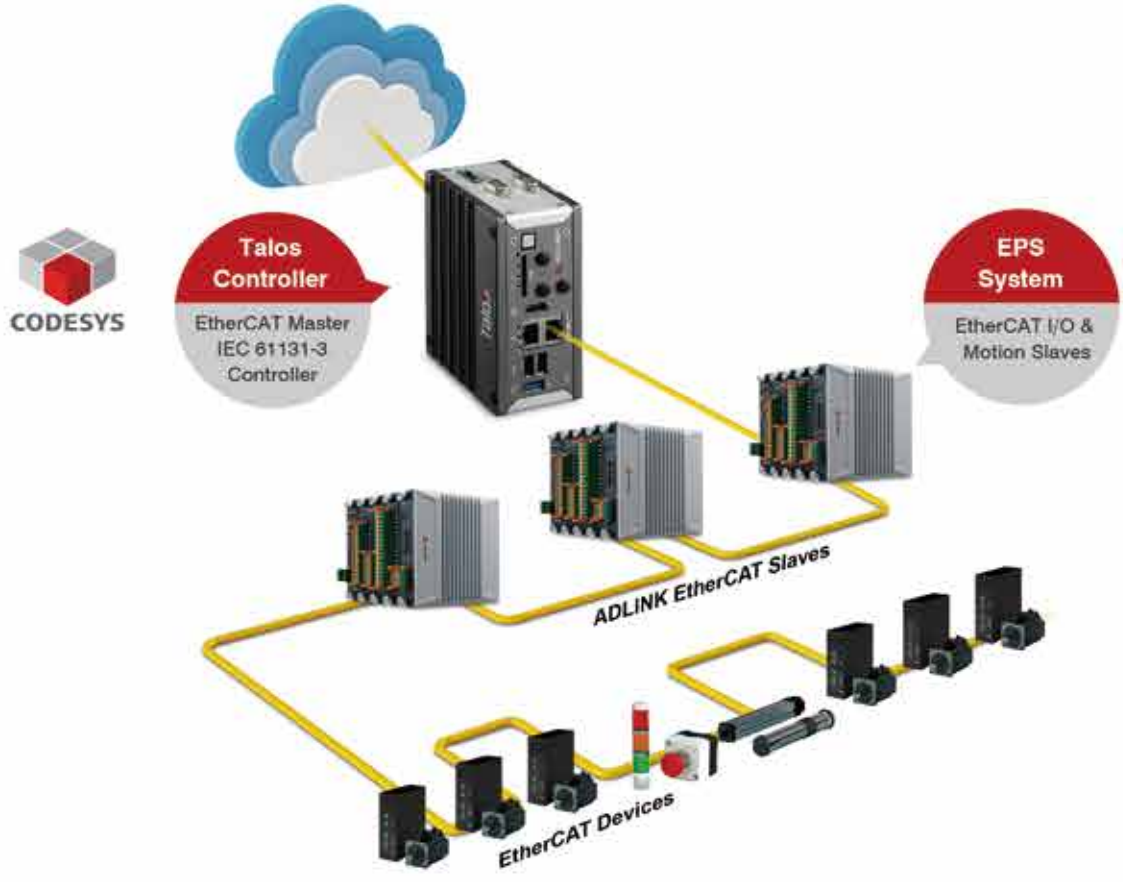
Introduction

Currently, automation technologies prefer Ethernet use at the field level, with various approaches promising high bandwidth, low costs, simplified vertical integration, standard component use from office sectors, and minimal configuration and diagnostic efforts, all combined with preferred real-time capability. EtherCAT takes a different route by combining advantages of fieldbus technology with otherwise significant advantages of Ethernet function. Available bandwidth is almost fully utilized and expense reduced to a simple ASIC connection in the EtherCAT device. EtherCAT requires no IP addresses, and its automatic configuration enables high-performance machine control, capable of exchanging multiple distributed signals with cycle times significantly below 100 µs. Further supported is a variety of connection topology methodologies, including star, tree, and ring types. As a result, EtherCAT offers unified, powerful communication for the entire automation sector.



ADLINK EtherCAT Overview

ADLINK EtherCAT solution consists of an IEC 61131-3-compliant automation controller and time-deterministic I/O and motion control system, defining a new category of EtherCAT solutions in realizing time-deterministic control over automatic process with high performance, easy development, rugged construction, space efficiency and minimal total cost of ownership. The ADLINK solutions integrate hardware and software elements, all dedicated to fast and high performance EtherCAT applications with many ready-to-use features to speed development, deployment and expansion of IoT-based smart factories.



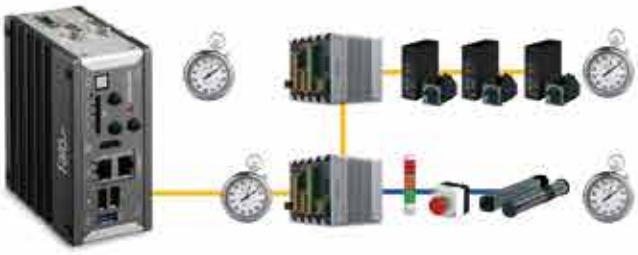
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High Performance

Quad core processor enhances multitasking capability



The Intel® Atom™ E3845 processor at 1.91GHz provides maximum performance for ADLINK's Talos Series of EtherCAT master controllers. The high-end processor provides up to 6 times the computing power of conventional single-core EtherCAT master controllers, maximizing supported I/O for time-deterministic control. ADLINK's EtherCAT master controller, the Talos-3012, equipped with quad-core Intel® Atom™ processor E3845, enables simultaneous multitask processing for a full range of automation systems, including HMI, motion control, PLC, I/O, and communication gateways, with each subsystem requiring unique controller profiles.



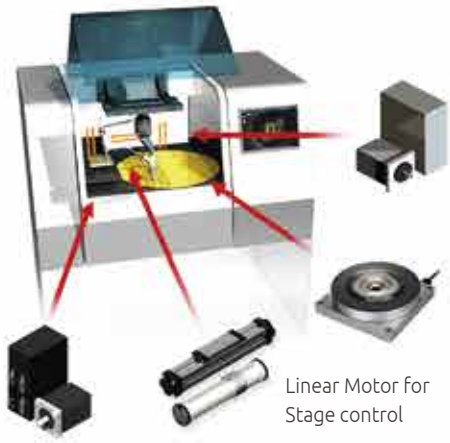
Time-Deterministic control

EtherCAT reaches new dimensions in network performance, with update time for 1000 I/Os only 30 µs, including I/O cycle time. ADLINK's Talos series of EtherCAT controllers supports up to 64 axes and 10,000 I/Os for time-deterministic control. What's more, EPS slave systems support DC (distributed clock) to guarantee synchronization of each slave, and the MDP (multiple device profile) features precise local I/O synchronization for critical applications such as printing machines, beverage processing & packaging.

Assured Interoperability

Limitation-free EtherCAT motion control

ADLINK's EPS-7002 motion control module is controllable by any 3rd party EtherCAT master thanks to full compliance with CiA402 specifications, providing high flexibility for multi-axis motion control on both EtherCAT & non-EtherCAT motors (steppers, DD, generic servos), reducing TCO for complete motion control systems.



Stepper Motor for Rapid movement

DD Motor for Rotary control

Servo Motor for Loader/Unloader control

Linear Motor for Stage control

Highly compatible with a wide variety of 3rd party EtherCAT system elements

ADLINK's EtherCAT solution has been verified for interoperability with a variety of EtherCAT servo drives and 3rd party EtherCAT products, providing the flexibility to select whichever EtherCAT elements are required.

In addition, ADLINK's Talos series of EtherCAT master controllers and EPS series of EtherCAT slave systems both support COE, FOE, EOE and AOE, fully utilizing EtherCAT benefits.



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ADLINK EtherCAT Solution

Ease of development

ADLINK's Talos series provides a complete IEC 61131-3 edition environment supporting 5 common PLC syntaxes, and powered by ADLINK softmotion, with the application-oriented function and API providing ease of use and shortening development time.



CODESYS

Easy recognition across EtherCAT systems

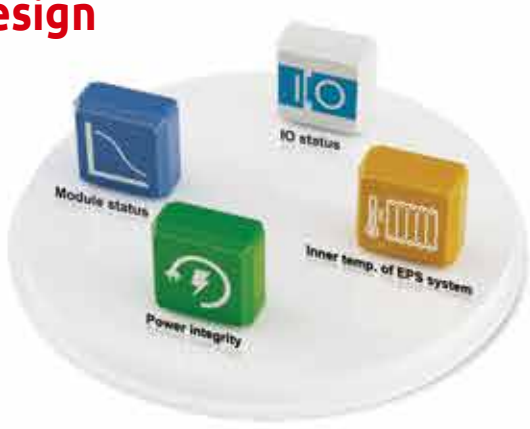
ADLINK's easy - to - use softwareutility, LinkMasterPro™ enables automatic EPS module recognition across EtherCAT systems and generates corresponding (ESI) XML files with selected slave assembly. LinkMasterPro not only assists in EtherCAT configuration but also evaluates the functionality of every single EPS system. With its Auto-slave-detection function, system configuration has never been easier.



Intelligent Management and Robust Design

Self-diagnostic function protects user assets

ADLINK's EPS slave systems feature new RISC processor, allowing users to monitor the status of EPS modules and systems including overheating detection, low power detection, slave health reporting, error handling, and usage cycle of relay switching, as well as motion control status for general purpose motor drive control. All information can be retrieved for review via software or displayed by dedicated indicators, allowing the status of a single module to be monitored.





Easy maintenance, reduced MTTR

The EPS slave system significantly eases system maintenance. Each slave module is hot-swappable, allowing replacement with no need to power the system down, reducing MTTR (Mean-Time-to-Repair), and the quick-removable connector minimizes rewiring efforts.

Robust Design

ADLINK's EtherCAT products feature compact construction with fanless design, operable at -20°C to 60°C, with integral IP31-rated metal housing for withstanding harsh operating conditions.



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EtherCAT Master Controller





Talos-3012

Model Name		Talos-3012
Processor		Intel® Atom™ Processor E3845 1.9 GHz
Controllable Motion Axis		64
Controllable I/O Points		Up to 10,000 points
Control Cycle Time		250 us (min.)
Memory	RAM (Program & Data Memory)	2GB DDR3
	Retain Memory	Configurable on SD card
	Storage (Date Usage)	16 GB SSD / SD Card
Field Bus Connectivity		I for EtherCAT
Ethernet Connectivity I GbE		I GbE
System Indicators		3 User-defined
Programming Environment		CoDesys v3
		IEC 61131-3-Compliant
Supply Voltage		9-32 VDC wide-range DC input
Environment Certificate		Vibration: 5 Grms, 5-500Hz
		Shock: 50G, Half Sine II ms duration
		EMC: EN 550111 class A
Operating Temperature		-20 ° C~60 ° C (-4 °F to 140 °F)
Dimension		120 (W) x 100 (D) x 55 (H) mm (4.68" 3.9" x 2.17")

EtherCAT Slave System and Modules



EPS-9905 with EPS-6000



EPS-7002



EPS-1132/ 2032/ 2132/ 2308/ 3216/ 3032/ 7002



EPS-3504/ 4008

Model Name	EPS-9905 with EPS-6000
Installed Slots	5 (max.)
Protection Type	IP31
Hot Swap	Yes
Operating Temp.	-20~60 ° C
Dimension (mm)	130 (L) x 110 (W) x 105 (H)
Weight (estimated)	< 1,000 gram
Power Consumption	6.6W
Supply Voltage	24Vdc (, ±10%)
Environment Certificate	Vibration: 5 Grms, 5-500Hz Shock: 50G, Half Sine 11 ms duration EMC: EN 55011 class A

Model Name	EPS-1132	EPS-2032	EPS-2132
I/O Type	Digital Input	Digital Output	Digital Output
Channel	32	32	32
Hot Swap		Yes	
Input / Output Type	Sinking	Sourcing	Sinking
Input Range (by Voltag e/Current)	IEC 61131-2 Type 1/3, 2.3mA	–	–
Sampling Rate	<1ms	4KHz	4KHz
Resolution	–	–	–
Output Current Capacity	–	300mA / ch	300mA / ch
Connector Type	Phoenix Contact DFMC		

Model Name	EPS-2308	EPS-3216	EPS-3032	EPS-3504	EPS-4008	EPS-7002
I/O Type	Relay Output	Analog Input	Analog Input	Terminal Input	Analog Output	Motion Control
Channel	8	16	32	4	8	2
Hot Swap	Yes	Yes	Yes	Yes	Yes	Yes
Input / Output Type	Relay	Differential	Single-ended /Differential	RTD	Single-ended	Pulse-Train
Input Range (by Voltage/Current)	–	0~20mA	+/- 10V	RTD (PT100, 500, 1000)	± 10V	PUS/DIR: 4MHz ENC: 20MHz
Sampling Rate	5ms	100KHz	100KHz	5-20Hz	100KHz	–
Resolution	–	16 bit	16 bit	24bit	16bit	32 bit
Output Current Capacity	AC: 125V @ 0.5A DC: 30V @ 2A	–	–	–	5mA	–
Connector Type	Phoenix Contact DFMC					SCSI VHDCI 68p

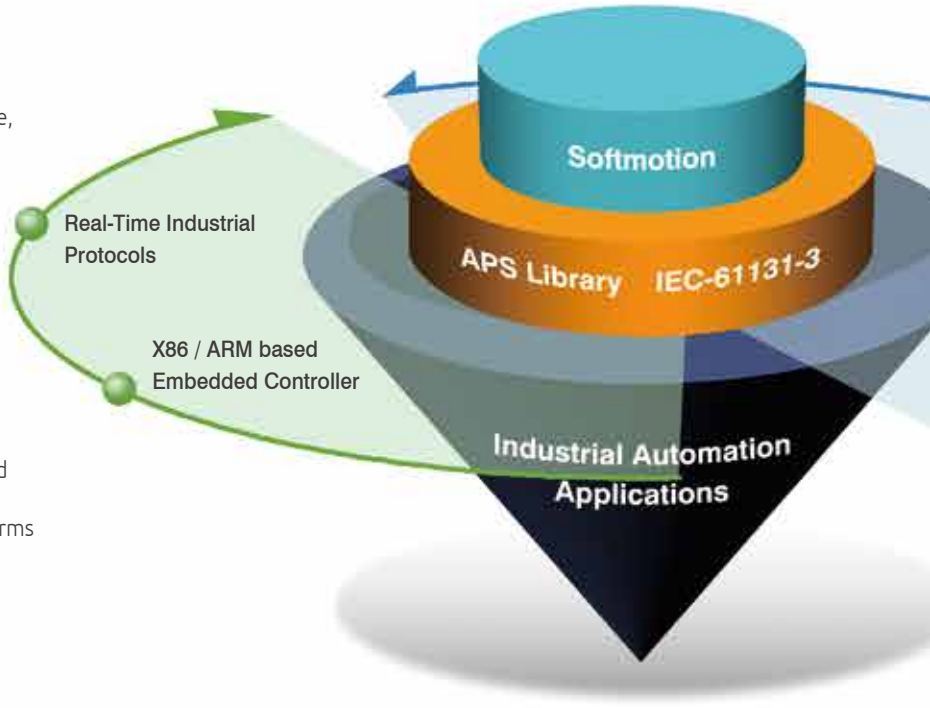
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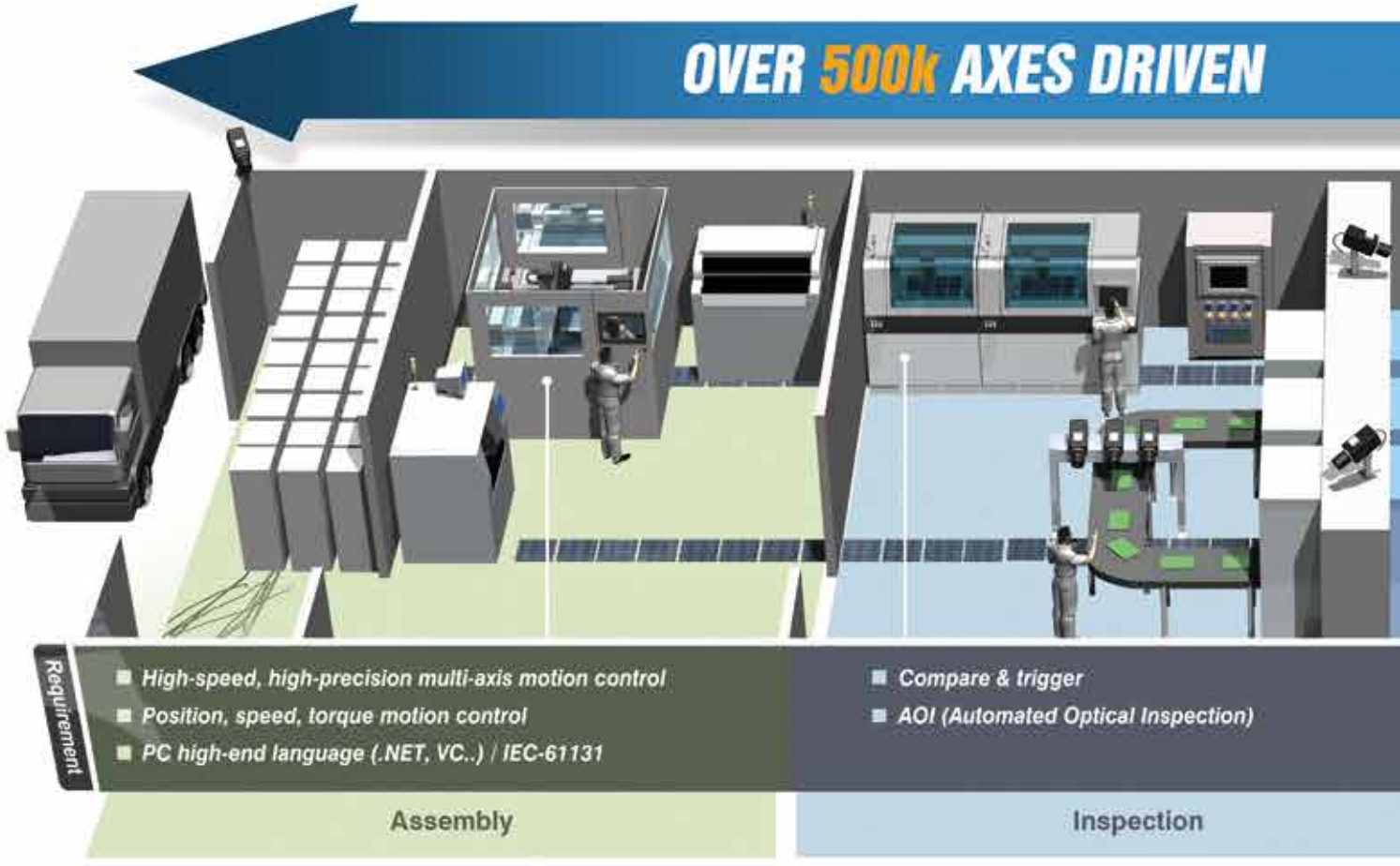
ADLINK Motion Control Solution

ADLINK motion control solutions have been widely adopted, to date driving over 500,000 axes industry-wide. ADLINK's extensive field experience has driven the development of powerful, high performance motion controllers, embedded controllers, time-deterministic I/O slaves, and comprehensive, easy to use APIs. ADLINK's proven support resources help customers to overcome even the most critical challenges of industrial automation.

ADLINK motion control solutions support a wide variety of real-time industrial Ethernet-based communication and control protocols, such as EtherCAT, Mechatrolink III, and SSCNET III/H, as well as proprietary field buses, HSL and Motionnet, reducing costs while increasing throughput and accuracy.

Additionally, ADLINK's one-stop service and highly integrated portfolio of off-the-shelf data acquisition cards, motion controllers, frame grabbers, and industrial computing platforms continue to meet and exceed customer requirements, supporting the setup of smart factories, further increasing productivity.

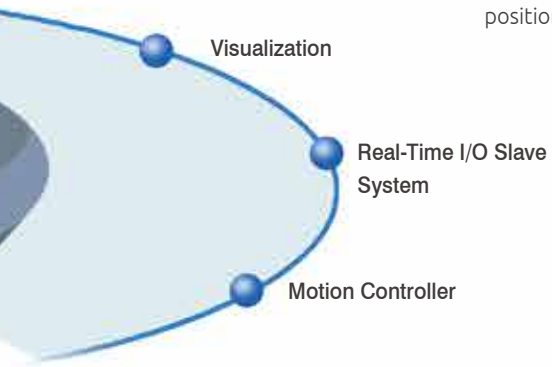




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Pulse Train Motion

Pulse train motion controllers generate high-frequency digital signals to control servo motors and steppers, matching the performance and precision positioning of high-powered servo amplifiers.



DSP-Based Motion

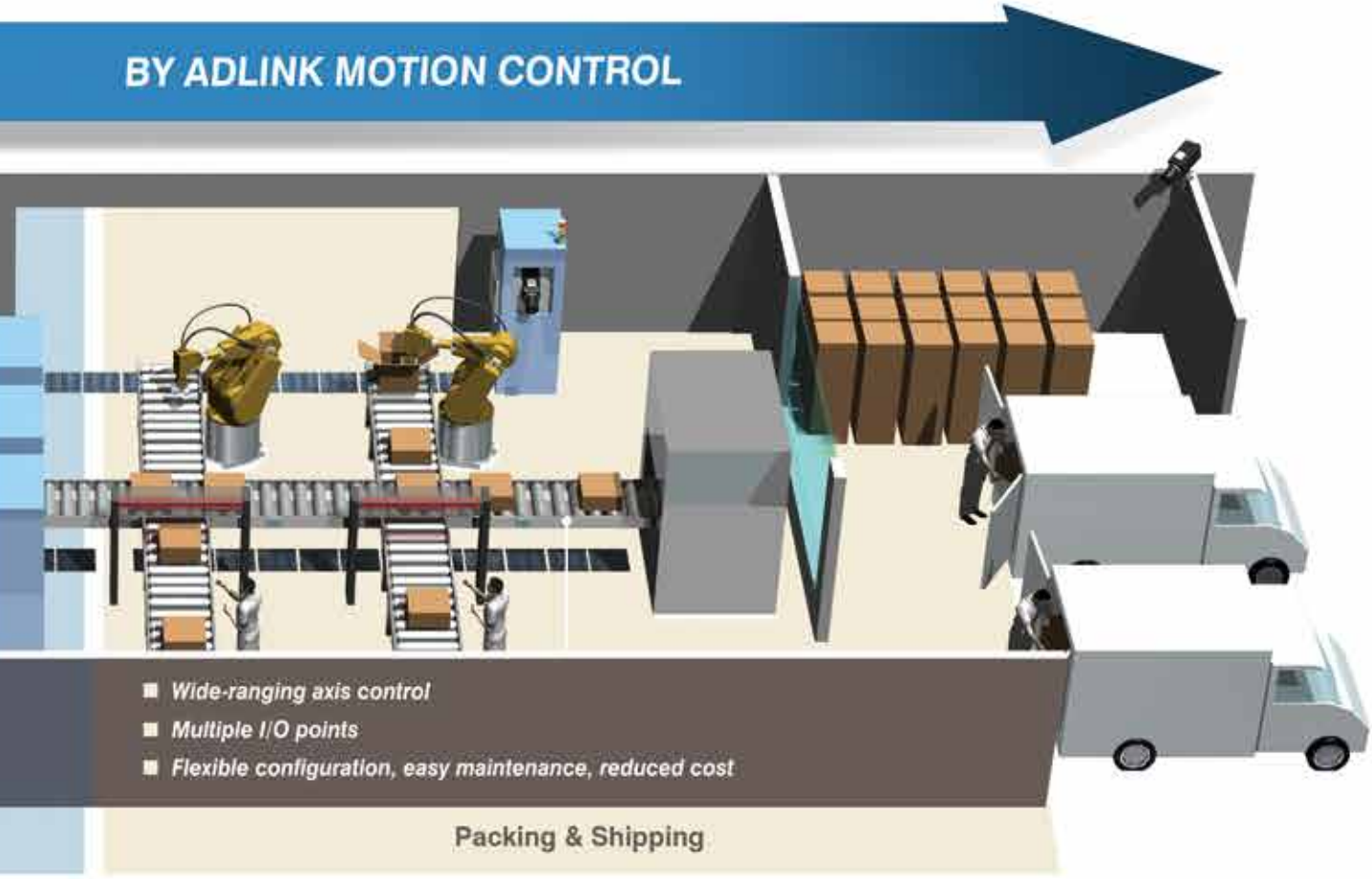
DSP-based motion controllers generate voltage commands to control servo motors and brushless DC motors for enhanced performance, precise positioning, and shortened response.

EtherCAT Solutions

ADLINK provides complete EtherCAT solutions, including IEC-61131-3 compliant automation controllers, time- deterministic I/O, and motion control systems, increasing performance and precision control.

Distributed Motion

Distributed motion controllers include SSCNET (Servo System Network) solutions and Motionnet technology. Wide-ranging axis control and multiple I/O points, reduce both maintenance and cost burdens.



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ADLINK Motion Control Solution

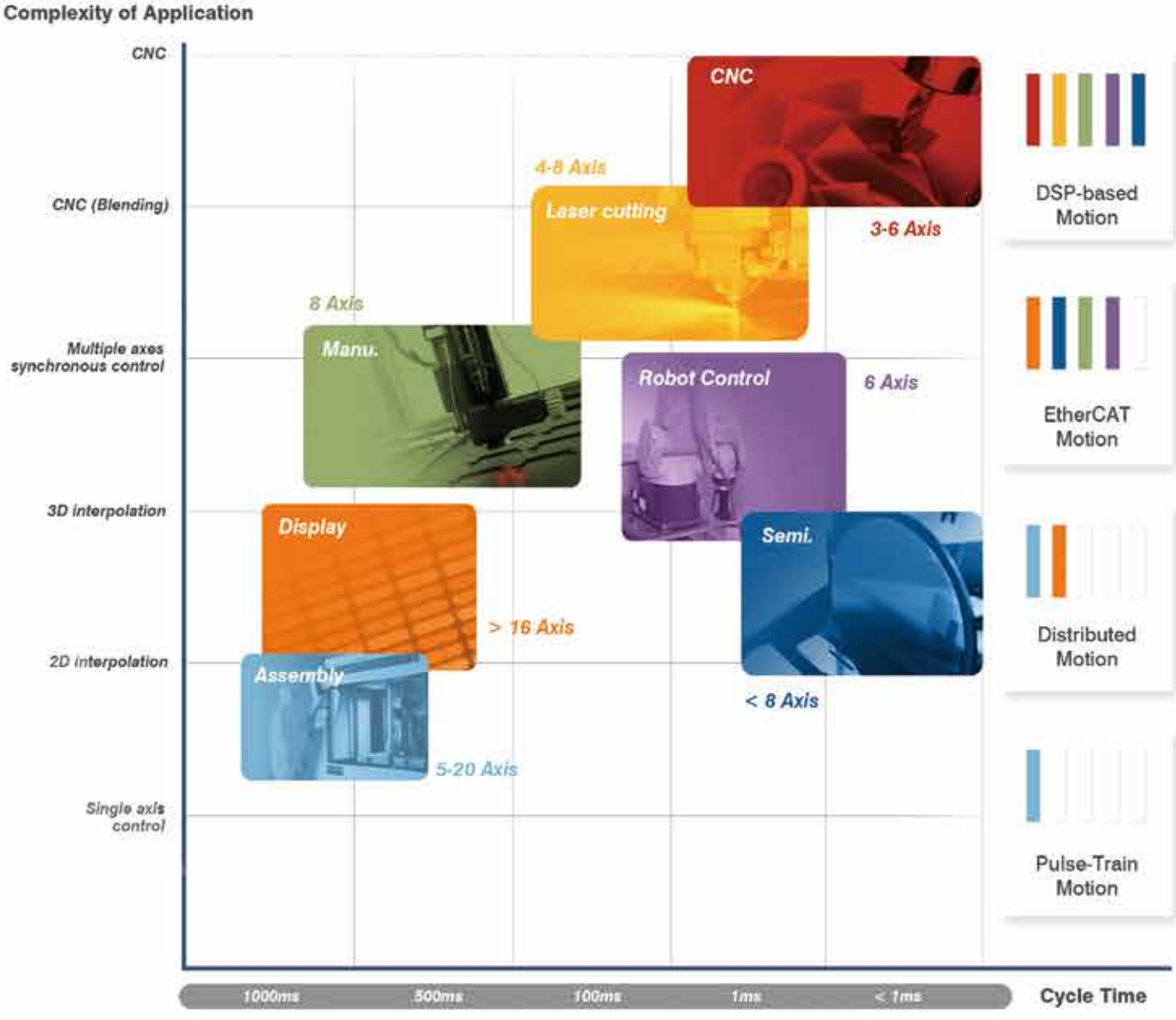
ADLINK Softmotion

ADLINK Softmotion provides dependable motion control, based on an efficient algorithmic kernel, featuring basic motion functions such as point-to-point and interpolation, but also variant vertical functionality for AOI, laser cutting, and semiconductor management, and even robotic control. High precision and speed, together with enhanced synchronous motion control, make ADLINK Softmotion a key player in reduction of operational complexity and development period for a wide variety of industrial applications. Compatible with numerous I/O connection types, Softmotion delivers maximum synchronization between motion and I/O control, vastly improving application throughput. Additionally, program download allows execution of multiple deterministic control flows within a secured time period.

ADLINK's customizability is further powered by its exclusive Softmotion utility, making it a clear leader in the EtherCAT solution market.



Motion Control Applications



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MotionCreatorPro 2

Introduction

ADLINK's easy-to-use MotionCreatorPro 2 is a Windows-based application development software package included with ADLINK motion controllers. Applicable time-domain and frequency-domain diagnostic tools are integrated for auto-tuning, frequency response analysis, and motion & I/O data sampling. A Setup Wizard shortens system installation & evaluation time and allows monitoring of onboard DSP & I/O consumption via a system diagnostic page. Powerful sampling pages and graphic tools deliver real-time motion and I/O status and conduct further motion flow analysis.



MotionCreatorPro 2 provides

- *Axis configuration*
- *Parameter tables*
- *Axis control*
- *Setup Wizard*
- *Frequency analysis*
- *Auto-tuning*
- *Point table*
- *Data sampling*

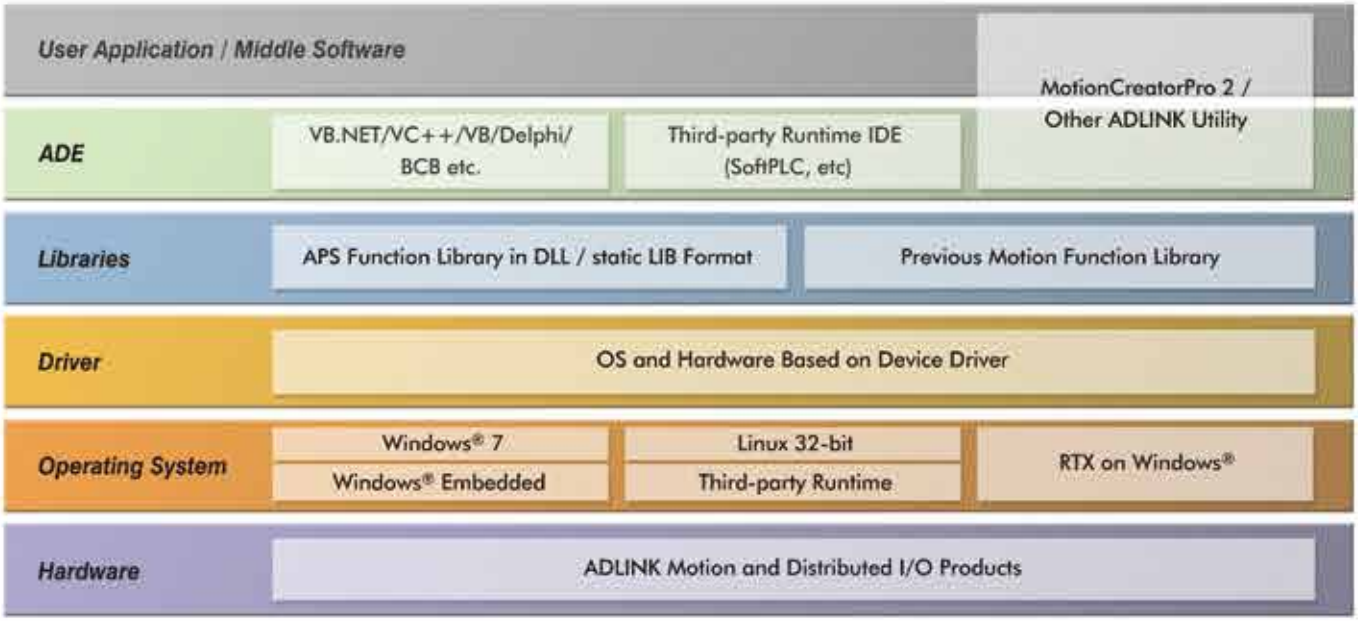
Features

- *Management for ADLINK's complete product line of motion controllers and distributed I/O*
- *Easy configuration of all servo and motion axis parameters instantly via table settings*
- *Motion axis operation and status monitoring support*
- *Real-time data sampling for current position and speed, dedicated motion I/O information*
- *Auto-tuning tools*
- *2D trajectory operation*
- *HSL I/O status reporting by onscreen LED*
- *Easy-to-debug system*
- *32-bit Windows® 7 support*

Benefits of MotionCreatorPro 2

- *Easy-to-use motion manipulation*
  Axis manipulation supports linear/circular interpolation.
- *Dedicated motion I/O status and interrupt event reporting*
  All dedicated motion and general-purpose I/O is monitored and displayed on-screen.
- *Instant speed profile graphing*
  The speed profile can be viewed and simulated via a graphical interface, and be adjusted simultaneously via the interface.
- *Fast design debugging*
  Simple and comprehensive hardware and software debugging
- *Servo and axis parameter setting replication with tables*
  The servo and axis parameters can be configured and reused by table setting, and all parameter settings from indicated servos/axes can be shared

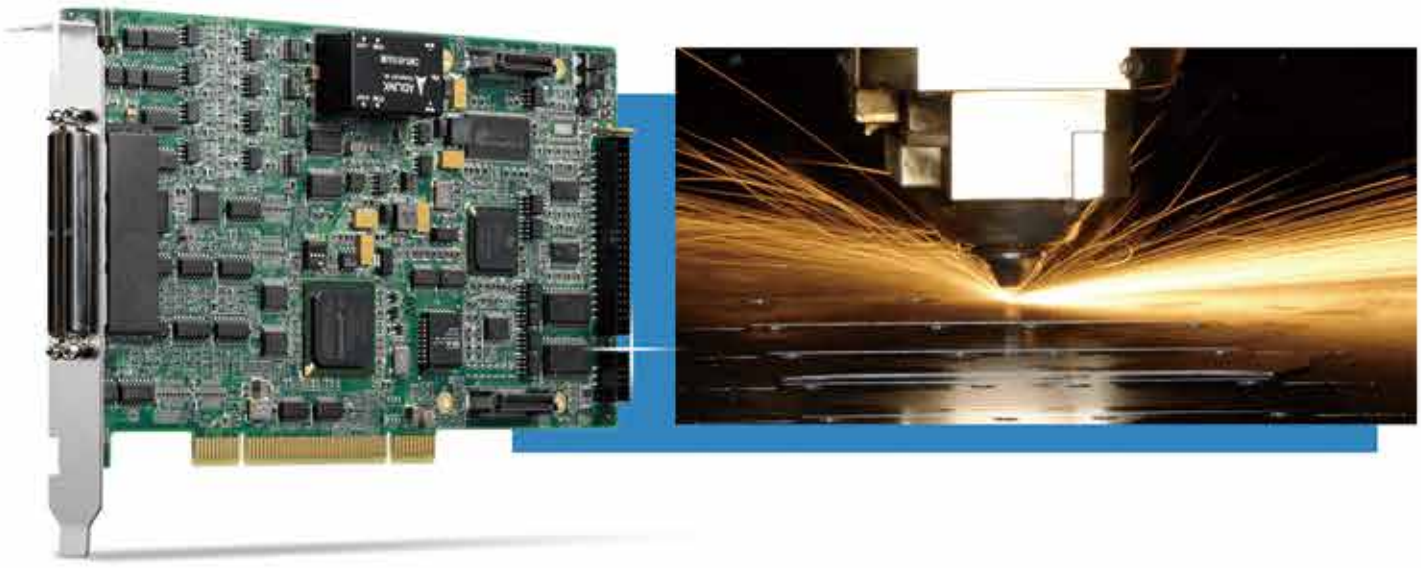
ADLINK Automation Software Architecture



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Advanced DSP-based Servo Motion Controller

Full Closed-loop Control with High and Fast Response Time for AOI/Gantry/Contouring Applications



High Performance & High Accuracy

ADLINK's new motion controllers incorporate up-to-date floating-point DSP and FPGA technologies to provide advanced, flexible, and comprehensive motion functions that cannot be achieved through ASIC-based solutions. Leveraging ADLINK's Softmotion technology and easy-to-use utility, ADLINK's new motion controllers reduce development time and costs up to 25%, while maintaining superior throughput and accuracy with at least 10% growth.

Comprehensive Application Functions

ADLINK's motion controllers feature superior synchronous motion control performance combined with point-table function integrating multi-dimensional interpolation with enhanced trajectory and velocity planning, for contouring applications in semiconductor, display, and conventional manufacturing industries. Moreover, hardware-based high speed position comparison and trigger output up to 1 MHz are applicable in AOI applications. The PWM function also effortlessly supports customer-developed laser cutting applications.

Easy-to-Use Utility

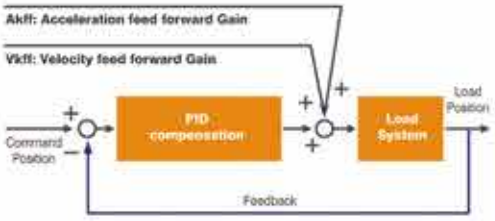
MotionCreatorPro 2 Windows-based application development software package provides a Setup Wizard, reducing system installation & evaluation time and allowing full monitoring of onboard DSP & I/O consumption via a system diagnostic page. Powerful sampling page and graphic tools deliver real-time motion and I/O status, and conduct further motion flow analyses.

Integrated Automation Solution

ADLINK provides a fully integrated solution with vision and I/O systems, motion control, and industrial platforms. With our complete line of industrial automation products and utilities, customers benefit from highly integrated solutions with optimized quality and reliability with long-term support assurance.

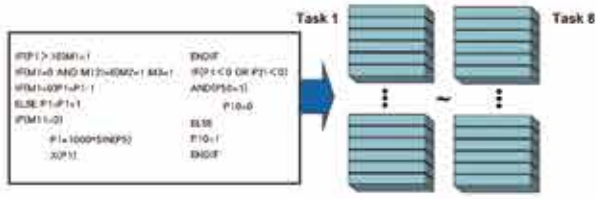
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Closed-loop Control with PID plus Feed Forward Gain



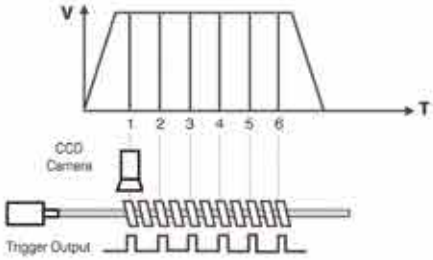
Full closed-loop control with PID filter plus feed forward gain to realize high-speed and high-precise motion control capacity.

Program Download & Multi-Tasking



Automatically controlling all onboard I/O and generate motion trajectories, and can even be deployed as a standalone controller.

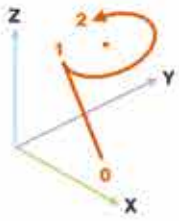
High-Speed Position Comparison & Trigger Output



Hardware-based high-speed position comparison and trigger output speed of up to 1MHz, ideal for AOI applications.

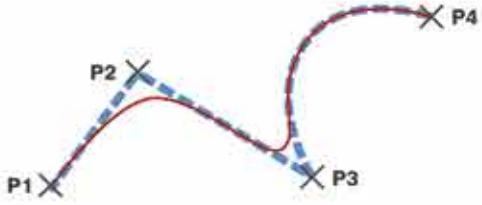
Point-Table mixed Motion & I/O Control

Index	Axis0	AxisN
0	POINT_DATA	POINT_DATA
1	POINT_DATA	POINT_DATA
4998	POINT_DATA	POINT_DATA
4999	POINT_DATA	POINT_DATA



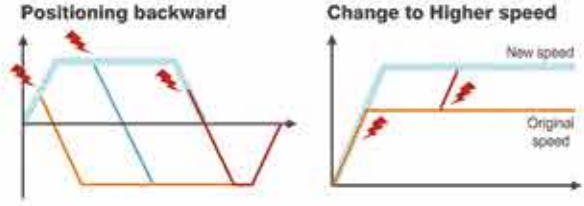
The point table supports mixed motion and I/O operations where the I/O can triggered by a "motion done" status or motion can be triggered by an I/O input signal.

Blend Motion



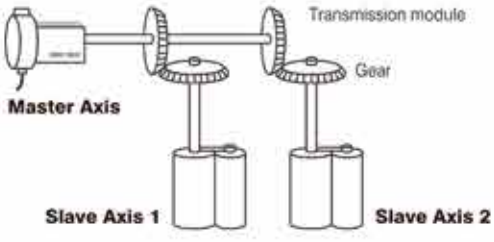
Blend motion which looks several points ahead and combines splining motion for continuous and smooth velocity movement.

Position / Speed Override



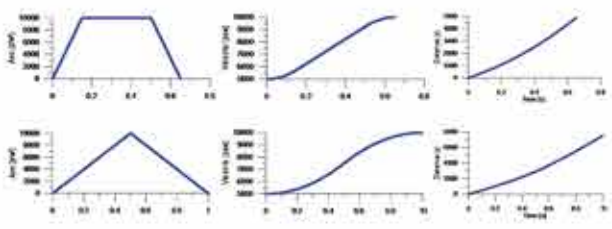
Position / speed can be easily and flexibly overridden at any time regardless if motion is accelerating, decelerating or constant.

Electronic-Gearing



Controllers support slaving any axis or axes to a master. Moving the master axis will cause the slaves to move based on the specified salve ratio.

Position / Velocity / Acceleration vs.Time



The S-curve profile eliminates possible overshooting, otherwise the part could be damaged. Controllers provide S-curves with different degrees of smooth velocities.

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Motion Control Selection Guide

		PCI			
Model Name		**PCI-8158**	**PCI-8154**	**PCI-8164**	**PCI-8102**
Pulse Train Motion Control					
Number of Axes		8	4	4	2
Support Motor		servo/ stepper	servo/ stepper	servo/ stepper	servo/ stepper
Encoder Input Frequency (Max)		6.55 MHz @ 1M, under 4 x AB phase	6.55 MHz @ 1M, under 4 x AB phase	6.55 MHz @ 1M, under 4 x AB phase	6.55 MHz @ 1M, under 4 x AB phase
Pulse Output Rate (Max)		6.55 Mpps	6.55 Mpps	6.55 Mpps	6.55 Mpps
Motion Features	*Linear Interpolation*	Any 2 to 4 of 4 axes	Any 2 to 4 of 4 axes	Any 2 to 4 of 4 axes	2 axes
	Circular Interpolation	Any 2 axes	Any 2 axes	Any 2 axes	2 axes
	Helical Interpolation	√	√	-	-
	Home Return Mode	13 (including auto homing)	13 (including auto homing)	13 (including auto homing)	13 (including auto homing)
	Continuous Contouring	by 3 command buffer	by 3 command buffer	by 3 command buffer	by 3 command buffer
Motion Profile		T/S curve (Non-symmetric acceleration/deceleration settings are supported)			
Dedicated Motion I/O		±EL/ORG/SVON/INP/ALM/RDY for each axis			
DI/O Channels		8 DI / 8DO	4 DI / 4DO	6 TTL DO	16 DI / 16DO
Card Index Switch		√ (0 to 15)	√ (0 to 15)	-	√ (0 to 15)
Hardware Emergnecy Input		√	√	-	√
Advanced Motion Function	*Position Compare & Triggering*	√ (with DB-8150, up to 1 MHz)	√ (with DB-8150, up to 2 MHz)	√ (up to 15 kHz)	√ (up to 1 kHz by interrupt function)
	Backlash Compensation	√	√	√	√
	Simultanous Move	√	√	√	√
	Ring Counter Support	√	√	√	√

		PCI		cPCI
Model Name		**PCI-8144**	**PCI-8134A**	**cPCI-8168**
Pulse Train Motion Control				
Number of Axes		4	4	8
Support Motor		stepper	servo/ stepper	servo/ stepper
Encoder Input Frequency (Max)		-	2.4 MHz @ 3 M	6.55 MHz @ 1M
Pulse Output Rate (Max)		2.4 Mpps	2.4 Mpps	6.55 Mpps
Motion Features	*Linear Interpolation*	-	2 axes	Any 2 to 4 of 4 axes
	Circular Interpolation	-	-	Any 2 axes
	Helical Interpolation	-	-	-
	Home Return Mode	1	8 auto homing by software	13 (including auto homing)
	Continuous Contouring	-	-	by 3 command buffer
Motion Profile		T/S curve (Non-symmetric acceleration/deceleration settings are supported)		
Dedicated Motion I/O		±EL/ORG/SVON/INP/ALM/RDY for each axis	±EL/ORG/SVON/INP/ALM/RDY/SD for each axis	±EL/ORG/SVON/INP/ALM/RDY for each axis
DI/O Channels		8 DI / 8 DO	-	8 DI / 8 DO
Card Index Switch		-	-	-
Hardware Emergnecy Input		√	-	-
Advanced Motion Function	*Position Compare & Triggering*	-	-	√
	Backlash Compensation	-	-	√
	Simultanous Move	-	√	-
	Ring Counter Support	-	-	√

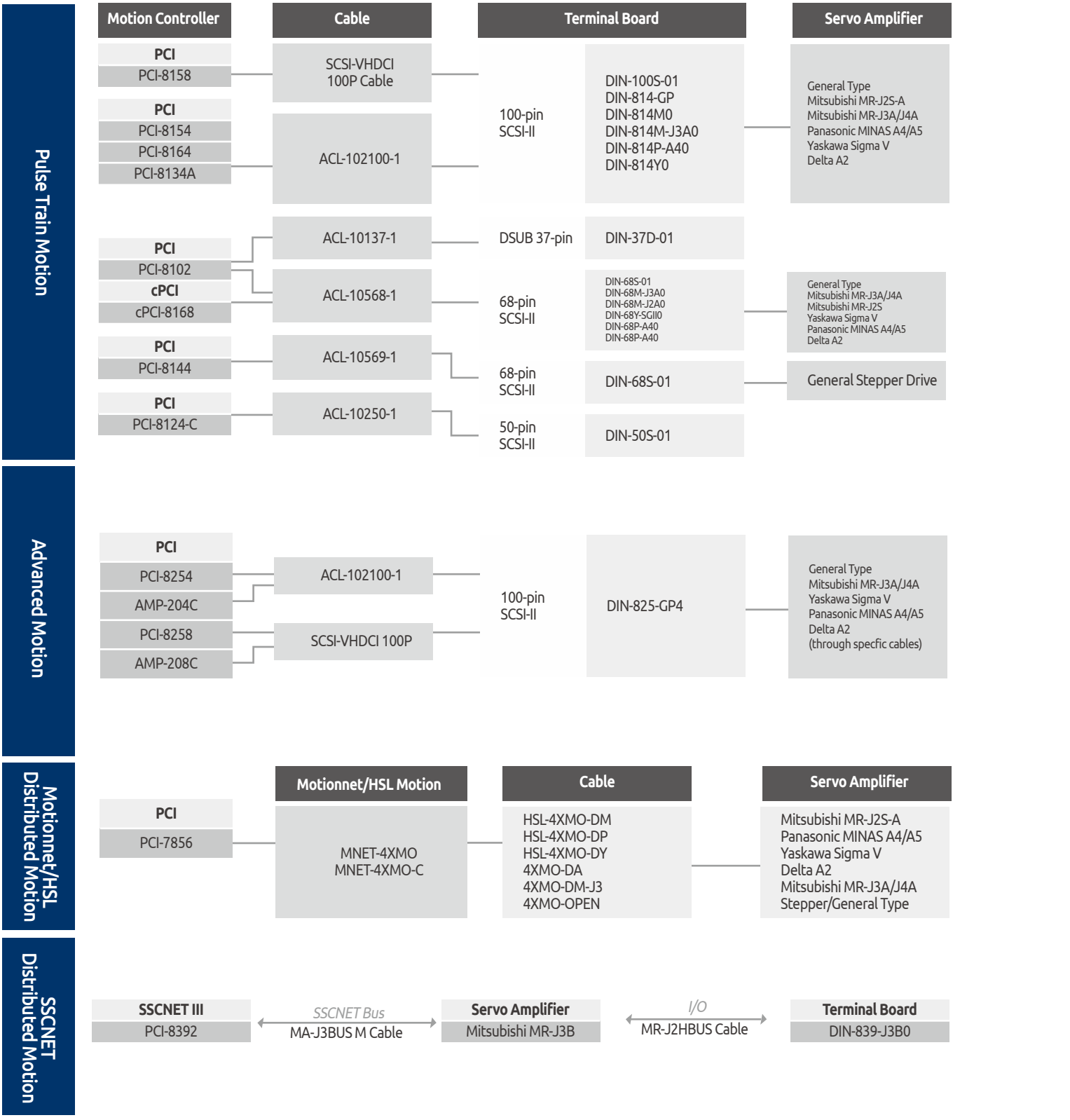
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PCI					
Model Name		**PCI-8254**	**PCI-8258**	**AMP-204C**	**AMP-208C**
DSP-based Advanced Motion Control					
Number of Axes		4	8	4	8
Support Motor		servo/ stepper	servo/ stepper	servo/ stepper	servo/ stepper
Encoder Input Frequency (Max)		20 MHz under 4 x AB phase		20 MHz@1M,under 4 x AB phase	
Servo Update Rate		20 KHz		-	-
Trajectory Update Rate		1 KHz		1 KHz	
Pulse Output Rate (Max)		-	-	6.55 Mpps	6.55 Mpps
Motion Features	*Linear Interpolation*	Any 2 to 4 of 4 axes	Any 2 to 8 of 8 axes	Any 2 to 4 of 4 axes	Any 2 to 8 of 8 axes
	Circular Interpolation	Any 3 axes	Any 3 axes	Any 3 axes	Any 3 axes
	Helical Interpolation	√	√	√	√
	Home Return Mode	√	√	√	√
	Gearing	√	√	√	√
	Continuous Contouring	√	√	√	√
Motion Profile		User-defined			
Dedicated Motion I/O		±EL/ORG/SVON/INP/ALM for each axis		±EL/ORG/SVON/INP/ALM for each axis	
AI Channels		4 (12 bit garuantee)	8 (12 bit garuantee)	-	-
DI/O Channels		20 DI / 20 DO	24 DI / 24 DO	20 DI / 20 DO	24 DI / 24 DO
Card ID		V (4-bit)	V (4-bit)	V (4-bit)	V (4-bit)
Program Download		8 tasks	8 tasks	-	-
Advanced Motion Function	*Position Compare & Triggering*	up to 1 MHz	up to 1 MHz	up to 1 MHz	up to 1 MHz
	PWM Control	2-CH	4-CH	2-CH	4-CH
	Simultanous Move	√	√	√	√
	E Gearing	√	√	√	√

SSCNET (Servo System Control NETwork)	SSCNET III (Cycle Time: 0.888 ms)
Model Name	**PCI-8392**
SSCNET Distributed Motion Control	
Number of Axes	16
Linear Interpolation	Any 2 to 4 of 16 axes
Circular Interpolation	Any 3 axes
Gantry Control	3 Groups
Speed Profile	T/S curve
Continuous Contouring	Yes
Dedicated Moiton I/O	PEL/MEL/ORG are on Mitsubishi J3B servos (CN3). All signal information will be monitored by SSCNET III protocol

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Terminal Board & Cable Selection Guide



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Terminal Boards for Motion Control

For Mitsubishi Servos

DIN-814M-J3A0



Terminal Board for Mitsubishi MR-J3A/ J4A Servo Amplifiers

- *Onboard Connector Type: 100-pin SCSI-II*
- *Dimensions:123 x 107 x 44 mm (W x L x H) (4.84" x 4.21" x 1.73")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable , 1 M*

DIN-68M-J3A0



Terminal Board for Mitsubishi MR-J3A/ J4A Servo Amplifiers

- *On-board Connector Type: 68-pin SCSI-II*
- *Dimensions: 103 x 83 x 43 mm (W x L x H) (4.06" x 3.27" x 1.69")*
- *Mating Cables:*
  - *ACL-10568-1: 68-pin SCSI-VHDCI cable, 1 M*
  - *ACL-10569-1: 68-pin SCSI-II cable, 1 M*

DIN-839-J3B0



Terminal Board for Mitsubishi MR-J3B/ J4B Servo Amplifiers

- *Dimensions:103 x 83 x 43 mm (W x L x H) (4.06" x 3.27" x 1.69")*
- *Mating Cable:*
  - *MR-J2HBUS M: controller to amplifier bus cable*

For Yaskawa Servos

DIN-814Y0



Terminal Board for Yaskawa Sigma V Servo Amplifiers

- *On-board Connector Type: 100-pin SCSI-II*
- *Dimensions: 123 x 107 x 44 mm (W x L x H) (4.84" x 4.21" x 1.73")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable, 1 M*

DIN-68Y-SGII0



Terminal Board for Yaskawa Sigma V Servo Amplifiers

- *On-board Connector Type: 68-pin SCSI-II*
- *Dimensions: 103 x 83 x 43 mm (W x L x H) (4.06" x 3.27" x 1.69")*
- *Mating Cables:*
  - *ACL-10568-1: 68-pin SCSI-VHDCI cable, 1 M*
  - *ACL-10569-1: 68-pin SCSI-II cable, 1 M*

For Panasonic Servos

DIN-814P-A40



Terminal Board with 100-pin SCSI-II Connector for Panasonic MINAS A4/A5 Servo Amplifiers

- *On-board Connector Type: 100-pin SCSI-II*
- *123 x 107 x 44 mm (W x L x H) (4.84" x 4.21" x 1.73")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable, 1 M*

DIN-68P-A40



Terminal Board with 68-pin SCSI-II Connector for Panasonic MINAS A4/A5 Servo Amplifiers

- *On-board Connector Type: 68-pin SCSI-II*
- *Supports 500 k & 2 Mpps pulse frequency input options*
- *Mating Cables:*
  - *ACL-10568-1: 68-pin SCSI-VHDCI cable, 1 M*
  - *ACL-10569-1: 68-pin SCSI-II cable, 1 M*

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Terminal Boards for Motion Control

For General Purpose

DIN-37D-01



Terminal Board with One 37-pin D-sub Connector and DIN-rail Mounting

- *On-board Connector Type: 37-pin D-sub female*
- *Dimensions: 113 x 85 x 52 mm (W x L x H) (4.45" x 3.35" x 2.05")*
- *Mating Cable:*
  - *ACL-10137-1MM: 37-pin D-sub male/male cable,1 M*

DIN-100S-01



Terminal Board with One 100-pin SCSI-II Connector and DIN-rail Mounting

- *On-board Connector Type: 100-pin SCSI-II female*
- *Dimensions: 158 x 120 x 52 mm (W x L x H) (6.22" x 4.72" x 2.05")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable, 1 M*

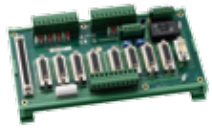
DIN-68S-01



Terminal Board with One 68-pin SCSI-II Connector and DIN-rail Mounting

- *On-board Connector Type: 68-pin SCSI-II female*
- *Dimensions: 103 x 85 x 46.2 mm (W x L x H) (4.06" x 3.35" x 1.82")*
- *Mating Cables:*
  - *ACL-10568-1: 68-pin SCSI-VHDCI cable, 1 M*
  - *ACL-10569-1: 68-pin SCSI-II cable, 1 M*

DIN-825-4M0



Terminal Board with 100-pin SCSI-II Connector for General Purpose Servo & Stepper (for PCI-8254/8258)

- *Supports Voltage Command and Pulse Command*
- *Supports Specific Servos & Steppers by*
- *Cable Selecting*
- *Dimensions: 200 x 107 x 44 mm (W x L x H) (7.87" x 4.21" x 1.73")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable, 1M*

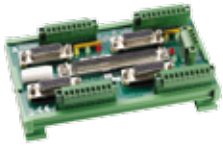
DIN-50S-01



Terminal Board with One 50-pin SCSI-II Connector and DIN-rail Mounting

- *On-board Connector Type: 50-pin SCSI-II female*
- *Plastic cover for protection of wiring*
- *Dimensions: 125 x 85 x 50 mm (W x L x H) (4.92" x 3.35" x 1.97")*
- *Mating Cable:*
  - *ACL-10250-1: 50-pin SCSI-II cable, 1 M*

DIN-814-GP



Terminal Board with 100-pin SCSI-II Connector for General Purpose

- *Supports Specific Servos & Steppers by Cable Selecting*
- *On-board Connector Type: 100-pin SCSI-II*
- *Dimensions: 146 x 85 x 44 mm (W x L x H) (5.75" x 3.35" x 1.73")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable, 1 M*

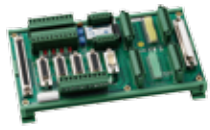
DIN-825-GP4



Terminal Board with 100-pin SCSI-II Connector for General Purpose Servo & Stepper (for AMP-204C/208C & PCI-8254/8258)

- *Supports Specific Servos & Steppers by Cable Selecting*
- *On-board Connector Type: 100-pin SCSI II*
- *Dimensions: 300 x 107 x 44 mm (W x L x H) (11.81" x 4.21" x 1.73")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-VHDCI cable, 1 M*
  - *ACL-10137-1: 37-pin D-sub male/ male cable, 1 M*

DIN-825-4P0



Terminal Board with 100-pin SCSI-II Connector for General Purpose Servo & Stepper (for AMP-204C/208C)

- *Supports Pulse Command and General Purpose DI/O*
- *Supports Specific Servos & Steppers by*
- *Cable Selecting*
- *Dimensions: 200 x 107 x 44 mm (W x L x H) (7.87" x 4.21" x 1.73")*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable, 1M*
  - *ACL-10137-1: 37-pin D-sub male/ male cable, 1M*

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Cable Accessories

HSL-4XMO-DM Cable
- For Mitsubishi MR-J2S-A servo amplifiers
- Available for 1 M, 2 M, 3 M



HSL-4XMO-DP Cable
- For Panasonic MINAS A4/A5 servo amplifier with brake control
- Available for 1 M, 1.5 M, 2 M



HSL-4XMO-DY Cable
- For Yaskawa Sigma V servo amplifier
- Available for 1 M, 2 M, 3 M



MR-JCCBL M
- Encoder cable (for KFS series)
- Available for 2 M, 5 M



MR-J2HBUS M
- Controller to amplifier bus cable
- Compliant with PCI-8392(H)
- Available for 2 M, 5 M



MR-J2HBUS M(CAN)
- Controller to amplifier bus cable
- Compliant with PCI-8392(H)
- Available for 2 M, 5 M



MA-J3BUS M
- SSCNET III fiber cable
- Available for 0.15 M, 0.3 M, 0.5 M, 1 M, 3 M, 5 M



ACL-10568-1
- 68-pin SCSI-VHDCI cable (mating with AMP-787082-7), 1 M



ACL-10250-1
- 50-pin SCSI-II cable (mating with AMP-787082-5), 1 M



ACL-RRS- M
- CAT5e, SFTP,
- Two sides RJ45 type,
- Available for 1M, 3M and 5M



ACL-RHS- M
- CAT5e, SFTP,
- One side RJ45 type, another Hirose 3p type
- Available for 1M, 3M and 5M



4XMO-DA Cable M
- For Delta A2 servo series
- Available for 3 M



4XMO-DM-J3
- For Mitsubishi MR-J3 servo amplifiers
- Available for 2 M



4XMO-OPEN Cable M
- For Stepper or general purpose
- Available for 1 M, 2 M



MR-JHSCBL M
- Encoder cable (for SFS series)
- Available for 2 M, 5 M



ACL-50P M
- Controller to amplifier bus cable, 50-pin to 50-pin
- Available for 1 M, 2 M, 3 M
- Suitable for Panasonic A4/A5 servo and Yaskawa Sigma V servo



ACL-50P M-OPEN
- Controller to amplifier bus cable, 50-pin to open wire
- Available for 2 M, 3 M
- Suitable for Panasonic A4/A5 servo and Yaskawa Sigma V servo



SCSI-VHDCI 100P Cable
- SCSI-VHDCI 100-pin cable
- Compliant with PCI-8158
- Available for 2 M, 3 M



ACL-102100-1
- 100-pin SCSI-II cable (mating with AMP-787082-9), 1 M



ACL-10569-1
- 68-pin SCSI-II cable (mating with AMP-787082-7), 1 M



ACL-RHS- M
- CAT5e, SFTP,
- Two sides Hirose 3p type
- Available for 1M, 3M and 5M



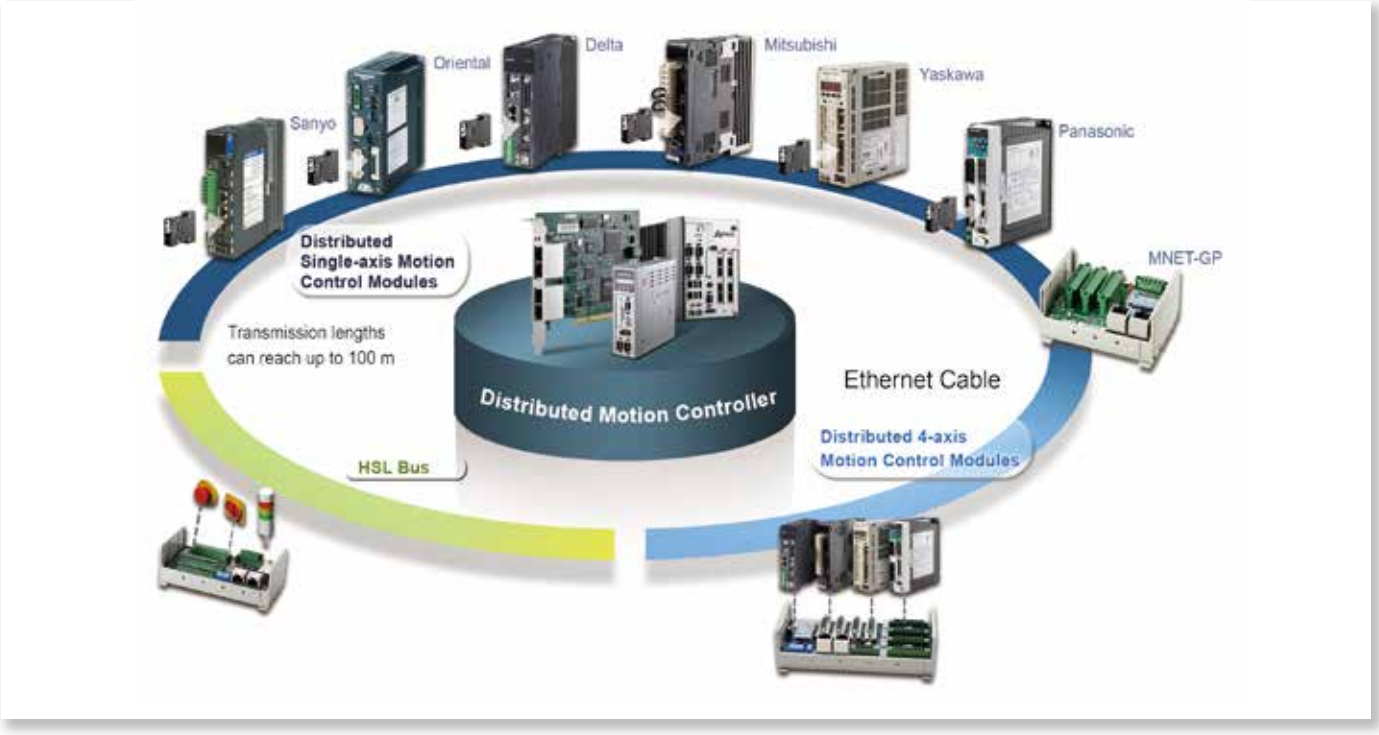
ACL-10137-1MM
- 37-pin D-sub male/male cable, 1 M



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Distributed Motion and I/O Solution

High-performance Motion Control of up to 256 Axes and 2,016 I/O Control Points



Introduction

As the size of automation equipment increases, more motion axes and I/Os are required. Following this trend, ADLINK offers complete distributed motion and I/O solutions targeting machine automation application and which combine a master controller and comprehensive distributed motion and I/O modules as slaves. ADLINK's family of master controllers include the PCI-7856 PCI-based control board for standard applications, and the DPAC-3000 ruggedized and compact fanless controller for applications requiring greater reliability and stability. ADLINK's family of slave modules includes the MNET-J3, MNET-S23, MNET-MIA, MNET-DA2, MNET-SAN, and MNET-GP Motionnet distributed single-axis control modules, the MNET-4XMO series of general-purpose 4-axis control modules, and comprehensive HSL digital and analog I/O modules.

Features

- *Longer distance on motion control and I/O control over 100 meters*
- *Vast number of motion axes control & I/O control in line*
- *Motionnet & HSL can support up to 256 motion axes & 2,016 I/O points*
- *Real-time control & response*
- *Motionnet provides time-deterministic motion control capability*
- *HSL updates over 2,000 I/O points within 1 ms*

Applications

- *Conveyor machines*
- *Long distance LCD equipment*
- *Long distance solar cell machines*
- *Injection machines*
- *Dispensing machines*
- *PCB manufacturing machines*

Motionnet Bus

Distributed Motion Control Solution

A Motionnet system (referred to as "MNET") is a distributed motion solution for machine systems. MNET is an innovative distributed motion technology which provides distributed motion axis control of up to 256 axes for any servo / stepper motor controlled using mater-slave architecture. This not only provides general purpose 4-axis motion control, but also allows specific 64 of single axis motion control module to be scanned in millisecond-level in real time.

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Distributed Motion and I/O Modules

	Distributed Single-axis Motion Control Modules				
Model Name	**MNET-J3**	**MNET-S23**	**MNET-MIA**	**MNET-DA2**	**MNET-SAN**
					
Number of Axes	1	1	1	1	1
Slave ID Consumption	1	1	1	1	1
Transmission Speed	2.5/5/10/20 Mbps	2.5/5/10/20 Mbps	2.5/5/10/20 Mbps	2.5/5/10/20 Mbps	2.5/5/10/20 Mbps
Support Motor Name	Mitsubishi J3A/ J4A series	Yaskawa Sigma V series	Panasonic MINAS A4, A5 series	Delta A2, AB series	SANYO R series
Encoder Input Frequency (Max)	6.55 MHz @ 4xAB	6.55 MHz @ 4xAB	6.55 MHz @ 4xAB	6.55 MHz @ 4xAB	6.55 MHz @ 4xAB
Pulse Output Rate (Max)	6.55 MHz	6.55 MHz	6.55 MHz	6.55 MHz	6.55 MHz
Motion Features — *Linear Interpolation*	–	–	–	–	–
Motion Features — *Circular Interpolation*	–	–	–	–	–
Motion Features — *Home Return Mode*	13	13	13	13	13
Motion Features — *Programmable Acceleration/ Deceleration*	√	√	√	√	√
Motion Profile	T/S curve	T/S curve	T/S curve	T/S curve	T/S curve
Dedicated Moiton I/O	√	√	√	√	√
Hardware Emergency Input	√	√	√	√	√
Position Compare & Trigger	1 KHz	1 KHz	1 KHz	1 KHz	1 KHz
High Speed Trigger	–	–	–	–	–
Path Move	–	–	–	–	–

	Distributed Single-axis Motion Control Modules	Distributed 4-axis Motion Control Modules
Model Name	**MNET-GP**	**MNET-4XMO/MNET-4XMO-C**
		
Number of Axes	1	4
Slave ID Consumption	1	1
Transmission Speed	2.5/5/10/20 Mbps	2.5/5/10/20 Mbps
Support Motor Name	Stepper & General Purposed	General purposed decicated by cables
Encoder Input Frequency (Max)	6.55 MHz @ 4xAB	20 MHz @ 4xAB
Pulse Output Rate (Max)	6.55 MHz	9.9 MHz
Motion Features — *Linear Interpolation*	–	Any 2 of 4 axes
Motion Features — *Circular Interpolation*	–	–
Motion Features — *Home Return Mode*	13	28
Motion Features — *Programmable Acceleration/ Deceleration*	√	√
Motion Profile	T/S curve	T/S curve
Dedicated Moiton I/O	√	√
Hardware Emergency Input	√	√
Position Compare & Trigger	1 KHz	100 KHz (MNET-4XMO-C only)
High Speed Trigger	–	1 MHz (MNET-4XMO-C only)
Path Move	–	2,048 points (total) (MNET-4XMO-C only)

	Extension Modules
Model Name	**DST-HUB (For Motionnet)**
	
Controllable Axes	–
Input Channel	1
Output Channel	3
Transmission Speed	5/10/15/20 Mbps

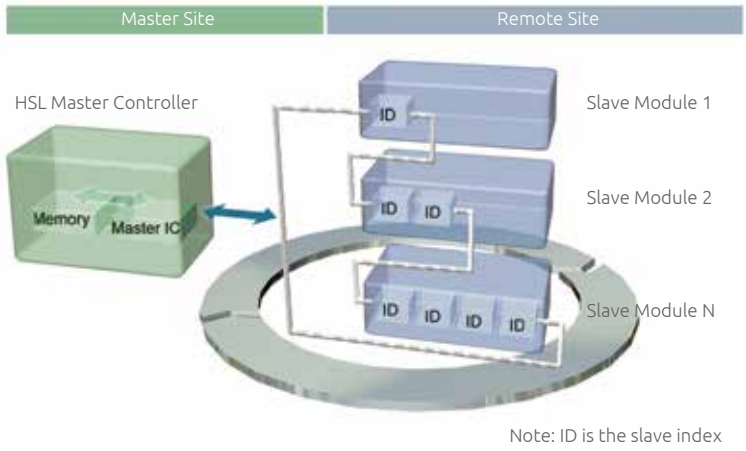
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High Speed Link Bus Selection Guide

High Speed Link (HSL) is an innovative distributed I/O technology based on the RS-485 open standard (supporting full/half-duplex, multi-drop serial transmission and designed for automation applications. **An HSL system is a real-time I/O control system based on master/slave network architecture. Every slave module occupies 1-2 indexes. The HSL master card scans all slave indexes by polling. Scanning every slave index is time deterministic (the fastest response time is 15.1 µs).** The network employs CRC-12 for error correction and standard CAT-5 cables for point-to-point connections between major components.

ADLINK's HSL master board has up to two HSL network ports and can connect up to 126 slave indexes. The slave modules can also be placed near monitored or controlled I/O points, reducing wiring and minimizing potential noise and signal loss.

As a result, HSL systems provide excellent solutions where a single board can control over 2,000 I/O points or over 60 axes for motion control despite IPC resource limitations. Deterministic scanning time also provides an easy and stable way to build up the entire system.



Note: ID is the slave index

An HSL solution is the best choice for optimal high-speed and easily distributed I/O systems, such as precision machine tools, industrial equipment (including instrumentation and control systems), automation equipment, research facilities, building administration systems, and conveyor systems.

Master Controllers	
Model Name	**PCI-7856**
	
Max. Slave Index Support	63 / 126
Transmission Speed	3/6/12 Mbps (software control)
Transmission Mode	Half/duplex mode (software control)
Max. Distance	300 M at 12 Mbps

Digital I/O Modules			
Model Name	**HSL-DI16DO16-UD**	**HSL-DI32-UD**	**HSL-DO32-UD**
			
Input Channel	16 isolated DI	32 isolated DI	-
Output Channel	16 isolated DO	-	32 isolated DO
ID Consumption	1	2	2
Transmission Speed	3/6/12 Mbps	3/6/12 Mbps	3/6/12 Mbps

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Extension Modules			
Model Name	**DST-HUB (For HSL)**	**HSL-Repeater**	**HSL-Terminator**
			
Controllable Axes	-	-	-
Input Channel	1	1 isolated DO	1
Output Channel	2	1	-
ID Consumption	-	-	-
Transmission Speed	3/6/12 Mbps	3/6/12 Mbps	3/6/12 Mbps

HSL M (Metal Cover) Series / HSL DB (Daughter Board) Series			
Model Name	**HSL-DI16DO16-M-NN / HSL-DI16DO16-DB-NN**	**HSL-DI32-M-N / HSL-DI32-DB-N**	**HSL-DO32-M-N / HSL-DO32-DB-N**
			
Input Channel	16 isolated DI	32 isolated DI	-
Output Channel	16 isolated DO	-	32 isolated DO
ID Consumption	1	2	2
Transmission Speed	3/6/12 Mbps	3/6/12 Mbps	3/6/12 Mbps
Mating Terminal Boards	M Series: HSL-TB-32-MD, HSL-TB-32-M-DIN DB Series: HSL-TB-32-U-DIN, HSL-TB64	M Series: HSL-TB-32-MD, HSL-TB-32-M-DIN DB Series: HSL-TB-32-U-DIN, HSL-TB64	M Series: HSL-TB-32-MD, HSL-TB-32-M-DIN DB Series: HSL-TB-32-U-DIN, HSL-TB64

HSL M (Metal Cover) Series / HSL DB (Daughter Board) Series		
Model Name	**HSL-R8DI16-M-N**	**HSL-AI16AO2-M-M-VV**
		
Input Channel	16 isolated DI	16 analog input
Output Channel	8 relay output	2 analog output
ID Consumption	1	2
Transmission Speed	3/6/12 Mbps	3/6/12 Mbps
Mating Terminal Boards	HSL-TB32-M-DIN	HSL-TB32-M-DIN

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Discover the Power of ADLINK PXI/PXIe Testing



Why ADLINK

As a leading provider of PXI products in Asia's test & measurement market, ADLINK has devoted its extensive field experience to the PXI platform. After more than ten years and developing more than 100 PXI products for automation and testing, and as a sponsor member of the PXI System Alliance, ADLINK continues to expand PXI and PXI Express offerings with innovative products, meeting the unique needs of high-speed and high-bandwidth applications, such as spectral monitoring and signal intelligence.

PXI™ Systems Alliance

ADLINK PXI/CompactPCI Product Offerings

- *3U/6U Chassis*
- *PCI/PCIe-to-PXI Expansion Kit*
- *High-Speed Digitizer*
- *Sound & Vibration Module*
- *Serial Communication Module*
- *Video Capture Module*
- *3U/6U Controller*
- *Ethernet/SCSI/VGA/LCD/ATA-100/IEEE-1394 Interface Module*
- *Multi-Function DAQ Module*
- *Digital I/O Module*
- *Motion Control Module*
- *Switch Module*

ADLINK PXI Product Benefits

Reliability and Compatibility

PXI is an ideal deployment platform for measurement and automated test systems. ADLINK sets compatibility tests as critical for verifying our products, and ensure complete compatibility. ADLINK guarantees rugged, highly reliable, solidly developed PXI products.

Large Selection of PXI Instruments and Modules

ADLINK provides instrumentation modules for data acquisition and digital I/O with PCI, PCI Express, PXI, and USB buses; digitizers with high-dynamic-range, low-distortion measurements using high-resolution digitizers ranging from 14 to 24 bits of resolution, application-driven modules, like the high-resolution modules for sound & vibration modules, and switch multiplexers. In addition to these measurement modules, motion control and vision modules are also available from ADLINK for tight integration of machine automation into PXI chassis.

Competitive Price/Performance Ratio Solutions

With the advantages of PC industry innovation and manufacturing, and by natively leveraging PC technologies of PXI, ADLINK adopts the latest technology and improves cost reduction. With a rich history in measurement and automation, as well as in hardware design and software integration, ADLINK provides a broad portfolio of high performance products with higher speed/bandwidth bus interfaces.

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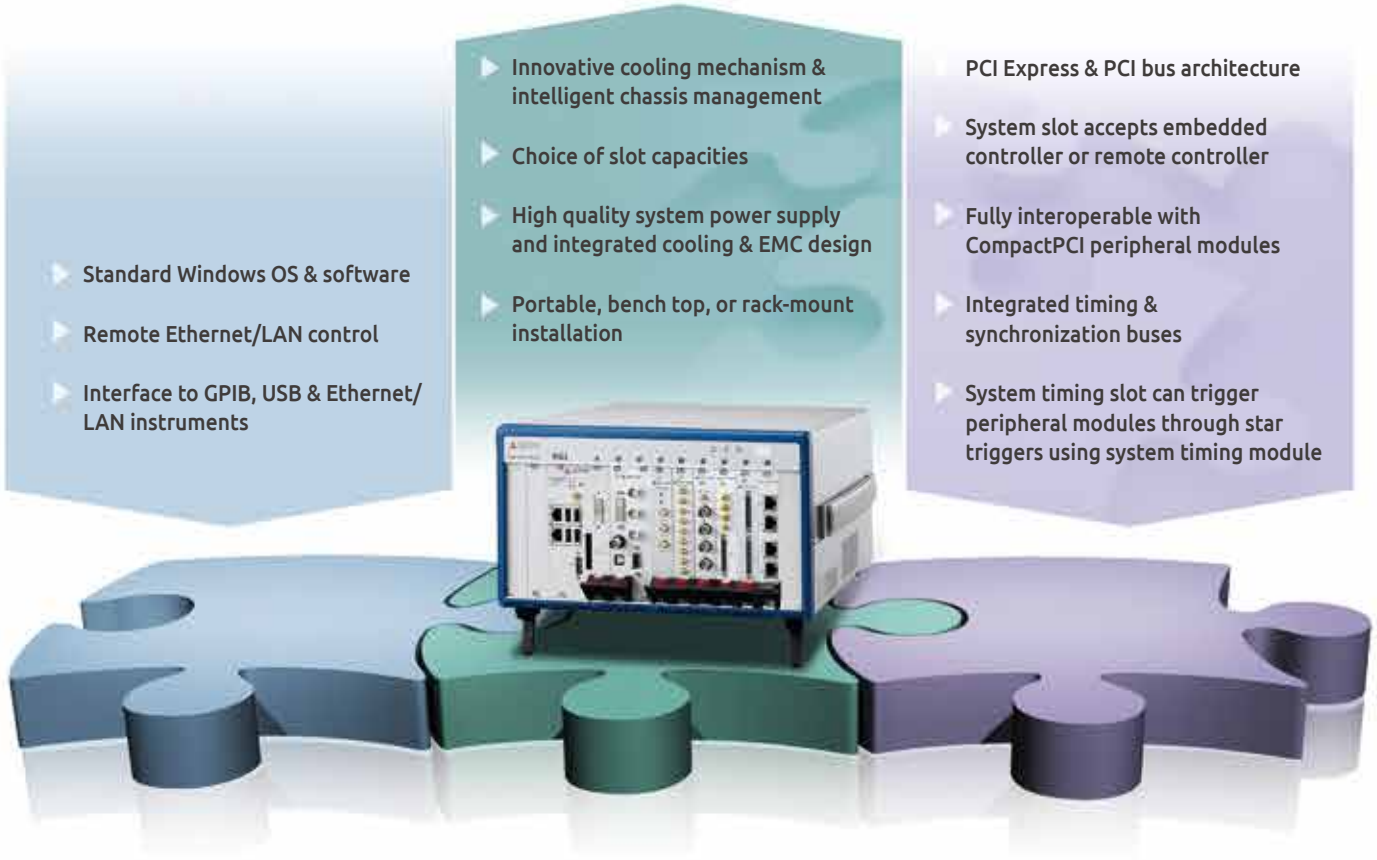
ADLINK PXI Platforms

Innovative Cooling Mechanism

ADLINK positions cooling fans in the rear section of the chassis, drawing cool air through lower apertures and exhausting through the back. Uniform airflow for each PXI slot results, for exceptional cooling. When installed in a rack, the cooling design minimizes hot air intake from the rear, separating airflow for modules and power supplies, while isolating noise source (fan) from modules and maintaining a steady internal temperature.

Intelligent Chassis Management

Intelligent monitoring provides protection, adjustment, and moderation of the system for operational stability. Five sets of sensors on the upper portion of the backplane monitor and control internal temperature, fan speed, and DC voltages. Programmable settings allow the system to be configured to increase fan speed when temperature rises, maintaining temperature control and conserving energy.



Powerful Embedded Controller

The ADLINK PXI embedded controller, based on the Intel® processor family, is specifically suited for hybrid PXI-based testing systems, delivering a rugged yet stable platform for a wide variety of testing and measurement applications. The PXI embedded controllers sport integrated CPU, HDD or SSD, and RAM, and provide ample interface flexibility, including one Gigabit Ethernet port for LAN connection and one for controlling LXI instruments, USB ports for peripheral devices and USB instrument control, and a Micro-D GPIB connector for GPIB instrument connection.

High Performance Backplane

ADLINK chassis use high-speed PCI Express and/or PCI bus, as well as advanced timing and triggering for demanding measurement and automation applications, such as:

- 10 MHz clock signal available to all modules
- PXI trigger bus –timing and triggering bus passing and receiving high-speed timing and triggering signals.

PXI Express and extension to PXI provide:

- 100 MHz differential clock
- Differential star triggers
- Up to 4 GB/s per slot dedicated bandwidth

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PXI/PXIe Controller

Embedded Controller

With no need for an external PC, a complete system is housed in the PXI chassis. Embedded controllers include standard features such as integrated CPU, hard drive, memory, Ethernet, video, serial, USB, and other peripherals. Both PXI and PXI Express are available, for OS including Windows and LabVIEW Real-Time.



Remote Controller

PXI remote control kits control PXI systems directly from desktops, or server computers. PC control of PXI consists of a PCI/PCI Express board in the computer and a PXI/PXI Express module in slot 1 of the PXI system, connected by a copper cable.



Embedded Controller

	PXIe		PXI
	PXIe-3985	PXIe-3975	PXI-3980
			
Type	High Performance	Main Stream	High Performance
Module Height	3U	3U	3U
Processor	Intel® Core™ i7-4700EQ 2.4 GHz Quad-Core	Intel® Core™ i5-520E 2.4 GHz Dual-Core	Intel® Core™ i7-2715QE 2.1 GHz Quad-Core
Memory	DDR3L 4 GB/8 GB up to 16 GB	DDR3 4 GB/8 GB	DDR3 4 GB/8 GB up to 16 GB
HDD	SATA 500 GB	SATA 320 GB	SATA 500 GB
Slot Occupied	4	3	3
Supported Operating System	Windows 7 x32/x64	Windows 7 x32/x64	Windows 7 x32/x64

Remote Controller

	PCIe-PXIe-8638	PCI-8570/PXI-8570	PCIe-8560/PXI-8565
			
Communication Technology	PCIe gen2 x8	StarFabric	PCIe gen1 x1
Links per PCI Express or PCI Board,Maximum	1	2	1
Sustained Throughput	4 GB/s	132 MB/s	132 MB/s
Cable Material	Copper	Copper	Copper
Maximum Cable Length (m)	5	10	7

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PXI vs. PXI Express

PXI Express features the same enhanced mechanical integrity as the PXI system, with the added advantage of a PCIe bus delivering up to 12 GB/s bandwidth. The increased bandwidth recommends the PXIe system as an excellent platform for high bandwidth applications such as high frequency and resolution IF/RF systems, high speed digital interfaces, and high channel count data and high speed image acquisition environments.

	PXI	PXI Express
Bus	PCI 32-bit	PCIe + PCI 32-bit
System bandwidth	132 MB/s for all controllers and chassis	Up to 12 GB/s, based on controller and chassis combination
Peripheral slot bandwidth	132 MB/s shared bus	Up to 4 GB/s peer-to-peer bus
PXI instrument signal	8 line trigger bus 1 single ended star trigger 10 MHz clock	All PXI instrument signals PLUS 3 differential star triggers 100 MHz clock
Accepted controller	PXI controller	PXIe controller
Accepted modules	PXI, cPCI	PXI, cPCI, PXIe, cPCIe

PXI Express Chassis

		PXES-2780	PXES-2590
			
Module Height		3U	3U
Overall Size		4U	4U
Slot	*Total Slots*	18	9
	PXI Express System Slot	1	1
	PXI Express System Timing Slot	1	1
	PXI Express Hybrid Slot	10	7
	PXI Express Peripheral Slot	6	0
	PXI-1 Peripheral Slot	0	0
Maximum Bandwidth per Slot		4 GB/s	2 GB/s
Maximum System Bandwidth		8 GB/s	7 GB/s
Extended Operating Temperature Range		0°C to 55°C (32°F to 131°F)	0°C to 55°C (32°F to 131°F)
Note		Smart PXIe link routing change	Compatible with PMK-1524 Portable accessory kit

*All ADLINK PXIe chassis support industrial low ripple/noise power supply, enhanced cooling design, and smart system monitoring.

PXI Chassis

	PXIS-2719A	PXIS-2508	PXIS-2700/2670/2630	PXIS-3320
				
Module Height	3U	3U	3U	6U
Overall Size	4U	4U	4U	9U
Total Slots	19	8	18/14/8	15
Compatible Controller Size	3	3	4	2*
Maximum System Bandwidth	132 MB/s	132 MB/s	132 MB/s	132 MB/s
Industrial, Low Ripple/Noise Power Supply	V			
Extended Operating Temperature Range	0°C to 55°C (32°F to 131°F)	0°C to 55°C (32°F to 131°F)		
Enhanced Cooling Design	V	V		
Smart System Monitoring	V			
Note			Redundant Power Supply (PXIS-2700)	System slot can accept two slot-width 6U cPCI controller

*Enhanced Cooling Design: Adapts rear fan placement for uniform airflow for each PXI slot, delivering exceptional cooling.

*Smart System Monitoring: Built-in system monitoring controller monitors and manages full chassis status, including internal temperature and fan speed.

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Wide Selection of Modular Instruments



Overview

From entry-level to high-end, data acquisition to digital input/output, ADLINK provides a diversity of modular instruments with market-leading price/performance ratio, for bigger and better measurement and automation systems. Now high-speed digitizer, switching, simultaneous data acquisition, high-density multi-function data acquisition, analog output, digital multimeter, and arbitrary waveform generator categories are all available.

High-Speed Digitizers

Digitizers offer quick and precise input signal acquisition and are widely used in IC testing, video testing, automatic test equipment, radar and sonar testing, among others. Digitizers optimized for automated test take advantage of the high-throughput PXI and PXI Express buses to lower test times, and offer picosecond-level synchronization between modules. ADLINK provides full spectrum modules including the PXIe-9848 8-CH 14-bit 100 MS/s digitizer, the PCI/PXI-98X6 Series with 4-CH 16-bit and 10/20/40 MS/s, the PXIe-9852 with 2-CH 14-bit 200MS/s performance, and many other choices.

Dynamic Signal Analyzer

A dynamic signal analyzer provides highly accurate measurements and analysis widely used in audio testing, acoustic measurements, environmental noise testing, vibration analysis, NVH measurement, machine condition monitoring, and rotating machinery evaluation. ADLINK's PCI/PXI-9527 features a high resolution of 24 bits, two analog inputs with sampling rates up to 432 kS/s and two analog outputs with update rates up to 216 kS/s. The PCI/PXI-9527 offers the flexibility needed to create a wide variety of automatic test systems with optimal cost-performance.

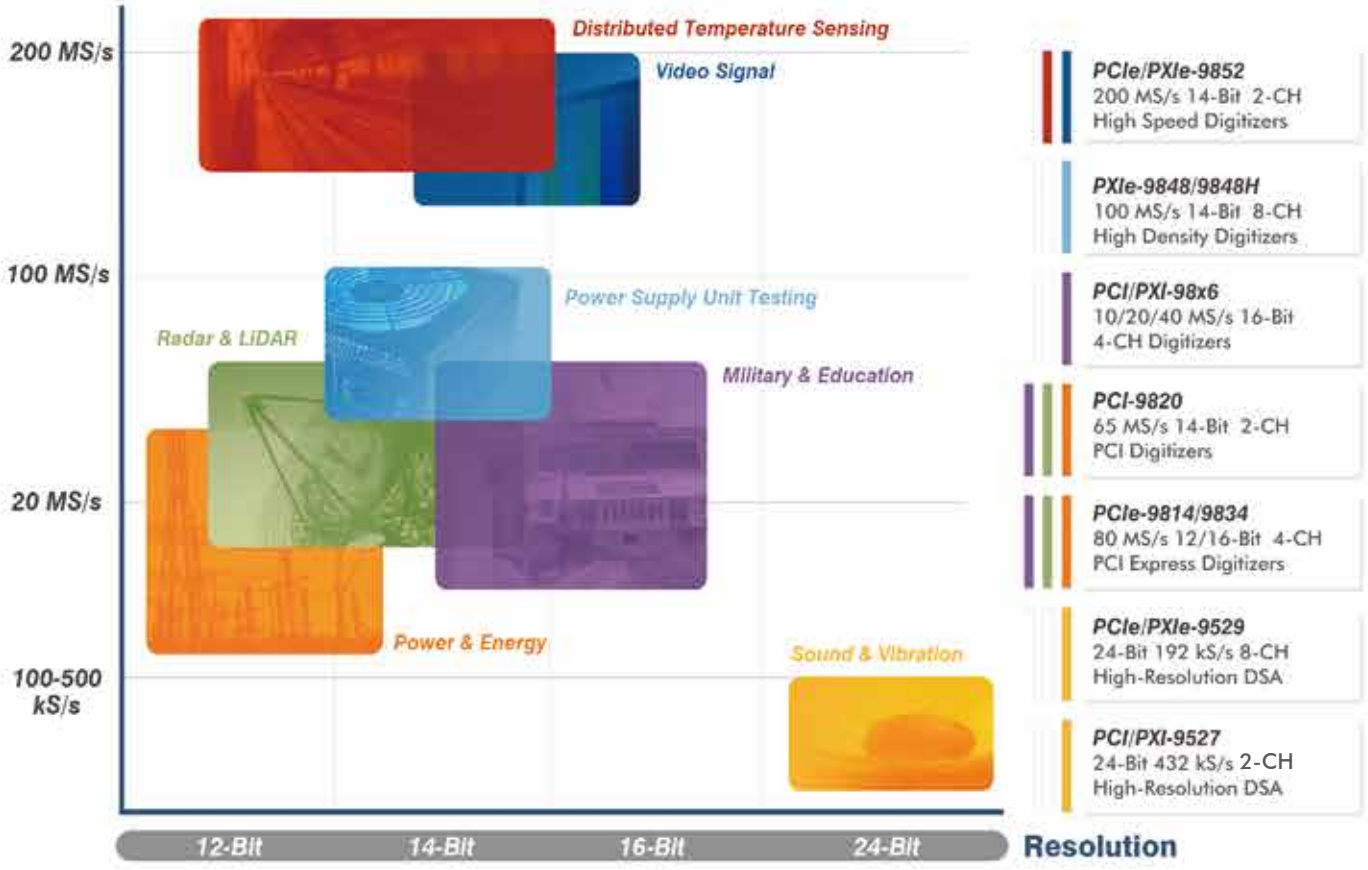
Switches

Switches are widely used in automatic test equipment (ATE), process control systems, data acquisition systems, etc. ADLINK offers several types of switches to meet your application requirements. ADLINK switches include 16-CH general-purpose relays, 24-CH scanners or multiplexers, and a 32 cross-point two-wire matrix.

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Digitizer Applications

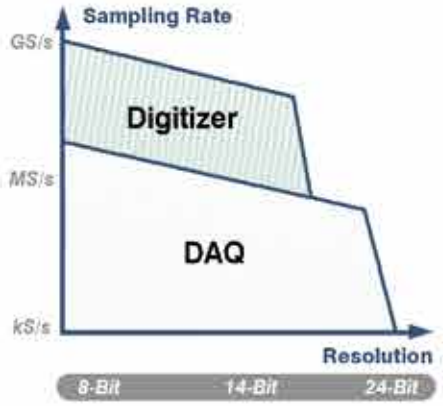
- *For quantifying and analyzing physical energy*
- *Leveraging processing power and high-resolution display of PC – PC-based oscilloscope*
- *Defining custom measurement functions by software, such as spectrum analysis, frequency domain analysis, rise/fall time of signals, and more*



Digitizers v.s. DAQs

How to make the choice between a Data Acquisition (DAQ) board and a High-Speed Digitizer?

The difference between a digitizer and standard DAQ is the sampling rate and the bandwidth. A digitizer can extend its sampling rate from MS/s to GS/s grade, and the bandwidth can also extend from 10 MHz to GHz. Additionally, the input impedance or the module's memory capacity can provide more options for use in different application environments. Given the features of what are referred to as high-h signals, only a digitizer with high sampling rate and high bandwidth can successfully accomplish the task.



- *Sampling rate from MS/s to GS/s*
- *Bandwidth ranges from 10 MHz to GHz*
- *Input impedance : 50 Ω, 75 Ω,…high impedance*
- *Onboard memory support (512 MB, 1 GB, …)*

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Selection Guide

Digitizer



Form Factor	Channels	Sampling Rate	Input Resolution	Onboard Memory	Digital Input	Module Name
PCI	4-CH	40 MS/s	16-Bit	512 MB	-	PCI-9846
		20 MS/s			-	PCI-9826
			12-Bit	128 k samples	3-CH	PCI-9812A
				32 k samples		PCI-9812
			10-Bit	32 k samples		PCI-9810
		10 MS/s	16-Bit	512 MB	-	PCI-9816
	2-CH	65 MS/s (External) 60 MS/s (Internal)	14-Bit	512 MB	-	PCI-9820
PCIe	4-CH	80 MS/s	16-Bit	1 GB	3-CH	PCIe-9834
			12-Bit			PCIe-9814
	2-CH	200 MS/s	14-Bit	1 GB	2-CH	PCIe-9852
PXI	4-CH	40 MS/s	16-Bit	512 MB	-	PXI-9846
		10 MS/s			-	PXI-9816
PXIe	8-CH	100 MS/s	14-Bit	512 MB	-	PXIe-9848/9848H
	2-CH	200 MS/s		1 GB	-	PXIe-9852

Dynamic Signal Analyzer



	Analog Input				Analog Output			Digital IO	
	Analog Input Channels	Max. Sampling Rates (S/s)	AD Resolution (bits)	FIFO Size (sample)	Voltage Output Channels	Update Rate (S/s)	DA Resolution (bits)	Digital IO	
PCI	4+4 (4-ch load cell inputs & 4-ch general purpose AD)	Up to 30 kS/s	24	256 K	2	5K	16	8 DI, 8 DO (Isolated)	PCI-9524
PCIe	2	432 kS/s		2048		216 kS/s	24	-	PCI-9527
	8	192 kS/s			-	-	-	-	PCIe-9529
PXI	2	432 kS/s			2	216 kS/s	24	-	PXI-9527
PXIe	8	192 kS/s			-	-	-	-	PXIe-9529

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Software Selection Guide



Products		Supported Operating System		Driver and SDK			Software Utility
		Windows® (Note1)	Linux® (Note2)	LabVIEW™ (Note3)	Visual Studio.NET (Note4)	MATLAB® (Note5)	AD Logger
Digitizers	PCI-9810	PCIS-DASK	PCIS-DASK/X	DAQPilot	PCIS-DASK	DAQ-MTLB	v
	PCI-9812						v
	PCI-9820	WD-DASK	WD-DASK/X		WD-DASK		v
	PCI/PXI-9816						-
	PCI-9826						-
	PCI/PXI-9846						-
	PXIe-9848/9848H						-
	PCIe-9814/9834						-
	PCIe/PXIe-9852						-
High Resolution	PCI-9524	PCIS-DASK	PCIS-DASK/X	DAQPilot	PCIS-DASK	DAQ-MTLB	-
	PCI/PXI-9527	DSA-DASK	-		DSA-DASK	-	-
	PCIe/PXIe-9529						-

Note.
(1) Windows Support for Windows 2000/XP, and Windows 7/8 x64/x86
(2) Linux Support for Ubuntu 12.04.1 LTS, Fedora Core 17, and OpenSuSe 12.1
(3) Compatible with LabVIEW™ 8.0 and above
(4) Compatible with Visual Studio .NET 2005/2008, DASK for API
(5) MATLAB® Data Acquisition Toolbox 2.2 (and above) compliant

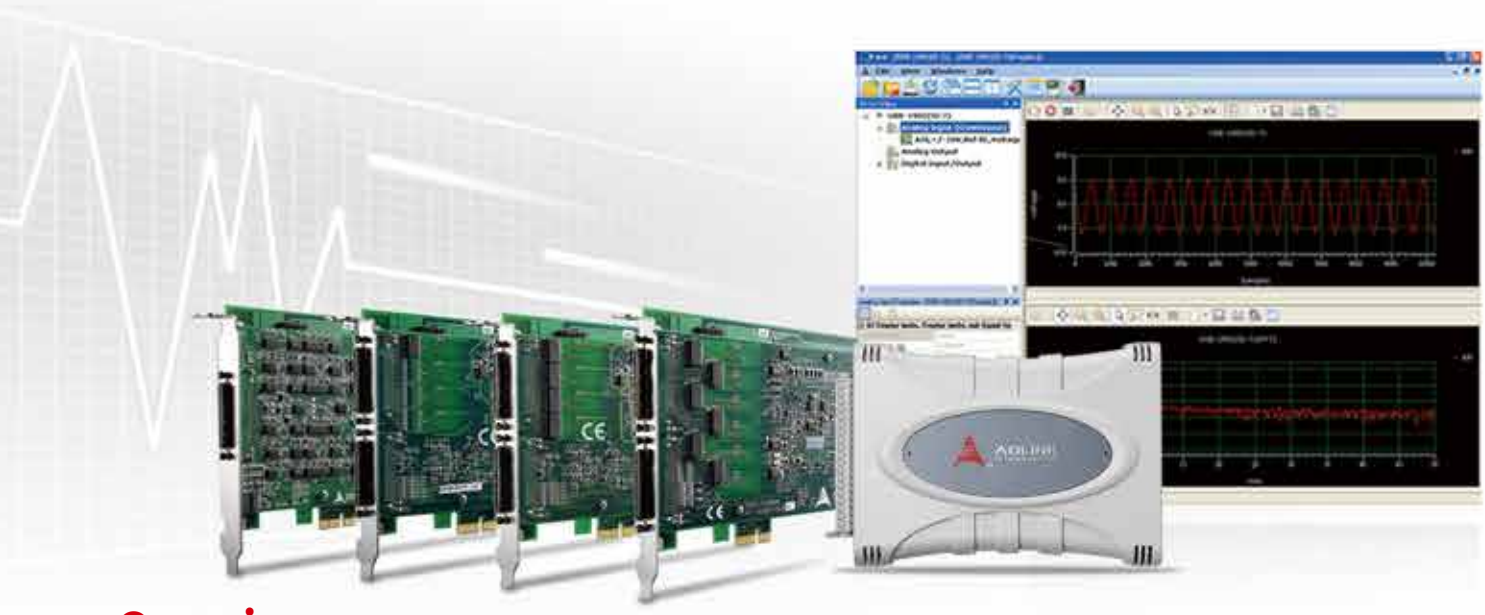
PXI Switch Modules



Model Name	PXI-7901	PXI-7921	PXI-7931
Description	General-purpose	Two-wire Multiplexer	4-groups 2x4 Two-wire Matrix
No. of Channel	16	24 (two-wire) 48 (one-wire)	32 (two-wire)
Relay Type	SPDT (1 Form C)	DPDT (2 Form C)	DPDT (2 Form C)
Max. Switching Current	3 A @ 20 V_{DC}	2 A @ 30 V_{DC}	2 A @ 30 V_{DC}
Max. Switching Voltage	220 V_{DC}, 250 V_{AC}	220 V_{DC}, 125 V_{AC}	220 V_{DC}, 125 V_{AC}
Max. Switching Power	50 VA, 60 W	50 VA, 60 W	50 VA, 60 W
Max. Carrying Current	3 A	2 A	3 A
Failure Rate	10 µA @ 10 mVDC	10 µA @ 10 mVDC	10 µA @ 10 mVDC
Contact Resistance	150 mΩ max.	100 mΩ max.	150 mΩ max.

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ADLINK Data Acquisition



Overview

ADLINK's wide range of PC-based data acquisition modules support analog input, load cell sensor measurement, analog output, digital I/O, relay outputs, and timer/counter boards. Tailored to a wide range of applications and available in a variety of form factors including USB, PCI, PCI Express, PXI, CompactPCI, PC/104+, and ISA, ADLINK's data acquisition modules embrace more than one hundred DAQ and DIO modules. All ADLINK boards support NI® LabVIEW™, MATLAB® Data Acquisition Toolbox™, Microsoft® Visual Studio .NET, and Provide Ready to Run Applications providing fast startup of ADLINK data acquisition modules without any programming requirement.



ADLINK Comprehensive Product Offerings

USB DAQ	PCI Express DAQ	General-Purpose DAQ	High-Performance DAQ
			
Analog Output	**Digital I/O High-Speed DIO**	**Load Cell Measurement**	**Timer/Counter**
			

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Selecting the right hardware, software, and accessories

PC-based data acquisition systems primarily utilize a combination of measurement hardware, accessories, and software to provide a flexible system for automating measurement, acquiring important data for analysis, and presenting the result. Even so, such systems can constitute a wide variety of different configurations and address multitudes of diverse applications. It is necessary, accordingly, to determine the various parameters of use for the DAQ system, such as type of measurement, optimum interface, accuracy levels and output resolution at each data collection point, the required number of channels, data collection speeds, and sampling rate. This selection guide provides basic overviews and specifications for ADLINK data acquisition hardware, related accessories, and supporting software. We've provided these simple steps to guide you through the process of selecting the very best ensemble of components for your data acquisition system:

Step 1: Hardware Selection

Select the hardware required to best suit your measurement applications. ADLINK provides a variety of boards for analog and digital I/O needs, with PCI, PCI Express, PXI, CompactPCI and USB products available.

1 Interface | 2 Channel Count | 3 Signal Type | 4 Resolution | 5 Sampling Rate & Speed

Step 2: Accessory Selection

Most applications require additional accessories, normally acquired as separate items.



Terminal boards



Cables

Step 3: Software Selection

More than any other single factor, software can influence system startup time, overall effectiveness, suitability for your application, and ease of modification.

Operating System | Software Compatibility | Software Recommendations

Hardware

Category	Page
PCI/PCIe/PXI/cPCI/USB Module: Analog Input/Output	105
Digital Input/Output	106

Accessory

Category	Page
Comparison table of terminal boards and cables	109
Terminal boards and cables selection table	110

Software

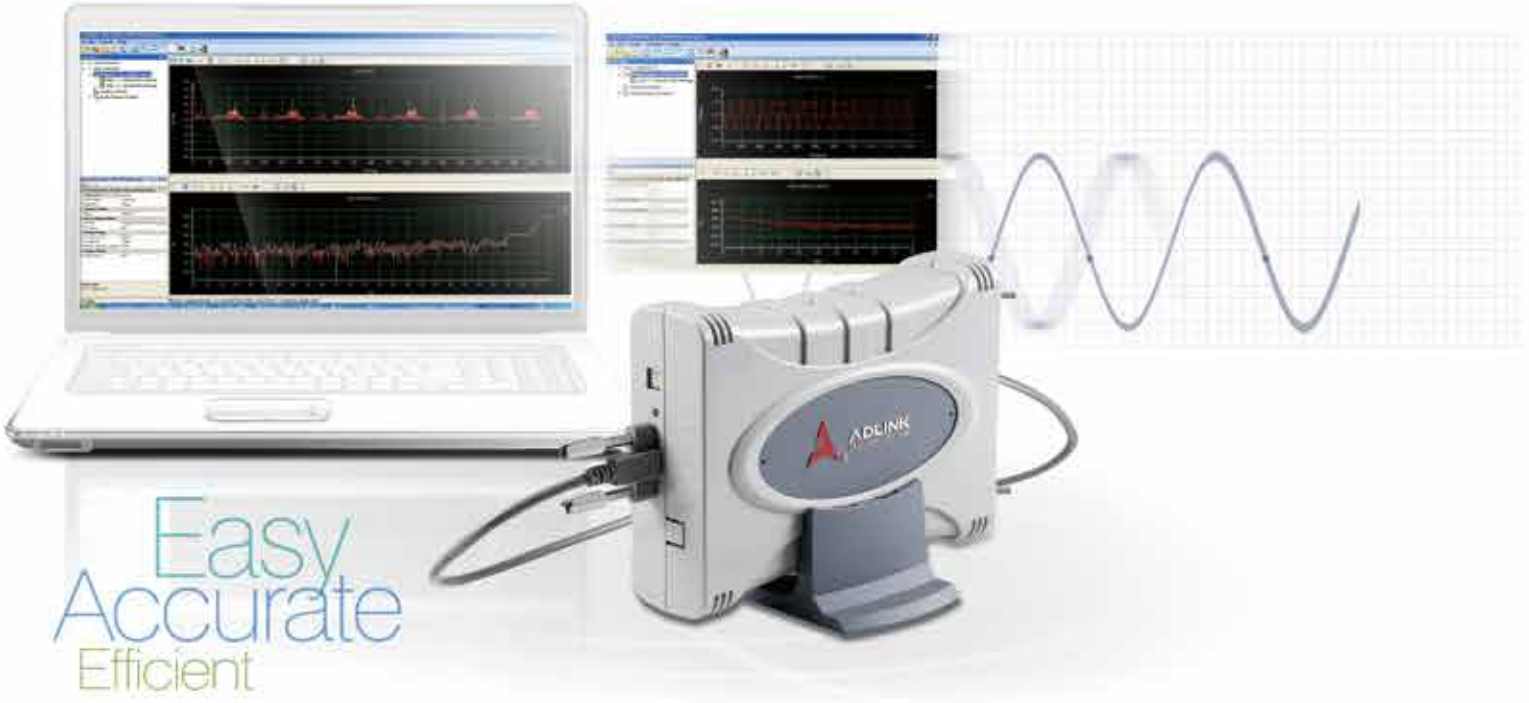
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Primary modules and software selection tables	107
8 steps to get ADLINK products ready	



http://www.adlinktech.com/DAQ/Software/

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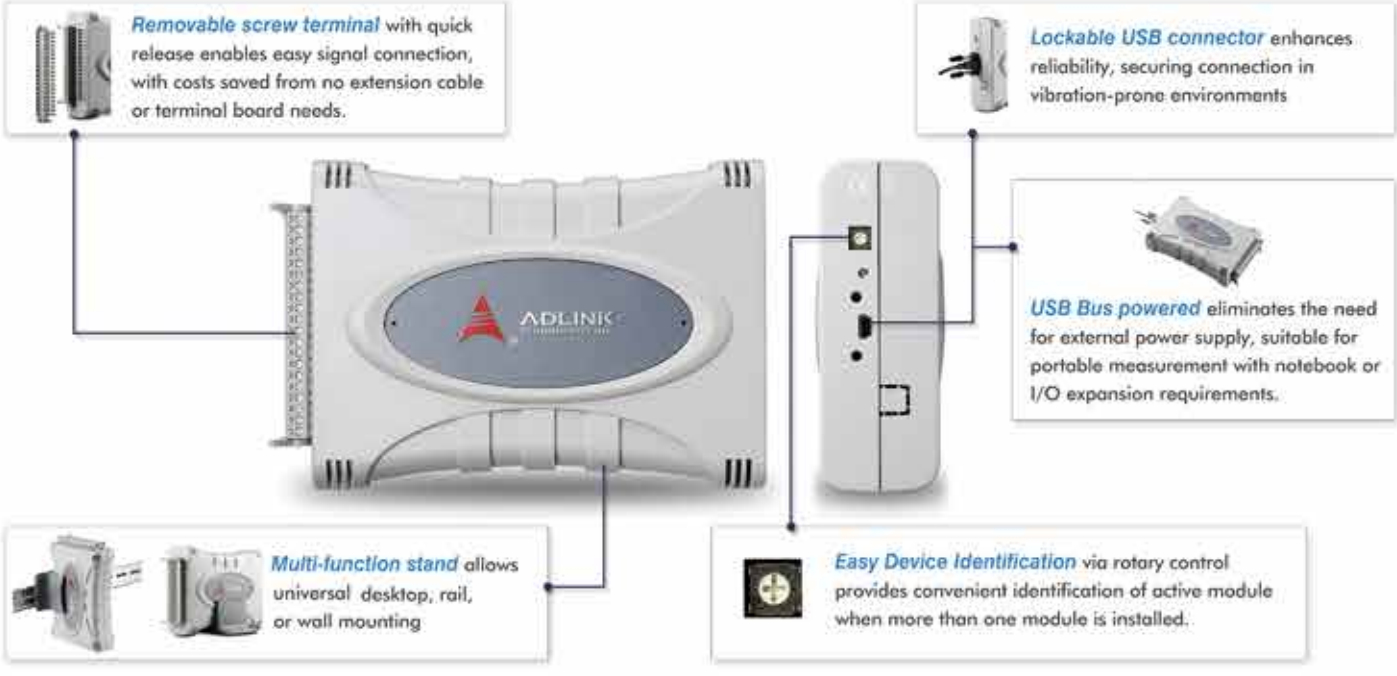
Get Connected with ADLINK USB DAQ/DIO Modules



Portable, Reliable and Flexible USB DAQ/DIO Modules

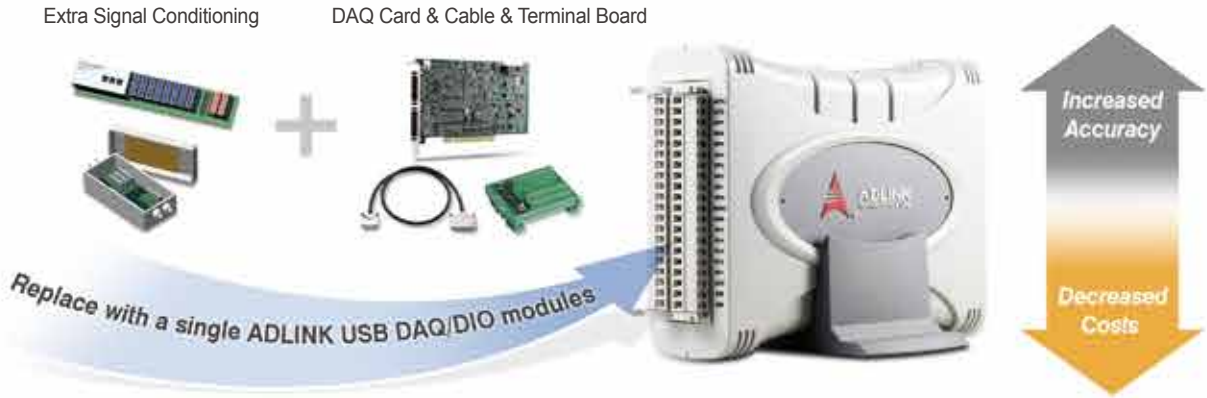
ADLINK's USB DAQ/DIO modules leverage the expertise of ADLINK's analog and digital design capability deliver high-performance measurement while benefiting from the simplicity and portability of USB interfaces. Enable accurate, fast, simple setup by providing built in signal conditioning, USB-powered, and plug-and-play USB connectivity. Reducing manpower requirements and associated development costs while increasing overall accuracy, ADLINK's USB DAQ/DIO modules are the optimum solution for most measurement and industrial control applications.

Features Highlights



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Built-in Signal Conditioning



Ready-to-Use ADLINK U-Test Utility

U-Test is a free ready-to-use testing program allowing configuration and test data acquisition with no programming required. Easy out-of-the-box configuration and generation of simple functions , including full data monitoring, logging and FFT analysis is easy and fast, with no programming requirment.

- *No programming necessary for operating and full function testing of ADLINK USB DAQ/DIO*
- *Intuitive interface for data monitoring and logging, waveform generation, and digital I/O control panel use as virtual instrument*
- *Useful analysis functions, such as direct cursor measurement of traces and real-time FFT analysis*
- *Data exportable to Microsoft Excel for offline analysis*
- *Supports auto-recollection of configuration settings for future use*



ADLINK USB DAQ/DIO Modules Offering

	Analog Input	Analog Output	Digital I/O
USB-1901	16 SE/8 P-DI 250 kS/s 16-Bit	- - -	8 DI/4 DO TTL -
USB-1902	16 SE/8 P-DI 250 kS/s 16-Bit	2 1 MS/s 16-Bit	8 DI/4 DO TTL -
USB-1903	8 Current-IN 250 kS/s 16-Bit	2 1 MS/s 16-Bit	8 DI/4 DO TTL -
USB-1210	4 DI 2 MS/s 16-Bit	-	8 DI/4 DO, TTL
USB-2401	4 DI (Universal for voltage/current/full-bridge/half-bridge/TC/RTD/resistor) 2 kS/s 24-Bit	- - -	4 DI/2 DO TTL -
USB-7230	-	-	16-CH Isolated DI 16-CH Isolated DO 2-CH Counters
USB-7250	-	-	8-CH Relay 8-CH Isolated DI 2-CH Counters
USB-2405	4 DI, 128kS/s, 24-Bit (AC/DC coupled)	-	2 GPIO

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Analog Input/Output Cards

Interface	Analog Input			Analog Output				Digital I/O	Model Number
	No. of Channels	Sampling Rate(Max.)	Resolution	No. of Channels	Update Rate(Max.)	Resolution	Waveform Generator	No. of Channels	
USB	16-CH	250 kS/s	16-Bit	2-CH	1MS/s	16-Bit	YES	8 DI/4 DO	USB-1901
									USB-1902
									USB-1903[4]
	4-CH	2MS/s	16-Bit						USB-1210
		2kS/s	24-Bit					4 DI/2 DO	USB-2401[5]
		128kS/s						2 GPIO	USB-2405
PCI/PCI Express®		2MS/s	14-Bit	2-CH	1MS/s	12-Bit	YES	24 DI/24 DO	DAQ/DAQe-2010
		500kS/s	16-Bit						DAQ/DAQe-2005
		250kS/s							DAQ/DAQe-2006
	96-CH	3MS/s	12-Bit						DAQ/DAQe-2208
	64-CH								DAQ/DAQe-2204
		500kS/s	16-Bit		1MS/s	12-Bit	YES		DAQ/DAQe-2205
		250kS/s		2-CH					DAQ/DAQe-2206
	16-CH	250kS/s	16-Bit		Static	16-Bit	YES	8 DI/4 DO	PCI-9221
					1MS/s			16 DI/16 DO	PCI-9222
	32-CH	500kS/s							PCI-9223
		250kS/s							PCI-9114 Series
	16-CH	100kS/s	12-Bit					16 DI/ 16 DO	PCI-9113[3]
		250kS/s	16-Bit	2-CH	1MS/s	12-Bit	YES	24 DI/24 DO	DAQ/DAQe-2213
									DAQ/DAQe-2214
		100kS/s		1-CH	Static	12-Bit		16 DI/16 DO	PCI-9111HR[1]
			12-Bit	2-CH					PCI-9112
	8-CH	400kS/s	14-Bit	4-CH	1MS/s		YES	24 DI/24 DO	DAQ/DAQe-2501
	4-CH			8-CH					DAQ/DAQe-2502
				8-CH	Static	12-Bit		4 DI/4 DO Isolated	PCI-6308V
									PCI-6308A[2]
						16-Bit		4 DI/4 DO	PCI/PCIe-6208V
									PCI-6208A[2]
				16-CH					PCI/PCIe-6216V
PXI	4-CH	2MS/s	14-Bit	2-CH	1MS/s	12-Bit	YES	24 DI/24 DO	PXI-2010
		500kS/s	16-Bit						PXI-2005
		250kS/s							PXI-2006
	8-CH	250kS/s	16-Bit					4 DI/4 DO	PXI-2020
	16-CH	250kS/s	16-Bit						PXI-2022
	96-CH	3MS/s	12-Bit					24 DI/24 DO	PXI-2208
	64-CH								PXI-2204
		500kS/s	16-Bit	2-CH	1MS/s	12-Bit	YES		PXI-2205
		250kS/s							PXI-2206
	8-CH	400kS/s	14-Bit	4-CH					PXI-2501
	4-CH			8-CH					PXI-2502
CompactPCI®	64-CH	250kS/s	16-Bit					8 DI/8 DO	cPCI-9116
				16-CH	Static	16-Bit		4 DI/4 DO	cPCI-6216V
				8-CH					cPCI-6208V

Note: (1) HR: High gain
(2) PCI-6x08A: Current Output available
(3) Isolated analog input card
(4) Current input: 0~20 mA
(5) Universal input: Support voltage/current input, full/half bridge, TC, RTD, resistance measurement.

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Digital Input/Output Cards

Interface	Type	Digital Input		Digital Output			DIO Update	Tiemr/ Counter	Model Number
		Range	No. of Channels	No. of Channels	Range	Driver Type	Update Rate(Max.)		
USB	Isolated DIO	0-24 V Isolated	16-CH	16-CH	5-35 V	Power MOSFET		2-CH/32-Bit	USB-7230
	Relay DO		8-CH	8-CH	30 VDC, 2A 125VAC, 0.5A	Relay			USB-7250
PCI/PCI Express®	High-Density Isolated DIO	0-28 V Isolated	128-CH						PCI-7443
			64-CH	64-CH	5-40V	Power MOSFET			PCI-7442
				128-CH					PCI-7444
	Isolated DIO	0-24 V Isolated	64-CH						PCI-7433
			32-CH						PCI-7233
				32-CH	5-35V	Darlington			PCI-7432, PCIe-7432
			16-CH	16-CH					PCI/LPCI/LPCIe-7230
		0-50 V Isolated	64-CH						PCI-7433HIR(3)
			32-CH	32-CH	5-35V	Darlington			PCI-7432HIR, PCIe-7432HIR(3)
				64-CH					PCI-7434
				32-CH					PCI-7234
	Relay DO	0-24 V Isolated	2-CH	32-CH	350 V, 0.12 A	PhotoMos Relay			PCI-7258
			16-CH	16-CH	125 VAC, 0.5 A 30 VDC, 1 A	Latching Relay			PCI-7256, PCIe-7256
			8-CH	8-CH	250 VAC, 5 A 30 VDC, 5 A	High-Power Relay			PCI-7260
					120 VAC, 0.5 A 24 VDC, 1 A	Relay			PCI/LPCI/LPCIe-7250
	High-Speed DIO	1.8V/2.5V/3.3V SW Selectable	32-CH S/W Programmable		1.8V/2.5V/3.3V SW Selectable		200 MB/s		PCIe-7350
							400 MB/s		PCIe-7360
	TTL DIO	5 V TTL			5 V TTL		80 MB/s		PCIe-7300A
			32-CH	32-CH			12 MB/s		PCI/PCIe-7200
			96-CH S/W Programmable						PCI-7396
									PCI/PCIe-7296(1)
			48-CH S/W Programmable						PCI/PCIe-7248(1)
			24-CH S/W Programmable						PCI-7224(1)
	Timer/ Counter		8-CH	8-CH				10-CH/16-Bit	PCI-8554
CompactPCI®	Isolated DIO	0-24 V Isolated	64-CH						cPCI-7433
			32-CH	32-CH	5-35 V	Darlington			cPCI-7432
				64-CH					cPCI-7434
	Relay DO	0-24 V Isolated	16-CH	8-CH	120 VAC, 0.5 A 24 VDC, 1 A	Relay			cPCI-7252
	High-Speed DIO	0-24 V	32-CH S/W Programmable		5 V TTL		80 MB/s		cPCI-7300
	TTL DIO		48-CH S/W Programmable					1-CH/32-Bit Timer & 64-Bit Counter	cPCI-7248
	Timer/Counter		8-CH	8-CH				10-CH/16-Bit	cPCI-8554

Note: (1) Opto-22 compatible (2) with 6U Eurocard form factor (3) HIR: High input range

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Software Selection Guide

Products		Supported Operating System			Driver and SDK			Software Utility		
		Windows® (Note1)	Linux® (Note2)	Mac® (Note3)	LabVIEW™ (Note4)	Visual Studio.NET (Note5)	MATLAB® (Note6)	AD-Logger	U-Test	Others
High-Performance DAQ	DAQ/DAQe/PXI-2005	D2K-DASK	D2K-DASK/X	-	DAQPilot	D2K-DASK	DAQ_MTLB	√	-	-
	DAQ/DAQe/PXI-2006							√	-	-
	DAQ/DAQe/PXI-2010							√	-	-
	PXI-2020							√	-	-
	PXI-2022							√	-	-
	DAQ/DAQe/PXI-2204							√	-	-
	DAQ/DAQe/PXI-2205							√	-	-
	DAQ/DAQe/PXI-2206							√	-	-
	DAQ/DAQe/PXI-2208							√	-	-
	DAQ/DAQe-2213							√	-	-
	DAQ/DAQe-2214							√	-	-
	DAQ/DAQe/PXI-2501							√	-	-
	DAQ/DAQe/PXI-2502							√	-	-
	PCI-9221	PCIS-DASK	PCIS-DASK/X	-				√	-	-
	PCI-9222							√	-	-
	PCI-9223							√	-	-
General-Purpose DAQ	PCI-9111DG	PCIS-DASK	PCIS-DASK/X	-	DAQPilot	PCIS-DASK	DAQ_MTLB	√	-	-
	PCI-9111HR							√	-	-
	PCI-9112							√	-	-
	PCI-9113A							√	-	-
	PCI-9114A-DG							√	-	-
	PCI-9114DG							√	-	-
	PCI-9114A-HG							√	-	-
	cPCI-9116							√	-	-
USB DAQ	USB-1210	UD-DASK	UD-DASK/X	UD-DASK/M	DAQPilot	UD-DASK	-	-	√	-
	USB-1901							-	√	-
	USB-1902							-	√	-
	USB-1903							-	√	-
	USB-2401							-	√	-
	USB-2405							-	√	Visual Signal DAQ Express
	USB-7230							-	√	-
	USB-7250							-	√	-

Note:
(1) Support for Windows 2000/XP and Windows 7/8 x64/x86
(2) Linux
-UD-DASK/x support for Ubuntu 14.04.3 LTS (only x86_64)
-PCIS-DASK/x support for Ubuntu 12.04.1 LTS, Fedora Core 17, and OpenSuSe 12.1 (only x86)
-WD-DASK/x support for Ubuntu 12.04.1 LTS, Fedora Core 17, and OpenSuSe 12.1 (x86/x86_64)
(3) Support for Mac OS X 10.9 and later

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Products		Supported Operating System		Driver and SDK			Software Utility		
		Windows® (Note1)	Linux® (Note2)	LabVIEW™ (Note4)	Visual Studio.NET (Note5)	MATLAB® (Note6)	AD-Logger	U-Test	Others
Analog Output	PCI/cPCI-6208-A	PCIS-DASK	PCIS-DASK/X	DAQPilot	PCIS-DASK	-	-	-	-
	PCI/PCIe/cPCI-6208V-GL						-	-	-
	PCI/cPCI-6216V-GL						-	-	-
	PCI-6308A						-	-	-
	PCI-6308V						-	-	-
Digital I/O	PCI/PCIe-7200	PCIS-DASK	PCIS-DASK/X	DAQPilot	PCIS-DASK	DAQ_MTLB	√	-	-
	PCI-7224						√	-	-
	PCI/LPCI/LPCIe-7230						√	-	-
	PCI-7233						√	-	-
	PCI-7234						√	-	-
	PCI/cPCI/PCIe-7248						√	-	-
	PCI/LPCI/LPCIe-7250						√	-	-
	cPCI-7252						√	-	-
	PCI/PCIe-7256						√	-	-
	PCI-7258						√	-	-
	PCI-7260						√	-	-
	PCI/PCIe-7296						√	-	-
	PCIe-7300A, cPCI-7300						√	-	-
	PCIe-7350					-	-	-	-
	PCIe-7360						-	-	-
	PCI-7396					DAQ_MTLB	√	-	-
	PCI/PCIe/cPCI-7432						√	-	-
	PCI/cPCI-7433						√	-	-
	PCI/cPCI-7434						√	-	-
	PCI-7442						√	-	-
	PCI-7443						√	-	-
	PCI-7444						√	-	-
Timer Counter	PCI/cPCI-8554	PCIS-DASK	PCIS-DASK/X	DAQPilot	PCIS-DASK	DAQ_MTLB	√	-	-

(4) LabVIEW™
-Compatible with LabVIEW 8.0 and above
-DAQ-Pilot support for LabVIEW 32-bit & LabVIEW Polymorphic VI
(5) Compatible with Visual Studio .NET 2005/2008/2010, DASK for API
(6) MATLAB®
-Data Acquisition Toolbox 2.2 (and above) compliant
-DAQ-MTLB only support for earlier versions of MATLAB R2015a 32-bit

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Terminal Board & Cable Selection Guide for Test & Measurement Products

Type	Model Name	Terminal Board	Mating Cable
High-Performance DAQ	PXI/DAQ/DAQe-2000 Series	DIN-68S-01	ACL-10568-1
			ACL-SSI-2/3/4
	PXI/DAQ/DAQe-2200 Series	DIN-68S-01	ACL-10568-1
			ACL-SSI-2/3/4
	PXI/DAQ/DAQe-2208	DIN-68S-01	ACL-10568-1
			ACL-SSI-2/3/4
	DAQ/DAQe-2213	DIN-68S-01	ACL-10568-1
	DAQ/DAQe-2214	DIN-68S-01	ACL-10568-1
			ACL-SSI-2/3/4
	PXI/DAQ/DAQe-2500 Series	DIN-68S-01	ACL-10568-1
			ACL-SSI-2/3/4
	PXI-2020/2022	DIN-68S-01	ACL-10568-1
			SMB-SMB-1M
			SMB-BNC-1M
	PCI-9221	DIN-37D-01	ACL-10137-1MM
	PCI-9222/9223	DIN-68S-01	ACL-10568-1
			ACL-SSI-2/3/4
Multi-function DAQ	cPCI-9116	DIN-100S-01	ACL-102100-1
	PCI-9111 Series	DIN-37D-01	ACL-10137-1MM
		ACLD-9137-01	ACL-10137-1MF
		DIN-20P-01	ACL-10120-1
		ACLD-9182A-01	ACL-10120-1
		ACLD-9185-01	ACL-10120-1
		ACLD-9138-01	ACL-10137-1MM
	PCI-9112	DIN-37D-01	ACL-10137-1MM
		ACLD-9137-01	ACL-10137-1MF
		DIN-20P-01	ACL-10120-1
		ACLD-9182A-01	ACL-10120-1
		ACLD-9185-01	ACL-10120-1
		ACLD-9138-01	ACL-10137-1MM
	PCI-9113A	DIN-37D-01	ACL-10137-1MM
		ACLD-9137-01	ACL-10137-1MF
	PCI-9114 Series	DIN-37D-01	ACL-10137-1MM
		ACLD-9137-01	ACL-10137-1MF
		DIN-20P-01	ACL-10120-1
Analog Output	PCI/PCIe/cPCI-6208/6216 Series	ACLD-9137-01	ACL-10137-1MF
		ACLD-9137F-01	ACL-10137-1MM
		DIN-37D-01	ACL-10137-1MM
	PCI-6308V/6308A	DIN-37D-01	ACL-10137-1MM
		ACLD-9137-01	ACL-10137-1MF
High-Speed DIO	PCI/PCIe-7200	DIN-37D-01	ACL-10137-1MM
		ACLD-9137-01	ACL-10137-1MF
		ACLD-9137F-01	ACL-10137-1MM
	PCIe-7300A, cPCI-7300	DIN-100S-01	ACL-102100-1
	PCIe-7350/7360	DIN-68H-01	ACL-10279
		-	SMB-SMB-1M
Digital I/O	cPCI-7248	DIN-100S-01	ACL-102100-1
	LPCI/LPCIe-7250, cPCI-7252	DIN-50S-01	ACL-10250-1
	PCI/cPCI-7432/7433/7434	DIN-100S-01	ACL-102100-1
	LPCI/LPCIe-7230	DIN-50S-01	ACL-10250-1
	PCI-7230/7233/7234	DIN-37D-01	ACL-10137-1MM
	PCI-7250/7251	DIN-37D-01	ACL-10137-1MM
	PCI-7256	DIN-68S-01	ACL-10569-1
	PCI-7258	DIN-68S-01	ACL-10569-1
	PCI-7260	-	ACL-10337 (for JP2/JP3)

Type	Model Name	Terminal Board	Mating Cable
Digital I/O	PCI-7224, PCI/PCIe-7248/7296	DIN-24R/12-01	ACL-10150
		DIN-24R/24-01	ACL-10150
		DIN-24P-01	ACL-10150
		TB-16P8R/24-01	ACL-10150
		TB-24P/24-01	ACL-10150
		TB-24R/12-01	ACL-10150
		TB-24R/24-01	ACL-10150
	PCI-7396	DIN-100S-01	ACL-102100-1
		DIN-96DI-01	ACL-102100-1
	PCI-7442/7443/7444	DIN-68S-01	ACL-10568NF-1
Timer/Counter	PCI/cPCI-8554	DIN-100S-01	ACL-102100-1
High-Resolution Module	PCI-9524	DIN-68S-01	ACL-10568-1
GPIB	USB/LPCI/LCPe-3488A	-	ACL-IEEE488-1/2/4
USB DAQ	USB-1210	-	USB-2M-L
	USB-1901/1902/1903	-	USB-2M-L
	USB-2401	-	USB-2M-L
	USB-2405	-	USB-2M-L
	USB-7230/7250	-	USB-2M-L
Modular Instrument	PCI/PXI-9527	-	SMB-SMB-1M
			SMB-BNC-1M
	PCIe/PXIe-9529	-	SMB-SMB-1M
			SMB-BNC-1M
	PXI-7901	TB-6201-01	ACL-10262
	PXI-7921	TB-6221-01	ACL-10262
	PXI-7931	TB-6231-01	ACL-10262
Digitizer	PCI-9810/9812/9812A	-	ACL-109812
	PCI/PXI-9816/9826/9846	-	SMB-SMB-1M
			SMB-BNC-1M
			ACL-SSI-2
	PCI-9820	-	ACL-SSI-2/3/4
			SMB-SMB-1M
			SMB-BNC-1M
	PXIe-9848/9848H	-	SMB-SMB-1M
			SMB-BNC-1M
	PCIe-9814	-	ACL-eSSI-2/3/4
			SMB-SMB-1M
			SMB-BNC-1M
	PCIe/PXIe-9852	-	ACL-eSSI-2/3/4
BusExpansion	PCIe-8560/PXI-8565	-	ACL-EXPRESS-1/3/7
	PCIe-PXIe-8638	-	PCIe x8 Cable L=2M
	PCES-8581-4S/13S	-	ACL-EXPRESS-1
			ACL-EXPRESS-3
			ACL-EXPRESS-7
	PCI/PXI-8570	-	ACL-PXIES-2
			ACL-PXIES-5
			ACL-PXIES-10
	PCIS-8580-4S/13S	-	ACL-PCIEXT-2/5/10
PXI Platform	PXI-3950	-	ACL-IEEE488-MD1-A
	PXI-3980	-	ACL-IEEE488-MD1-A
	PXIe-3975	-	ACL-IEEE488-MD1-A
	PXIe-3985	-	ACL-IEEE488-MD1-A
			DisplayPort to DVI cable
			DisplayPort to HDMI cable
			DisplayPort to VGA cable

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General Purpose Terminal Boards

DIN Rail Screw Terminal Boards

- *Universal screw terminal boards for easy wiring*
- *DIN socket for easy mounting in DIN-rail*

ACLD Screw Terminal Boards

- *Low-cost universal screw terminal boards*
- *Blank pads accommodate applications such as break detection, low-pass filter, current shunt and voltage attenuator on ACLD-9138-01*
- *Table-top mounting using nylon standoffs*

DIN-100S-01



Terminal Board with One 100-pin SCSI-II Connector and DIN-rail Mounting

- *On-board Connector Type: 100-pin SCSI-II female*
- *Dimensions: 158 mm x 120 mm x 52 mm (W x L x H)*
- *Mating Cable:*
  - *ACL-102100-1: 100-pin SCSI-II cable, 1 M*

DIN-68S-01



Terminal Board with One 68-pin SCSI-II Connector and DIN-rail Mounting

- *On-board Connector Type: 68-pin SCSI-II female*
- *Dimensions: 103 mm x 85 mm x 46.2 mm (W x L x H)*
- *Mating Cables:*
  - *ACL-10568-1: 68-pin SCSI-VHDCI cable, 1 M*
  - *ACL-10569-1: 68-pin SCSI-II cable, 1 M*

DIN-50S-01



Terminal Board with One 50-pin SCSI-II Connector and DIN-rail Mounting

- *On-board Connector Type: 50-pin SCSI-II female*
- *Plastic cover for protection of wiring*
- *Dimensions: 125 mm x 85 mm x 50 mm (W x L x H)*
- *Mating Cable:*
  - *ACL-10250-1: 50-pin SCSI-II cable, 1 M*

DIN-50P-01



Terminal Board with One 50-pin Header and DIN-rail mounting

- *On-board Connector Type: 50-pin header*
- *Dimensions: 103 mm x 85 mm x 43 mm (W x L x H)*
- *Mating Cable:*
  - *ACL-10150: 50-pin flat cable*

DIN-37D-01



Terminal Board with One 37-pin D-sub Connector and DIN-rail Mounting

- *On-board Connector Type: 37-pin D-sub female*
- *Dimensions: 113 mm x 85 mm x 52 mm (W x L x H)*
- *Mating Cable:*
  - *ACL-10137-1MM: 37-pin D-sub male/male cable, 1 M*

DIN-20P-01



Terminal Board with One 20-pin Header and DIN-rail Mounting

- *On-board Connector Type: 20-pin header*
- *Dimensions: 68 mm x 85 mm x 55 mm (W x L x H)*
- *Mating Cable:*
  - *ACL-10120-1: 20-pin flat cable, 1 M*

DIN-68H-01



Terminal Board with One 68-pin SCSI-VHDCI Connector and 0 or 50 Ω Jumper Selectable Impedance

- *On-board Connector Type: 68-pin SCSI-VHDCI*
- *Dimensions: 103 mm x 85 mm x 43 mm (W x L x H)*
- *Mating Cable:*
  - *ACL-10279: 68-pin SCSI-VHDCI cable with 50 Ω impedance*

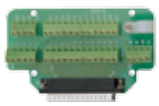
ACLD-9138-01



General Purpose Terminal Board with One 37-pin D-sub Connector

- *On-board Connector Type: 37-pin D-sub female*
- *Blank RC circuits for analog input boards*
- *Reliable screw clamp terminal blocks*
- *Dimensions: 103 mm x 114 mm*
- *Mating Cables:*
  - *ACL-10237-1: 37-pin D-sub male/male flat cable, 1 M*
  - *ACL-10137-1MM: 37-pin D-sub male/male cable, 1 M*

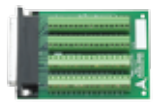
ACLD-9137-01 / ACLD-9137F-01



General Purpose Terminal Board with One 37-pin D-sub Connector

- *ACLD-9137-01: on-board 37-pin D-sub male connector*
- *ACLD-9137F-01: on-board 37-pin D-sub female connector*
- *Dimensions: 124 mm x 72 mm*
- *Mating Cables:*
  - *ACL-10137-1MM: 37-pin D-sub male/male cable, 1 M (for ACLD-9137F-01)*
  - *ACL-10137-1MF: 37-pin D-sub male/female cable, 1 M (for ACLD-9137-01)*

TB-6201-01 / TB-6221-01 / TB-6231-01



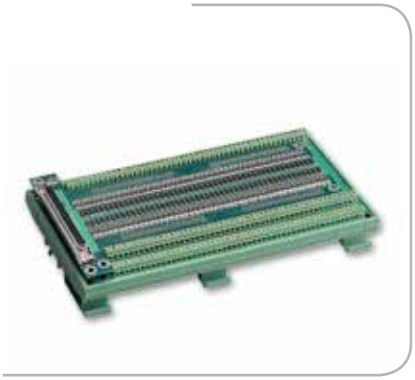
General Purpose/Multiplexer/Matrix Switch Terminal Board with One 62-pin D-sub Connector

- *For use with PXI-7901, PXI-7921, and PXI-7931*
- *On-board Connector Type: 62-pin D-sub female*
- *Dimensions: 105.81 mm x 230 mm*
- *Mating Cable:*
  - *ACL-10262: 62-pin D-sub male/male cable, 1 M*

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DIN-96DI-01

96-CH Isolated DI Terminal Board with DIN-Rail Mounting



Specifications

- Maximum Input Range: 24 V
- Digital Logic Levels: 0 to 24 V, non-polarity
  - Input high voltage: 10 V to 24 V
  - Input low voltage: 0 to 24 V
- Input Resistance: 4.7 kΩ @ 0.5 W
- Isolation Voltage: 2500 VRMS
- I/O Connector: 100-pin SCSI-II female
- Power Consumption:

+5 V
48 mA maximum

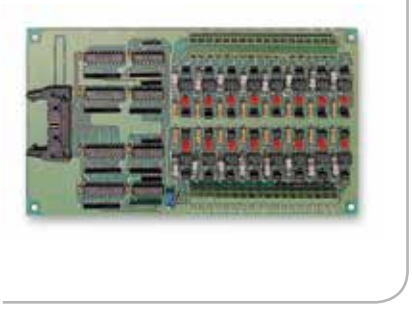
- Dimensions: 226 x 121 x 48 mm (W x L x H) (8.81" x 4.71" x 1.87")

Ordering Information

- **DIN-96DI-01**
  96-CH isolated DI terminal board with DIN-rail mounting
- **ACL-102100-1: 100-pin SCSI-II cable, 1 M**

ACLD-9182A-01

Terminal Board with 16-CH Isolated Digital Inputs



Specifications

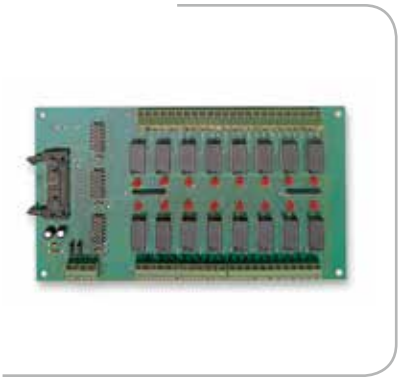
- Maximum Input Range: 24 V
- Digital Logic Levels: 0 to 24 V, non-polarity
  - Input High Voltage: 5 to 24 V
  - Input Low Voltage: 0 to 0.7 V
- Input Resistance: 560 Ω @ 1 W
- Isolation Voltage: 2500 VRMS
- LED indicator for input status
- I/O Connector: 20-pin ribbon male
- Dimensions: 205 x 114 mm (7.99" x 4.44")

Ordering Information

- **ACLD-9182A-01**
  Terminal board with 16-CH isolated digital inputs
- **ACL-10120-1: 20-pin flat cable, 1 M**
  ACL-10220: 20-pin shielded and grounded cable, 1 M

ACLD-9182A-01

Terminal Board with 16-CH Relay Outputs



Specifications

- Relay Type: SPDT (Form C)
- Isolation Voltage: 1500 VRMS
- Contact Rating: AC/ 120 V @ 0.5 A; DC/ 24 V @ 1 A
- Breakdown Voltage: 1000 VRMS
- Contact Resistance: 100 mΩ
- Relay ON/OFF time: Operate Time 6 ms/ Release Time: 3 ms
- LED Indicators for Relay Status: One per channel
- Expected Life: > 5 x 105 operations @ 1 A, 24 VDC; > 2 x 105 operations @ 0.5 A, 120 VAC
- I/O Connector: 20-pin ribbon male
- Power Consumption:

+5 V	+12 V
200 mA maximum	528 mA maximum

- Dimensions: 205 x 114 mm (7.99'' x 4.44'')

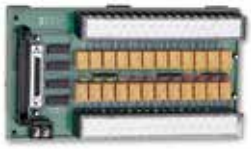
Ordering Information

- **ACLD-9185-01**
  96-CH isolated DO terminal board with Terminal Board with 16-CH Relay Outputs
- **ACL-10120-1: 20-pin flat cable, 1 M**
  ACL-10220: 20-pin shielded and grounded cable, 1 M

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DIN-24R-01, TB-24R-01

Terminal Boards with 24-CH Relay Outputs



DIN-24R-01



TB-24R-01

Specifications

- *Relay Type: SPDT (Form C)*
- *Contact Rating: AC/ 125 V @ 0.6 A; DC/ 30 V @ 2 A*
- *Breakdown Voltage: 1500 VRMS*
- *Contact Resistance: 50 mΩ*
- *Relay ON/OFF Time: Operate time 3 ms; Release time: 3 ms*
- *LED Indicators for Relay Status: One per channel*
- *Expected Life: 5 x 105 operations @ 2 A, 30 VDC*
- *External Coil Excitation Voltage:*
- *12 V nominal, 19.2 V max. (TB-24R/12-01 & DIN-24R/12-01)*
- *24 V nominal, 38.5 V max. (TB-24R/24-01 &DIN-24R/24-01)*
- *I/O Connector: 50-pin ribbon male; 50-pin SCSI-II female*
- *Power Consumption:*

	+12 V	+24 V
TB-24R/12-01、DIN-24R/12-01	288 mA、maximum	-
TB-24R/24-01、DIN-24R/24-01	-	44 mA、maximum

- *Dimensions (W x L x H):*
  - *TB-24R-01: 220 x 132 x 15 mm (8.58" x 5.14" x 0.58")*
  - *DIN-24R-01: 203 x 120 x 55 mm (7.91" x 4.68" x 2.14")*

Ordering Information

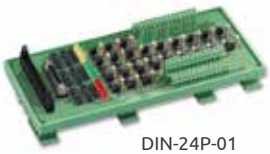
- ***TB-24R/12-01; TB-24R/24-01***

  Terminal board with 24-CH relay outputs @ 12V/24V coil voltage
- ***DIN-24R/12-01; DIN-24R/24-01***

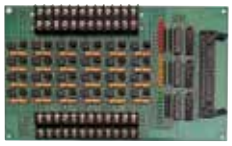
  Terminal board with 24-CH relay outputs @ 12V/24V coil voltage and DIN-rail mounting
- ***ACL-10150-: 50-pin flat cable***

DIN-24P-01, TB-24P-01

Terminal Boards with 24-CH Opto-Isolated Digital Inputs



DIN-24P-01



TB-24P-01

Specifications

- *Voltage input & Dry contact input*
- *Maximum input range: 24 V, non-polarity*
- *Digital logic levels: 0 to 24 V, non-polarity*
  - *Input high voltage: 5 V to 24 V*
  - *Input low voltage: 0 to +1.5 V*
- *Input resistance: 1.2 kΩ @ 0.5 W*
- *Isolation voltage: 5000 VRMS*
- *Dry Contact Input: 24 channels*
- *Internal pull-up voltage supply: +5 VDC*
- *LED Indicators for Input Status: one per channel*
- *I/O Connector: 50-pin ribbon male/ 50-pin SCSI-II female*
- *Power Requirement:*

+5 V
48 mA maximum

- *Dimensions (W x L x H):*
  - *TB-24P-01: 220 x 132 x 23 mm (8.58" x 5.14" x 0.89")*
  - *DIN-24P-01: 259 x 121 x 55 mm (10.1" x 4.71" x 2.14")*

Ordering Information

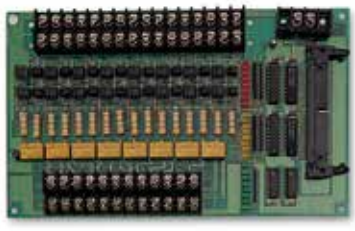
- ***TB-24P/24-01***

  Terminal Board with 24-CH isolated digital inputs
- ***DIN-24P-01***

  Terminal Board with 24-CH isolated digital inputs and DIN-rail mounting
- ***ACL-10150: 50-pin flat cable***

TB-16P8R-01

Terminal Board with 16-CH Isolated DI & 8-CH Relay Outputs



Specifications

- *Number of Isolated DI Channels: 16*
- *Number of Relay Output Channels: 8*
- *LED Indicators for Input and Output Status: one per channel*
- *Electronics Characteristics of Isolated DI:*

  refer to the TB-24P-01's specifications
- *Electronics Characteristics of Relay Outputs:*

  refer to the TB-24R-01's specifications
- *I/O Connector: 50-pin ribbon male*
- *Power Requirements:*

+5 V	+12 V
40 mA maximum	100 mA maximum

- *Dimensions: 220 x 132 x 22 mm (W x L x H)*

  (8.58" x 5.14" x 0.85")

Ordering Information

- ***TB-16P8R/12-01***

  Terminal board with 16-CH isolated DI & 8-CH relay outputs
- ***TB-16P8R/24-01***

  Terminal board with 16-CH isolated DI & 8-CH relay outputs
- ***ACL-10150: 50-pin flat cable***

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Cable Accessories

ACL-10568-1
68-pin SCSI-VHDCI cable
(mating with AMP-787082-7), 1 M



ACL-10250-1
50-pin SCSI-II cable
(mating with AMP-787082-5), 1 M



ACL-10569-1
68-pin SCSI-II cable
(mating with AMP-787082-7), 1 M



ACL-10137-1MM
37-pin D-sub male/male cable, 1 M



ACL-102100-1
100-pin SCSI-II cable
(mating with AMP-787082-9), 1 M



ACL-10137-1MF
37-pin D-sub male/female cable, 1 M



ACL-10120-1
20-pin flat cable, 1 M



ACL-10232
9-pin D-sub (RS-232) male/female cable, 5 M



ACL-10150
50-pin flat cable



ACL-105100
100-pin SCSI-II assembly



ACL-10237-1 (male/male)
37-pin D-sub male/male flat cable, 1 M



ACL-10537
37-pin D-sub assembly



ACL-10262
62-pin D-sub male/female cable, 1 M



ACL-10550
50-pin SCSI-II assembly



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ACL-10568NF-1
68-pin SCSI-VHDCI flat cable, 1 M
(for PCI-7442, PCI-7443, and PCI-7444)



ACL-IEEE488-1/2/4/8
IEEE 488 standard cable, 1/2/4/8 M



ACL-10220
20-pin shielded & grounded cable, 1 M



ACL-PCIEXT-2/5/10
Extension cable, 2/5/10 M
(for PCIS-8580-4S/13S)



ACL-10252-1
100-pin to two 50-pin cable, 1 M
(for DIN-502S)



ACL-PXIES-2
Copper cable kit, 2 M
(for PCI-8570 and PXI-8570)



ACL-10279
68-pin SCSI-VHDCI cable with 50 Ω impedance



ACL-SSI-2/3/4
SSI bus cable for 2/3/4 devices



ACL-10337
Two 20-Pin header to 37-Pin D-sub PC back panel



SMB-BNC-1M
SMB to BNC cable, 1 M



ACL-10437
40-pin header to 37-pin D-sub PC back panel
(for ACL-7225 and PCI/PCIe-7200)



SMB-SMB-1M
SMB to SMB cable, 1 M



USB-2M-L
2 M USB Type A to USB Mini-B
cable with lockable connector



ACL-EXPRESS-1/3/7
Expansion Cable, 1/3/7 M
(for PCES-8581-4L/4S/13S)



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USB/LPCI/LPCIe-3488A

High-Performance IEEE-488 GPIB Interface for USB/PCI/PCI Express



Fully Compatible with Your Existing Applications

ADLINK GPIB interface cards are delivered with complete software support, including a driver API that is fully binary compatible with NI-488.2* driver software. All programs based on GPIB-32.DLL can be executed with USB-3488A, LPCI-3488A and LPCIe-3488A without any modification. VISA library is also supported to ensure compatibility with applications utilizing VISA. The ADLINK USB-3488A, LPCI-3488A and LPCIe-3488A thus provide "Plug and Play" compatibility with all your existing applications.

Three Steps to Start Your Application with ADLINK GPIB

(1) Install AD-GPIB driver
(2) Install ADLINK GPIB hardware
(3) Execute the existing GPIB applications (compatible with NI-488.2)

Features

- *Fully compatible with the IEEE-488 standard*
- *Support 32-bit 3.3 V or 5 V PCI bus (LPCI-3488A)*
- *Up to 1.5 MB/s data transfer rates (USB-3488A and LPCI-3488A)*
- *Built-in FIFO for read/write operations*
- *Provide APIs compatible with NI-488.2 driver software**
- *Support industrial-standard VISA library*
- *Interactive utility for testing and diagnostics*

USB-3488A

- *USB 2.0 compatible*
- *2 M USB cable attached for instrument connection*
- *No external power required*
- *Easy GPIB connectively for laptops*

- ***Supported Operating System***
  - *Windows XP, Windows 7/8 x64/x86*
- ***Driver and SDK***
  - *Visual Studio.NET/BCB*
  - *LabVIEWTM**
  - *MATLAB®**

Specifications	
GPIB Bus Specifications	Up to 14 instruments connected
	Maximum 1.5 MB/s data transfer rate (USB-3488A and LCPI-3488A) Maximum 1.2 MB/s data transfer rate (LPCIe-3488A)
	Cable length -2 meters between each instrument (suggested) -20 meters total cable length
	Data transfer mode: 8 bits parallel
	Handshake: 3 wire handshake, reception of each data byte is acknowledged
Certifications	EMC/EMI: CE, FCC Class A
Software Compatibility	Visual Studio.NET/BCB
	LabVIEW™*
	MATLAB®*
External Indicators (USB-3488A)	Ready : Green for active device
	Active : Blinking amber for data transferring
General Specifications	Operating temperature : 0˚C to 55˚C (32˚F to 131˚F)
	Storage temperature : -20˚C to +80˚C (-4˚F to 176˚F)
	Relative humidity : 5% to 95%, non-condensing
	Power requirements
	LPCI-3488A: +5 V/250 mA (typical), 300 mA (maximum)
	USB-3488A: +5 V/190 mA (typical), 500 mA (maximum)
Dimensions (not including connectors) :	LPCI-3488A: 120 mm x 64 mm (4.68" x 2.49")
	USB-3488A: 81.7 mm (L) x 66.1 mm (W) x 27.8 mm (H) (3.2" x 2.57" x 1.1")
I/O Connectors	I/O Connectors
	USB: USB standard series A plug (USB-3488A)

Ordering Information

- ***USB-3488A***
  High-Performance IEEE-488 GPIB interface for USB
- ***LPCI-3488A***
  High-Performance IEEE-488 GPIB interface card for low-profile PCI bus
- ***LPCIe-3488A***
  High-Performance IEEE-488 GPIB interface card for low-profile PCI Express bus
- ***ACL-IEEE488-1/2/4***
  IEEE-488 standard cable, 1/2/4 meter length

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PCIS-8580-4S/PCIS-8580-13S

PCI-to-PCI Expansion Systems



PCIS-8580-4S



LPCI-8575



PCIS-8580-13S

Features

- *PCIS-8580-4S expands four PCI slots in a shoebox sizewall-mount chassis with built-in 200 W power supply*
- *PCIS-8580-13S expands 13 full-size PCI slots in a 19" rack-mount chassis with built-in 400 W power supply*
- *Full 32-bit/33 MHz PCI bandwidth extension (132 MB/s)*
- *Extension distance of up to 10 meters (expansion cables at 2 M, 5 M, and 10 M)*
- *Complete hardware and software transparency*
- *24-pin DVI-D connector for robust connectivity*

General Specifications

- *Operating temperature: 0˚C to 50˚C (32˚F to 122˚F)*
- *Storage temperature: -20˚C to 80˚C (-4˚F to 176˚F)*
- *Relative humidity: 10% to 90%, non-condensing*

Ordering Information

- ***PCIS-8580-4S/ 13S***
  Includes One LPCI-8575, One RK-8005, and One ACL-PCIEXT-2 Cable
- ***ACL-PCIEXT-2/ 5/ 10***
  Optional 2M/ 5M/ 10M Expansion Cable

PCI-to-PCI Expansion Systems

System Model	Host Bus Type	Expansion Bus Type	Slots No.	Expansion System Includes				Cable Option
				Card (Host)	Card (Remote)	Expansion Chassis	Accessory	
PCIS-8580-4S	PCI	PCI	4	LPCI-8575	LPCI-8575	RK-8005	ACL-PCIEXT-2	ACL-PCIEXT-5/-10
PCIS-8580-13S	PCI	PCI	13	LPCI-8575	LPCI-8575	RK-8014	ACL-PCIEXT-2	ACL-PCIEXT-5/-10

PCES-8581-4S/13S

PCIe-to-PCI Expansion Systems



PCES-8581-4S



PCIe-8560



PCI-8565



PCES-8581-13S

Features

- *PCI Express-based control of PCI - PCES-8581-4S/13S*
- *Compatible with 5 V and 3.3 V PCI signaling*
- *32-bit/33 MHz PCI interface support*
- *PCES-8581-4S expand four half-size PCI slots in a shoebox size wallmount chassis with built-in200 W power supply*
- *PCES-8581-13S expands 13 full-size PCI slots in a 19" rack-mount chassis with built-in 400 W power supply*
- *Extension distance of up to 7 meters (extension cables at 1 M, 3 M, and 7 M)*
- *Comprehensive hardware and software transparency*

General Specifications

- *Operating temperature: 0˚C to 50˚C (32˚F to 122˚F)*
- *Storage temperature: -20˚C to 80˚C (-4˚F to 176˚F)*
- *Relative humidity: 10% to 90%, non-condensing*

Ordering Information

- ***PCES-8581-4S/ 13S***
  Includes One PCIe-8560, One RK-8005, and One ACL-EXPRESS-3 Cable
- ***ACL-EXPRESS-1/ 3/ 7***
  Optional 1M/ 3M/ 7M Expansion Cable

PCIe-to-PCI Expansion Systems

System Model	Host Bus Type	Expansion Bus Type	Slots No.	Expansion System Includes				Cable Option
				Card (Host)	Card (Remote)	Expansion Chassis	Accessory	
PCES-8581-4S	PCIe x1	PCI	4	PCIe-8560	PCI-8565	RK-8005	ACL-EXPRESS-3	ACL-EXPRESS-1/-7
PCES-8581-13S	PCIe x1	PCI	13	PCIe-8560	PCI-8565	RK-8014	ACL-EXPRESS-3	ACL-EXPRESS-1/-7

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Rugged & Reliable Industrial Mobile Computers



Chassis Seal Up to IP65 Class, 1.5m Drop Tested

The ADLINK IMX Series Android-based industrial mobile computer features high performance, Near Field Communication (NFC) capability, barcode scanning, and 3G/WLAN wireless for improved real-time transmission, fulfilling a host of industrial requirements at the application level. The IMX Series undergoes strict performance testing, resulting in an IP65 ingress protection rating and 1.5 meter drop resistance, making it perfect for use in retail channels, logistics, onsite inspection, warehousing, transportation, and many other environments.


Retail


Logistics & Transportation


Manufacturing & Warehouse


Field Service

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Fully Featured for Industry Use



Industry Tested for Reliability

The ADLINK IMX Series' strict performance testing guarantees shock and drop resistance up to 1.5m and IP65-level protection from moisture and contaminants. IMX's superior construction delivers uptime and enterprise-class lifecycle to keep total cost of ownership (TCO) low, and satisfies practical requirements in harsh industry environments.

	IMX-2200	Consumer Products
Ruggedness	IP65 1.5m drop tested	Few consumer devices undergo ingress & drop testing
Swappable Battery & High capacity battery	2620mAh Swappable Battery	Build-in battery
Wider working and storage temperature	-10~50 ℃ (Operating) -20~60℃ (Storage)	0~35℃ (Operating), -20~45℃ (Storage)
Long life cycle & RMA Service Support	At least 10 yeas With Freescale iMX 6 CPU	1~2 years

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Convenient Android-Based Interface

IMX Series uses Android OS, supporting high-quality communication and data transmission with a famously user-friendly interface. As well, in response to Google's accelerating development of NFC on the Android platform, the IMX Series comprehensively supports NFC technology, with dramatically enhanced read functions. Built-in apps cater to a variety of commercial and industrial applications, while synchronously providing end-user APIs for secondary software development based on individual requirements.



Versatile Mobile Communications for Uninterrupted Data Transfer

ADLINK's IMX Series features a high-performance 1D/2D barcode scanner for input to reader utility software, and background applications can easily transfer data to specified locations. Also integrated are WiFi, Bluetooth, 3G GPS and AGPS protocols, further enhancing the IMX Series' exceptional wireless capabilities. Further, the IMX-2200 Series is certified for CCX (Cisco Compatible Extensions) Wi-Fi connection, effectively stabilizing transmission of data and roaming.

*3G/ GPS/ AGPS support for only the IMX-2200.



Kiosk Mode Restricts Unauthorized User Access

The value-added utility, when admin-enabled, prevents user access to specific applications or any unauthorized changes to the device, improving productivity and securing assets. Only admin can access app control.



Versatile Accessories Maximize Convenience of Use

From belt holsters and protective covers to reliable power supplies, durable USB cables and extended batteries, to specialized snap-ons, a wide range of accessories extends your IMX Series device capabilities while lowering total cost of ownership.



▲ IMX-1100



▲ Protector



▲ Strap

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Product Selection Guide

IMX Series	IMX-2200	IMX-3000
		
Physical Characteristics		
Dimensions (LxWxH)	Top: Approx. 171 x 70 x 28.9 mm Bottom: Approx. 171 x 62 x 23.4 mm	140.9 x 72.9 x 27.3 mm
Weight (incl. battery)	288g	245g
Display	3.2" display, resolution: 240 x 320 pixels, capacitive touch panel	3.8" display, resolution: 480 x 800 pixels, capacitive touch panel
Main Battery	Rechargeable Li-ion 3.7V / 2600 mAh	Rechargeable Li-ion 3.7V / 2600 mAh
Expansion Slot	Micro SD x1, supports SDHC up to 32GB	MicroSD x 1, support microSDHC, SIM slot x1, SAM slot x1 (for NFC)
Notifcation LED	Vibration, tricolor LED (R, G, B)	Vibration, tricolor LED (R, G, B)
Keypad/Controls	1x power key, 3x Android function keys, 20x numeric keys, 3x programmable side keys, and 1x reset key	5 keys + 2 side keys
Audio Speaker	90dB 1K Hz @10cm	90dB 1KHz @ 10cm
Headset/Receiver/Microphone	3.5 mm headset x 1 / receiver x 1/ mic x 1	3.5 mm headset x 1 / receiver x 1/ mic x 2
Camera	Autofocus 5MP with flash LED	Autofocus 5MP with flash LED
Sensor	Supports G & Gryo, light & proximity sensors	Supports G, E-compass, & proximity sensors
Platform Characteristics		
CPU	800MHz to 1GHz	1.2GHz dual CPU
Operating System	Android 5.0	Android 4.0
Memory	1GHz DDR3L SDRAM / 8GB Flash	768MB DDR SDRAM / 4GB eMMC flash
Interface / Comm.	USB 2.0 OTG	USB 2.0 OTG
Data capture		
CCD	CCD	CCD imager
1D	Laser engine	1D laser engine
2D	2D image	2D imager
NFC	NFC NPC-100 (13.56MHz)	NFC PN544 (13.56MHz)
User Environment		
Operating Temperature	-10 °C to 50 °C (32°F to 104°F)	CCD: -10 °C to 40 °C (14 °F to 104 °F) 1D/2D: -10 °C to 50 °C (32 °F to 104 °F)
Storage Temperature	-20 °C to 60 °C / -4 °F to 140 °F	-20 °C to 60 °C / -4 °F to 140 °F
Humidity	10% to 90% @ 25 °C, non-condensing	10% to 90% @ 25 °C, non-condensing
Drop Spec	1.5m with protective cover	1.2m and 1.5m drop with protective cover
Sealing	IP65	IP54
ESD	+/- 15KV Air Discharge, +/- 8KV Direct Discharge	+/- 15KV (air discharge), +/- 8KV (direct discharge)
Certifications	CE / CB / FCC / NCC / BSMI / OFCA	CE / CB / FCC / NCC / BSMI / OFCA
Wireless LAN Data Communications		
WLAN Radio	IEEE 802.11 a/b/g/n, (Optional CCX)	IEEE 802.11 b/g/n
WPAN	Dual mode Bluetooth 4.0 + Bluetooth 2.1 + EDR	Bluetooth 4.0
WWAN	N/A	WCDMA 850/1900/2100; GSM 850/900/1800/1900: HSDPA: 7.2Mb/s; HSUPA: 5.76 Mb/s
Value Added Software		
Reader Utility	For CCD/1D/2D barcode scan demo, symbologist setting.	For CCD/1D/2D barcode scan demo, symbologist setting
Button Utility	Assigns application or hot key	Assigns application or hot key
Kisok Mode Utility	Locks down app to protect kiosk	Locks down app to protect kiosk
Wi-Fi VoIP	Push to talk via Wi-Fi	N/A
Standard Accessory		
Lanyard	N/A	X 1 pcs
AC Power Adaptor	X 1 set	X 1 set
2600 mAh battery	X 1 pcs	X 1 pcs
USB cable	X 1 pcs	X 1 pcs

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