Advantech Industrial IoT Systems and Devices Star Product Guide
Enabling IIoT and Industry 4.0 with Sector-Focused Solutions and Intelligent Automation
Solution Ready Platforms
Designed for Smart Factory and IoT Applications

Advantech’s SRPs are focused on target markets with comparatively higher automation maturity and the ability to incorporate smart factory and IoT technologies, such as the automobile assembly, food and beverage, home electronics, energy and environment industries.

Process Visualization Solutions

SRP-FPV220
MES Data Charting and Analysis for Production Optimization
• Shop-floor information visualization
• Mobile production monitoring with dashboards
• Easily integrated with MES systems via open APIs
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-FPV240
Enhanced Productivity and Reduced Downtime with Centralized Management
• Centralized applications and client management
• Enables superior visualization for multi-tasking
• Reduced downtime and easy maintenance of thin clients
SRP Package:
1 x ACP ThinManager software, 1 x UNO-2362G-T2AE

SRP-FEC210
Easy Programming for Real-Time Machine Control
• IEC 61131-3 compliant
• Dual Fieldbus for real-time data acquisition
• EtherCAT for real-time soft motion control
SRP Package:
1 x CODESYS, 1 x UNO-1372G-E3AE

SRP-FEC220
Machine Data Acquisition for Monitoring & Optimization
• 100% data acquisition
• Flexible protocol conversion
• Easily connect OT and IT
SRP Package:
1 x WebAccess/HMI, 1 x UNO-2271G-E23AE, 1 x ADAM-6060-CE

SRP-FPV240
Enhanced Productivity and Reduced Downtime with Centralized Management
• Centralized applications and client management
• Enables superior visualization for multi-tasking
• Reduced downtime and easy maintenance of thin clients
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-EER340
Centralized Management and Data Analysis for Distributed Facilities
• Load balancing for energy savings
• Equipment predictive maintenance
• Optimizes overall equipment effectiveness
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-ESP315
Centralized Operation with Unmanned Remote Sites
• Hierarchical visualization & complete management
• System stability guaranteed by seamless integration
• Precise and effective data acquisition
SRP Package:
1 x SPMS, 1 x WebAccess/SCADA, 1 x ECU-4784, 10 x ECU-1251

SRP-EAQ370
Continuous Indoor Air Quality Monitoring and Analysis
• Collects, monitors, and records air quality information
• Integrates public broadcasts, promotions, and news on the same display screen
SRP Package:
1 x IAQ, 1 x WebAccess/SCADA with 75 tags, 1 x WebAccess/IMM, 1 x DS-370, 1 x sensor (optional)

SRP-EEM350
Energy Consumption Visualization and Analysis for Optimization
• Data acquisition sensors and meters
• Customized energy consumption reports
• Built-in formula for energy management
SRP Package:
1 x EMS, 1 x WebAccess/SCADA with 5000 tags, 1 x UNO-2483G, 1 x ECU-1251

SRP-ESP315
Centralized Operation with Unmanned Remote Sites
• Hierarchical visualization & complete management
• System stability guaranteed by seamless integration
• Precise and effective data acquisition
SRP Package:
1 x SPMS, 1 x ECU-4784, 10 x ECU-1251

SRP-ERP320
Centralized Management and Data Analysis for Distributed Facilities
• Load balancing for energy savings
• Equipment predictive maintenance
• Optimizes overall equipment effectiveness
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-FMS230
Factory Monitoring & Security Solution
• Visualized monitoring and security solution
• Unlimited integration via WebAccess/Cloud
• Expandable for diverse application scenarios
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-FPV220
MES Data Charting and Analysis for Production Optimization
• Shop-floor information visualization
• Mobile production monitoring with dashboards
• Easily integrated with MES systems via open APIs
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-FPV240
Enhanced Productivity and Reduced Downtime with Centralized Management
• Centralized applications and client management
• Enables superior visualization for multi-tasking
• Reduced downtime and easy maintenance of thin clients
SRP Package:
1 x ACP ThinManager software, 1 x UNO-2362G-T2AE

SRP-EER340
Centralized Management and Data Analysis for Distributed Facilities
• Load balancing for energy savings
• Equipment predictive maintenance
• Optimizes overall equipment effectiveness
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-ESP315
Centralized Operation with Unmanned Remote Sites
• Hierarchical visualization & complete management
• System stability guaranteed by seamless integration
• Precise and effective data acquisition
SRP Package:
1 x SPMS, 1 x WebAccess/SCADA, 1 x ECU-4784, 10 x ECU-1251

SRP-ERP320
Centralized Management and Data Analysis for Distributed Facilities
• Load balancing for energy savings
• Equipment predictive maintenance
• Optimizes overall equipment effectiveness
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-FMS230
Factory Monitoring & Security Solution
• Visualized monitoring and security solution
• Unlimited integration via WebAccess/Cloud
• Expandable for diverse application scenarios
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-EER340
Centralized Management and Data Analysis for Distributed Facilities
• Load balancing for energy savings
• Equipment predictive maintenance
• Optimizes overall equipment effectiveness
SRP Package:
1 x WebAccess/SCADA, 1 x UNO-2483G-434AE, 1 x WISE-4012-AE

SRP-ESP315
Centralized Operation with Unmanned Remote Sites
• Hierarchical visualization & complete management
• System stability guaranteed by seamless integration
• Precise and effective data acquisition
SRP Package:
1 x SPMS, 1 x WebAccess/SCADA, 1 x ECU-4784, 10 x ECU-1251
Advantech WebAccess

IIoT Application Software Suite

Advantech’s key strategies for the next decade are to develop sector-focused applications, solution ready platforms (SRPs), and sharing platform business models, with relevant software being a vital component of these developments. Advantech has developed a series of PaaS software packages, such as the WebAccess software application platform, which includes SCADA, HMI, CNC, MCM, VCM, NMS, and IMM solutions. Advantech is also inviting numerous third-party software providers to join its WebAccess sharing platform to develop a wide range of solutions to enrich the software offerings and satisfy customer needs.

WebAccess/SCADA
Industrial IoT Application Software Platform
- 100% web-based engineering, monitoring, and control
- Cross-browser intelligent HTML5 dashboard
- Supports diverse drivers for Advantech I/O modules, controllers, and major PLCs
- Integrated with Webaccess/VCM, Webaccess/NMS, and WISE-PaaS/RMM
- Google Maps and GPS location tracking
- Redundant SCADA, ports, and devices for high availability
- Uses the MQTT over WebSocket protocol to connect to IoT gateways and devices
- Easy integration with MES and ERP systems via open interfaces
- Plug-and-play functionality with zero downtime for IoT devices
- Node-RED visualization tool for cloud dashboards
- Multi-project support
- Provides open interfaces for application developments

WebAccess/HMI
HMI Runtime Development Software
- Smart screen management
- Project-based management for multiple applications
- Software support for diverse machines
- Provides efficient tools for easy customization
- Boosts performance with simulations
- Enhanced data security

WebAccess/CNC
CNC Machine Monitoring Solution
- Supports all major CNC controllers
- Enables I/O and CNC monitoring and control
- Enables CNC operating status monitoring
- Enables CNC maintenance management
- Enables CNC historical alarm inquiry
- Supports NC program upload/download

WebAccess/MCM
Machine Condition Monitoring Software
- Dynamic signal acquisition and analysis
- Real-time monitoring and alarm notification
- Provides feature extraction algorithms for data processing
- Remote management for distributed monitoring solutions
- Integrated with WebAccess/SCADA
- Ensures easy setup without programming

WebAccess/VCM
Video Core Module
- Centralized management and deployment of video sources
- Configurable video analysis modules, generated events, and attributed data to facilitate an intelligent security system
- Powerful SDK integration for expansion to various application scenarios

WebAccess/NMS
Network Management System
- Cross-browser compatible
- Online Google Maps and offline OpenStreetMap support
- Supports all Advantech Ethernet-based products
- Automatically generated topology
- PoE, ring, wireless, cellular connection indication

WebAccess/IMM
Interactive Multimedia Management Services
- Server-client architecture facilitates remote management of signage programs
- Edit and dispatch programs in 3 steps with an easy-to-use interface
- Enables remote device management
- System backup and recovery capabilities
Star Product Highlights

Intelligent Systems and Platforms

Infrastructure for the IoT

With diverse innovative technologies ranging from cloud computing (industrial and video servers), edge computing (fanless, slim, portable devices), to high-performance embedded systems, Advantech’s industrial cloud services and system design-to-order services (System DTOS) transform embedded systems into intelligent systems equipped with smart, secure, energy-saving features. Advantech’s intelligent systems are designed to satisfy vertical markets in the intelligent transportation, factory automation/machine automation, cloud infrastructure, and intelligent video application sectors.

Industrial Computers

ACP-2020
2U Rackmount Short Depth Chassis for ATX/MicroATX Motherboards
- Supports (u)ATX single processor MBs
- 350W single or 500W redundant power supply
- 2 internal 2.5” and 2 internal or hot-swap drive bays
- Intelligent System Module for smart fan, self-diagnosis and remote manageability.

IPC-631
4U Front I/O Short Depth Rackmount Chassis for ATX/MicroATX Motherboards
- 350mm Short-depth rack-mount chassis
- Supporting (u)ATX single processor MBs, CPU TDP up to 120W
- 500W single or redundant power supply
- All I/O ports, buttons, LEDs, drive bays and AC inlet on the same side
- PWM-controlled smart fan for minimal noise

Storage Chassis

HPC-8212
2U Storage Chassis for EATX/ATX/Micro ATX Server Boards with 12 Hot-Swappable Drive Bays
- Supports microATX/Mini-ITX motherboards
- Supports 2 x internal 3.5” or 1 x 3.5” and 1 x 2.5” HDDs
- 12-bay hot-swapable drive bays
- Supports 6Gb/s drives
- 7-slot, low-profile rear panel (default) with optional additional 3 x slots (full height)
- Supports 80 plus redundant power supply

Server-Grade IPCs

ASMB-923
Intel® Xeon® E5 ATX Server Board
- LGA 2011 EATX server board with Intel® Xeon® E5-2600 v3 dual processor
- DDR4 2133 MHz RDIMM, up to 256 GB
- 4 x PCIe x16 (Gen 3), 2 x PCIe x8 (Gen 3), and 1 x PCIe x4 (Gen 2) slots
- 10 x SATA III and 4 x USB 3.0 ports

GPU Server

AGS-923
2U GPU Server with Dual Intel® Xeon® E5 Processors
- Supports NVIDIA Tesla, GRID, Quadro, AMD FirePro, and Advantech DSP cards
- Supports 8 x DIMM sockets for DDR4 (REG) at 2400 MHz, up to 256 GB
- Supports 4 x FH/FL double-depth PCIe x16 expansion cards and 1 x FH/HL single-depth PCIe x8 expansion card
- 8 x hot-swapable 2.5” SATA/SAS HDD bays
- 4 x GbE LAN ports (with 1 port sharing IPMI function)
**Star Product Highlights**

### Machine Vision Systems

- **AIIS-1200P/U**
  - Fanless Vision System with Intel® Celeron® SoC CPU and 2-Channel GigE PoE or 2-Channel USB 3.0 Camera Interface
  - Intel® Celeron® SoC CPU
  - IEEE 802.3af-compliant 2-channel GbE PoE for GigE camera/2-channel controller for USB 3.0 camera
  - Compact and lightweight (less than 0.9 kg)

- **AIIS-5410P**
  - Fanless Vision System with Intel® Core™ i7/i5 CPU, 4-Channel GigE PoE Camera Interface, and PCI or PCIe Expansion Slot
  - 6th Generation Intel® Core™ i7/i5 BGA1440 processor
  - 4-channel GbE PoE
  - Powered device auto detection and classification

### Transportation Systems

- **ITA-5831**
  - EN 50155-Certified Compact Fanless System with 6th Gen Intel® Core™ i Processor
  - Intel® Quad-Core™ i7 processor with 8 GB of DDR4 memory
  - Satisfies EN 50155 Txx (-40 – 70°C) and IEC 61373 body mount Class B standards
  - Compliant with EN 50121-3-2 rolling stock EMC standard
  - Ruggedized communication and power port connectors (M12)
  - Supports easy-swap storage and I/O modules

- **ITA-5231**
  - Intel® 6th Gen Intel® Core™ i Processor Fanless System: EN 50155 Compliant for Railway Applications
  - Intel skylake-H platform with QM170
  - Satisfies temp. standard: EN 50155 Txx (-40 – 70°C) and IEC 61373 body mount class B
  - Compliant with EN 50121-3-2/ EN 50121-4 EMC test standard
  - Ruggedized connectors (M12) used for communication and power ports
  - Supports easy-swap storage and I/O modules

### Industrial Motherboards

- **AIMB-705**
  - LGA1151 6th/7th Gen Core™ i7/i5/i3 Pentium ATX with DVI/VGA, DDR4, SATAIII, USB 3.0, and 6 COMs
  - Intel® Core™ i7/i5/i3/Pentium® processor with H110 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports dual display (VGA/DVI)

- **AIMB-785**
  - LGA1151 6th/7th Gen Core™ i7/i5/i3 Pentium ATX with DVI/VGA, DDR4, and SATA III, USB 3.0, and 6 COMs
  - Intel® Core™ i7/i5/i3/Pentium® processor with Q170 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 64 GB
  - Supports triple displays (VGA/2 DVI-D)

### Slot Single-Board Computers

- **PCE-3029**
  - LGA1151 6th/7th Gen Intel® Core™ i7/i5/i3 Half-Size SHB with DVI/VGA, DDR4, and SATA III, mSATA, USB 3.0 and 2 COMs
  - Intel® Core™ i7/i5/i3/Pentium® processor with H110 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports dual display (VGA/DVI)
  - Compliant with PICMG 1.3

- **PCE-5029**
  - LGA1151 6th/7th Gen Intel® Core™ i7/i5/i3 Full-Size SHB with DVI/VGA, DDR4, and SATA III, USB 3.0 and 2 COMs
  - Intel® Core™ i7/i5/i3 processor with H110 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports dual display (VGA/DVI)
  - Compliant with PICMG 1.3

- **PCE-5129**
  - LGA1151 6th/7th Gen Intel® Core™ i7/i5/i3 Full-Size SHB with DVI/DVI/VGA, DDR4 and SATA III, USB 3.0, 2 COMs, M.2 and AMT
  - Intel® Core™ i7/i5/i3 processor with Q170 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports SW Raid 0/1/5/10
  - Supports triple display (VGA/2 DVI D)
  - Compliant with PICMG 1.3

### Modular Industrial Computer

- **Compact Fanless System with Multiple CPU Options**
  - Intel® Core™ i7 processor with 16 GB of DDR4 memory, up to 32 GB by DIMM expansion slot
  - Compliant with EN 50121-4 railway EMC standards
  - Supports 3 x ITA-EM modules, 1 x PCIe104, and 1 x M.2 slot for expansion
  - Wide operating temperature range (-25 – 60 °C)
  - Supports single/dual power modules

**Machine Vision Systems**

- **AIIS-1200P/U**
  - Fanless Vision System with Intel® Celeron® SoC CPU and 2-Channel GigE PoE or 2-Channel USB 3.0 Camera Interface
  - Intel® Celeron® SoC CPU
  - IEEE 802.3af-compliant 2-channel GbE PoE for GigE camera/2-channel controller for USB 3.0 camera
  - Compact and lightweight (less than 0.9 kg)

- **AIIS-5410P**
  - Fanless Vision System with Intel® Core™ i7/i5 CPU, 4-Channel GigE PoE Camera Interface, and PCI or PCIe Expansion Slot
  - 6th Generation Intel® Core™ i7/i5 BGA1440 processor
  - 4-channel GbE PoE
  - Powered device auto detection and classification

**Transportation Systems**

- **ITA-5831**
  - EN 50155-Certified Compact Fanless System with 6th Gen Intel® Core™ i Processor
  - Intel® Quad-Core™ i7 processor with 8 GB of DDR4 memory
  - Satisfies EN 50155 Txx (-40 – 70°C) and IEC 61373 body mount Class B standards
  - Compliant with EN 50121-3-2 rolling stock EMC standard
  - Ruggedized communication and power port connectors (M12)
  - Supports easy-swap storage and I/O modules

- **ITA-5231**
  - Intel® 6th Gen Intel® Core™ i Processor Fanless System: EN 50155 Compliant for Railway Applications
  - Intel skylake-H platform with QM170
  - Satisfies temp. standard: EN 50155 Txx (-40 – 70°C) and IEC 61373 body mount class B
  - Compliant with EN 50121-3-2/ EN 50121-4 EMC test standard
  - Ruggedized connectors (M12) used for communication and power ports
  - Supports easy-swap storage and I/O modules

**Industrial Motherboards**

- **AIMB-705**
  - LGA1151 6th/7th Gen Core™ i7/i5/i3 Pentium ATX with DVI/VGA, DDR4, SATAIII, USB 3.0, and 6 COMs
  - Intel® Core™ i7/i5/i3/Pentium® processor with H110 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports dual display (VGA/DVI)

- **AIMB-785**
  - LGA1151 6th/7th Gen Core™ i7/i5/i3 Pentium ATX with DVI/VGA, DDR4, and SATA III, USB 3.0, and 6 COMs
  - Intel® Core™ i7/i5/i3/Pentium® processor with Q170 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 64 GB
  - Supports triple displays (VGA/2 DVI-D)

**Slot Single-Board Computers**

- **PCE-3029**
  - LGA1151 6th/7th Gen Intel® Core™ i7/i5/i3 Half-Size SHB with DVI/VGA, DDR4, and SATA III, mSATA, USB 3.0 and 2 COMs
  - Intel® Core™ i7/i5/i3/Pentium® processor with H110 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports dual display (VGA/DVI)
  - Compliant with PICMG 1.3

- **PCE-5029**
  - LGA1151 6th/7th Gen Intel® Core™ i7/i5/i3 Full-Size SHB with DVI/VGA, DDR4, and SATA III, USB 3.0 and 2 COMs
  - Intel® Core™ i7/i5/i3 processor with H110 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports dual display (VGA/DVI)
  - Compliant with PICMG 1.3

- **PCE-5129**
  - LGA1151 6th/7th Gen Intel® Core™ i7/i5/i3 Full-Size SHB with DVI/DVI/VGA, DDR4 and SATA III, USB 3.0, 2 COMs, M.2 and AMT
  - Intel® Core™ i7/i5/i3 processor with Q170 chipset
  - Dual-channel (non-ECC) DDR4 at 1866/2133 MHz, up to 32 GB
  - Supports SW Raid 0/1/5/10
  - Supports triple display (VGA/2 DVI D)
  - Compliant with PICMG 1.3
In response to demands for Industry 4.0, Advantech has developed its UNO series of embedded automation computers. Equipped with advanced communication capabilities and integrated iDoor technology, UNO systems can serve as intelligent IoT gateways for smart factories to ensure convenient connection to the cloud. These cloud-enabled embedded automation computers offer scalable computing power for field site control and can support various PLCs running diverse protocols with the integration of Advantech’s WebAccess/HMI software for remote management. In addition to enabling seamless connections and transmissions to the cloud, the UNO series systems’ compact design and support for various mount options make them ideal for installation in diverse control cabinets and equipment.

### Modular Box Platforms

**UNO-2271G**  
Intel® Atom™ Pocket-Size Smart Factory Edge Gateway  
- Intel® Atom™ E3815 processor, up to 1.46 GHz, with 4 GB of DDR3L onboard memory  
- Rubber stopper design with internal reserved screws for second layer assembly  
- Built-in 32G of eMMC storage  
- Versatile mount options (DIN rail/pole/VESA/stand)

**Optimized UNO**  
UNO-2271G-E21AE  
- 2 x GbE, 1 x USB 3.0, 1 x HDMI  
- Supports additional dual stack expansion for iDoor (optional)

**Customized UNO**  
UNO-2271G-E22AE  
- 2 x GbE, 1 x USB 3.0, 1 x HDMI, 3 x USB 2.0

**UNO-2372G**  
Intel® Atom™ Small-Size Smart Factory Data Gateway  
- Intel® Atom™ E3845 processor, up to 1.91 GHz, with 4 GB of DDR3L memory  
- Rubber stopper design with internal reserved screws for second layer assembly  
- mSATA and 1 x SSD/HDD  
- Versatile mount options (DIN rail/VESA/stand)

**Optimized UNO**  
UNO-2372G-E021AE  
- 2 x GbE, 1 x USB 3.0, 3 x USB 2.0, 1 x HDMI, 1 x DP  
- Supports additional dual stack expansion for iDoor (optional)

**Universal UNO**  
UNO-2372G-E022AE  
- 2 x GbE, 1 x USB 3.0, 3 x USB 2.0, 1 x HDMI, 1 x DP  
- 2 x iDoor expansion slots

**UNO-2484G**  
Intel® Core™ i7/i5/i3 Regular-Size, High-Performance Modular Gateway  
- Intel® Core™ i7/i5/i3 processor, up to 2.6 GHz, with 8 GB of DDR4 memory  
- Ruggedized and cableless design with lockable I/O  
- Optional TPM 2.0 technology for cyber security

**Optimized UNO**  
UNO-2484G-6731AE  
- 4 x GbE, 4 x USB 3.0, 1 x HDMI, 1 x DP (4K), 4 x RS232/422/485  
- Supports additional dual stack expansion for iDoor (optional)

**Universal UNO**  
UNO-2484G-6732AE  
- 4 x GbE, 4 x USB 3.0, 5 x HDMI, 1 x DP (4K), 4 x RS232/422/485, 4 x iDoor expansion slots

**Customized UNO**  
UNO-2484G-6732H5AE  
- 4 x GbE, 4 x USB 3.0, 1 x HDMI, 1 x DP (4K), 4 x RS232/422/485

**UNO-2484G-6732S2AE**  
- 2 x hot-swappable storage
Control Cabinet PCs

UNO-1251G / 1252G
Micro-Size DIN-Rail Industrial IoT Gateway
• Intel® Quark™ / TI Cortex A8 processor with 256MB memory
• UNO-1252G: 2 x LAN, 2 x USB, 2 x mPCIe, 2 x COM, 8 x DI/DO, 1 x microSD, 1 x SIM, 1 x iDoor
• UNO-1251G: 2 x LAN, 1 x USB, 1 x mPCIe, 3 x COM, 1 x CAN, 2 x microSD, 1 x microSIM
• Programmable OLED display for indicating system status

UNO-1372G
Intel® Atom™ Quad-Core Small-Size DIN-Rail Controller
• Intel® Atom E3845, 1.91 GHz, processor with 4 GB of DDR3L memory
• UNO-1372G-E0: 2x GbE, 1 x mPCIe, 3 x USB 2.0, 1 x USB 3.0, 4 x RS-232/422/485, 1 x DP, 1 x HDMI, 8 x DI/DO, 1 x iDoor
• UNO-1372G-E3: 3 x GbE, 3 x mPCIe, 2 x USB 2.0, 1 x USB 3.0, 1 x RS-232, 1 x RS422/485, 1 x VGA, 1 x HDMI, 8 x DI/DO, 1 x Line-out, 1 x iDoor
• Redundant power and easy-access swappable RTC battery

UNO-1372G
Intel® Atom™ Quad-Core Small-Size DIN-Rail Controller
• Intel® Atom E3845, 1.91 GHz, processor with 4 GB of DDR3L memory
• UNO-1372G-E0: 2x GbE, 1 x mPCIe, 3 x USB 2.0, 1 x USB 3.0, 4 x RS-232/422/485, 1 x DP, 1 x HDMI, 8 x DI/DO, 1 x iDoor
• UNO-1372G-E3: 3 x GbE, 3 x mPCIe, 2 x USB 2.0, 1 x USB 3.0, 1 x RS-232, 1 x RS422/485, 1 x VGA, 1 x HDMI, 8 x DI/DO, 1 x Line-out, 1 x iDoor
• Redundant power and easy-access swappable RTC battery

UNO-1483G
Intel® Core™ i3 Standard-Size DIN-Rail Controller
• 4th Gen Intel® Core™ i3 processor, up to 1.7 GHz, with 8 GB of DDR3L memory
• 4 x GbE, 3 x mPCIe, 1 x PCIe x1, 2 x USB 2.0, 2 x USB 3.0, 1 x RS232, 2 x RS422/485, 1 x VGA, 1 x DP, 8 x DI/DO, 1 x Line Out, 1 x iDoor
• Redundant power and easy-access swappable RTC battery

iDoor Modules

UNO-3283G / 3285G
Intel® Core™ i 1 Wall Mount Automation Computer
• 6th Gen Intel® Core™ i processor with 8 GB of DDR4 memory
• 2 x GbE, 6 x USB 3.0, 2 x RS232/422/485, 1 x DVI-I, 1 x HDMI, 1 x CFast 1 x iDoor, 2 x mPCIe
(UNO-3283G: 2 x PCI/PCIe, UNO-3285G: 4 x PCI/PCIe)
• Dual hot-swappable HDD/SSD slots with thumb screws for easy maintenance
• Redundant power input

UNO-3382G/3384G
Intel® Core™ i7/ Celeron®  Book Mount Automation Computer
• 6th Gen Intel® Core™ i7/Celeron® processors with 4/8 GB of DDR3L memory
• 2 x GbE, 2 x USB 2.0, 2 x USB 3.0, 1 x RS232/422/485, 1 x DP, 1 x HDMI, 2 x mPCIe, 1 x CFast, 2 x iDoor
(UNO-3382G 4 x PCI/PCIe)
• Dual hot-swappable HDD/SSD slots with thumb screws for easy maintenance
• Industrial automation standard IEC-61010 certified

UNO-3483G
Intel® Core™ i7 Enclosure Mount Automation Computer
• 3rd Gen Intel® Core™ quad-core i7-3612QE processor, up to 2.1 GHz with 8 GB of DDR3L memory
• 4 x GbE, 2 x USB 2.0, 2 x USB 3.0, 1 x RS-232 (pin header), 1 x RS422/485 (pin header), 1 x VGA, 1 x HDMI, 1 x PCIe x4, 3 x mPCIe, 2 x iDoor
• Dual hot-swappable HDD/SSD slots with thumb screws for easy maintenance

Industrial Fieldbus
PCM-26 Series
Industrial fieldbus iDoor modules support commonly used automation protocols
• CANopen
• PROFIBUS
• EtherCAT
• Sercos 3
• CC-Link IE

Wireless Communication
PCM-24S Series
Wireless communication iDoor modules enhance connectivity for industrial IoT
• Wi-Fi/Bluetooth
• LTE/GPS
• LoRa
• Sigfox

Industrial I/O & Peripherals
PCM-23/24/27/29 Series
Industrial I/O & peripheral modules enable flexible I/O expansion
• RS232/422/485
• GigaLAN
• CFast slot
• USB 3.0
• TPM
• IO-Link
• Digital I/O
• MRAM
• USB dongle
• PoE
• Audio
Intelligent HMI
Leading HMI Innovations for Smart Factories

As a leading promoter of Industry 4.0, Advantech offers a diverse range of HMI products equipped with iDoor technology, including high-performance control panels, low-power industrial thin clients, web browser terminals and industrial monitors. For vertical markets such as the railway transportation and food and beverage industries, Advantech also provides reliable domain-focused products that have achieve the required IP69K, C1D2, and EN50155 certifications. Advantech has developed a new generation of modular solutions that can be interchangeably combined into diverse configurations according to specific usage requirements, offering customers a quick time to market and high expandability for Industry 4.0.

High-Performance Control Panels

TPC-1x82 Series
12”/15”/17” TFT LED LCD
Intel® Core™ i3 Touch Panel Computer
- Intel® Core™ i3-5010U/4010U, 1.7/2.1 GHz, with 4 GB of DDR3L SDRAM with 5-wire resistive touch screen
- Expandable system IO, isolated digital IO, fieldbus, and communication via iDoor technology
- Supports 2 x USB 3.0 and HDMI ports for independent displays

TPC-1x81WP Series
15.6/18.5” TFT LED LCD
Intel® Core™ i7/I3 with PCT Multi-Touch Panel Computer
- Intel® Core™ i3-6100U processor with 8 GB of DDR4 SODIMM
- Modular design for flexible configuration and easy maintenance and upgrade
- Various front panel sizes that support either PCT touch for multi-touch control or 5-wire resistive touch
- Built-in Trusted Platform Module (TPM) 2.0
- 3 x GBE, 1 x full-size mini-PCIe with iDoor technology and 1 x half-size PCIe
- Built-in NFC/Wi-Fi antenna for enhanced connectivity

TPC-5000 Series
Modular 12/15/17/18.5/21.5 LED LCD with 6th Gen. Intel® Core™ i7/i3/Celeron Multi-Touch Panel Computer
- Intel® Core™ i3-6100U processor with 8 GB of DDR4 SODIMM
- Modular design for flexible configuration and easy maintenance and upgrade
- Various front panel sizes that support either PCT touch for multi-touch control or 5-wire resistive touch
- Built-in Trusted Platform Module (TPM) 2.0
- 3 x GBE, 1 x full-size mini-PCIe with iDoor technology and 1 x half-size PCIe
- Built-in NFC/Wi-Fi antenna for enhanced connectivity
Industrial Thin Clients

**TPC-2000 Series**

Modular 12/15/17/18.5/21.5 LED LCD with Intel® Atom™ Industrial Thin Client

- Intel® Atom™ E3940 quad-core processor, 1.8 GHz, with 4 GB of DDR3L SODIMM
- Modular design for flexible configuration and easy maintenance and upgrades
- Various front panel sizes that support either PCT touch for multi-touch control or 5-wire resistive touch
- Built-in intelligent Home key and ikey provide an intuitive user interface
- Supports NFC, Wi-Fi, and Bluetooth wireless communication, as well as iDoor technology
- IP66-compliant front panel and mounting

**TPC-xx51T Series**

5.7”/ 6.5”/ 12.1”/ 15”/ 17” TFT LED LCD Intel® Atom™ Dual-Core Thin Client Panel Computer

- Intel® Atom™ dual-core E3827, 1.75 GHz, processor with 4 GB of DDR3L SDRAM (Optional Intel® Celeron™ quad-core J1900 processor)
- Wide operating temperature (-20 ~ 60 °C)
- IP66-rated front panel with durable true-flat 5-wire resistive touchscreen
- Supports iDoor technology (TPC-1251T-EHKE required)

**TPC-xxWP Series**

10.1”/ 15.6” TFT LED LCD Intel® Atom™ Dual-Core Thin Client Panel Computer

- Intel® Atom™ dual-core E3827, 1.75 GHz, processor with 4 GB of DDR3L SDRAM
- Wide operating temperature (-20 ~ 55 °C)
- 7H surface hardness glass widescreen with PCT multi-touch control, IP66 rating, and true-flat design
- Supports iDoor technology (TPC-1251T-EHKE required)

**TPC-1840WP/TPC-2140WP**

18.5”/21.5” TFT LCD Multi-Touch Panel Computer with AMD Dual-Core Processor

- AMD dual-core T56E, 1.65 GHz, processor with independent GPU
- 16:9 WXGA/FHD TFT LED LCD display with PCT multi-touch control
- Built-in function and home key buttons provide an intuitive user interface
- Easy maintenance Cfast/HDD/Mini-PCIe components

Web Browser Terminals

**TPC-1000 Series**

21.5” FHD LED LCD Intel® Atom™/ RISC Panel PC

- 12”/15.6”/17”/18.5”/21.5” panel available upon request
- Modularized design supports expansion with secondary I/O upon demand
- Built-in NFC/Wi-Fi module for enhanced connectivity

**WebOP-3000 Series**

7”/ 10.1”/ 12” Cortex™-A8 Operator Panel

- Microsoft Windows Embedded CE 6.0
- Backup memory frame in 128 KB (64 words) without battery
- Wide operating temperature (-20 ~ 60 °C)
- Flat-sealed front panel with IP66 rating

Domain-Focused Panel PCs

**SPC Series**

All-around IP66 Rated 18.5”/21.5” Stationary Panel with Intel® i3/i5/i7/ AMD® Dual Core Processor

- Intel® Core™ i3-4010U/AMD G-series T56N processor
- 7H surface hardness glass widescreen with true-flat design, all-around IP66 rating VESA mount support
- Waterproof M12 I/O : 1 x RS-232, 1 x USB, and 2 x LAN (Customization is allowed)
- Winner of the 2013 iF product design award

**IPPC-5211WS**

18.5”/21.5” TFT LED LCD with PCT Touch Panel

- Intel® Celeron™ quad-core J1900, 2 GHz, processor
- 21.5” full HD, TFT LED LCD display
- IP66K rating with corrosion-proof stainless steel housing
- Supports detachable accessories for various applications

**TPC-8100TR**

10.4” EN50155-Certified Railway Panel Computer

- Intel® Atom™ dual-core N2600, 1.6 GHz, processor
- All-around IP65 rated front panel with waterproof M12 connector
- Wide operating temperature (-30 ~ 70 °C)
- EN50155 certified for railway applications
Panel PCs

**FPM-7000 Series**
6.5”/12”/15”/15.6”/18.5”/21.5” True-Flat Industrial Monitor with PCT/Resistive, Direct VGA, and DVI Ports
- 4:3 / 16:9 and support up to FHD with LED backlight and seamless, true-flat design
- 7H surface hardness glass panel with PCT touchscreen and IP66 rating
- Supports multi-touch control via USB interface
- Robust design with SECC chassis and magnesium alloy front panel

**PPC-3001 Series**
15”/15.6”/21.5” 6th/4th Gen Intel® Core™ i5 Fanless Panel PC
- Intel® Core™ i5-6300U/4300U, 2.4 GHz, processor
- True-flat, IP65-rated front bezel with optional PCAP or resistive touchscreen
- Supports 1 x PCIe x4/PCI x1 bus expansion
- Built-in isolated RS-422/485 with auto flow control
- Optional CF and CFast modules

**PPC-3000 Series**
10.4”/12.1”/15”/17”/19” Intel® Atom™ Quad-Core Fanless Panel PC
- Intel® Atom™ quad-core E3845, 1.91 GHz, processor
- Wide operating temperature (-20 – 60 °C)
- Wide input voltage (9 – 32 VDC)
- 1 x PCI/PCIe expansion slot
- Built-in isolated RS-422/485 with auto flow control
- Optional CF and CFast modules

**PPC-6000C Series**
15”/17”/19” 6th Gen Intel® Core™ i Panel PC with Selectable Mini-ITX Motherboard
- 6th Gen Intel® Core™ i, up to 45W TDP (socket type)
- True-flat, IP65-rated, front bezel with optional resistive or PCAP touchscreen
- Selectable mini-ITX motherboard for diverse requirements
- 2 x expansion slots (1 x PCIe x4 or 2 x PCI)

**PPC-3001S Series**
21.5” 6th Gen Intel® Core™ i5 Fanless Panel PC
- Intel® Core™ i5-6300U, 2.4 GHz, processor
- True-flat, IP65-rated front bezel with PCAP touchscreen
- Wide input voltage (12 – 24 VDC)

**PPC-3000S Series**
6.5”/10.4”/12.1”/15”/21.5” Intel® Celeron Dual/Quad-Core Fanless Panel PC
- Intel® Celeron quad-core N2930, 1.83 GHz, processor
- True-flat, IP65-rated front bezel with optional resistive or PCAP touchscreen
- Compact fanless design with solid AI alloy enclosure
- Wide input voltage (12 – 24 VDC)

**PPC-6000C Series**
15”/17”/19” 6th Gen Intel® Core™ i Panel PC with Selectable Mini-ITX Motherboard
- 6th Gen Intel® Core™ i, up to 45W TDP (socket type)
- True-flat, IP65-rated, front bezel with optional resistive or PCAP touchscreen
- Selectable mini-ITX motherboard for diverse requirements
- 2 x expansion slots (1 x PCIe x4 or 2 x PCI)

Industrial Monitors

**FPM-7000 Series**
6.5”/12”/15”/15.6”/18.5”/21.5” True-Flat Industrial Monitor with PCT/Resistive, Direct VGA, and DVI Ports
- 4:3 / 16:9 and support up to FHD with LED backlight and seamless, true-flat design
- 7H surface hardness glass panel with PCT touchscreen and IP66 rating
- Supports multi-touch control via USB interface
- Robust design with SECC chassis and magnesium alloy front panel

**FPM-7212W**
21.5” Full HD Industrial Monitor with Modularized Design
- 12”/15”/17”/18.5”/21.5” monitor sizes available upon request
- Built-in NFC and Wi-Fi module for enhanced connectivity
- Picture-in-picture functionality supported
- Dual system input (KVM)
- Long-distance video transmission with iLink
- Module-in-module design with customizable I/O interface
Control IPCs

Star Product Highlights

APAX-5580
Embedded Control IPC
- Supports CODESYS V3.5 RTE
- Onboard fieldbus support for EtherCAT, PROFINET, Ethernet/IP
- PLC-graded RTC battery with 10-year lifecycle
- Supports up to 8 x local and 32 x remote COM ports
- Supports up to 32 x APAX expansion I/O, 768 x digital I/O, 192 x analog inputs

APAX-5580CDS
CODESYS-Ready Control Platform
- Supports CODESYS V3.5 RTE
- Onboard fieldbus support for EtherCAT, PROFINET, Ethernet/IP
- PLC-graded RTC battery with 10-year lifecycle
- Supports up to 8 x local and 32 x remote COM ports
- Supports up to 32 x APAX expansion I/O, 768 x digital I/O, 192 x analog inputs

APAX-5090
Local Bus Communication Module
- 4 x RS232/422/485 ports
- Up to 32 x visual COM ports with APAX-5580
- Supports a distributed topology with APAX bus

APAX-5017H
12-Ch High-Speed Analog Input Module
- 4 – 20mA ±10V input voltage and current
- Each channel can be configured to different input types and ranges
- 100/1000 sampling rate per channel

APAX-5080
4/8-Ch High-Speed Counter Module
- 5 x counter modes (Up, Up/Down, Pulse/Direction, A/B phase) with 0.1 – 1 MHz frequency
- 4 x D/I channels for counter gate inputs
- 4 x D/O channels for alarm outputs

Control IPCs
Scalable PC-based Automation Controllers for Smart Factories

Advantech’s APAX series products leverage embedded computing technology and a modular system design. Featuring flexible I/O expansion, real-time fieldbus and I/O control, and network connectivity using various interfaces, the APAX series provides integrated control systems and an open environment that can be integrated with unique software to provide a bridge between operational technology (OT) and information technology (IT).

APAX-5070/ 5071/ 5072
Fieldbus Communication Coupler
- APAX-5070 supports 1ms Modbus response time
- Flexible Modbus mapping table
- Supports UDP data streaming and event alarms

APAX-5435
iDoor Interface Module
- Supports fieldbus and telecommunication with Advantech iDoor technology
- Supports mSATA for data storage

APAX-5490
RS232/422/485 Module
- Change RS232/422/485 mode via hardware switch
- Auto flow control in RS485 mode
- Isolation protection

APAX-5430
SATA HDD Module
- SATA I/II/III 2.5" HDD/SDD
- Supports RAID 0/1
**TagLink Enabled Edge DAQ Platforms**

Intelligent and Secure Data Acquisition with TagLink Technology

Advantech TagLink is a technology dedicated to future IIoT data gateway applications; it is the reliable way to bridge the data from OT to IT. The “link” refers to the secured intelligent link provided between edge device and the cloud. The flexibility and compatibility of TagLink allow users to have a wider variety of platforms to choose, from RISC-based to X86 platforms, for remote area with wide temperature or larger number of I/O tags. By using Advantech TagLink technology, users can shorten development lead time and lower the cost of implementation by leveraging the same software interface.

---

**TagLink Technology**

**Application Software**

Data Gateway application software
- Integrated data conditioning and reduction
- Cloud interface via MQTT protocol
- IT integration via Restful APIs
- Multi-protocol switched service
- Unified configuration for data source management and connectivity
- Real-time data storage and forwarding via ODBC and FTP
- Firewall and data encryption-based security

**TagLink Cloud**

Cloud-Based Communication Software
- Unified interface between data gateways and cloud applications
- Real-time and historical data pool management
- Multiple database interface support
- Easy integration with the cloud

---

**Remote Terminal Units**

ADAM-3600-C2G
4-Slot Remote Terminal Unit with 2 x LAN, 3 x COM, and Dual Wireless Interfaces
- ARM® Cortex®-A8 600 MHz processor with DDR3L 256 MB RAM
- Supports DNP3, IEC-60870-5-104, Modbus protocols
- Supports OpenVPN, HTTP, HTTPS (RESTful), WASCADA protocols
- RT-Linux OS with TagLink real-time database
- 2 x internal Mini PCIe interface for dual wireless networking
- Zigbee/ Wi-Fi/ 3G/ 4G/ GPRS/ GPS wireless capabilities
- C programming language SDK support
- Wide operating temperature (-40 ~ 70 °C)
- Supports iCDManager for remote connectivity diagnosis
- SQLite database for data logging on SD card

**DA&C Systems**

ADAM-5000 I/O Rack
ADAM-5000 rack systems feature 4/8 I/O slots and provide Modbus/RTU and Modbus/TCP communication interfaces for remote configuration via Ethernet
- ADAM-5000/TCP also can serve as a gateway for Remote Terminal Units
- ADAM-5000 series devices support daisy-chain topology
- Supports up to 224 x local isolated DI/O
- Supports up to 56 x analog data acquisition module at various range

**RISC-Based Gateways**

ECU-1000 Series
ARM® Cortex®-A8 Power Automation Gateways
- 2 x 10/100MB LAN, 4 x RS232/485 COM
- 1 x Mini PCIe for wireless expansion
- Wide operating temperature (-40 ~ 70 °C)

ECU-1251
ARM® Cortex®-A8 800 MHz processor with 256 MB DDR3L
- 2 x 10/100MB LAN, 4 x RS232/485 COM

ECU-1152
ARM® Cortex®-A8 800 MHz processor with 512 MB DDR3L
- 2 x 10/100MB LAN, 6 x RS232/485 COM
Industrial Networking

Seamless Data Connectivity from the Network Edge to the Core

The Advantech B+B SmartWorx line of industrial networking products provides robust, reliable, and sophisticated connectivity from the network edge through to the network core. These products are capable of transmitting data over copper cables, fiber optics, and wireless connections and translating between multiple network protocols, regardless of whether data is collected by legacy serial and Modbus devices or the latest industrial IoT equipment. For wired connections in harsh environments, the Advantech B+B SmartWorx line offers rugged devices for ensuring data flow and isolated devices for preventing electrical surges. Alternatively, if wired connectivity is impractical, Advantech also offers a wide range of industrial-grade wireless solutions to guarantee data transmissions in any environment.

Wireless Sensing Platforms

Wzzard Mesh Platform
Wireless Mesh I/O Sensors – Intelligent Sensing Platform
- Ultra low power consumption
- Minimum 5-year lifecycle based on 1-min sensor sampling intervals
- 802.15.4e SmartMesh IP technology
- Supports MQTT and JSON IoT protocols
- UL Class 1/Division 2 hazardous locations rating
- Rugged, IP67-rated, reinforced-fiber polyester PBT enclosure*
- Ultra compact design (0.09 kg)

Wzzard LRPv
Wireless LoRa I/O Sensors – Intelligent Sensing Platform
- Low power consumption for solar and battery power applications
- Long-range, wide-area IoT gateway
- Rugged, IP67-rated, reinforced-fiber polyester PBT enclosure
- LoRa private protocol for closing system applications

LTE Routers & Gateways

SL30x Series
SmartStart Routers & Gateways
- LTE/UMTS/HSDPA+ /UMTS/HSDPA/GPRS/EDGE
- Wi-Fi (optional)
- 2 x SIM card holders
- Advanced security and networking features
- Low-power mode
- UL 60950-1 certification for hazardous locations

SR30x Series
SmartFlex Routers & Gateway
- LTE/UMTS/HSDPA+/UMTS/HSDPA/GPRS/EDGE
- Wi-Fi (optional); GPS receiver (wired version not included)
- 2 x SIM card holders, MicroSD card holder
- PoE PD/PSE (optional)
- Advanced security and networking features
- Low-power mode
- ATEX – UL C1D2 and ATEX certification for hazardous locations

ST35x Series
SmartMotion Routers & Gateway
- Twin interdependent cellular modules for redundant reliability
- Load balancing function
- Wi-Fi (optional); GPS receiver (wired version not included)
- 4 x SIM card holders and MicroSD card holder
- PoE PD/PSE (optional)
- Advanced security and networking features
- Low-power mode

Intelligent Gateway

SmartSwarm 351 Asset Integration Gateway
Seamlessly integrates data from legacy Modbus systems, devices, and sensors for industrial IoT applications
- Protocol translation and Modbus and MQTT support
- Communications and connectivity management
- Data enrichment transforms cryptic PLC data into semantically searchable content
- Event triggering and data transmissions without duplication
- Data aggregation and reporting to reduce network traffic
- Authentication and encryption features for data security
Star Product Highlights

Industrial Communication
Simplifying Connectivity for the Industrial IoT

Advantech leverages over 20 years of industry experience to develop industrial communication products that provide reliable wired and wireless communication solutions (3G, GPRS, and WLAN) for mission-critical applications. These products include industrial Ethernet switches, industrial protocol gateways, wireless access points/clients, media converters, serial device servers, cellular IP gateways, and Modbus gateways that are capable of securely transmitting critical and sensitive information, remotely monitoring and controlling networked devices, and delivering advanced communication capabilities for industrial applications.

Protocol Gateways

**EKI-1221IEIMB**
Modbus TCP to EthernetIP Protocol Gateway
- Integrated Modbus TCP and EtherNet/IP network connectivity
- Supports up to 64 connections on Modbus TCP Master mode
- Supports Modbus TCP function codes 1, 2, 3, 4, 5, 6, 15, 16, 23
- Support 32 explicit messaging and 5 implicit messaging
- Max I/O data capacity of 384 bytes in each direction

**EKI-1221IPNMB**
Modbus TCP to PROFINET Protocol Gateway
- Integrated Modbus TCP and PROFINET network connectivity
- Supports Modbus TCP function codes 1, 2, 3, 4, 5, 6, 15, 16, 23
- PROFINET uplink configuration via GSDML file
- Max I/O data capacity of 384 bytes in each direction
- Supports diagnosis function

Serial Device Servers

**EKI-1526/EKI-1528**
16/8-Port RS232/422/485 Rackmount Serial Device Server
- Connect up to 8 x 16-port RS-232/422/485 devices directly to TCP/IP networks
- High-speed baud rates (50 bps – 976.5 Kbps) for high volume transmissions
- VCOM, TCP server, TCP Client, UDP, and RFC2217 operating modes

**EKI-1528-DR**
8-Port RS232/422/485 DIN Rail Serial Device Server
- 2 x 10/100 Mbps Ethernet port for LAN redundancy
- VCOM, TCP server, TCP Client, UDP and RFC2217 operating mode
- Models support a wide operating temperature; CI models support isolation and wide operating temperature

**EKI-1520 Series**
1/2/4-Port RS232/422/485 Serial Device Server
- 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- VCOM, TCP server, TCP Client, UDP and RFC2217 operating modes
- Models support a wide operating temperature; CI models support isolation and wide operating temperature

Modbus Gateway

**EKI-1220 Series**
1/2/4-Port Modbus Gateway
- Supports redundancy enhanced Modbus ID
- Integration of Modbus TCP and Modbus RTU/ASCII networks
- Models support a wide operating temperature; CI models support isolation and wide operating temperatures

WLAN Device Servers

**EKI-1360 Series**
1/2-Port RS232/422/485 to 802.11b/g/n WLAN Serial/Modbus Device Servers
- 2 x 10/100 Mbps Ethernet port for LAN redundancy
- VCOM, TCP server, TCP Client, UDP and RFC2217 operating mode
- Models support a wide operating temperature; CI models support isolation and wide operating temperature

Industrial Wireless AP/ Clients

**EKI-6331AN/ 6332GN**
802.11N WiFi AP/ Bridge/ Client
- Compliant with IEEE 802.11 a/n and 802.11 b/g/n
- High output power
- Fast roaming
- IP55 rating for water tolerance
**L3 Switches**

**EKI-9700/9600 Series**
Industrial Layer 3 Managed Switch
- Static routing/NAT (EKI-9612G, EKI-9628G)
- Static routing, RIPv2, OSPF v2, VRRP (EKI-9728G)
- Supports up to 4 x 10GbE fiber ports (EKI-9728G)
- Wide operating temperature

**Protocol Switches**

**EKI-5500/5600-EI Series**
Enter-Level Managed Switch with EtherNet/IP Protocol Support
- EtherNet/IP protocol
- EDS files /AOI available
- FactoryTalk compliant Faceplate
- Dual 12 ~ 48 VDC power input and P-Fail relay
- EMS level 3 protection

**Fully Managed Ethernet Switches**

**EKI-7428G-4CI**
Industrial Rackmount Managed Switch
- IXM for rapid deployment
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB
- Wide operating temperature (-40 ~ 70 °C)
- 12 ~ 48 VDC dual power inputs
- EN50121-4 and NEMA TS2 certified

**EKI-7700 Series**
Industrial Managed Switch
- Gigabit / FastEthernet ports + Gigabit Copper/SFP combo ports models available
- IXM function enables fast deployment
- IP30-rated chassis design
- EN50121-4 and NEMA TS2 certified

**Rackmount PoE Switch**

**EKI-7428G-4CPI**
Industrial Rackmount Managed Switch with 24G PoE, 4G Combo Ports
- 24 x IEEE 802.3 afrat PoE Gigabit ports, 4 x Gigabit copper/SFP combo ports
- IXM for rapid deployment
- Management: SNMP v1v2c/v3, WEB, Telnet, Standard MIB
- Wide operating temperature (-40 ~ 70 °C)
- EN50121-4 and NEMA TS2 certified

**Unmanaged PoE Switch**

**EKI-5500/2000 Series**
Unmanaged PoE/PoE+ Industrial Ethernet Switch
- Compact size
- Redundant power design
- Wide operating temperature (-40 ~ 75 °C)
- IP30-rated chassis design

**Fully Managed PoE Switch**

**EKI-9500 Series**
M12 Managed Ethernet Switch with EN-50155 Certification
- All Gigabit connections support dual ring protection and non-blocking traffic forwarding
- M12 connector with IP67 protection
- IEEE 802.3af/802.3at per port with system PoE power Management (PoE models)
- Wide operating temperature (-40 ~ 75 °C)

**IEC61850 Switch**

**EKI-9228 Series**
Industrial Rackmount Managed Switch with IEC-61850 Certification
- 16 x Gigabit RJ-45 ports, 4 x SFP ports, 8 x Gigabit combo ports
- SFP socket for easy and flexible fiber expansion
- Gigabit X-Ring redundancy (ultra-high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D), MSTP
- Dual wide-range AC/DC power input

**Viewable Unmanaged Switches**

**EKI-5500/5600-PN Series**
EKI-5500/5600-PN Series
- Real-time PROFINET protocol
- Media Redundancy Protocol (MRP) Master/Slave
- GSD files available
- Wide operating temperature (-40 ~ 70 °C)
- IEEE 802.3az Energy Efficient Ethernet (EEE)

**Software**

**WebAccess/NMS**
Network Management System
- Cross-browser compatible
- Online Google Maps and offline OpenStreetMap support
- Supports all Advantech Ethernet-based products
- Automatically generated topology
- PoE, ring, wireless, cellular connection indication
With increasing demand for wireless applications, Advantech has launched a wide variety of wireless sensing devices. The WISE-4000 series of wireless Ethernet I/O modules features RESTful APIs and HTML5 technology to facilitate data retrieval, settings configuration, and device troubleshooting via mobile devices. The WISE-4200/4400/4600 wireless sensor nodes utilize low-power wide-area network (LPWAN) technology, making them ideal solutions for both indoor and outdoor energy & environment monitoring applications. The WISE-2000 real-time location system and RFID gateway deliver short-distance wireless communication, Bluetooth, and RFID for location-based services. By offering cloud platform connectivity and MQTT protocol support, Advantech’s WISE IoT sensing devices can facilitate and streamline IoT big data applications.
Realizing Big Data for IIoT with Remote I/O via SNMP and MQTT Protocols

To support the realization of IoT and Industry 4.0, Advantech offers versatile products designed to increase productivity with the provision of RS-485 and Ethernet-enabled I/O for diverse application needs.

In demanding industrial environments, automation networks typically use RS-485 and Ethernet protocols for transmitting serial signals. Advantech’s RS-485-based ADAM-4000/4100 series, Ethernet-based ADAM-6000 series, and daisy-chained Ethernet-based ADAM-6200 series products increase the ease of managing field devices by facilitating remote identification, monitoring, and configuration. To date, more than 1 million ADAM devices have been adopted by various industries for industrial automation, environment and facility management, and intelligent transportation applications with verifiable efficiency.

### Daisy-Chained Ethernet I/O Modules

**ADAM-6200 Series**
- Daisy chain connection with auto-bypass protection
- Auto-calibration without input
- Supports HTML5, Java Script, XML web languages
- Supports GCL and Peer-to-Peer functions
- Group configuration capability
- DI/O LED indicators
- Safe value settings for digital output or relay failure

**Module Selection**

- **Isolated Analog I/O Modbus TCP Module**
  - ADAM-6217: 8-ch AI
  - ADAM-6224: 4-ch AO & 4-ch DI

- **Isolated Digital I/O Modbus TCP Module**
  - ADAM-6250: 8-ch DI & 7-ch DO
  - ADAM-6251: 16-ch DI
  - ADAM-6256: 16-ch DO

- **Relay Output Modbus TCP Module (with DI)**
  - ADAM-6260: 6-ch RL
  - ADAM-6266: 4-ch RL & 4-ch DI

### Real-Time Ethernet I/O Modules

**ADAM-6100 Series**
- Daisy chain connection functionality
- Coupler-free design
- GSD, LSK and EDS file ready for network commissioning
- 2,500 VDC isolation protection

**Module Selection**

- **(PROFINET:PN , EtherNet/IP:EI)**

- **Isolated Analog I/O Module**
  - ADAM-6117EI/PN: 8-ch AI

- **Relay Output Module**
  - ADAM-6160: EI/PN 6-ch RL

- **Isolated Digital I/O Module**
  - ADAM-6150EI/PN: 8-ch DI & 7-ch DO
  - ADAM-6151EI/PN: 16-ch DI
  - ADAM-6156EI/PN: 16-ch DO

### Smart Ethernet I/O Modules

**ADAM-6000 Series**
- Modbus TCP/IP, UDP and HTTP protocol
- Embedded web server
- Data stream and event trigger
- Supports GCL and Peer-to-Peer functions
- Supports C#.NET, VB.NET
- Supports SNMP and MQTT protocols

**Module Selection**

- **Isolated Analog I/O Modbus TCP Module**
  - ADAM-6017: 8-ch AI & 2-ch DO

- **Isolated Digital I/O Modbus TCP Module**
  - ADAM-6050: 12-ch DI & 6-ch DO

- **Relay Output Modbus TCP Module**
  - ADAM-6060: 6-ch DI & 6-ch Relay
  - ADAM-6066: 6-ch DI & 6-ch Power Relay

### RS-485 I/O Modules

**ADAM-4000/4100 Series**

- **ADAM-4000**
  - Supports Modbus RTU protocol
  - ±35 VDC over voltage protection
  - 3000 VDC voltage isolation

- **ADAM-4100**
  - Supports Modbus RTU protocol
  - ±35 VDC over voltage protection
  - 3000 VDC voltage isolation
  - Wide operating temperature (-40 ~ 85 °C/-40 ~ 185 °F)
  - 1KV surge, 3KV EFT, 8KV ESD protection
  - High common mode voltage (200 VDC)
  - Burnout detection
  - USB connection interface

**Module Selection**

- **Isolated Analog I/O Module**
  - ADAM-4117: Robust 8-ch AI
  - ADAM-4024: 4-ch AO & 4-ch DI

- **Isolated Thermocouple/RTD Input Module**
  - ADAM-4118: Robust 8-ch TC

- **Isolated Digital I/O Module**
  - ADAM-4051: 16-ch DI
  - ADAM-4055: 8-ch DI & 8-ch DO
  - ADAM-4150: 7-ch DI & 8-ch DO
  - ADAM-4168: 8-ch Relay
Advantech offers a wide range of industrial data acquisition and control devices with various interfaces and functions. Based on PC technology, from ISA to PCI Express, as well as signal conditioning and graphical software tools, Advantech’s industrial I/O products are reliable, accurate, affordable, and suitable for diverse industrial automation applications, such as testing and measurement, laboratory operations, machine automation, and production testing. Moreover, Advantech’s latest DAQNavi I/O driver supports Windows 7, 8, 10, and Linux OS, enabling customers to seamlessly integrate data acquisition cards with the latest platforms for improved performance and reduced development time.

### PCI Express DAQ Cards

#### PCIE-1730
32-Ch TTL and 32-Ch Isolated DI/O PCI Express Card
- 16-channel TTL DI and 16-channel TTL DO with 5 V compatibility
- 16-channel isolated DI and 16-channel isolated DO with 24 V compatibility
- High-voltage isolation on all isolated DI/O channels (2,500 VDC)

#### PCIE-1752/1754/1756
64-Ch Isolated DI/O PCI Express Card
- PCIE-1752: 64-channel isolated DO
- PCIE-1754: 64-channel isolated DI
- PCIE-1756: 32-channel DI, 32-channel DO
- High-voltage isolation on all channels (2,500 VDC)
- Retains output settings and values after system hot reset
-Interrupt handling capacity

#### PCIE-1812
16-Bit, 8-Ch Simultaneous Sampling Multi-Function PCI Express Card
- 8 x differential simultaneous sampling analog inputs, up to 250 kS/s, 16-bit resolution
- 2 analog outputs, up to 3 MS/s, 16-bit resolution
- 2 x analog triggers and 2 x digital triggers for AI/O
- 32 x programmable DI/O with interrupt function

### PCI DAQ Cards

#### PCI-1714U/1714UL
4-Ch Simultaneous Analog Input PCI Card
- A/D converter for each channel
- PCI-1714U: 12-bit, 30 MS/s, 4-channel single-ended AI
- PCI-1714UL: 12-bit, 10 MS/s, 4-channel single-ended AI
- 30 VDC over-voltage protection

#### PCI-1716/L
250KS/s, 16-Ch Multi-Function PCI Card
- 16 x single-ended, 8 x differential/combination analog inputs
- 16-bit A/D converter, up to 250 kHz sampling rate
- Automatic calibration
- 16-channel DI/O and 16-channel DO

#### PCI-1730U/1756
32/64-Ch Isolated DI/O Universal PCI Card
- High-voltage isolation on output channels (2,500 VDC)
- Wide output voltage (5 – 40 VDC)
- High sink current for isolated output channels (200 mA max/channel)
- Current protection for each port

### Data Acquisition and Control

Diverse Form Factors to Satisfy All DAQ Requirements
USB DAQ Modules

USB-4711/4716
150 kS/s, 12-Bit/200 kS/s, 16-Bit
16-Ch Multi-Function USB Module
- 2 x analog output channels
- 5V/TTL-compatible DI/O (8 inputs, 8 outputs)
- 1 counter for event counting, frequency measurement, and PWM output
- Lockable USB cable for connection security

USB-4750
32-Ch Isolated DI/O USB Module
- 16 isolated DI and 16 isolated DO channels
- 2 isolated counters for event counting and frequency measurement
- Retains last output value after system hot reset
- 2,500 VDC isolation protection

USB-4761
8-Ch Relay and 8-Ch Isolated DI USB Module
- 8-channel Form C (SPDT) relay channels
- Relay contact rating 0.25 A @ 250 VAC, 2 A @ 30 VDC
- LED indicators show activated relay
- 2,500 VDC isolation protection

Communication Solutions

PCI-1600/PCIE-1600
2/4/8-Port PCI/PCIE Serial Communication Card with Surge/Isolation Protection
- PCI/PCIE-1604/1610/1620: RS232 port
- PCI/PCIE-1602/1612/1622: RS232/422/485 port
- Optional surge/isolation protection
- Fast data transmission speeds, up to 921.6 kbps

PCI-1680
2-Port CAN Bus Universal PCI Communication Card with CANopen Support
- Supports two simultaneous CAN networks
- Fast data transmission speed, up to 1 Mbps
- 16 MHz CAN controller frequency
- Isolation protection to 2,500 VDC

USB-4630
4-Port Isolated USB 3.0 SuperSpeed Hub
- The world’s first isolated USB 3.0 SuperSpeed Hub
- Up to 5 Gbps transfer speeds
- 2,500 VDC voltage isolation for upstream ports
- Lockable USB 3.0 cable is included
- Powerable via a USB bus or 10 ~ 30 VDC external power source

EtherCAT Remote I/O Modules

AMAX-4830
16-Ch Isolated D/I and 16-Ch Isolated D/O EtherCAT Remote I/O Module
- Suitable for EtherCAT networks
- 2,500 VDC isolation
- Quick-remove European-type connector
- Supports distributed clock (DC) mode
- LED indicators for I/O status

AMAX-4856
32-Ch Isolated D/I and 32-Ch Isolated D/O EtherCAT Remote I/O Module
- Suitable for EtherCAT networks
- 3,500 VDC isolation
- Quick-remove European-type connector
- Supports distributed clock (DC) mode
- LED indicators for I/O status

AMAX-4860
8-Ch Isolated D/I and 8-Ch Relay EtherCAT Remote I/O Module
- Suitable for EtherCAT networks
- 8-ch isolated D/I and 8-ch Form A relay output
- Quick-remove European-type connector
- Supports distributed clock (DC) mode
- LED indicators for I/O status

Data Acquisition Computer

MIC-1810/1816
12/16-bit Data Acquisition Platform with Intel® Core™ i3/ Celeron® Processor
- Intel® Celeron® 1047UE/Core™ i3-3217UE processor, 1.4/1.6 GHz
- 2 x 10/100/1000 Base-T RJ45 LAN ports
- 2 x USB 2.0 and 2 x USB 3.0 ports
- 2 x analog inputs, up to 500 Ks/s, 12-bit resolution (MIC-1810)
- Support for digital and analog triggers
- 24 x programmable DI/O
- 2 x 32-bit programmable counter/timers
- Onboard FIFO memory (4k samples)
- 2 x RS232 ports
- 16 x analog inputs, up to 1 Ms/s, 16-bit resolution (MIC-1816)
Star Product Highlights

Machine Automation
Integrated Soft Computing to Enable Intelligent Machines

Advantech has independently developed a unique SoftMotion kernel and innovative GigE Vision offload engine that uses FPGA (Field Programmable Gate Array), DSP (Digital Signal Processing Unit) and ARM as the core-computing platform. Advantech’s PCI and PCIE motion cards and all-in-one systems not only provide versatile solutions, but also deliver optimum motion performance and fulfill the demands of OEM machine makers and system integrator. Our new motion solutions also support EtherCAT for distributed, deterministic motion and I/O capability. MAS and VPS are our new SRP offerings for motion control and machine vision, enabling customers to continuously advance their technologies.

EtherCAT Solutions

**High Precision**
- Motion master cycle time: 500 us for 6/10/16/32 axes
- I/O master cycle time: 200 us

**Real Time**
- Embedded RTOS for real-time motion control
- User-friendly basic script for stored procedures

**Ease of Use**
- Unified API for rapid development
- SoftMotion Engine for vertical applications

**Integration**
- Supports versatile EtherCAT servo/stepping motor
- Pulse train control via EtherCAT motion module
- Automatic connection of EtherCAT slaves throughout network

Programmable Motion Control Solutions

**Single Programming Environment with Motion Studio**
- Simple motion commands with BASIC language
- Extensive debugging tools for automation applications
- Seamlessly integrated motion control, machine vision, I/O
- C-Integration supports DLLs written in C/C++ using the Motion Studio tool, which converts C/C++ library to BASIC
- Communication interface for HMI or SCADA-type systems

**Real-Time SoftMotion Kernel**
- Single-axis motion, multi-axis interpolation, trajectory planning and tracking
- Compare and trigger high-speed latch

Automatic Vision Inspection Solutions

**Configurable Application Software**
- Easy-to-configure and deploy an application without programming
- Intuitive GUI shortens the learning curve

**Industrial-grade and Compact**
- IP40 and fanless system
- 7-year longevity
- Palm size (137 x 50 x 118 mm)

**Versatile I/O for the Factory Floor**
- PWM lighting control
- Debounce filter digital input with interrupt
- Compliant with GigE Vision cameras
Star Product Highlights

Power & Energy Automation

Ensuring Reliable Automation with IEC 61850-3-Compliant Solutions

Advantech’s IEC 61850-3-compliant computers, extension cards, and gateway products are developed to meet the critical requirements of distributed solar power generation, electricity consumption, and factory monitoring applications in the power and energy industries. The powerful ECU-4000 series automation computers are primarily designed for use in smart substations and can be integrated with a wide variety of computing platforms to enhance power transmission and substation automation. Meanwhile, the ECU-1152/1251/4553 RISC-based automation gateways with their robust design, wireless connectivity, multiple protocol support, and WebAccess integration provide a flexible and robust open platform for convenient secondary development.

Automation Platforms

**ECU-4784-Xeon**
TUV IEC-61850-3-Certified Power Automation Computer with Intel® Xeon® E3 Processor and I/O Expansion Slots
- Intel® Xeon® quad-core E3-1505L processor, 2.0 GHz, with 16G of DDR4 ECC SDRAM
- 8 x 10/100/1000MB LAN, 2 x RS232, 8 x RS232/422/485 COMs
- 2 x I/O expansion slots
- Supports iCDManager/ VT-D/ AMT/ TPM

**ECU-4784-i7/i3/Celeron**
TUV IEC-61850-3-Certified Power Automation Computer with Intel® Core™ i7 Processor and I/O Expansion Slots
- Intel® Core™ i7 4650U/Core™ i3 4010U/ Celeron® 2980U processor
- 8 x 10/100/1000MB LAN, 2 x RS232, 8 x RS232/422/485 COMs
- 2 x I/O expansion slots
- Supports iCDManager/ VT-D/ AMT/ TPM

**ECU-1152**
ARM® Cortex®-A8 Power Automation Gateway with 2 x LAN, 6 x COM
- ARM® Cortex®-A8 800 MHz processor with 512 MB DDR3L
- 2 x 10/100 MB LAN, 6 x RS232/485 COM
- 1 x Mini PCIe for wireless expansion
- Wide operating temperature (-40 – 70 °C)

**ECU-1251**
ARM® Cortex®-A8 Power Automation Gateway with 2 x LAN, 4 x COM
- ARM® Cortex®-A8 800 MHz processor with 256 MB DDR3L
- 2 x 10/100MB LAN, 4 x RS232/422/485 COM
- 1 x Mini PCIe for wireless expansion
- Wide operating temperature (-40 – 70 °C)

**ECU-1152/1251/4553**
RISC-Based Automation Gateways
- Natural design
- Wireless connectivity
- Multiple protocol support
- WebAccess integration
- Provide a flexible and robust open platform for convenient secondary development.

XPCle Cards

**ECU-P1524PE(HSR/PRP)**
2-Port SFP Gigabit Base Ethernet Card with HSR/PRP
- 2 x SFP (1000 Mbps Base-X)
- 2 x SFP (HSR/PRP, selection via jumper)
- Wide operating temperature (-25 – 70 °C)

**UNOP-1514CE/RE/PE(LAN)**
4 x Fiber Optics/RJ45/SFP Ethernet Card
- 100MB Base-FX, up to 2 km, 4 x SC-type fiber ports (1514C)
- 10/100/1000MB RJ45 type (1514RE)
- 1000 Mbps SFP type (1514PE)
- Wide operating temperature (20 – 70 °C)

**ECU-P1628D/1618D(COM)**
8-Port Isolated/Non-Isolated RS232/422/485 Card
- RS-232: 50 – 115.2 kbps (max.)
- RS-222/485: 50 – 921.6 kbps (max.)
- 2500 VDC Isolation (ECU-P1628D)
- Operating Temperature: -20 – 70°C