

# Advantech Industrial IoT Systems and Devices Star Product Guide

- ✓ Vertical Solutions & Solution-Ready Packages (SRPs)
- ✓ Server & Storage
- ✓ Edge Computing
- ✓ Intelligent Connectivity
- ✓ Edge Sensing



WebAccess

**ADVANTECH**

*Enabling an Intelligent Planet*

[www.advantech.com](http://www.advantech.com)

# Enabling IIoT and Industry 4.0 with Sector-Focused Solutions and Intelligent Automation



Transportation

iFactory

Industrial Equipment

**Solution-Ready**



Factory Energy Management



CNC Machine Monitoring



OEE Monitoring



Factory Situation Room



**WebAccess/DMP**

Device Management and Provisioning

**WebAccess/MCM**

Machine Condition Monitoring

**WebAccess/CNC**

CNC Monitoring

**WISE-PaaS/EdgeLink**

M2I Edge Engine

**WebAccess/HMI**

HMI Runtime Development

**ADVANTECH**

**WISE-P**

IoT Edge Inter



WISE-PaaS RESTful APIs



CoAP



**Vertical-Focused Devices**

Transportation

Machine Automation

Power and Energy

Rolling Stock Solutions

Wayside Solutions



EN 50155

EN 50121-4

Machine Vision



IEC 61850-3 Platforms/Switches



Servers and Storage



Human Ma

EtherCAT Solutions/Motion Control



Energy Gateways



Industrial Wireless Solutions

**iConnectivity**



Industrial Eth

**Industrial IoT Platform**





Smart Manufacturing

Energy and Environment

General Industrial IoT

## Packages



Machine Automation



Water Treatment Management



Air Quality Monitoring



Energy Management

3rd Party Cloud

### WebAccess/SCADA

IoT Application Software Platform

WISE.M+ Management Platform

### WISE-PaaS/SignageCMS

Signage Content Management

### WebAccess/NMS

Network Management

### WISE-PaaS/RMM

Remote Monitoring and Management

PaaS Intelligence



Node-RED Packages



## Intelligent Automation Systems



Machine Interface



Modular IPCs



Industrial PCs



Embedded Automation Computers



ETHERCAT CODESYS

Slice I/O and Controller

## I/O & Video Cards



EtherCAT I/O Modules



Data Acquisition Computers, Cards, and USB Modules

## iSensing Devices



Ethernet Solutions



Edge DAQ Devices



Remote I/O Modules



Wireless I/O Modules and Sensor Nodes

## Forms & Devices

# Edge Solution-Ready Packages

## Realize your Digital Transformation in Industrial IoT

In order to more efficiently realize Industry 4.0 and increase its reliability for factory applications, devices must be equipped with edge computing abilities. Edge intelligence can enhance data-driven decision making and boost productivity. In collaboration with a diverse array of software partners, Advantech developed a new series of Edge solution-ready packages (Edge SRPs) equipped with varying edge computing abilities and services to satisfy a wide range of market needs.



## Edge Data Collector



WISE-PaaS/ EdgeLink

### ESRP-PCS-WISE710

#### PLC-Side Protocol Converter

- Supports multiple PLC protocol drivers for data conversion
- Enhances cyber security with embedded security chip
- Bridges the gap between OT and IT

#### SRP Package

- PLC protocol converter with EdgeLink, 1 x micro SD, 2 x LAN, 3 x COM, 4 x DI/DO



WISE-PaaS/ EdgeLink

### ESRP-PCS-UNO420

#### PoE-Powered Device Sensing Gateway

- Can adapt to various data acquisition devices
- Enables cloud connectivity for full data utilization
- Ensures easy installation with Power over Ethernet

#### SRP Package

- PoE sensing gateway with EdgeLink, 1 x USB 3.0, 1 x HDMI, 2 x LAN, 3 x COM, 4 x DI/DO



WISE-PaaS/ EdgeLink

### ESRP-PCS-ADAM3600

#### Wireless Intelligent Remote Terminal Unit

- Modular I/O combined for monitoring a variety of equipment conditions
- Data Publishing service by OPC-UA, MQTT & LwM2M
- IT-friendly user interface

#### SRP Package

- Wireless Intelligent Remote Terminal Unit with EdgeLink, 2 x LAN, 3 x COM, 8 x AI, 8 x DI, 4 x DO, 4GB storage



WISE-PaaS/ EdgeLink

### ESRP-PCS-ECU1051/ ESRP-PCS-ECU1251

#### Cloud-enabled Equipment Protocol Gateway

- Data publishing service by OPC-UA, MQTT & LwM2M
- Advanced Network Redundant Policy for reliable connectivity
- IT-friendly user interface

#### SRP Package

- ECU-1251 with EdgeLink, 2 x LAN, 4 x COM, 4GB storage
- ECU-1051 with EdgeLink, 2 x LAN, 2 x COM, 4GB storage



WISE-PaaS/ EdgeLink

### ESRP-PCS-ECU4553

#### Facility protocol gateway

- Data publishing service by OPC UA, FTP, ODBC(SQL) and JDBC(Oracle)
- 4 x LAN, 16 x RS-232/485
- Modbus/DLMS to support AMI

#### SRP Package

- ECU-4553 with EdgeLink, 4 x LAN, 16 x COM, 4GB storage

## Edge/Controller



### ESRP-SCS-UNO1372

#### Real-Time SoftPLC and SoftMotion Cabinet Controller

- Open controller with real-time fieldbus control
- Reduces downtime with powerful visualization management
- Flexible integration with diverse database connectivity options

#### SRP Package

- Cabinet controller, CODESYS RTE with SoftMotion + Visualization (Target and Web), UNO-1372G-J021AE, 4 GB RAM, CANopen, 128 GB SSD, WES7P



### ESRP-SCS-TPC5152

#### Real-Time SoftPLC and SoftMotion Panel Controller

- Supports master real-time fieldbus protocols
- Support HMI design and visualization for management
- Supports real-time dual fieldbus data acquisition of PROFINET and EtherCAT communications

#### SRP Package

- Panel controller, CODESYS RTE with SoftMotion + Visualization (Target and Web), TPC-5152T-633AE, 8GB RAM, CANopen, 128GB SSD, WES7P



### ESRP-SCS-W5580

#### High Performance Compact Controller with EtherCAT Slice IO Expansion

- Supports EtherCAT cable redundancy for system availability
- Rich upstream connectivity with cloud database and service
- Easy integration interface for PoE / GigE / USB 3.0 for vision applications

#### SRP Package

- High Performance Compact Controller, SoftMotion + Target Visualization, RAM, 128GB SSD, WES7P

## Edge/Visualizer



WebAccess/HMI

### ESRP-HMI-TPCB200

#### Machine Visualization with Various Display Sizes

- Provides complete HMI functionality
- Supports 450 PLC communication protocols for excellent connectivity
- Various display module sizes for diverse visualization applications

#### SRP Package

- MachineGB visualization solution with WebAccess/HMI, 1500 tags, TPC-B200-J12AE, 4GB RAM, 64GB SSD, and Windows 10



WebAccess/SCADA

### ESRP-SCA-TPCB200

#### Process Visualization with Various Display Sizes

- Easy operation on any browser with 100% HTML5 web-based SCADA
- Open interfaces and database connectivity ensures flexible integration
- Reliable and continuous operation with SCADA redundancy

#### SRP Package

- Process visualization solution with WebAccess/SCADA 8.3 Professional, 1500 tags, TPC-B200-J12AE, 4GB RAM, 64GB SSD, and Windows 10



THINMANAGER

### ESRP-CMS-UNO2362

#### Centralized Management of Multiple Displays

- Minimize downtime cost with diskless platform
- Control multi-tasking visualization remotely
- Maintain numerous PCs with centralized management

#### SRP Package

- Shop floor display, ThinManager with PXE boot, UNO-2362, 1 x HDMI, 1 x DP

## Edge/Analyzer



Microsoft Azure

### ESRP-CSS-UNO2484

#### Intelligent Platform with Azure IoT Edge

- Extends cloud intelligence and analytics to edge devices
- Boosts productivity and response times with data insights
- Offers secure cloud communication and edge intelligence

#### SRP Package

- Intelligent platform with Azure IoT Edge, UNO-2484G-7531AE, 8GB RAM, 32GB SSD, AdvLinuxTU



EDGE CROSS CONSORTIUM

### ESRP-MPM-UNO3382

#### Diagnosis and Preventive Maintenance Platform

- Provides real-time diagnosis and detection of abnormal signals
- Enables analytics customization with an instinctive user interface
- Prevents data losses with a data logger system

#### SRP Package

- Diagnosis and preventive maintenance platform, EDGE CROSS, UNO-3382G-474AE, 8GB RAM, 64GB SSD, Windows 10 IoT Enterprise LTSB



Vision Express

### ESRP-MVS-AIIS3410

#### Intelligent Vision Inspection System

- User-friendly, flowchart-based user interface
- Sensor to software total solution
- Equipped with the Vision Express suite of machine vision software tools

#### SRP Package

- 4-CH USB Vision, i5-7500 CPU vision system with Vision Express
- 4-CH GigE Vision, i7-7700 CPU vision system with Vision Express

## Edge/Networking



Filter meter

Control cabinet

Power generation

Industrial Fields

### ESRP-PCS-ICR3231

#### IEC 101/104 Protocol Conversion and Remote Management

- Secure Internet connectivity for devices and LANs via a cellular network
- Managing and monitoring substations using the IEC 60870-5 communication protocol
- Bidirectional conversion between IEC101 and IEC104 protocols

#### SRP Package

- ICR-3231  
Industrial Cellular Router Supports IEC 60870-5 Communication Protocol



RESTful APIs

WebAccess/DMP

### ESRP-CMS-SR304

#### Advantech Router and Gateway Remote Management, Monitoring and Provisioning Platform

- Cellular router with remote management and monitoring feature
- Zero touch provisioning
- Device configuration, diagnostics and management platform

#### SRP Package

- BB-SR304  
Industrial Dual-SIM Cellular Router Supports WebAccess/DMP



WebAccess/NMS

### ESRP-CMS-EKI7710

#### Cloud Management System for Predictive Maintenance and Optimize Operation

- Predictive maintenance for efficient predictive action and plan for system maintenance
- Locate the position on Google Maps and OpenStreetMap
- Locate network devices via auto topology discovery function

#### SRP Package

- EKI-7710E-2CI  
8FE+2G Combo Managed Ethernet Switch, -40~75°C



### ESRP-FTS-EKI7712

#### Auto-Configuration for Easy System Administration and Operation

- Auto configuration backup and restore
- Easy system administration and operation
- Reduced system downtime

#### SRP Package

- EKI-7712E-4FI  
8FE+4G SFP Managed Ethernet Switch, -40~75°C



# iFactory and M2I Solution-Ready Packages

## Designed for Industry 4.0 Applications

In response to increasing demand for Industry 4.0 technology, Advantech has aimed to create data-driven solutions that enable intelligent manufacturing that is more flexible and responsive. To highlight this, iFactory solutions are targeted at markets that seek to utilize smart factories, whereas M2I/CNC solutions are designed to enhance CNC intelligent machine monitoring.



## Overall Equipment Effectiveness (OEE) Solution

Real-time Machine Availability Management for Maximizing Operational Excellence

- Complete data acquisition from heterogeneous machines for machine availability management and production information analysis
- Dashboard visualization of real-time machine status and stoppages to enable root cause analysis for maximizing machine utilization and productivity

### OEE Edge



**WISE-PaaS/EdgeLink**

#### SRP Package

- OEE Edge: SRP-IFS210-D36TAE

### OEE Lite Server

iFactory/OEE



**WebAccess/SCADA**

#### SRP Package

- OEE Lite Server: SRP-IFS230-M77F01A
- Industrial Application Solution for iFactory/OEE: 32OTLOEE0001A0

### OEE Enterprise Server

iFactory/OEE



**WebAccess/SCADA**

#### SRP Package

- OEE Enterprise Server: SRP-IFS230-H82F01A
- Industrial Application Solution for iFactory/OEE: 32OTLOEE0002A0

### OEE Cloud Service

iFactory/OEE



**WISE-PaaS/EnSaaS**

#### SRP Package

- Industrial Cloud Solution for iFactory/OEE: 9803WPOE01

## Factory Energy Management Solution (FEMS)

Centralized Monitoring and Management for Factory Energy Efficiency Optimization

- Intuitive dashboard management to visualize data and easily generate analysis reports
- Energy consumption statistics and analysis to identify energy wastage and reduce business energy cost

### FEMS Edge



**WISE-PaaS/EdgeLink**

#### SRP Package

- FEMS Edge: SRP-IFS420-E12TAE

### FEMS Lite Server

iFactory/FEMS



**WebAccess/SCADA**

#### SRP Package

- FEMS Lite Server: SRP-IFS420-M77F01A
- Industrial Application Solution for iFactory/FEMS: 32OTLFEM0001A0

### FEMS Enterprise Server

iFactory/FEMS



**WebAccess/SCADA**

#### SRP Package

- FEMS Enterprise Server: SRP-IFS420-H82F01A
- Industrial Application Solution for iFactory/FEMS: 32OTLFEM0002A0

### FEMS Cloud Service

iFactory/FEMS



**WISE-PaaS/EnSaaS**

#### SRP Package

- Industrial Cloud Solution for iFactory/FEMS: 9803WPEM01

## CNC Machine Management Solution



IoT Cloud Solution for CNC Machine Management and Visualization

- Real-time machine monitoring : machine status and distribution/ work order progress/ spindle feed override
- CNC machine-to-cloud instantly for centralized cross-factory data management
- CNC machine connectivity by CNC edge
- Easy protocol conversion for all major CNC controllers

#### SRP Package

- M2I/CNC Generic Cloud Service on WISE-PaaS
- CNC Edge: ESRP-CNC-UNO1372

# Energy and Environment Solution-Ready Packages

## Accelerating Cloud-enabled Industrial IoT and Smart City Applications

Given the growing public concern regarding energy and the environment, Advantech's E&E SRPs have an industrial IoT focus on the processes of sensing, control monitoring, remote communication, and data management. By combining these technologies with WebAccess and WISE-PaaS, both of which are reliable tools for information integration and data analysis, our E&E SRP can be widely utilized across various E&E industries.



## Central Management

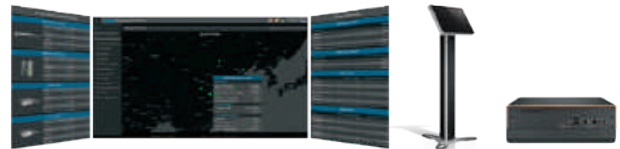


WISE-PaaS/WISE.M+

Data Server



Application Server



### Industrial IoT Cloud-Based Management Service

- Fully customized group and device profile management
- Easy-to-use dashboard wizard
- Alarm and report management
- Connectivity management

### Field Sites

Total energy management, pump station management, water treatment, urban river management, air pollution monitoring, and data center monitoring

### Situation Room Series

- Multi-screen integration for creating a highly visualizable control room
- Optimizing management and evaluating efficiency
- Ruggedized fanless industrial display server and HD display quality

### Field Sites

Solar power management, wind power management, facility energy management, and industrial park energy management

## Field Site Solutions



WebAccess/EMS

### E&E SRP-400

#### Energy Management Solution

- Data acquisition sensors and meters
- Customized energy consumption reports
- Built-in formula for energy management

#### SRP Package

1 x EMS, 1 x WebAccess/SCADA w/ 5000 tags, 1 x UNO-2484G, 1 x ECU-1251



WebAccess/SPMS

### E&E SRP-410

#### Solar Power Management Solution

- Hierarchical visualization and 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



WebAccess/SCADA

### E&E SRP-WMS420

#### Water Treatment Solution

- Monitoring and analysis for operational efficiency
- Reliable and stable seamless integration
- Data acquisition for different equipment types

#### SRP Package

1 x WMS, 1 x WebAccess/ SCADA w/ 20000 tags, 1 x ECU-4784, 1 x ADAM-3600

## Edge Intelligence Solutions



WISE-PaaS/ EdgeLink

### ESRP-PCS-ADAM3600

#### Wireless Intelligent Remote Terminal Unit

- Modular I/O combined for variety equipment condition monitoring
- Data Publish service by OPC-UA, MQTT & LwM2M
- IT friendly user interface

#### SRP Package

• Wireless Intelligent Remote Terminal Unit with EdgeLink, 2 x LAN, 3 x COM, 8 x AI, 8 x DI, 4 x DO, 4GB storage



WISE-PaaS/ EdgeLink

### ESRP-PCS-ECU1051

#### Cloud-enabled Equipment Protocol Gateway

- Data Publish service by OPC-UA, MQTT & LwM2M
- Advanced Network Redundant Policy for reliable connectivity
- IT friendly user interface

#### SRP Package

• ECU-1051 with EdgeLink, 2 x LAN, 2 x COM, 4GB storage



WISE-PaaS/ EdgeLink

### ESRP-PCS-ECU1251

#### Cloud-enabled Equipment Protocol Gateway

- Data Publish service by OPC-UA, MQTT & LwM2M
- Advanced Network Redundant Policy for reliable connectivity
- IT friendly user interface

#### SRP Package

• ECU-1251 with EdgeLink, 2 x LAN, 4 x COM, 4GB storage

# Machine Automation

## Integrated Soft Computing to Enable Intelligent Machines

Advantech has a unique SoftMotion kernel, EtherCAT solution, for distributed, deterministic motion and I/O capability, and for the innovative GigE Vision offload engine that uses field programmable gate arrays (FPGA), digital signal processing (DSP) units, and Arm® processors as the core-computing platform. Advantech also provides versatile application ready platforms and software tools for motion control and machine vision, enabling customers to continuously advance their technologies.



## Programmable Motion Control Software



WebAccess/MotionS

### Motion Studio Motion Studio Software Development Tool

- Shortened learning curve: easy to program with BASIC language
- Extensive debugging tools for machine control applications
- Fast learning, programing, and service
- Provides industry ARP software module for users to develop applications quickly

## Configurable Application Software



EzBuilder

### EzBuilder Configurable Machine Vision Application Software

- Intuitive GUI that does not require programming skills
- Cross-platform support, compatible with embedded systems and smart cameras
- Supports up to 4 GigE Vision-compliant cameras
- Flexible licensing options, including identification, and alignment modules

## PC-Based Programmable Motion Controller



### MAS Controller PC-based Motion Controller Open Platform Multi-Axis Controller

- Seamlessly integrated motion control, machine vision, and I/O components
- Open standard interface for communication and database connectivity
- **Real-Time SoftMotion Kernel**
  - Up to 6-axis interpolation, trajectory planning, and tracking
  - Rich motion functions for XYZ table and SCADA control

## Compact Embedded Vision System



### VPS-3100 Intel® N3160 Processor, 2 ports GigE Vision Platform with Lighting Control

- Intel® Quad-cores 1.6GHz
- Compact form factor, fanless vision system
- Built-in PWM lighting control
- Trigger over Ethernet (ToE) supported
- GigE vision offload Engine (GoE)
- GenICam compliant

## Motion Control Cards and Modules



NEW

### PCIE-1203 64-axis EtherCAT PCIE Master Card

- 2 x EtherCAT ports for high-performance of 64-axis Motion and I/O applications
- Supports common motion SDK for rapid application development
- On-board D-sub offers 2 channel encoders, latch inputs and compare trigger outputs
- Supports 1D/2D position compare function



NEW

### AMAX-3245 Advanced 4-axis EtherCAT Motion Slave Modules

- Max. 5 MHz, 4-axis pulse output
- Encoder input is 10 MHz for 4xAB mode, 2.5 MHz for CW/CCW mode
- BoardID is switchable
- Easily visible LED indicators on board to do diagnosis
- Direct wire to servo drive to save terminal board space while installing



NEW

### PCIE-1245 DSP-based 4-axis Stepping and Servo Motor Control PCIE Card

- Supports common motion SDK for rapid application development
- Supports PTP/Linear/Circular/Helical interpolation, path table for continuous trajectory control and 1D/2D position comparison



NEW

### ICAM-7000 Series 1.2-5M Smart Camera

- High performance multi-core processor (Intel® ATOM® Processor E3930, 1.30 GHz) and FPGA heterogeneous computing
- Up to 5.0MP resolution with advanced image preprocessing
- IP67 rating ultra-small form factor



# Power and Energy Solutions

## Ensuring Reliable Solutions in the Changing Energy Market

To ensure safety and reliability that strengthens the energy management and monitoring of distributed energy stations, renewable energy sources, grid infrastructure, and manufacturing consumption, Advantech offers the ruggedized, IEC-61850-3 compliant ECU series that includes automation controllers, gateways, and data acquisition modules.



## Automation Platforms



### ECU-4784 Series

TUV IEC-61850-3-Certified Power Automation Computer

- Intel® Xeon® quad-core E3-1505L processor (2.0 GHz) w/ 16 GB of DDR4 ECC RAM
- Intel® Core™ i7 4650U/ Core™ i3 4010U/ Celeron® 2980U processor w/ 8 GB of DDR3L RAM
- 8 x 10/ 100/ 1000MB LAN, 2 x RS-232, 8 x RS-232/ 422/ 485 serial ports
- 2 x I/O expansion slots
- Supports iCDManager/ VT-D/ AMT/ TPM



### ECU-4576

IEC-61850-3-Compliant Power Automation Computer w/ Intel® Celeron® 2980U Processor

- Intel® Celeron 2980U processor (1.6 GHz) w/ 4 GB of DDR3L RAM
- 6 x 10/ 100/ 1000MB LAN, 2 x RS-232, 8 x RS-232/ 485 serial ports
- 2 x relay output, 1 x IRIG-B
- 1 x mini-PCIe slot (full size)

## XPCIe Cards



### ECU-P1524SPE (HSR/PRP)

PCIe 2-Port SFP Ethernet card with HSR/PRP support

- 2 x SFP (1000 Mbps Base-X)
- 2 x SFP (100/1000 Mbps HSR/PRP, selection via jumper)
- Wide operating temperature range (-25~70 °C)



### ECU-P1524PE (HSR/PRP)

2-Port SFP Gigabit Ethernet card with HSR/PRP support

- 2 x SFP (1000 Mbps Base-X)
- 2 x SFP (HSR/PRP, selection via jumper)
- Wide operating temperature range (-25~70 °C)



### ECU-P1628D/ 1618D (COM)

8-Port Isolated/ Non-Isolated RS-232/ 422/ 485 Card

- RS-232: 50~115.2 kbps (max.)
- RS-422/ 485: 50~921.6 kbps (max.)
- 2500 V<sub>DC</sub> isolation (ECU-P1628D)
- Wide operating temperature range (-20~70 °C)

## RISC-Based Gateways



### ECU-1251

IEC-61850-3-Compliant Cortex® A8 Power Automation Gateway with 2 x LAN, 4 x COM

- Arm® Cortex® A8 800-MHz processor w/ 256 MB of DDR3L RAM
- 2 x 10/ 100 MB LAN, 4 x RS-232/ 485 serial ports
- 1 x mini-PCIe slot for wireless expansion
- Wide operating temperature range (-40~70 °C)



### ECU-1152

IEC-61850-3-Compliant Cortex® A8 Power Automation Gateway with 2 x LAN, 6 x COM

- Arm® Cortex® A8 800-MHz processor w/ 512 MB of DDR3L RAM
- 2 x 10/ 100 MB LAN, 6 x RS-232/ 485 serial ports
- 1 x mini-PCIe slot for wireless expansion
- Wide operating temperature range (-40~70 °C)



### ECU-4553

IEC-61850-Compliant Cortex® A8 Power Automation Gateway with 4 x LAN, 16 x COM

- ARM® Cortex® A8 800-MHz processor w/ 1 GB of DDR3L RAM
- 4 x 10/ 100MB LAN, 16 x RS-232/ 485 serial ports
- 2 x CAN 2.0b, 1 x IRIG-B
- Wide operating temperature range (-40~70 °C)

# Intelligent Transportation Systems

## Total Solutions for Modern Infrastructures

With a decade of successful experience, Advantech has dedicated resources to designing and developing new products designed for the transportation industry. These products support both railway and roadway applications, including railway automatic fare collection, wayside control, rolling stock, city traffic management, highway management, transport hubs, and more. Our mission is to enable intelligent transportation systems, which also helps us fulfill our vision of creating and delivering smart city technologies.



## Rugged-design Computer Platform



EN 50155

### ITA-5831

#### EN 50155-Certified Compact Fanless System

- Intel® Core™ i7/i5/Celeron platform with QM170
- Satisfies EN 50155 Tx (-40~70°C) and IEC 61373 body mount Class B standards
- Compliant with EMC standard EN 50121-3-2 for rolling stock apparatus
- Ruggedized communication and power port connectors (M12)
- Supports easy-swap storage and I/O modules



EN 50155

### ITA-5231

#### EN 50155-Certified Fanless System

- H-series, 6<sup>th</sup> generation Intel® Core™ i3/i5/i7 platform with QM170
- Satisfies temp. standards for EN 50155 TX (-40~70°C) and IEC 61373 body mount class B
- Compliant with EN 50121-3-2/ EN 50121-4 on EMC compatibility
- Ruggedized connectors (M12) used for communication and power ports
- Supports easy-swap storage and I/O modules

## Display System



### ARS-P3800

#### EN50155-Certified 38" Railway Panel PC w/ AMD® Embedded G-Series Processor

- 38" LCD panel w/ 1920 x 540 resolution
- 1 x GbE (M12), 1 x USB 2.0 (M12)
- Certified with EN50155 T1 (-25~55°C), IEC 61373 Class B, EN 45545
- IP54 rating ensures protection against dust/ water ingress
- Fanless, anti-shock and anti-vibration design



### ITA-1711

#### Intel® Celeron™ J1900 Fanless Compact System

- 4 GB of DDR3 onboard RAM w/ optional NVRAM
- 2 x LAN, 6 x USB, 14 x COM, and 1 x USB 3.0 ports
- Replaceable secondary display (VGA 2/ DVI-D/ LVDS)
- Supports dual outputs of full HD resolution video
- Serial RS-232/ 422/ 485 ports support with automatic flow control



EN 50121-4

### ITA-2231

#### EN50121-4-Compliant 2U Fanless System

- Intel® 6<sup>th</sup> Gen Core™ i7 processor w/ 16 GB of DDR4 RAM (up to 32 GB via DIMM expansion)
- Compliant with EN 50121-4 EMC standard for railway applications
- Provides 3 x ITA-EM modules, 1 x PCI104, and 1 x Mini PCIe slots for expansion
- Wide operating temperature range (-25~60 °C)
- Supports single/ dual power modules

## Touch Panel PC



EN 50155

NEW

### ITA-8100

#### EN50155-Certified 10.4" Railway Panel PC with Intel® Atom™ X Series Processor

- 10.4" LCD touch panel w/ 1024 x 768 resolution
- 2x GbE, 1x USB 2.0, 2x RS-422/ 485, 1x Audio, 1x DIO (M12)
- Wide voltage input range: 24/ 48/ 72-110 V<sub>DC</sub> (±40%)
- Wide operating temperature range: -40~70 °C

## EN50155 Switches



### EKI-9500 Series

#### 28/16/12/10/8-Port EN50155 Rolling Stock Switch

- EN50155, EN50121-3-2, IEC61373 certified
- PoE/ PoE+ models are available
- Various port combination with Fast Ethernet/ Giga Ethernet option
- IP40/ IP54/ IP67 and rugged housing



### EKI-9512E-4GETB

#### EN50155 Rolling Stock NAT Router for Ethernet Train Backbone

- EN50155, EN50121-3-2, IEC61373 certified
- IEC 61375 compliant - TRDP & TTDP for railway application
- Layer 3 routing function - VRRP, R-NAT for on-board routing

## Managed Ethernet Switch for Road Transportation



### EKI-7700 Series

#### Transportation Industrial Managed Switch

- Designed for railway trackside application with EN50121-4 certified
- NEMA TS2 certified to fulfill road transportation's demand
- Supports X-Ring Pro redundancy protocol for critical application

# AI Technology, Server and Storage Solutions

## Artificial Intelligence Platforms For IIoT System

Implementing AI technology is important for advancing the scope of IIoT. AI technologies are highly tailored to individual tasks and each application requires specialized research and unique construction. Advantech has developed a complete AI platform, from edge sensing, edge AI system, inference server, light and heavy training server, to storage solutions. Our mission is to provide extraordinary AI technology under different applications in IIoT scenarios.



## Deep Learning Training Server



### SKY-642

High Density GPU Server (4U 10C)

- Dual Intel Xeon Scalable Family Processor, up to 24 DIMM slots
- Dual 10G-RJ45
- 11x PCIe x16 slots, support up to 10 double deck GPU cards, peer-to-peer support
- 12 x 3.5"/2.5" drive bays
- System fan with hot-swappable feature



### SKY-524

Multi-Node, High Density & Flexible Storage Server (2U 4 Node)

- Cutting edge technology, the latest Intel Xeon scalable family, up to 24 DIMMs per node
- Flexible IO option
- NVMe and SAS3 12G support onboard RAID
- Support two on-board M.2 2280 slots per node
- 2 x PCIe x16 expansion slots



### HCI Platform Solution for AIoT

Quick Start, Simple Scale, and Fully Built with Various AI Applications on HCI Platform

- Ability to pass-through Intel GVT-g and NVIDIA GPUs and scale out as your needs grow
- Offering a comprehensive access of GPU-accelerated containers and virtual machines for deep-learning software
- Built-in workflows and templates to enable your team to focus on AI goals rather than infrastructure complexities

## Edge AI System



### MIC-7200

Ultra Small Form Factor Ruggedized Edge AI System

- Powered by NVIDIA Jetson Tegra X2 (TX2)
- Ubuntu 16.04 OS and JetPack 3.3 supported
- Built ruggedized for harsh environments
- <15W low power consumption w/o PoE
- Rich standard I/O interfaces
- Support isolation PoE and USB 3.0 for cameras
- -20 °C ~ +60 °C operation temperature



### MIC-7700+MIC-75G20

Intel® 6<sup>th</sup>/7<sup>th</sup> Generation Core i Desktop Compact Fanless System GPU with iModule

- Intel® 6<sup>th</sup>/7<sup>th</sup> Gen Core™ i CPU socket-type (LGA1151) with Intel® Q170/ H110 chipset
- Offering powerful GPU solution with nVIDIA 250W, 2-slot width/285mm length GPU cards for new AI application
- Dual 24Voc power inputs with reliable power and OCP solution for up to 600W maximum peak power currency



### Edge AI Solution for Transportation

Quick Deployment, Easy Maintenance, and Industrial Design to Edge AI Applications

- Flexibility to leverage a variety of NVIDIA GPUs to meet deep learning computing at the edge
- Fanless, wide-temperature and compact designed systems to make AI inference possible in harsh environments
- Excellent product offering to deploy for traffic monitoring, security surveillance and quality inspection

## Workstation and Storage Solution



### HPC-7484 + ASMB-935

WorkStation for Equipment Builder (4U Tower Server)

- Dual Xeon Scalable processors
- DDR4 2666 MHz RDIMM up to 768 GB (24 DIMMs)
- 5 x PCIe x16 (Gen3) and 1 x PCIe x8 (Gen3)
- Dual 10GbE ports, 10 SATA3 and 6 USB3.0 ports
- 8 x hot-swap 3.5"/2.5" SAS3/SATA3 and 1 x2.5" internal drive



### HPC-8108 + ASMB-925

Storage Server (1U Rackmount Server)

- Dual Xeon Scalable processors
- DDR4 2666 MHz RDIMM up to 384 GB (12 DIMMs)
- 8 x hot-swap 2.5" SAS3/SATA3 drive bays with slim ODD
- Dual 10GbE ports
- 1 x PCIe x 16 (Gen3) expansion slot



### HPC-8104 + ASMB-786

Entry Storage Server (1U Rackmount Server)

- Supports Intel® Xeon® E & 8<sup>th</sup> Generation Core™ i7/i5/i3 processors
- DDR4 2666/2400/2133 MHz ECC/Non-ECC UDIMM up to 64 GB
- 1 x PCIe x 16 (Gen3) expansion slot
- 4-bay hot-swap 3.5"/2.5" SAS3/SATA3 drive bays with ultra slim ODD



# Intelligent Systems and Platforms

## Infrastructure for the IoT

With a diverse range of innovative technologies including cloud computing (industrial and video servers), edge computing (fanless, slim, portable devices), and high performance embedded systems, Advantech's intelligent systems are equipped with smart, secure, energy-saving features. Our intelligent systems are designed specifically for vertical markets in intelligent transportation, factory automation/machine automation, cloud infrastructure, and intelligent video application sectors.

### Intelligent Systems

Pursuing IoT Evolution with I-Cloud and Intelligent Systems



Production Automation



Industrial Cloud



Network Security



Equipment Builder



Intelligent Video

## Modular Industrial Computer



### MIC-770

Compact Fanless System with 8<sup>th</sup> Gen Intel® Core™ i CPU Socket

- Intel® 8th Gen Core™ i CPU socket-type (LGA1151) with Intel® Q370/H310 chipset
- Wide operating temperature (-10 ~ 50 °C)
- VGA and HDMI output
- 2 x GigaLAN, 2 x USB 3.1 and 6 x USB 3.0



### MIC-7700+ MIC-75G20

Desktop Compact Fanless System with GPU iModule

- Intel® 6<sup>th</sup>/7<sup>th</sup> Gen Core™ i CPU socket-type (LGA1151) with Intel® Q170/ H110 chipset
- Offering powerful GPU solution with nVIDIA 250W, 2-slot width/285mm length GPU cards for new AI application
- Dual 24VDC power inputs with reliable power and OCP solution for up to 600W maximum peak power currency



### MIC-7200

Edge AI System with Ultra Small Form Factor Rugged Design

- Powered by NVIDIA Jetson Tegra X2
- Ubuntu 16.04 OS and JetPack supported
- Built ruggedized for harsh environments
- <15W low power consumption
- Rich standard I/O interfaces
- Supports isolation PoE and USB 3.0 for cameras
- -20°C ~ +60°C operation temperature



### AIIS-3410 U/P

Compact Vision System, Intel® 6<sup>th</sup>/ 7<sup>th</sup> Gen Core™ i CPU, 4-ch Camera Interface for GigE PoE or USB 3.0

- Intel® 6th/ 7th Gen Core™ i CPU (LGA1151)
- AIIS-3410P: 4-ch GbE PoE
- AIIS-3410U: 4-CH USB 3.0 w/ dedicated controller
- Supports 1 x Expansion slot



### IPC-220, IPC-240

Compact Industrial Computer System with 6<sup>th</sup>/7<sup>th</sup> Gen Intel® Core™ i CPU Socket (LGA 1151)

- 2 x GigaLAN, 6 x USB 3.0 and 2 x USB 2.0
- 2 x 2.5" HDD/SSD, and 1 x mSATA
- 19 ~ 24 V<sub>DC</sub> input power range
- 2/4 PCIe/PCI slot expansions
- Supports Power Out 12V/5V - 2A
- Supports MB: PCE-2029/2129



### MIC-7420

Compact Fanless System with Intel® 6<sup>th</sup> Gen Core™ i Processor

- Intel® 6<sup>th</sup> Gen Core™ i7/i3 (BGA type) processor w/ Intel® QM170 chipset
- 8 GB of DDR4 on board memory (up to 24 GB)
- 2 x DVI, 2 x GbE LAN, 8 x USB ports
- 2 x PCIe x4/ 2 x PCI expansion slots
- 2 x 3.5"/ 2.5" HDD and 1 x M.2

## Industrial Computers



### ACP-2020

#### 2U Rackmount Short Depth Intelligent Chassis for ATX/ uATX Motherboards

- 398-mm short-depth 2U rackmount chassis
- Supports ATX/uATX single-processor motherboards
- 350W single or 500W redundant power supply
- Optional dual 2.5" or hot-swap drive bays
- Intelligent system module for smart fan, self-diagnosis, and remote management



### IPC-631

#### 4U Front I/O Short Depth Rackmount Chassis for ATX/ uATX Motherboards

- 350mm short-depth rackmount chassis
- Supports ATX/uATX single-processor motherboards, CPU TDP up to 120 W
- 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

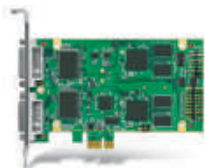


### ACP-4340

#### 4U Rackmount Intelligent Chassis with 4 Hot-Swap Drive Bays

- Supports 14-slot PICMG backplane or ATX/uATX motherboard
- Built-in 4 hot swap drive bays supporting 3.5"/2.5" HDD/SSD
- Front-accessible, easy-maintenance system fans
- Intelligent system module for smart fan control, self-diagnosis, and remote management

## Video Capture Cards

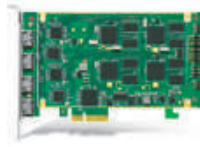


NEW

### DVP-7621HE

#### 2-ch Full HD Capture Card

- 2-channel HDMI/DVI/VGA/S-Video/YPbPr video inputs with H.264/MPEG4 hardware compression
- 60/50 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display for each channel
- PCIe x1 host interface
- Supports Watchdog function



### DVP-7637HE

#### 4-ch HDMI Full HD H.264 PCIe Capture Card

- 4-channel HDMI video input with H.264 hardware compression
- 60/50 fps (NTSC/PAL) at up to 1080p resolution for display and recording
- PCIe x4 host interface
- Windows/Linux OS supported



NEW

### AIMB-786

#### 8th Gen. Intel® Core™ i ATX Motherboard

- Intel® 8th Core™ i7/i5/i3 LGA1151 processor with Q370 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- 1 PCIe x 16, 4 PCIe x 4 Gen 3.0, 2 PCI slots, USB 3.1, SATA 3.0 (RAID 0, 1, 5, 10)
- Triple displays - VGA x 1, DVI x 1, DP x 1



NEW

### DVP-7636HE

#### 4-ch HDMI Full HD H.264 PCIe Capture Card

- 4-channel SDI video input with H.264 hardware compression
- 60/50 fps (NTSC/PAL) at up to 1080p resolution for display and recording
- PCIe x4 host interface
- Windows/Linux OS supported



### DVP-7612HE

#### 1-ch Full HD H.264 MiniPCIe Capture Card

- 1 channel HDMI/DVI/VGA channel video inputs with H.264 hardware compression
- 60/50 fps (NTSC/PAL) at up to full HD resolution for recording and display
- Mini PCIe x1 (Gen2) host interface
- Windows/Linux OS supported



NEW

### AIMB-706

#### 8th Gen. Intel® Core™ i ATX Motherboard

- Intel® 8th Core™ i7/i5/i3 LGA1151 processor with H310 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- 1 x PCIe x16 Gen 3.0, 1 x PCIe x4 Gen 2.0, 5 x PCI slots, USB 3.1, SATA 3.0
- Dual displays - VGA x 1, DVI x 1

## Slot Single-Board Computers



NEW

### PCE-5031

#### 8th Gen. Intel® Core™ i System Host Board

- Intel® 8th Gen. Core™ i7/i5/i3 LGA1151 processor with H310 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- PCIe Gen. 3.0, USB 3.1, SATA 3.0, dual GbEs
- Dual displays - VGA x 1, DVI or DP x 1



NEW

### PCE-5131

#### 8th Gen. Intel® Core™ i System Host Board

- Intel® 8th Gen. Core™ i7/i5/i3 LGA1151 processor with Q370 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- PCIe Gen. 3.0, M.2, USB 3.1, SATA 3.0 (RAID 0, 1, 5, 10), dual GbEs
- Triple displays - VGA x 1, DVI or DP x 2



### PCE-7131

#### 8th Gen. Intel® Xeon® E/ Core™ i System Host Board

- Intel® 8th Gen. Core™ i7/i5/i3/Xeon® E Family LGA1151 processor with C246 chipset
- Up to 32 GB of dual-channel (ECC/Non-ECC) DDR4 2400/2666 MHz
- PCIe Gen. 3.0, M.2, USB 3.1, SATA 3.0 (RAID 0, 1, 5, 10), dual GbEs
- Triple displays - VGA x 1, DVI or DP x 2

# Embedded Automation Computers

## Seamless Cloud Connection and Transmission for Smart Factories

To meet the needs of Industry 4.0, UNO series embedded automation box PCs, are ideal for edge computing, bridging the gap between IT and OT. The UNO series serve as flexible IoT gateways coming in different sizes and versatile mountings. Plus, they also support Advantech iDoor Technology that gives them the flexibility to configure various I/O requirements, includes wireless communication, industrial I/O and peripherals, and industrial fieldbus, based on different applications.



## Control Cabinet PCs



### UNO-3283G/3285G

#### Intel® Core™ i Wall Mount Automation Computer

- 6<sup>th</sup> Gen Intel® Core™ i processor w/ 8 GB of DDR4 RAM
- 2 x GbE, 6 x USB 3.0, 2 x RS-232/ 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
- Redundant power input



NEW

### UNO-3272G

#### Intel® Celeron J1900 Automation Computer

- Intel® Celeron® J1900 2.0GHz processor with 4GB DDR3L memory
- 3 x USB 2.0, 1 x USB 3.0, 2 x RS232/422/485, 2 x RS232, 2 x 10/100/1000BASE-T Ethernet, 2 x PCIe x1 (or 2 x PCI)
- VGA, HDMI support 2 x independent displays
- Dedicated TPM2.0 microcontroller designed for hardware security

## Edge Data Collector



NEW

### WISE-710

#### FreeScale i.MX 6 DualLite Industrial Protocol Gateway

- Freescale i.MX 6 Dual Lite A9 1GHz
- 2x GbE, 3 x COM, 4 x DI/O, 1 x Micro USB, and 1 x Micro SD Slot
- 1x Full-size mPCIe slot with USB signal
- Embedded security chip for data security



### UNO-1372G-J

#### Intel® Celeron® J1900 Small-Size DIN-rail Control PC

- Intel® Celeron® J1900 2.0GHz processor with 4GB DDR3L Memory
- 2x GbE, 2 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/O, 1 x iDoor
- Dedicated TPM2.0 onboard for hardware security



### UNO-1483G

#### Intel® Core™ i3 Standard-Sized DIN-Rail Controller

- 4<sup>th</sup> Gen Intel® Core™ i3 processor (up to 1.7 GHz)w/ 8 GB of DDR3L RAM
- 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/O, 1 x line out, 1 x iDoor
- Redundant power and easy-access swappable RTC Battery



NEW

### UNO-420

#### Intel® Atom™ PoE Powered Device Sensing Gateway

- Intel® Atom™ E3815 Processor with 2GB DDR3L onboard memory
- 2 x GbE(1 x PoE-IN), 2 x RS-232/422/485, 1 x RS-485, 1 x USB 3.0, 1 x HDMI, 8 x programmable GPIO
- 32GB eMMC storage onboard
- Ruggedized compact fanless design



## Modular Box Platforms

### UNO-2271G **NEW**

#### Intel® Atom™ Pocket-Sized Smart Factory Edge Gateway

- Intel® Atom™ E3815/E3825 processor with 4GB DDR3L onboard memory
- Built-in 32 GB of eMMC storage
- Versatile mounting options (DIN rail/ pole/ VESA/ stand)



#### UNO-2271G-E021AE

- 2 x GbE, 1 x USB 3.0, 1 x HDMI



#### UNO-2271G-E022AE

- 2 x GbE, 1 x USB 3.0, 1 x HDMI, 3 x USB 2.0



#### UNO-2271G-E023AE

- 2 x GbE, 1 x USB 3.0, 1 x HDMI, 2 x RS-232/ 422/ 485

### UNO-2372G **NEW**

#### Intel® Atom™ Small-Sized Smart Factory Data Gateway

- Intel® Atom™ E3845/ Celeron J1900 processor w/ 4 GB of DDR3L RAM
- Robust and cableless design with high stability
- Versatile mounting options (DIN rail/ VESA/ stand)
- TPM 2.0 technology for cyber security



#### UNO-2372G-J021AE

- 2 x GbE, 1 x USB 3.0, 3 x USB 2.0, 1 x HDMI, 1 x DP



#### UNO-2372G-J022AE

- 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 **NEW**

#### Intel® Core™ i7/i5/i3 Regular-Sized, High-Performance Modular IPC

- Intel® Core™ i7/i5/i3 processor w/ 8 GB of DDR4 RAM
- Ruggedized design with lockable I/O
- TPM 2.0 technology for cyber security



#### UNO-2484G-7731AE

- 4 x GbE, 4 x USB 3.0, 1 x HDMI, 1 x DP, 4 x RS-232/ 422/ 485



#### UNO-2484G-7732AE

- 4 x GbE, 4 x USB 3.0, 1 x HDMI, 1 x DP, 4 x RS-232/ 422/ 485, 4 x iDoor expansion slots



#### UNO-2484G-6732H5AE

- 4 x GbE, 4 x USB 3.0, 4 x USB 2.0, 5 x HDMI, 1 x DP, 4 x RS-232/ 422/ 485



#### UNO-2484G-6732UAE

- 4 x GbE, 4 x USB 3.0, 4 x USB 2.0, 1 x HDMI, 1 x DP, 8 x RS-232/ 422/ 485

## iDoor Modules



CANopen

EtherCAT

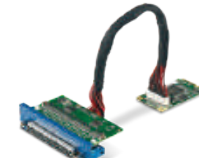
PROFINET



WiFi

3G

lte



GiGE VISION

USB VISION

POE

### Industrial Fieldbus PCM-26 Series

Industrial Fieldbus iDoor modules support common automation protocols

- CANopen
- PROFIBUS
- PROFINET
- EtherCAT
- EtherNet/ IP
- Sercos 3
- POWERLINK

### Wireless Communication PCM-24S Series

Wireless communication iDoor modules enhance connectivity for industrial IoT

- Wi-Fi/ Bluetooth
- 3G/ GPS
- LTE/ GPS

### Industrial I/O and Peripherals PCM-23/ 24/ 27/ 29 Series

Industrial I/O and peripheral modules enable flexible I/O expansion

- RS232/ 422/ 485
- MRAM
- USB 3.0
- Audio
- Digital I/O
- CFast slot
- PoE
- Power Drop Protection
- GigaLAN
- USB dongle
- TPM

# Intelligent HMI and Industrial Monitor

## Leading HMI Innovations for Smart Factories

Advantech offers a diverse range of general as well as domain-focused HMI products equipped with iDoor technology, including highperformance control panels, industrial thin clients, web browser terminals, and industrial monitors. In response to Industry 4.0, Advantech has developed a new generation of modular solutions for a diverse range of configurations to meet specific usage requirements, offering customers a quick time to market and high level of expandability.



## Modular Industrial Panel PCs

### Preconfigured Modular Systems



#### TPC-5000 Series

Modular 12"/ 15"/ 17"/ 18.5"/ 21.5" LED LCD Intel® Core™ i7/i3/i5/Celeron® Industrial Touch Panel Computer

- 6th generation Intel® Celeron® 3955U/Core™ i3-6100U/ Core™ i5-6300U/ Core™ i7-6600U processor with 4/8 GB DDR4
- iDOOR, PCIe, removable SSD, and M.2 for flexible expansion
- TPM2.0, 3 x GbE, and isolation power design for control software compatibility



#### TPC-2000 Series

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

- Intel® Celeron® J3455 / Intel® Atom™ E3940 processor with 4GB DDR3L
- Compact, universal design with low power consumption
- Industrial-grade, wide operating temperature range (-20 ~ 60 °C)
- Supports iDoor, mPCIe, M.2 storage, and 2.5" SSD for expansion



#### FPM-7002 Series

Modular 12"/ 15"/ 17"/ 18.5"/ 21.5" LED LCD Industrial Monitor

- Supports both 4:3 and 16:9 display ratios
- Supports dual displays and control with Picture-in-Picture functionality
- Module-in-Module design with customizable I/O
- iLINK technology enables long-distance (up to 100 m) one-to-one/one-to-many (up to 4) data transmissions

## Configurable Modules

### Box Module



#### TPC-B500-6C2AE

Intel® Celeron® 3955U, 4 GB of DDR4 RAM

#### TPC-B500-633AE

Intel® i3-6100U, 8 GB of DDR4 RAM

#### TPC-B500-653AE

Intel® i5-6300U, 8 GB of DDR4 RAM

#### TPC-B500-673AE

Intel® i7-6600U, 8 GB of DDR4 RAM



#### TPC-B200-J12AE

Intel® Celeron® J3455 1.50 GHz, 4G of DDR3L RAM

#### TPC-B200-E12AE

Intel® Atom® E3940 1.6GHz, 4G of DDR3L RAM



#### FPM-B700-AE

Modular monitor box w/ 2 x I/O slots

### Panel Module



#### FPM-D12T-AE

12.1" XGA



#### FPM-D15T-AE

15" XGA



#### FPM-D17T-AE

17" SXGA



#### FPM-D18W-AE

18.5" HD



#### FPM-D21W-AE

21.5" Full HD

## 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) w/ 4 GB of DDR3L SDRAM + 5-wire resistive touch screen
- Expandable system I/O, isolated digital I/O, Fieldbus, and communication via iDoor technology
- PCIe and mini-PCIe expansion support
- 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 Touch Panel Computer

- Intel® Core™ i3-4010U/ i7-4650U 1.7GHz processor with 4GB/8GB DDR3L SDRAM
- 7H surface hardness glass widescreen with PCT multi-touch control, IP66 rating, and true-flat design
- Expandable system I/O, isolated digital I/O, Fieldbus, and communication via iDoor technology
- Supports USB 3.0 and HDMI for independent displays



### TPC-1881WPH

C1D2 Certified 18.5" TFT LED LCD

Intel® Core™ i5 Touch Panel Computer

- Intel® Core™ i5-4300U with 4GB/8GB DDR3L SDRAM
- Certified with UL CID2 for hazardous environments
- Expandable system I/O, isolated digital I/O, Fieldbus, and communication via iDoor technology
- Supports USB 3.0 and HDMI for independent displays

## Industrial Thin Clients



### TPC-xx51T A Series

5.7"/ 6.5"/ 12.1"/ 15"/ 17" TFT LED LCD

Intel® Atom™ Dual-Core Industrial Thin Client

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



NEW

### TPC-xx51T B Series

12.1"/15" TFT LED LCD Intel® Atom™

Quad-Core Industrial Thin Client

- Intel® Atom™ Quad-core E3845 1.91GHz w/ 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
- Default supports iDoor technology and HDD bay
- Default supports VESA mount



2013

### TPC-xx51WP/xx40WP series

10.1"/ 15.6"/ 18.5"/ 21.5" TFT LCD Intel

Atom Dual-Core or AMD Dual-Core Multi-Touch Panel Computer

- Intel® Atom™ dual-core E3827, 1.75 GHz processor (10.1" & 15.6")
- AMD dual-core T56E (1.65 GHz) w/ independent GPU (18.5" & 21.5")
- 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

## Web Browser Terminals



NEW

### TPC-71W

7" Cortex™-A9 Web-Browser Terminal

- Freescale Cortex™-A9 Dual/Quad 1.0GHz Processor w/ Multi-Touch Panel
- Supports Linux Yocto/Ubuntu, Microsoft Windows Embedded Compact 7 and Android 6
- Wide operating temperature range (-20~60 °C)
- Flat-sealed front panel with IP66 rating



### WebOP-3000 Series

7"/ 12" Cortex™-A8 Operator Panel

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



### WebOP-2000 Series

4.3"/ 7"/ 10.1" WSVGA Operator Panel

- 65,536 colors TFT LCD, Arm9-based CPUs
- Front panel flat-sealed with IP66 rating
- Low power consumption (10 W)
- Supports over 400 PLC communication protocols

## Domain-Focused Panel PCs



2013

### SPC-200 Series

All-Around IP66-Rated 18.5"/ 21.5" Intel® i3/i5/i7/AMD® Dual-Core Encapsulated Control Panel Computer

- Intel® Core™ i3-4010U/ i3-6100U AMD G-series T56N processor
- 7H surface hardness glass widescreen with true-flat design, and 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

IP69K-Rated 21.5" TFT LED LCD Intel® Celeron® All-Around Stainless Steel Touch Panel Computer

- Intel® Celeron® quad-core J1900 (2 GHz)
- 21.5" full HD TFT LED LCD display
- IP69K rating with corrosion-proof 304L stainless steel housing
- Supports detachable accessories for various applications



### SPC-500 Series

IP69k-Rated 15" TFT LED LCD Intel® Celeron-3955U All-Around Stainless Steel Touch Panel Computer

- Intel® Skylake-U Celeron-3955U CPU/ i3-6100U CPU
- All-round 304L stainless steel housing with IP69k & M12 connectors
- VESA mount supported
- EN 1672-2 Compliance



## Panel PCs



NEW

### PPC-6000C Series

15" / 17" / 19" 6<sup>th</sup>/7<sup>th</sup> Gen Intel® Core™ i7/i5/i3 Panel PC w/ Selectable Mini-ITX Motherboard

- 6<sup>th</sup>/7<sup>th</sup> Gen Intel® Core™ i, up to 65W TDP (socket type)
- True-flat, IP65-rated, front bezel with resistive or optional PCAP touchscreen
- Selectable mini-ITX motherboard for diverse requirements
- 2 x expansion slots (1 x PCIe x 4 or 2 x PCI)



NEW

### PPC-3001 Series

15" / 15.6" / 21.5" 6<sup>th</sup> / 7<sup>th</sup> Gen Intel® Core™ i5 Fanless Panel PC

- Intel® Core™ i5-6300U/ 7300U, 2.4 GHz (up to 3.0 GHz)/ 1.9 GHz (up to 3.5 GHz), processor
- True-flat, IP65-rated front bezel w/ PCAP or resistive touchscreen
- Wide input voltage range (9–32 VDC, 12–32 V<sub>DC</sub>)
- Supports 1 x PCIe x 4/ PCI x1 bus expansion
- Built-in isolated RS-422/ 485 with auto flow control
- Supports triple display (1 x DP, 1 x VGA)



NEW

### PPC-3001S Series

18.5" / 21.5" 6<sup>th</sup> Gen Intel® Core™ i5 Fanless Panel PC

- Intel® Core™ i5-6300U, 2.4 GHz (up to 3.0 GHz), processor
- True-flat, IP65-rated front bezel with PCAP touchscreen
- Compact fanless design with solid aluminum alloy enclosure
- Wide input voltage range (12–24 V<sub>DC</sub>)



NEW

### PPC-3000 Series

10.4" / 12.1" / 15" / 17" / 19" Intel® Atom™ Quad-Core Fanless Panel PC

- Intel® Atom™ quad-core E3940/ E3845 (1.6GHz up to 1.8GHz)/ (1.9GHz), processor
- Wide operating temperature range (-20–60°C)
- Wide input voltage range (9–32 V<sub>DC</sub>)
- Supports 1 x PCI/ PCIe bus expansion
- Built-in isolated RS-422/ 485 with auto flow control
- Optional expansion for CF/ CFast, USB dongle, RS232 and GPIO



NEW

### PPC-3000S Series

6.5" / 10.4" / 12.1" / 15" / 15.6" / 18.5" / 21.5" Intel® Celeron Dual/ Quad-Core Fanless Panel PC

- Intel® Celeron quad-core N2930/ N4200 1.83GHz (up to 2.16GHz)/ 1.1GHz (up to 2.5 GHz), processor
- True-flat, IP65-rated front bezel with resistive or PCAP touchscreen
- Compact fanless design with solid aluminum alloy enclosure
- Wide input voltage range (12 ~ 24 V<sub>DC</sub>)

## Industrial Monitors



### FPM-1150G

15" Industrial Monitor with Resistive Touchscreen and Direct-VGA Port or HDMI Port

- Robust design with IP65 aluminum bezel
- Anti-glare screen
- Optimized structure to allow easily front panel customization
- Supports panel, wall, desktop, or VESA arm mounting



### FPM-3000 series

12" / 15" / 17" / 19" Industrial Monitor with Resistive Touchscreen, Direct-VGA and DVI Ports

- Robust design with stainless steel chassis and anodizing aluminium front bezel with IP65 protection
- OSD control pad on front panel
- Supports industrial 12 and 24 V<sub>DC</sub> power input
- Supports panel, wall, desktop, rack or VESA arm mounting



### FPM-2000/ FPM-5000 series

12" / 15" / 17" / 19" Industrial Monitor with Resistive Touchscreen, Direct VGA (DVI) Ports

- Robust design with IP65-rated front panel
- Front USB port for easy maintenance (FPM-5000 only)
- Supports industrial 24 V<sub>DC</sub> power input (FPM-5000)
- Default attached with industrial grade power adapter (AC to 12 V<sub>DC</sub>) to fit in ubiquitous places (FPM-2000)
- Supports panel, wall, desktop, or VESA arm mounting

# EtherCAT Slice I/O and Controller

## Compact High-Speed Controller for Industrial Equipment

Advantech's WISE-5000 series leverages embedded computing, slice I/O and modular design technology. Featuring compact size (10 cm height), high-speed processing capability with Intel Core i CPU, flexible PCI Express, and EtherCAT I/O expansion. WISE-5000 series with highly integrated hardware/software provides users with a solution that is both easy to implement and scalable to make industrial equipment smaller, faster, and smarter.



**EtherCAT**

## Embedded Controller



### WISE-5580

#### DIN-Rail Control IPC with EtherCAT Slice I/O Expansion

- Intel 6<sup>th</sup> Generation Skylake U Core i7/i5/Celeron CPU with 4G/8G DDR4 support
- 2 x LAN, 4x USB 3.0, 2-ports Serial, VGA+HDMI dual display for data visualization
- Compact and fanless design for DIN-rail mount in control cabinet
- Optimized system for CODESYS/EtherCAT (under embedded Windows environment)
- Left hand side PCIe expansion for vision and communication functions
- Right hand side EtherCAT slice IO for sensing and automation
- Supports M.2 SSD for OS, internal USB for dongle, optional NVRAM for control application

## EtherCAT Slice I/O



**EtherCAT**

### EtherCAT Analog I/O Module (100 S/s per channel)

- WISE-5015 4-ch RTD (2/3 wire) module
- WISE-5017V 6-ch 16-bit, multi-gain, voltage AI module
- WISE-5017C 6-ch 16-bit, 0-20/4-20mA, current AI module
- WISE-5018 6-ch 16-bit, thermocouple input module
- WISE-5024 4-ch 16-bit, multi-gain, V/mA AO module

### EtherCAT Infrastructure Module

- WISE-5001 Smart power input module
- WISE-5074 EtherCAT coupler
- WISE-5079 EtherCAT extension

### EtherCAT Digital I/O Module

- WISE-5051/5052 8-ch/16-ch isolation DI module
- WISE-5056/5056SO 8-ch sink/source type isolated DO module
- WISE-5057/5057SO 16-ch sink/source type isolated DO module
- WISE-5080 2-ch 32-bit counter/encoder module

## PCI Express Expansion Module

**PCI EXPRESS**



### WISE-5400E

#### PCI Express Mini-Card with SIM Card Slot

- Nano-SIM Card
- 1 x antenna slot



### WISE-5410/P

#### 2x GigE/PoE Expansion Module

- Maximum 20W
- PoE power control by software



### WISE-5424V

#### 4x USB 3.0 with Full Bandwidth

- Maximum 5Gbps transfer rate for vision application



### WISE-5490

#### 2x Isolated RS-232/422/485

- 2500 V<sub>oc</sub> isolation
- 2 x DB9 connector

# Industrial Communication

## Seamless Data Connectivity from the Network Edge to the Core

Advantech leverages over 20 years of industry experience to develop reliable wired and wireless communication solutions for mission critical applications. These products include industrial Ethernet switches, industrial Fieldbus gateways, Modbus gateways, cellular IP gateways, cellular routers, wireless access points/clients, media converters, and serial device servers, all of which contribute to securely transmitting data, monitoring and controlling networked devices.



## Intelligent Connectivity Software for Router



### WebAccess/DMP Device Management and Provisioning

- Remote Router management and application delivery
- RESTful APIs
- Zero-Touch provisioning for mass deployment
- Multi-Tenancy options
- Supports cloud & on-premise version

## LTE Routers & Gateways



### LR77 v2 series 4G LTE Router

- LTE Cat.3 with 3G/2G fallback, 2x SIM
- 2x Ethernet 10/100 (Independent or switched)
- Wi-Fi option: AP or client mode
- Advanced security features, VPN, Open Linux OS
- E-mark certification

## LTE Routers & Gateways



### SmartStart SL30x series Intelligent 4G LTE Router & Gateway

- LTE Cat.1, Cat.4 with 3G/2G fallback, 2x SIM
- Ethernet, serial RS232 and I/O interfaces
- Wi-Fi option: AP or client mode
- Sleep mode & Power ignition
- DIN rail or wall mounting
- Advanced security features, VPN, Open Linux OS



### SmartFlex SR30x series Flexible, Adaptable 4G LTE Router

- LTE Cat.3 with 3G/2G fallback, 2x SIM
- 2x Ethernet 10/100 (Independent or switched)
- Wi-Fi option: AP or client mode
- Advanced security features, VPN, Open Linux OS
- E-mark certification



### SmartMotion ST35x series Twin Cellular Module Router

- 2x LTE Cat.3 with 3G/2G fallback, LTE 450, 4x SIM
- Two Independent LTE modules for seamless failover in mission critical applications
- Load Balancing
- 2x Ethernet 10/100, GPS, MicroSD, In/Out, USB Host
- Optional PoE PSE+, PoE PD, Wi-Fi 2,4 / 5GHz
- Advanced security features, VPN, Open Linux OS



### ICR-32xx series Industrial IoT 4G LTE Router & Gateway

- LTE Cat.4 with 3G/2G fallback, 2x SIM, eSIM
- Powerful CPU with 1.3 GB storage to host customer SW applications, Python, Node-RED
- 2x Ethernet 10/100, 1x RS232, 1x RS485 and I/O
- Optional Wi-Fi 802.11ac MIMO and GNSS receiver
- Advanced security features, VPN, Open Linux OS

## Wireless Sensing Platform



### WISE-6610 LoRaWAN Gateway and LoRaWAN I/O Node

- Long-distance wireless data transmission and third-party LoRaWAN device compliant
- Embedded network server and Node-RED, bundle a lightweight IoT protocol MQTT
- LoRaWAN gateway design with backup function
- LoRaWAN node design with IP66-rated reinforced-fiber polyester PBT enclosure



## Industrial Wireless AP/Client



### EKI-6333AC/EKI-136X Series

#### 802.11N Wi-Fi AP/ Bridge/ Client

- Supports 802.11n MIMO 2T2R
- Wireless client support serial device to Wi-Fi or Lan to Wi-Fi variety function
- Supports secure access with WEP, WPA/ WPA2-Personal, WPA/ WPA2-Enterprise
- Wireless band 2.4G/5G Selective
- Provides web-based configuration



## Fieldbus gateways



### EKI-1242 Series

#### Modbus RTU/TCP to Various Industrial Protocols Fieldbus Gateway

- Dual power inputs
- Designed for protocol extensibility and adaption
- Built-in real-time diagnostics
- I models support a wide operating temperature range

## Modbus Routers



NEW

### EKI-1220R Series

#### 1/ 2/ 4-Port Modbus Gateway/ Router

- Integrated stateful firewall for protection from intrusion
- Supports redundancy-enhanced Modbus ID
- Integrates Modbus TCP and Modbus RTU/ ASCII network

## Serial Device Servers



### EKI-1526/ EKI-1528

#### 16/ 8-Port RS-232/ 422/ 485 Rackmount Serial Device Server

- Connect up to 8/ 16-port RS-232/ 422/ 485 devices directly to TCP/IP networks
- High-speed baud rates (50 bps~976.5 Kbps)
- VCOM, TCP server, TCP client, UDP, and RFC2217 modes

## Network Management System



### WebAccess/ NMS

#### Network Management System

- Cross-browser compatible
- Online Google Maps and offline OpenStreetMap support
- Dynamic connectivity indication
- Automatically discovers and diagrams network topology
- PoE, ring, wireless, cellular connection indication

## L3 Switches



### EKI-9700/ 9600 Series

#### Industrial Layer 3 Managed Switch

- Static routing/ NAT (EKI-9612G, EKI-9628G)
- Static routing, RIP v1/ v2, OSPF v2, VRRP (EKI-9728G)
- Supports up to 4 x 10GbE fiber ports (EKI-9728G)
- Wide operating temperature range

## L2 Managed Switches



### EKI-7700 Series

#### Industrial Managed Switch

- Supports Gigabit / Fast Ethernet ports + Gigabit Copper/ SFP combo ports
- IXM function enables fast deployment
- IP30-rated chassis design
- EN50121-4 and NEMA TS2-certified
- Supports Advantech Security Pack for cyber security

## Unmanaged Switches



### EKI-5000 Series

#### Industrial Unmanaged Switch

- IECEX, ATEX, CID2 certification
- Monitoring utility
- Port-based QoS for deterministic data transmissions
- Loop detection
- Dual power inputs

## EN50155 Rolling Stock Switches



NEW

### EKI-9500 series

#### Industrial Rolling Stock Switches

- 8/10/12/16 port with PoE/ non-PoE and management option
- EN50155, EN50121-3-2, EN61373 certified
- M12 connectors with rugged housing protection (IP67/IP40)
- Wide operating temperature (-40~70 °C)

## IEC 61850-3 Power Energy switches



### EKI-9200 series

#### Industrial IEC 61850-3 Switches

- IEC 61850-3 & IEEE1613 certified.
- Dual power input (90~264VAC/ 88-370VDC) models available
- Flexible port options, providing up to 20 x fiber ports.
- Wide operating temperature range (-40~85 °C)

## 90W Mega PoE Injector



NEW

### EKI-2701MPI

#### Industrial 802.3af Gigabit PoE Injector

- PSE (Power Source Equipment) with 90 watt power output along with Ethernet traffic over the same cable
- IEEE 802.3af/at/bt compliant
- Versatile wall and DIN-rail mounted
- AC or DC power input

## Intelligent Modular Media Converters



### IMC-700 series

#### Intelligent Modular Media Converter with Highest Density

- Modular design with chassis up to 20 slots
- Widest varieties of slide-in media conversion and optical demarcation modules
- SNMP manageable via iView software featuring massive provision and monitoring
- Dual (redundant) AC and/or DC hard-wappable power supplies and fans

## Intelligent Media Converters



### IMC-500 series

#### Intelligent Dual Ports Gigabit Ethernet to Fiber Converters

- Versatile 2 x SFP ports and 2 x 10/100/1000Base-T Ethernet ports
- SNMP manageable
- Telnet & console manageable
- Supports 1+1 uplink revertive, OAM, VLAN, Q-in-Q
- Extended temperature

## Miniature Fiber Converters



### IMC-300 series

#### Miniature 100M & Gigabit Ethernet to Fiber Converters

- Industrial grade & compact size
- Complete optical varieties, multimode, singlemode, singlestrain
- PoE, PoE+ Ethernet to fiber conversion
- Link Fault Pass-Through (LFPT)
- 19" PowerTray for centralized powering 18 x IMC-300

## Industrial Long Haul PoE Extender



### EKI-1751PI series

#### 10/100M PoE Extender Over VDSL2

- Local/remote units featuring Power-over-VDSL PSE/PD, respectively
- VDSL2 compliant with transmission distance over kilometers
- Long haul data and power transmission over UTP or coaxial cables
- Remote unit supports PoE PSE per each Ethernet downlink port, with maximum 30 watt power budget

# Edge DAQ Devices

## Booster for Equipment Manufacturers, Rental Services, and End Users

Advantech's edge data acquisition solutions with WISE-PaaS/EdgeLink, Node-RED and Python are designed to simplify remote monitoring. These solutions can improve service quality by facilitating product care, enabling equipment operation monitoring, and allowing for efficiency and energy consumption analysis. This allows manufacturers, rental services, and end users to obtain insights on usage behaviors by deriving intelligence through the analysis of big data.



## Compact Intelligent Gateway



### ADAM-6750 Compact Intelligent Gateway with Digital I/O

- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1 GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 2 x LAN, 2 x RS-485 port, 2 x USB
- 12-ch DI/ 12-ch DO



### ADAM-6717 Compact Intelligent Gateway with Analog Input

- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1 GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 2 x LAN, 2 x RS-485 port, 2 x USB
- 8-ch AI/ 4-ch DO/ 5-ch DI



### ADAM-6715 Compact Intelligent Gateway with RTD Input

- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1 GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 2 x LAN, 2 x RS-485 port, 2 x USB
- 6-ch RTD/ 4-ch DO/ 4-ch DI

## All-in-One DAQ Platform



### ADAM-5630/ ADAM-5630E 4/8 slot Risc-based Modular DA&C Controller

- TI Cortex-A8 (600 MHz) w/ 512 MB of DDR3 RAM
- Real-time Linux
- 2 x LAN ports with two MAC addresses
- 4/8 expansion slots
- SD slot for local data storage
- Wired and wireless communication expansion options
- Supports web services



### ADAM-3600 Wireless Intelligent RTU with WISE-PaaS/EdgeLink

- TI Cortex-A8 (600MHz) w/ 256MB DDR3L
- Real-time Linux
- 4 expansion slots
- SD slot for local data storage
- 2 x LAN ports with two MAC addresses
- 2 x wireless comm. interface (mini-PCIe)
- 8 x DI, 8 x AI, 4 x isolated DO channels

# Wireless IoT Sensing Devices

## Intelligent Wireless I/O and Sensor Module for Big Data Acquisition and Cloud Integration

With the development in wireless and cloud technology, more and more remote monitoring applications have adopted cloud service for wide area management systems. To shorten the gap between the field site data and the cloud, Advantech provides wireless I/O and sensor modules that can get and pass data directly to the cloud by utilizing wireless communication technology, such as Wi-Fi, 3G, LoRa/LoRaWAN, NB-IoT/eMTC, proprietary LPWAN, and IoT protocols MQTT, CoAP and LWM2M.



### Wireless I/O Module



**WISE-4210**  
Proprietary LPWAN IoT Wireless I/O Module

- Better penetration through concrete and steel
- Less interference compare with 2.4GHz spectrum
- Application-ready I/O combination with modularization design



**WISE-4220**  
2.4GHz Wi-Fi IoT Wireless I/O Module

- Wireless interface to reduce the wiring cost for data acquisition
- Configuring by mobile devices directly without installing any APPs
- Zero data loss by using log function with RTC time stamp



**WISE-4471/ 4671**  
NB-IoT/eMTC IoT Wireless I/O Module

- Dual mode support with global coverage in NB-IoT and eMTC
- Fast and easy deployment with existing infrastructures
- Supports direct public and telecom cloud service for IoT integration



**WISE-4610**  
LoRa IoT Wireless I/O Module

- Longer communication range compare with 2.4GHz for wide range outdoor application
- Better penetration through concrete and steel with less interference
- Rechargeable battery inside with optional solar panel charging



**WISE-S200**  
I/O and Sensor Module for WISE-4200/4400 Series

- WISE-S214 4x AI & 4x DI
- WISE-S231 Temperature & Humidity Sensor
- WISE-S250 6x DI, 2x DO & 1-port RS-485



**WISE-S400**  
I/O and Sensor Module for WISE-4400 Series

- WISE-S414 4x AI
- WISE-S472 2-port RS-485 & 1x DI



**WISE-S600**  
I/O Module for WISE-4600 Series

- WISE-S614 4x AI & 4x DI
- WISE-S672 6x DI, 1-port RS-485 & 1-port RS-485/232

### Wireless Sensor Module



**WISE-2210/2211**  
LPWAN Self-Powered Sensor Node

- Directly measure and transmit current transformer (CT) and transmitter (DC 4~20mA)
- Less interference and better penetration compare with 2.4GHz spectrum
- 3x AI for CT and transmitter



**WISE-2410/2470**  
Smart Vibration Sensor

- Compliant with ISO 10816 (guidelines for machine vibration evaluation)
- No power and communication wiring with LoRa/ LoRaWAN/ NB-IoT
- Directly transmit EIGENVALUE to the Cloud



**WISE-2834**  
Intelligent RFID Gateway

- 4-ports UHF RFID read/write function
- Node-RED package solution
- 4-ports antenna, 4x DI and 4x DO
- Ethernet and Wi-Fi interface for up-link



# Data Acquisition and Control

## Diverse Form Factors to Satisfy All DAQ Requirements

Advantech offers a wide range of industrial data acquisition and control devices with various interfaces and functions. Based on PC technology, from add-on cards and portable modules to signal conditioning and graphical software tools, Advantech's industrial I/O products are reliable, accurate, affordable, and suitable for a range of industrial automation applications such as measurement, laboratory operations, machine automation, and production testing.



## PCI Express DAQ Cards



### PCIE-1812

8-ch, 16-bit Simultaneous Sampling Multi-Function PCI Express Card

- 8 x differential simultaneous sampling AI channels (sample rate: up to 250 kHz; resolution: 16-bit)
- 2 x AO channels (sample rate: up to 3 MHz; resolution: 16-bit)
- 2 x analog/ digital triggers for AI/ AO channels
- 4 x 32-bit programmable encoder counters/ timers
- 32 x programmable DI/DO channels with interrupt function



### PCIE-1813

4-ch, 26-bit Simultaneous Sampling, Universal Bridge Input, Multi-Function PCI Express Card

- 4 x AI channels (sample rate: 38.4 KHz; resolution: 26-bit for full-, half-, and quarter-bridge sensor inputs)
- 2 x AO channels (sample rate: up to 3 MHz; resolution: 16-bit)
- 4 x 32-bit programmable encoder counters/ timers
- 32 x programmable DI/DO channels with interrupt function



### PCIE-1810/ 1816/ 1816H

16-ch, 12-bit/16-bit/16-bit Multi-Function PCI Express Card

- Sample rate: 500 KHz for PCIE-1810 and PCIE-1816; 1 MHz for PCIE-1816H
- Resolution: 12-bit/16-bit/16-bit
- Analog and digital triggers
- Waveform generator for AO channels
- 24 x programmable DI/DO channels



### PCIE-1802/ 1802L

8/ 4-ch, 24-bit Dynamic Signal Acquisition

- 8/ 4 x simultaneously sampled AI channels (sample rate: up to 216 KHz)
- 24-bit resolution A/ D converters (dynamic range: 115 dB)
- Wide input voltage range ( $\pm 0.2\text{--}10\text{ V}$ )
- Built-in anti-aliasing filter



### PCIE-1840/ 1840L

4-ch, 16-bit Digitizer PCI Express Card

- 4 x AI channels (sample rate: up to 125/ 80 MHz, resolution: 16-bit)
- 500-MHz time-interleaved sampling rate
- Supports continuous data streaming
- 2 GB of onboard memory



### PCIE-1884

4-ch, 32-bit Encoder Counter with Preload Position Compare FIFO PCI Express Card

- 4 x 32-bit programmable encoder counters
- Quadrature (X1, X2, X4), dual pulse (CW/CCW), signed pulse (OUT/DIR) modes
- Programmable trigger output (preload FIFO) for position comparison

## PCI Express DIO Cards



### PCIE-1730H/ 1756H/ 1758

32/ 64/ 128-ch Isolated DI/DO PCI Express Card

- 32/ 64/ 128-ch isolated DI/DO channels w/ 24 V compatibility
- Interrupt handling capability for all DI channels
- Software-selectable digital filter time for all DI channels
- 32-ch TTL DI/DO w/ 5 V compatibility (PCIE-1730H only)
- High-voltage isolation on all isolated DI/DO channels (2,500 V<sub>DC</sub>)



### PCIE-1761H/ 1762H

8/16-ch Relay and 8/16-ch Isolated Digital Input w/ Digital Filter and Interrupt PCIe Card

- 8/16-ch opto-isolated digital input channels
- 8/16-ch relay actuator output channels
- Interrupt handling capability for all DI channels



### PCIE-1751/ 1753

48/96-ch Digital I/O PCI Express Card

- 48/96 TTL digital I/O lines
- Supports both dry and wet contact
- Keeps I/O settings and output status after hot reset
- Interrupt handling capability
- Emulates mode 0 of 8255 PPI

## USB DAQ Modules



### USB-5801

4-ch, 24-bit USB 3.0 DSA Module

- SuperSpeed USB (5Gbps)
- 4x 24bit simultaneous sampling analog inputs up to 192kS/s
- IEPE excitation for every channel
- 1 x tachometer for revolution speed measurement
- Built-in USB hub



### USB-5817

8-ch, 16-bit USB 3.0 Analog Input Module

- SuperSpeed USB (5Gbps)
- 16-bit resolution with 200kS/s Sampling rate
- $\pm 275$  V high common-mode voltage range
- Measuring and output error  $< \pm 0.1\%$
- Built-in USB hub



### USB-5830/ 5856

32/ 64-ch Isolated Digital I/O USB 3.0 Module

- SuperSpeed USB (5 Gbps)
- Built-in USB hub
- 2,500 V<sub>DC</sub> isolation protection
- Level 3 ESD and surge 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: RS-232 port
- PCI/ PCIE-1602/ 1612/ 1622: RS-232/ 422/ 485 port
- Optional surge/ isolation protection
- Fast data transmission: up to 921.6 kbps



### PCI-1680/ PCIE-1680

2-Port CAN Bus PCI/ PCIe Communication Card w/ CANopen Support

- Supports two simultaneous CAN networks
- Fast data transmission: up to 1 Mbps
- CAN controller frequency: 16 MHz
- Isolation protection: 2,500 V<sub>DC</sub>



### USB-4630

4-Port Isolated USB 3.0 Hub

- The world's first isolated SuperSpeed USB Hub (5 Gbps)
- 2,500 V<sub>DC</sub> voltage isolation for upstream ports
- Lockable USB 3.0 cable included
- Can be powered via USB bus or 10–30 V<sub>DC</sub> external power source

## EtherCAT Remote I/O Modules



### AMAX-4800 Series

EtherCAT Slave modules

- 16/32-ch IDI and 8/16 PhotoMOS Relay EtherCAT Slave modules
- 8/16-ch IDI and 8/16 Relay EtherCAT Slave modules
- 8-ch Isolated analog input EtherCAT Slave module
- 4-ch Isolated analog output EtherCAT Slave module
- 6-port EtherCAT Junction

## DAQ-Embedded Computers



### MIC-1810/ 1816

12/ 16-bit Data Acquisition Platform w/ Intel® Core™ i3/Celeron® Processor

- Intel® Celeron® 1047UE (1.4 GHz)/ Core™ i3-3217UE processor (1.6 GHz)
- MIC-1810: 16x AI channels (sample rate: up to 500 KHz; resolution: 12-bit), 2 x AO channels (sample rate: up to 500 KHz; resolution: 12-bit)
- MIC-1816: 16-bit, 16 x AI channels (sample rate: up to 1 MHz) 16-bit, 2 x AO channels (update rate: up to 3 MHz)
- Onboard FIFO memory (4k samples)
- Supports digital and analog triggers
- 24 x programmable DI/DO channels
- 2 x programmable counters/ timers (32-bit)
- 2 x 10/ 100/ 1000BASE-T RJ45 LAN ports
- 2 x USB 2.0 and 2 x USB 3.0 ports
- 2 x RS-232 ports



## Machine Condition Monitoring Software



WebAccess/MCM

### 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 additional programming

# Remote I/O Modules

## Transformation for IIoT's Wider & Larger Application

Advantech's ADAM remote I/O modules have been a reliable figure for over 25 years. The product offerings and latest technology updates continue to fulfill an increasingly more diverse range of applications. With RFID and USB technology, users have additional options for configuration and inspection, even when unpowered. Additionally, for larger network infrastructures, ADAM Ethernet-based remote I/O modules use SNMP and MQTT to enhance communication efficiency.



### RFID Introduction



**RFID Access**   
Applicable to ADAM-4100

### Serial I/O Modules



**ADAM-4100 Series**  
Robust RS-485 I/O Modules

- Wide operating temperature range (-40~85°C/ -40~185°F)
- High protection level: 4-kV surge, 4kV EFT, 8-kV ESD
- High common mode voltage: 200 V<sub>DC</sub>
- Burnout detection

**Module Selection**

- ADAM-4117: Robust 8-ch AI module
- ADAM-4118: Robust 8-ch thermocouple
- ADAM-4150: 7-ch DI/ 8-ch DO module
- ADAM-4168: 8-ch relay module



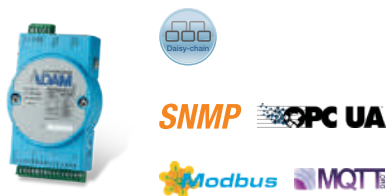
**ADAM-4000 Series**  
RS-485 I/O Modules

- Watchdog timer
- ±35 V<sub>DC</sub> overvoltage protection
- 3,000 V<sub>DC</sub> voltage isolation

**Module Selection**

- ADAM-4017+: 8-ch AI module
- ADAM-4024: 4-ch AO/ 4-ch DO module
- ADAM-4015: 6-ch RTD module
- ADAM-4051: 16-ch DI module
- ADAM-4055: 8-ch DI/ 8-ch DO module

### Ethernet I/O Modules



**ADAM-6200 Series**  
Daisy-Chain Ethernet I/O Modules

- Cloud management: configuration, monitoring, and firmware updates
- Daisy chain connectivity w/ auto-bypass protection
- Supports HTML5, JavaScript, XML
- Supports GCL and P2P functions
- Group configuration capability

**Module Selection**

- ADAM-6217: 8-ch AI module
- ADAM-6224: 4-ch AO/ 4-ch DI module
- ADAM-6250: 8-ch DI/ 7-ch DO module
- ADAM-6251: 16-ch DI module
- ADAM-6266: 4-ch Relay/ 4-ch DI module



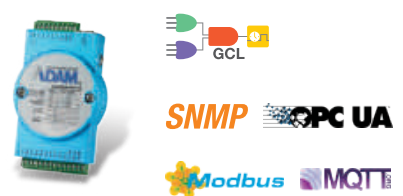
**ADAM-6100 Series**  
Real-Time Ethernet I/O Modules

- Daisy chain connectivity
- Coupler-free design
- GSD, L5K, and EDS file-ready
- 2,500 V<sub>DC</sub> isolation protection

**Module Selection**

- ADAM-6117E/ PN: 8-ch AI module
- ADAM-6160E/ PN: 6-ch relay module
- ADAM-6150E/ PN: 8-ch DI/ 7-ch DO module
- ADAM-6151E/ PN: 16-ch DI module
- ADAM-6156E/ PN: 16-ch DO module

\* PROFINET: PN, EtherNet/ IP: EI



**ADAM-6000 Series**  
Smart Ethernet I/O Modules

- Cloud management: configuration, monitoring, and firmware updates
- Embedded web server
- Data stream function to push data
- Supports GCL and P2P functions
- Supports C# .NET and VB.NET

**Module Selection**

- ADAM-6015: 7-ch RTD module
- ADAM-6017: 8-ch AI/ 2-ch DO module
- ADAM-6050: 12-ch DI/ 6-ch DO Relay module
- ADAM-6060: 6-ch DI/ 6-ch Relay module



# Industrial Mobile Solution

## Supports On-Site Management, Manufacturing and Inspections

The AIM-65/68 tablets are designed for mobile workers in onsite factory inspections. Application oriented peripherals are built for rough handling in extreme environments, which have been drop-tested at 4ft, and IP65 certified. With extension modules: barcode scanner, RJ45+COM and UHF Reader, they can satisfy customized requirements and be easily removed from the docking station with just one-hand. In addition, a hand strap/shoulder strap enable hands-free carrying options.



## Industrial-Grade Tablets and Handheld Terminals

### Fully Rugged



#### PWS-872

10" Industrial-Grade Tablet with 7th Gen Intel® Core™ i3/i5/i7/ Celeron® Processor

- 10.1" high-brightness WUXGA LED display with scratch-resistant Corning® Gorilla® Glass 3 panel
- Multi-touch PCAP touchscreen with support for gloved operation
- Rugged design with MIL-STD-810G certification, IP65 rating, and 4-ft. drop tolerance
- 4G LTE, WLAN (802.11 a/b/g/n/ac), Bluetooth 4.1, and GPS modules with BeiDou/ GLONASS support
- Built-in front and rear cameras, 1D/ 2D barcode scanner, and NFC reader

### Semi Rugged



#### AIM-68

10" Industrial-Grade Tablet with Intel® Atom™ Processor

- Intel® Atom™ processor for Windows 10 IoT and AIM Android 6.0
- The hot-swappable battery with capacity meter that shows the remaining power and recharge status minimizes system interruptions for reliable long-duration operation
- Integrated barcode scanner supports data collection
- 10" WUXGA full HD display with scratch-resistant Corning® Gorilla® Glass 3 and multi-touch PCAP control
- WLAN, BT, NFC, 3G/ 4G LTE technology for seamless communications
- Optional extension include 1D/2D barcode scanner, LAN+COM module, UHF RFID module

#### AIM-65

8" Industrial-Grade Tablet with Intel® Atom™ Processor

- Intel® Atom™ processor for Windows 10 IoT and AIM Android 6.0
- 8" WUXGA full HD display with scratch-resistant Corning® Gorilla® Glass 3 and multi-touch PCAP control
- WLAN, BT, NFC, 3G/ 4G LTE technology for seamless communications
- Optional extension include 1D/2D barcode scanner, LAN+COM module, UHF RFID module
- Light weight design and multi-tablet charging station allows to reduce downtime of operations

#### PWS-472 TMR

5" Industrial-Grade Handheld Terminal with ARM® Cortex™-A53 Quad-Core Processor and Infrared Thermometer

- Integrated infrared thermometer supports rapid temperature data collection and storage
- ARM® Cortex™-A53, quad-core, 1.3 GHz processor with Android 5.1 support
- 5" HD (1280 x 720) display with capacitive multi-touch control and IP65 protection from water and dust
- Screwless Battery cover design to swap the battery quickly and easily
- Wi-Fi, Bluetooth, GPS, and BeiDou communication capabilities
- 1D/2D barcode scanner and 13-megapixel auto-focus camera for data collection
- Wide operating temperature range (-20 ~ 60 °C/-4 ~ 140 °F)

## Regional Service & Customization Centers

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