Advantech Industrial IoT Systems and Devices Star Product Guide
Innovative IIoT Edge to Cloud Technologies

**Advanced Computer Vision**
- Industrial and AI Cameras
  - Quartz/ICAM-500
- Frame Grabber and Video Capture Cards
  - PCIe/ DVP Series

**EtherCAT**
- Motion Controllers
  - AMAX-3000/ 300 Series
- Edge Controllers
  - AMAX-5500 Series
- I/O Systems
  - AMAX-5000/ 4800 Series

**EtherCAT Control & I/O Systems**

**Domain Platforms**
- Oil and Gas Applications
  - TPC/ FPM/ EKI/ ADAM/ UNO/ ULI Series
- Railway Applications
  - ITA/ CPCI/ EKI Series
- Utility and Energy Applications
  - ECU-4000 Series/ ECU-579/ EKI Series

**Serial / USB Communications**
- Serial and USB Converters/ Isolators/ USB Hubs/ Serial Repeaters
  - ULI Series and Serial Communication Cards

**VisionNavi**
- Machine Vision Application Software

**AI Navi**
- Deep-Learning-Based Image Analysis Software

**HMI Navi**
- HMI Software for Machine Visualization

**MotionNavi**
- Visualized Designer for Standalone Motion Controller

**DAQ Navi**
- High Speed Data Acquisition & Condition Monitoring

**Serial/USB**
- USB 3.0
- CAN bus

**DAQ and Remote I/O**
- iDAQ Series/ USB-5800 Series/ PCI/PCIe Cards/ ADAM-4000/5000/6000 Series
Edge AI Systems
Al Video Systems/ AI Computing Systems
MIC-AI Series Based on NVIDIA Jetson

Edge Computing Systems
Intelligent Systems/ Automation Computers
HMI/ IPC/ MIC/ UNO/ WOP Series

WebAccess/SCADA
IIoT Application Software Platform

WISE-EdgeLink
Powerful Edge-to-Cloud Middleware for Intelligent Gateway Solutions

WISE-DataConnect
Industrial IoT Device, Platform & Data Management
- Device Management
- Data Management
- Application Management

Wireless I/O and Sensors
- Wi-Fi
- LoRaWAN
- NB-IoT
- LTE-M
WISE-2000/ 4000 Series

IIoT Gateways and RTUs
- Modbus
- EtherCAT
- OPC UA
Edge/ Communication/ Protocol/ Data Gateways
ADAM-3600/ 6700/ ECU/ EKI/ UNO/ WISE Series

Connectivity and TSN
- Cellular Routers/ Switches/ Wireless Communication
- LTE 5G
- TSN
ICR-2000/ 3000/ 4000 Series,
EKI-7000/ 8000 Series
Advantech’s WISE-Factory is a series of solutions for enabling digital transformation in manufacturing. It is powered by WISE-PaaS AIoT cloud platform, which provides edge-to-cloud software and services to enable easier factory operations.

**Intelligent Factory**

**Improve Energy Sustainability, Equipment Effectiveness and Operation Optimization**

Advantech’s WISE-Factory is a series of solutions for enabling digital transformation in manufacturing. It is powered by WISE-PaaS AIoT cloud platform, which provides edge-to-cloud software and services to enable easier factory operations.

**WISE-Factory Solutions**

**WISE-FactoryEHS**

Enabling smart manufacturing facilities for carbon neutral operations and a safer work place

- Whole facility monitoring for energy, utilities & safety
- Configurable KPI targets to meet carbon targets and reduce waste
- Calculate and analyze carbon footprint of your manufacturing operations

**WISE-FactoryOEE&M**

Real-time machine performance and maintenance support for operational excellence

- Real-time data acquisition from production machinery, with support for multiple industrial protocols
- Configurable machine performance metrics, including OEE, APO etc.
- Easy to use dashboard for composing data visualizations and reports

**WISE-FactoryMOM**

Digital transformation of manufacturing operations for flexible capacity

- Schedule and dispatch production work
- Guide assembly and machine setup for production
- Track and record production outcomes, QC results
- Easy integration with ERP, PLM and existing IT systems

**RTM (Real-time Monitoring)**

**WISE-FactoryEHS (Environment, Health & Safety) SRPs**

**FEMS (Factory Energy Management System)**

- Schedule and dispatch production work
- Guide assembly and machine setup for production
- Track and record production outcomes, QC results
- Easy integration with ERP, PLM and existing IT systems

**iFactory/RTM**

IFS-RTM-M770W5A

- MIC-770 V2/ i7/ 32G/ SSD128G/ HDD1T/ Win10/ RTM with iMobile, Event Notice/ 4000 tags/5sec

IFS-RTM-U238L3A/U238L4A

- UNO-238/ i3/ i5/ 16G/ SSD128G/ Linux/ RTM with iMobile, Event Notice/ 1000 tags/5sec U238L3A/ 2000 tags/5sec U238L4A

IFS-RTM-UNO1372A

- UNO-1372G/ Celeron J1900/ 4G/ SSD128G/Linux/ RTM with iMobile, Event Notice, EdgeLink/ 300 tags/5sec

IFS-RTM-M770W4FEMS/ IFS-RTM-M770W5FEMS

- MIC-770 V2/ i3/ i5/ SSD128G/ HDD1T/ Win10/ RTM with FEMS 20 license/ 100 licenses (W4FEMS) 100 licenses (W5FEMS)

IFS-RTM-UNO1372A

- UNO-1372G/ Celeron J1900/ 4G/ SSD128G/Linux/ RTM with FEMS 20 license/ 100 licenses (W4FEMS) 100 licenses (W5FEMS)

**WISE-FactoryOEE&M (OEE & Maintenance) SRPs**

**WISE-FactoryMOM (Manufacturing Operations Management) SRPs**

**OEE**

IFS-RTM-M770W4OEE

- RTM with OEE 20 licenses
IFS-RTM-M770W5OEE

- RTM with OEE 50 licenses
IFS-RTM-SKY72WXOEE

- RTM with OEE 100 licenses

**SPC**

IFS-RTM-M770W4SPC

- RTM with SPC 5 licenses
IFS-RTM-M770W5SPC

- RTM with SPC 20 licenses
IFS-RTM-SKY72WXSPC

- RTM with SPC 100 licenses

**Maintenance**

IFS-RTM-M770W4MNT

- RTM with Maintenance 20 licenses
IFS-RTM-M770W5MNT

- RTM with Maintenance 50 licenses
IFS-RTM-SKY72WXMNT

- RTM with Maintenance 100 licenses

**Shop Floor**

IFS-RTM-M770W4SFC

- RTM with Shop Floor 20 licenses
IFS-RTM-M770W5SFC

- RTM with Shop Floor 50 licenses
IFS-RTM-SKY72WXSFC

- RTM with Shop Floor 100 licenses

**Andon**

IFS-RTM-M770W4ADN

- RTM with Andon 20 licenses
IFS-RTM-M770W5ADN

- RTM with Andon 50 licenses
IFS-RTM-SKY72WXADN

- RTM with Andon 100 licenses

**eManual**

IFS-RTM-M770W4EMN

- RTM with eManual 20 licenses
IFS-RTM-M770W5EMN

- RTM with eManual 50 licenses
IFS-RTM-SKY72WXEMN

- RTM with eManual 100 licenses
Energy & Environment Solutions
Accelerating Cloud-Enabled Industrial IoT and Smart City Applications

Advantech’s E&E solutions address growing public concern about energy usage and the environment. These solutions apply an industrial IoT focus to sensing, control monitoring, remote communication, and data management processes. These technologies are combined with WebAccess and WISE-PaaS – two reliable tools for information integration and data analysis. Using such software enables our solutions to be widely utilized across various E&E industries.

Industrial IoT Cloud-based Management Services

WISE-DataConnect

WISE-DataConnect
IoT Device Management Platform

Features:
• Hierarchical organization twin object management
• Dashboard wizard
• Open API plugin for data exchange

Advantages:
• Easy interface with low learning curve
• Instant and dynamic domain logic scenario configuration
• Available for cloud or on-premises versions depending on scenario

Patrol Inspection
Service Patrol Dispatch Software

Features:
• Scheduled patrol management
• Route planner and event task assignment
• Patrol statistics and reports

Advantages:
• Monitor real-time status updates in field site
• Simplifying complexity of dispatching process
• Tracking and reporting for strategic schedule management

Water Treatment Solutions

WISE-DataConnect

iWater-41A
Operation & Maintenance Command Center

Features:
• Hierarchical organization management
• Alarm/Event management and patrol inspection
• Device/equipment operation and maintenance management

Solution Suite Package:
SKY-7221, WISE-PaaS/IoTSuite, WISE-DataConnect, Patrol Inspection

iWater-42A
Biological Treatment A2O Solution

Features:
• Enables 100% web-based remote engineering, monitoring, and control
• Effective control for removal nitrogen and phosphorus
• Optimized aeration process

Solution Suite Package:
MIC-770, WebAccess 75 Points, A2O Process Package Software

iWater-43A
Coagulation Sedimentation Solution

Features:
• Enables 100% web-based remote engineering, monitoring, and control
• Effective prediction of water quality and coagulant dosage
• Enhanced coagulation process and dosing control

Solution Suite Package:
MIC-770, WebAccess 75 Points, Coagulation Process Package Software

Environmental Facility Management

WISE-DataConnect

iEnv-46A
Edge Cloud Facility Management

Features:
• Factory/HVAC monitoring
• Power consumption monitoring
• Motor facilities PHM

Solution Suite Package:
SKY-7221, WISE-PaaS/IoTSuite, WISE-DataConnect, Patrol Inspection

iEnv-49A
Patrol Inspection Management

Features:
• Offline mobile app inspection
• Dynamic inspection route management
• Open API for 3rd party event to trigger task

Solution Suite Package:
MIC-770, Patrol Inspection

Energy Solutions

WISE-DataConnect

iEnergy-47A
Solar Power Management

Features:
• Power generation information
• Power inverters and solar panel management
• Environmental monitoring

Solution Suite Package:
SKY-7221, WISE-PaaS/IoTSuite, WISE-DataConnect, Patrol Inspection (Optional)
Utility & Energy Solutions
Power Conversion Solutions for Maximum Energy Transition

Advantech’s ruggedized, IEC 61850-3 compliant ECU series includes automation controllers, gateways, and data acquisition modules. These ensure the safety and reliability of energy management and monitoring systems for distributed energy stations, renewable energy sources, grid infrastructures, and manufacturing.

**Edge Gateways**

**ECU-579**
Server Grade IEC 61850-3 Certified Power Automation Computer
- 2nd Generation Intel® Xeon® Scalable Processors
- 12 x DIMM sockets support up to 768GB DDR4
- 2 x hot-swappable PSU
- 4 x 2.5” hot-swappable HDD/ SSD (RAID0, 1, 5, 10)
- 2 x PCIe x16, 1 x PCIe x8, 1 x PCIe x4 Gen. 3 Slots
- IPMI 2.0-compliant management

**ECU-4784 Series**
IEC 61850-3 Certified Power Automation Computer
- Intel® Xeon® E-2276ML Processor (2.00 GHz) up to 64G DDR4 ECC RAM
- Intel Xeon E3-1505L v5 Processor up to 32G DDR3L
- Intel® 6th Core™ Celeron, i3, i5, i7 Processor up to 16G DDR3L RAM
- 8 x Giga LAN, 2 x RS-232, 8 x RS-232/422/485 serial ports
- 3 x Display output/ 3 x SATA/ 2 x I/O expansion slots

**ECU-4574**
IEC 61850-3 Compliant Power Automation Computer
- Intel Atom® E3930 processor (1.3 GHz) up to 8G DDR3L RAM
- 10 x Giga LAN, 10 x Isolated RS-232/422/485 serial ports
- 8 x DI, 8 x DO - isolated, 1 x IRIG-B

**PCIe Cards**

**ECU-P1524SPE/ 1524PE**
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-P1628D/ 1618D**
8-Port Isolated/ Non-Isolated RS-232/422/485 Module
- RS-232: 50~115.2 kbps (max.)
- RS-422/485: 50~921.6 kbps (max.)
- 2500 Vdc isolation (ECU-P1628D)
- Wide operating temperature range (-40~70°C)

**ECU-P1528RE/ 1528PE**
8-port LAN Module
- 1528RE: 8 x R4S LAN gigabit module for ECU-4784
- 1528PE: 8 x SFP LAN gigabit module for ECU-4784

**Communication Gateways**

**ECU-1251**
IEC-61850-3-Compliant Edge Communication Gateway with 2x LAN, 4x 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 Edge Communication Gateway with 2x LAN, 6x 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-61850-3-Compliant Edge Communication Gateway with 4x LAN, 16x 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
- Wide operating temperature range (-40~70°C)
Intelligent Transportation Systems

Smart Solutions for Modern Infrastructures

Advantech is dedicated to develop systems that fulfill our vision of empowering intelligent cities worldwide. With over a decade of successful experience, we have considerable expertise designing and developing products in the urban transportation sector. Advantech offers a full product range for rail and roadway applications, such as railway automatic fare collection, wayside control, rolling stock, urban traffic management, highway management, transportation hub management, and autonomous vehicles.

Intelligent Edge Platforms

**ITA-3650/ ITA-3650G/ ITA-3650N**
*Intel® 6th & 7th Gen Fanless System for Traffic Management*
- Intel® 6th & 7th Generation Desktop processor
- Supports on-board memory with SO-DIMM and NVRAM
- Supports 2 x GbE, 6 x USB, 6 x COM ports
- Supports 2 x 2.5” storage bay & 1 x mSATA
- Operating temperature -25 ~ 60°C and 9-36Vdc power input
- Optional expansion for MXM GPU and networking

**ITA-260**
*EN 50121-4 DIN-Rail Compact Fanless System*
- Intel® 11th Generation Tiger Lake UP3 processor
- Supports up to 64G SO-DIMM memory
- Compliant with EN 50121-4 EMC standard for signaling applications
- Supports 6 x GbE, 4 x USB, 2 x COM ports
- Wide operating temperature range (-40 ~ 60°C)
- Dual power input: 9-48Vdc

**ITA-1711 / ITA-1711N**
*Intel® Celeron® J1900 Fanless Compact Systems*
- 4 GB (up to 8G) of DDR3 onboard RAM
- Supports up to 4 x GbE, 6 x USB (includes 1 x USB 3.0) and 14 x COM
- Supports replaceable secondary display (VGA/DVI-D/LVDS)
- Supports dual outputs of full HD resolution video
- Supports 1 x easy-swap SATA slim/ CompactFlash module
- Supports 1 x 2.5” storage bay
- Operating temperature -25 ~ 60°C and 9-36Vdc power input

Intelligent Railway Edge Platforms

**ITA-5231/ 5231S/ 5231G/ 5231W**
*EN 50155 Fanless Systems*
- Intel® Core™ i7/ i5/ Celeron® platform with QM170
- EN 50155 TX (-40 ~ 70°C) and IEC 61373 body mounted Class B standards
- Compliant with EMC standard EN 50121-3-2/ EN 50121-4
- Supports easy-swappable storage and I/O modules
- Supports anti-vibration HDD tray, MXM GPU modules, and connectivity modules in specific models

**ITA-5831**
*EN 50121-4 Compact Fanless System*
- Intel® Core™ i7/ i5/ Celeron® platform with QM170
- EN 50121-3-2/ EN 50121-4
- Ruggedized communication and power port connectors (M12)
- Supports easy-swappable storage and I/O modules
- Compliant with EN 45545-2 fire safety

**ITA-460/ ITA-460G**
*Intelligent In-Vehicle AI Platforms*
- Intel® 8th/9th Gen Core™ i CPU (LGA1151) 8GB memory onboard
- 2 x GbE, 2 x USB3.0, 2 x COM
- Supports 3 x mini PCIe expansion sockets
- All-around IP65 rating
- Wide operating temperature range (-25 ~ 60°C)
- Optional expansion for MXM GPU

In-Vehicle AI Platforms

**ITA-8100/ 8100B/ 8120**
*EN 50121 Railway Driver Machine Interface*
- 10.4” & 12.1” touch panel with 1024 x 768 resolution (1300 nits as optional for 10.4”)
- 2 x GbE, 1 x USB 2.0, 2 x RS-422/485, 1 x Audio and 1 x DIO (M12)
- Expandable CANbus/ CANopen/ MVB/ Wi-Fi/ LTE/ GPS
- Supports UIC 612-01 keypad and auto dimming by light sensor
- Wide voltage input range: 24/48/72/110 Vdc (±40%)
- Wide operating temperature range: -40 ~ 70°C
- Compliant with EN 45545-2 fire safety

3U CPCI Platforms

**MIC-3 CPCI Serial Solution**
*AI/Machine Vision on Rolling Stock*
- 3U or 4U height 19 inch on-rack, DC input
- High performance Xeon/Core i7/i5, 2 or 3 systems in chassis
- All I/Os on the front side, easy maintenance
- EMC/Safety: EN 50155, GB/T 24338.4, GB/T 25119
- PICMG CPCI-S.0 R2.0, PICMG 2.1 R2.0 compliant

**MIC-3 CPCI Legacy Solution**
*Intelligent Wayside Signaling Control*
- 3U or 4U height 19 inch on-rack, AC input
- Entry Atom CPU, fanless, -40 ~ 70°C operating temperature
- Dual systems for redundancy
- Front LED, all I/Os on the rear side
- EMC/Safety: EN 50121-4, GB/T 24338.5
- PICMG2.1 R3.0, PICMG2.1 R2.0 compliant

Touch Panel PCs

**ITA-8100**
*8100B/ 8120*
Intelligent Systems and Platforms

Infrastructure for the IoT

With a diverse range of innovative technologies including edge computing, cloud computing and high-performance embedded systems, Advantech’s intelligent systems have various form factors designed with high performance CPU and GPU computing, multiple IO and communication interfaces, compact and fanless design, and security, energy-saving, expansibility features. Our intelligent systems and GPU Cards can be deployed in many verticals such as factory automation, power & energy, intelligent transportation, as well as smart machine automation, machine vision, and edge AI applications.

Modular Industrial Computers

**MIC-770 V3**
Compact Fanless System with 12th Gen Intel® Core™ i CPU Socket
- Intel® 12th Gen Core™ i CPU socket type (LGA1700) with Intel® R680E/H610E chipset
- Wide operating temperature (-20 ~ 60 °C)
- VGA and HDMI output
- 2 x GigaLAN, 2 x USB 3.2 (Gen2) and 6 x USB 3.2 (Gen1)
- 2 x DDR5 ECC/Non-ECC SO-DIMM, up to 64GB

**MIC-770 V3 + MIC-75GF10**
Edge AI Fanless GPU System support MXM GPU
- Intel® 12th Gen Core™ i CPU socket-type (LGA1700) with Intel® R680E/H610E chipset
- Fanless system support NVIDIA MXM GPU (up to 80W)
- 3 x DP and 1 x HDMI with 2x removable 2.5” SATA storage bay

**MIC-790**
Compact 2U Fanless Edge Server
- Intel® Ice Lake -D Xeon D-2752 TER processor
- 6 x DDR4 ECC/Non-ECC SO-DIMM, up to 192GB for VM application
- 2 x 10GbE, 4 x GigaLAN
- 2 x NVMe M.2, 2x removable 2.5” SATA SSD
- IPMI supported
- 2 x PCIe x16 (reserved)

**IPC-220/240/242**
Compact Industrial Computer System with 12th Gen Intel® Core™ i CPU Socket
- Intel® 12th Gen Core™ i CPU socket-type (LGA1700) with Intel® Q670E/H610E chipset
- Up to 4 x expansion slots (PCI/PCI)
- Dual GbE, 6 x USB 2.0, 2 x USB 3.0, 1 x NVMe M.2, 2 x SATA(6), 2 x RS-232/422/485 serial ports
- Supports power output 5V/12V (max. 2A)
- Compatible MB: PCE-2033/ 2133

**AIIS-3411U/ AIIS-3411P**
All-in-One Compact Vision System, Intel® 10th Gen Core i CPU, 4-ch PoE or USB Camera Interface and Lighting Control
- Intel 10th Gen Core i CPU (LGA1200)
- AIIS-3411UP: 4-ch GbE PoE
- AIIS-3411U: 4-ch USB 3.0
- Optional AIIS-1882 with 4-ch PWM Lighting output with 4 dedicated trigger
- 12 x DI and 16 x DO with 2500 VDC isolation

**IPC-320**
Compact size Tower IPC with 12th Gen Intel® Core™ i CPU Socket (LGA 1700) and 250W ATX PSU
- Intel® 12th Gen Core i Desktop LGA 1700 CPU supported with H610E chipset
- Compact design fits in small cabinet or limited space
- Rich dual USB 3.2 and dual USB 2.0 port on both front and rear side
- Dual Independent Displays (HDMI/DP)
- 2 x Expansion slots (PCIex16 and PCIex4)
- Built-in 250W 12V and 5V output only power supply
### Slot Single Board Computers (SBCs)

#### PCE-5133
12th Gen Intel® Core™ i PICMG 1.3 Full-size Single Board Computer
- Intel 12th Gen Core i9/i7/i5/i3 LGA1700 processor with R680E
- Dual LAN with Intel i225LM and i225V
- Up to 64GB of dual-channel (on-die ECC) DDR5 4800MHz
- USB 3.0, SATA 3.0 (RAID 0, 1, 10)
- Triple displays: 1 x VGA, 2 x DVI/DHDMI

#### PCA-6029
6th/7th Gen Intel® Core™ i PICMG 1.0 Full-size Single Board Computer
- Intel 6th/7th Gen Core™ i7/i5/i3 LGA1151 processor with H110 chipset
- Up to 64GB of dual-channel (non-ECC) DDR4 2133/2400 MHz
- USB 3.0, SATA 3.0 (RAID 0, 1, 5, 10)
- Triple displays: 1 x VGA, 1 x HDMI, 1 x DVI

#### PCE-4132/ PCE-3032
10th Gen Intel® Core™ i PICMG 1.3 Half-size Single Board Computer
- Intel 10th Gen Core i9/i7/i5/i3 LGA1200 processor with W480E/H420E chipsets
- Up to 64GB of dual-channel (non-ECC) DDR4 2666/2933 MHz
- USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10), dual GbEs
- Up to triple displays: 1 x VGA, 1 x DVI-D (optional), 1 x DP (optional)

### Industrial Motherboards & Computers

#### AIMB-788
12th Gen Intel® Core™ i ATX Motherboard
- Intel 12th Gen Core™ i9/i7/i5/i3 LGA1700 processor with Q670E chipset
- Up to 128GB of dual-channel (non-ECC) DDR4 3200 MHz
- 1 x PCIe x16 Gen 4, 4 x PCIe x4 Gen 3, 2 x PCI slots, M.2
- Triple displays: 1 x DP, 1 x HDMI, 1 x VGA

#### AIMB-708
12th Gen Intel® Core™ i ATX Motherboard
- Intel 12th Gen Core™ i9/i7/i5/i3 LGA1700 processor with H610E chipset
- Up to 64GB of dual-channel (non-ECC) DDR4 3200 MHz
- 1 x PCIe x16 Gen 4, 2 x PCIe x4 Gen 3, 4 x PCI slots, M.2
- Triple displays: 1 x DP, 1 x HDMI, 1 x VGA

#### ACP-2020G
2U Rackmount Chassis for GPU Applications
- Supports ATX/miniATX motherboards
- Tool-less card cage for GPU card
- Thermal design for 350W GPU card
- Built in 850W 80 Plus Platinum single power supply

### Industrial MXM GPU Cards

#### SKY-MXM-A2000-4SDA
MXM 3.1 Type A NVIDIA® Quadro® Embedded A2000 with DP 1.4a
- MXM 3.1: Type A form factor
- 2560 CUDA cores
- 20 RT Cores
- 80 Tensor Cores
- 1825 TFLOPS
- 4 x DP 1.4a
- 4GB GDDR6 memory
- 224GB/s maximum memory bandwidth

#### SKY-MXM-T1000-4SDB
MXM 3.1 Type A NVIDIA® Quadro® Embedded T1000 with DP 1.4a
- MXM 3.1: Type A form factor
- 896 CUDA cores
- 27 TFLOPS
- 4 x DP 1.4a
- 4GB GDDR6 memory
- 192GB/s maximum memory bandwidth

#### SKY-MXM-R3000-6SDA
MXM 3.1 Type B NVIDIA® Quadro® Embedded RTX3000 with DP 1.4a
- MXM 3.1: Type B form factor
- 1920 CUDA cores
- 30 RT Cores
- 240 Tensor Cores
- 5.3 TFLOPS
- 4 x DP 1.4a
- 6GB GDDR6 memory
- 336GB/s maximum memory bandwidth

### Industrial Quadro & Tesla GPU Cards (Bundle Sale)

#### SKY-QUAD-RTXA5000B
NVIDIA Quadro RTX A5000 PCIe 24GB DSFH w/ATX bracket BULK
- PCIe 4.0 x 16, Dual slot, Full height
- 8192 CUDA cores
- 110 RT Cores
- 256 Tensor Cores
- 278 TFLOPS
- 4 x DP 1.4a
- 24GB GDDR6 memory
- 768GB/s maximum memory bandwidth

#### SKY-QUAD-T1000-8-B
NVIDIA Quadro RTX T1000 PCIe 8GB SSLP w/ATX bracket BULK
- PCIe 3.0 x 16, Single slot, Low Profile
- 896 CUDA cores
- 2.5 TFLOPS
- 4 x DP 1.4a
- 8GB GDDR6 memory
- 160GB/s maximum memory bandwidth

#### SKY-TESL-A100-80P
NVIDIA Tesla A100 80GB PCIe DSFH w/ATX BKT
- PCIe 4.0 x 16, Dual slot, Full height
- 8192 CUDA cores
- 1920 RT Cores
- 384 Tensor Cores
- 5.3 TFLOPS
- 4 x DP 1.4a
- 24GB GDDR6 memory
- 768GB/s maximum memory bandwidth
Embedded Automation Computers

Seamless Connection and Transmission for Edge IoT Applications

Advantech’s UNO series embedded automation box PCs are ideal for edge computing and bridge the gap between IT and OT. The UNO series serve as flexible IoT gateways in different sizes and various mountings. 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.

M2I Control Edge

UNO-127
Intel Atom® X Extremely Small Edge Computing DIN-Rail Controller
- Intel Atom® x6413E processor (1.5 GHz) with 4GB DDR4 onboard memory
- Onboard 64G eMMC 5.1
- 2 x LAN, 2 x USB, 1 x HDMI, 1 x mPCIe, 2 x LED Indicators (Power/Run)
- Modular design for optional 4 x I/O, 3 COM, 1 x LAN, 1x M.2 B Key expansion
- Onboard TPM 2.0, BECC supported

UNO-137
Intel Atom® E3940 Small-Size Integrated DIN-Rail Controller
- Industrial-grade Intel Atom® E3940 processor (1.6 GHz) with 8GB DDR3L memory
- 2 x LAN, 2 x COM, 4 x USB, 2x DP (support DP++), 1 x mPCIe, 1 x M.2 B Key for 2242 SATA or 3042/ 3052 cellular module
- Modular design for optional 1 x iDoor expansion
- Wide operating temperature range (-40~70°C/ -40~158 °F)
- Port isolation for 8 x DI, 8 x DO, 2 x COM

UNO-148
Intel® Core™ i Real-Time DIN-Rail Controller
- Intel® 11th Gen Core™ i7 / i5 / i3 processor with 8GB DDR4 memory
- 3 x LAN, 4 x USB, 2 x DP (support DP++), Port isolation for 8 x DI, 8 x DO, 4 x COM
- High internal expandability: 1 x mPCIe, 1 x M.2 B key for 2242 SATA or 3042/3052 cellular module, 1 x M.2 M Key for 2280 NVMe, 1 x M.2 E Key for wireless module
- Built-in Intel® Ethernet Controller I225 for TSN capabilities

UNO-348
Intel® Core™ i High Performance Expandable Controller
- Intel® Core™ 10th Gen i5 / i9 processor with 8G/16G DDR4 memory
- 3 x GbE, 1 x RS-232/2, 2 x RS-232/422/485, 4 x USB 3.2, 2 x USB 2.0, 1 x DP+, 1 x HDMI, Mic-in, Line-out
- Flexible expansion with up to 3 x PCIe/PCI slots, 1 x M.2 B key, 1 x mPCIe and 2 x 2.5" SSD
- Rugged and fanless design suits for harsh embedded environment
- Out-of-Band (OOB) manageability with iBMC
- Built-in TPM 2.0 for ensuring the integrity of the platform

Domain Specific Edge

UNO-420
PoE Powered Device Sensing Gateway
- Intel Atom® E3815 processor with 2GB DDR3L onboard memory
- 2 x GbE (1 x PoE-IN), 1 x USB 3.0, 1 x HDMI, 1 x RS-485, 2 x RS-232/422/485, and
- 8 x programmable GPIO
- 32GB eMMC storage onboard
- ESRP package: supports WISE-EdgeLink

UNO-430
Intel Atom® Explosion-Protected IP66 Waterproof Gateway
- Intel Atom® E3950 quad-core processor with 8G DDR3L memory
- 2 x GbE, 2 x RS-422/485 (isolated), 1 x RS-232 (console), M.2 2242 key B, TPM 2.0
- Water-proof and sustain -40~70 °C for outdoor environments
- Easy maintenance and installation with front door and cable gland design
- C1D2, ATEX, ICEx certified

UNO-410
Intel Atom® E3940 Explosion-Protected Gateway
- Intel Atom® E3940 processor (1.6 GHz) with 8GB DDR3L memory
- 2 x GbE, 3 x USB 3.2, 1 x USB 2.0, 2 x RS-232/422/485, 8 x DI, 8 x DO, 2 x DP+
- Wide operating temperature range (-40~70°C/ -40~158 °F)
- Onboard TPM 2.0 provides hardware-based security
- C1D2, ATEX, ICEx certified
IoT Gateway Edge

**UNO-238**
*Intel® Core™ i Compact IoT Edge Computer*

- 8th Gen Intel® Core™ i processor
- 2 x GbE, 4 x USB 3.2, 2 x RS-232/422/485, 1 x HDMI, 1 x DP
- Can be expanded to facilitate wireless communication
- Threaded DC jack for reliable power supply
- Optimized mechanical design for easy RAM swapping

**UNO-220**
*Raspberry Pi Industrial Kit*

- Tiny size for RPi-based IoT solution
- Industrial grade I/O board for the Raspberry Pi
- Battery-backed RTC chip for keeping the track of time
- The inclusion of OS allows the RPi to identify UNO-220 and automatically configure the GPIOs and drivers for the board
- Integrated with PoE function allows users to power Raspberry Pi 4 via an Ethernet cable (UNO-220-PAN2AE)

**UNO-247**
*Intel® Celeron® J3455SE Edge Gateway*

- Intel® Celeron® J3455SE processor
- 2 x GbE, 2 x USB 3.0, 2 x USB 2.0, 4 x RS-232, 2 x RS-485, 1 x HDMI, 1 x VGA
- Threaded DC jack design for more steady power supply
- ESRP package: supports WISE-DeviceOn

Industrial Computing Edge

**NEW**

**UNO-2271G V2**
*Pocket-Sized Modular Box PCs*

- Intel® Celeron® N6210 dual-core processor with 4GB of DDR4 RAM
- 2 x GbE, 2 x USB 3.2 Gen1, 1 x HDMI1.4
- 1 x Full-size mPCIe slot shared with mSATA slot
- Onboard 32G eMMC (Up to 256G)
- Expansion kit: UNO-2271G-ERCE, supports up to 1 x iDoor;
  UNO-2271G-RS2EA, supports 2 x COM, 1 x M.2 B key, 1 x M.2 E key;
  UNO-2271G-RP1EA, supports 2 x COM (RS-232/422/485), terminal block, 1 x PoE+ (802.3at)*, 1 x M.2 B key

**NEW**

**UNO-2372G V2**
*Small-Sized Modular Box PCs*

- Intel® Celeron® J6412 quad-core processor with 8GB of DDR4 RAM
- 2 x GbE, 3 x USB 3.2 Gen2, 1 x USB 2.0, 1 x HDMI1.4, 1 x DP1.4, 4 x RS-232/242/485
- 1 x M.2 B key slot (USB Signal for 3042/3052 LTE/5G Module)
- 1 x 2.5" SSD SATA drive bay (support SSD/ HDD height up to 9.5mm)
- 1 x M.2 M key (PCle x 4, SATA Signal for storage)
- 1 x mPCIe slot (PCle x 2, SATA for storage)
- Expansion kit: UNO-2372G-ERCE, supports up to 1 x iDoor

**NEW**

**UNO-2484G V2**
*Regular-Size High-Performance Modular Box PCs*

- Intel® Core™ i 6325E dual-core/i3-1135G4E dual-core/i5-1145G7/E7-1185G7E quad-core processor with 8GB of DDR4 RAM
- 4 x GbE, 3 x USB 3.2 Gen2, 1 x USB 2.0, 1 x HDMI1.4, 1 x DP1.4, 4 x RS-232/242/485
- 1 x M.2 B key slot (USB Signal for 3042/3052 LTE/5G Module, SATA Signal for storage)
- 1 x 2.5" SSD SATA drive bay (support SSD/ HDD height up to 9.5mm)
- 1 x M.2 M key (PCle x 4)
- 2 x mPCIe slot (PCle, USB 2.0 Signal)
- Expansion kit: UNO-2484G-ERCE, supports up to 4 x iDoor

*iDoor Modules*

**Industrial Fieldbus**
*PCM-26 Series*

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

**Wireless Communication**
*PCM-24S Series*

- Wi-Fi/Bluetooth
- LTE/GPS

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

- RS232/422/485
- Mram
- USB 3.0
- Digital I/O
- CTake slot
- PoE
- GigLAN
- USB dongle
- TPM

**WISE-710**
*ARM Cortex™-A9 Industrial Gateway*

- NXP® ARM® Cortex™-A9 i.MX6 dual-core 1.0 GHz processor
- 2 x GbE, 3 x COM, 1 x Micro USB, and 1 x Micro SD slot
- Optional mPCIe expansion slot for wireless modules
- Operating system Linux Ubuntu 16.04 support
- ESRP package: supports WISE-Edgelink

*Note: Due to max 25.5W supply via PoE, USB ports should be limited to connect with USB 2.0 devices only.*
Intelligent HMI and Industrial Monitors

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 high performance 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

Why Modular TPC series?

Rapid Customization
Platforms can be rapidly customized according to usage requirements.

Flexibility
Display modules combined with box modules offer a range of flexible platforms.

Easy Maintenance
Box modules can be removed or sent for repair without unmounting the entire platform.

Forward Compatibility
Customers can simply detach and replace the existing module with a new advanced module.

Configurable Modules
Box Modules

NEW

TPC-B610 Series
- Intel® 10th Gen. Core i Socket (LGA1200)
- Optional DDR4 RAM (up to 64GB)
- Graphic Cards Supported (PCIex16)
- 5G Supported (M.2 Key-B 3052)
- Dual 2.5” HDD/SSD
- TPM 2.0 built-in

TPC-B510 Series
- Intel® 8th Gen. Core™ i3- 8145UE/i5-8665UE
- 8GB DDR4 RAM (up to 32GB)
- mPCIe, M.2 NVMe (Key-M 2280)
- 5G Supported (M.2 Key-B 3052)
- TPM 2.0 built-in

TPC-B500 Series
- Intel® 8th Gen. Core™ i3-6100U/i5-6300U/i7-6600U/Celeron® 3955U
- 8GB DDR4 RAM (up to 32GB)
- mPCIe, M.2 SSD (Key-B 2280)
- 3 x LAN, PCIe x1
- TPM 2.0 built-in

TPC-B200 Series
- Intel® Celeron® J3455/Atom® E3940
- 4GB DDR3L RAM (up to 8GB)
- mPCIe, M.2 SSD (Key-B 2280)
- Wide Temperature (-20~60°C)
- TPM 2.0 built-in

Panel Modules

FPM-B700-AE
- Monitor Box with 2 flexible I/O slots to accommodate FPM-M700 I/O modules for video signal or long distance transmission

Why Modular TPC series?

Rapid Customization
Platforms can be rapidly customized according to usage requirements.

Flexibility
Display modules combined with box modules offer a range of flexible platforms.

Easy Maintenance
Box modules can be removed or sent for repair without unmounting the entire platform.

Forward Compatibility
Customers can simply detach and replace the existing module with a new advanced module.
All-in-One High Performance Control Panels

TPC-300 Series with Intel® Core™ i
12.1”/15”/17”/23.8” TFT LED LCD Intel® Core™
- 8th Gen Intel® Core™ i3-8145UE / i5-8365UE / i7-8665UE processor with 8G DDR4 SDRAM
- 1 x USB 2.0, 4 x USB 3.2, 2 x RS-232/422/485, 1 x DP
- Supports dual channel memory
- Supports M.2 NVMe high speed storage
- Supports TPM 2.0, TSN

TPC-300 EHL Series with Intel Atom®
12.1”/15”/17”/23.8” TFT LED LCD Intel Atom®
- Intel® Elkhart Lake (EHL) Atom™ 6425E / Celeron® J6412 processor with 4 GB DDR4 SDRAM
- 1 x USB 2.0, 3 x USB 3.2, 2 x RS-232/422/485, 1 x DP
- Powered by Intel® Ethernet Network Adapter I225 and support speeds up to 2.5GbE
- Supports dual channel memory
- Supports M.2 NVMe high speed storage
- Supports TPM 2.0, TSN

Domain-Focused Panel PCs

SPC-200 Series
All-Around IP66-Rated 18.5”/21.5” Intel® i3/i5/i7 Dual-Core Encapsulated Touch Panel Computer
- Intel® Core™ i3-4100U 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 iProduct design award

SPC-500 Series
All-Around IP69k-Rated 15” TFT LED LCD Intel® Core™ i3/ Celeron® Stainless Steel Touch Panel Computer
- Intel® Skylake-U i3-6100U CPU
- All-around 304L stainless steel housing with IP69k & M12 connectors
- VESA mount supported
- EN 1672-2 compliance
- Shatter protection film

Explosion Proof Panel PCs

TPC-125H/155H/318WH
C1D2 Certified 12”/15”/18.5” TFT LED LCD Industrial Thin Client
- Intel® Atom® quad-core E3845 1.9GHz w/ 4GB DDR3L SDRAM (optional Intel® Celeron® quad-core J1900 processor)
- IP66-rated front panel with durable true-flat 5-wire resistive touchscreen
- Supports iDoor technology and HDD

Web Browser Terminals

TPC-71W
7” LMX6 Cortex™-A9 Web Browser
- NXP® Cortex™-A9 Dual / Quad 1GHz Processor
- Supports Linux Ubuntu, Windows Embedded Compact 7 and Android 6
- Wide operating temperature range (-20~60 ºC)
- Flat-sealed front multi-touch panel with IP66 rating

TPC-100W
7”/10.1”/15.6” LMX8M mini Cortex™-A53 Web Browser
- NXP® Cortex™-A53 i.MX 8M Mini quad-core 1.6 GHz processor
- Supports Linux Yocto 3.0, Android 10
- Wide operating temperature range (-20~60 ºC)
- Flat-sealed front multi-touch panel with IP66 rating

Industrial Monitors

FPM-7000 Series
True-flat Industrial Grade Monitor
- 6.5”/ 7”/ 12”/ 15”/ 15.6”/ 18.5”/ 21.5”
- Robust design with IP65/66 aluminum bezel
- Elegant true flat design
- Supports panel, wall, desktop, and VESA arm mounting

FPM-5000 Series
Featured Industrial Monitor
- 15”/17”/19”
- Robust design with IP65/66 aluminum bezel
- Front USB extension for diverse applications
- Supports panel, rack, wall, desktop, and VESA arm mounting

FPM-3000 Series
Extreme Rugged Industrial Monitor
- 12”/15”/17”/19”
- Robust design with IP65/66 hardened anodized front bezel & SS rear cover
- Wide operating temperature (-20 ~ 60 ºC)
- Supports panel, rack, wall, desktop, and VESA arm mounting
Semi Industrial Monitors

NEW

FPM-200 Series
General Industrial Monitor
- 12”/15”/17”/19”
- Robust system with die-casting aluminum chassis and IP66-rated aluminum alloy front bezel
- Supports various mount options: panel, desktop, and VESA arm
- 12 Vdc / 24 Vdc supported

NEW

FPM-200W Series
General Industrial Monitor
- 15.6”/21.5”
- Robust system with die-casting aluminum chassis and IP66-rated aluminum alloy front bezel
- Supports various mount options: panel, desktop, and VESA arm

NEW

FPM-800 Series
Domain Industrial Monitor
- 15”/17”
- Robust design with 304 stainless steel front bezel and anti-rust coated SPCC rear cover
- Wide operating temperature range (-20~60 °C/ -4~140 °F)
- Anti-glare screen with tempered glass and IP66-certified front panel
- Supports panel, VESA, wall, desktop, and stand mounting

Domain Industrial Monitor

NEW

RISC Base Panel PC

NEW

PPC-100 Series
11.6”/15.6” All-in-One Android Panel PC
- Powered by Rockchip RK3399 chipset with support for 4K decoding
- 16:9 widescreen display with P-CAP touch control
- Front panel with IP66-rated protection
- Pre-installed Android 10 and supports Linux/Debian
- Built-in WISE-IOTSuite/AppHub remote management service for Android devices

NEW

Configurable Panel PC

NEW

PPC-6000C Series
12.1”/15”/17”/19” High Performance Fan Panel PC w/ Selectable Mini-ITX Motherboard
- Supports Intel® Core™ i desktop processor, up to 65W TDP (socket type)
- Selectable mini-ITX motherboard for diverse requirements
- 2 x expansion slots of PCI or PCIe
- Supports dual SATA storage (RAID 0, 1)

NEW

General Purpose Panel PC

NEW

PPC-3000 Series with Intel® Core™ i
- 15.6”/18.5”/21.5”/23.8” Intel® 6th /7th Gen Core™ i7/i5/i3 Fanless Panel PC
- Intel® Core™ i3-6100U/i5/i7/i3 processor
- Supports dual display and TPM 2.0

NEW

PPC-300 Series with Intel® Core™ i
- 15.6”/21.5” Intel® 6th /7th Gen Core™ i7/i5/i3 Fanless Panel PC
- Intel® Core™ i3-1115G7E/i5-1145G7E/i7-1185G7E processor
- Supports dual channel memory, up to DDR4 3200 64GB
- Supports M.2 2280(NVMe) and RAID 0,1
- Supports TPM and TSN

NEW

PPC-300S Series with Intel® Celeron®/ Pentium
- 6.5”/10.4”/12.1”/15”/18.5”/21.5” Intel® Celeron®/ Pentium Fanless Panel PC
- Intel® dual core N2807, quad core N2930/N4200 processor
- Supports E-Eye monitoring and protection
- Supports Android 6.0

NEW

Multiple Function Panel PC

NEW

PPC-400 Series with Intel® Core™ i
- 15”/11th Gen Core™ i7/i5/i3 Fanless Panel PC
- Intel® Core™ i3-1115G7E/i5-1145G7E/i7-1185G7E processor
- Supports M.2 2280(NVMe) and RAID 0,1
- Supports PCIe expansion

NEW

PPC-3000 Series with Intel® Atom®
- 10.4”/12.1”/15”/17”/19” Intel® Atom® Fanless Panel PC
- Intel® Atom™ quad core E3940/E3845 processor
- Wide input voltage range (9~32 VDC) and built-in isolated RS-422/485
- Supports PCIe expansion and triple display

NEW

PPC-400 Series with Intel® Atom®
- 15”/17”/19” Intel® Atom® Fanless Panel PC
- Intel® Atom™ quad core x6413E processor
- Wide input voltage range (9~32 VDC) and built-in isolated RS-422/485
- Supports PCIe expansion and triple display
- Support 5G, TPM and TSN
# Industrial Tablet Solutions

**Supports On-site Management, Manufacturing and Patrol Inspection**

AIM and PWS industrial-grade tablets, available in 8” and 10” sizes, are designed for a variety of industrial applications. Mobile computing devices provide real-time data access, enabling field workers to make informed decisions on the spot. This streamlines workflows and improves efficiency to ultimately optimize quality and increase productivity. The AIM series tablets are also equipped with extension ports for integrating additional modules that expand system functionalities to support a wide range of applications.

## Industrial-Grade Tablet & Peripherals

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Details</th>
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</table>
| AIM-75S | 8” Industrial-Grade Tablet with Qualcomm® Snapdragon™ 660 Processor, Android 10, and GMS Certified | • 1920 x 1200 resolution, 400nits brightness, Corning® Gorilla® and multitouch PCAP TS  
• LTE, WLAN, Bluetooth, NFC  
• IP65 and 4-ft drop tolerance  
• Optional vertical solution extension modules and docking station |
| AIM-65 | 8” Industrial-Grade Tablet with Intel® Atom™ Processor, Windows 10 IoT | • 1920 x 1200 resolution, 400nits brightness, Corning® Gorilla® and multitouch PCAP TS  
• LTE, WLAN, Bluetooth, NFC  
• IP65 and 4-ft drop tolerance  
• Optional vertical solution extension modules and docking station |
| AIM-78S | 10” Industrial-Grade Tablet with Qualcomm® Snapdragon™ 660 Processor, Windows 10 IoT | • 1920 x 1200 resolution, 380/800nits brightness, Corning® Gorilla® and multitouch PCAP control  
• 3G/4G LTE, WLAN, Bluetooth, NFC  
• IP65 and 4-ft drop tolerance  
• Integrated barcode scanner supports data collection as option  
• Optional vertical solution extension modules and docking station |
| AIM-68 | 10.1” Industrial-Grade Tablet with Intel Atom® Processor, Windows 10 IoT | • 1920 x 1200 resolution, 380/800nits brightness, Corning® Gorilla® and multitouch PCAP control  
• 3G/4G LTE, WLAN, Bluetooth, NFC  
• IP65 and 4-ft drop tolerance  
• Integrated barcode scanner supports data collection as option  
• Optional vertical solution extension modules and docking station |

## PWS-872

**10” Industrial-Grade Tablet with Intel Core™ i3/i5/i7/Celeron® Processor, Windows 10 IoT**

• 1200x 800 resolution, 300nits display brightness, Corning® Gorilla® and multi-touch PCAP support for gloved operation  
• 4G LTE, WLAN, Bluetooth, NFC and GPS modules with Beidou/ GLONASS support  
• Hot-swappable external battery, MIL-STD-810G, IP65 and 4-ft drop  
• Integrated barcode scanner supports data collection as option  
• Optional vertical solution extension modules and docking station

## LEO-WS10

**Handheld Dimensioning and Barcode Scanner**

• 1 sec and 1 hand for dimensioning with OIML certification  
• Laser aimer for accurate aiming at barcodes  
• 3D handheld sizing scanner with embedded 2D scanner  
• No pre-calibration needed  
• Easy operation and portability  
• Compatible with any computer and OS via standard USB 1.1F
Artificial intelligence (AI) technology breaks away from static rule-based programming as it substitutes inference systems using dynamic learning for smarter decisions. Advanced AI technology, in combination with IoT technology, is redefining entire industries using smart applications. Advantech has collaborated with NVIDIA to deliver AI products at the edge for AI inference and training. These products adopt NVIDIA’s Jetson System on Module (SOM) and GPU cards. In sum, these systems deliver AI to manufacturing, transportation, and smart city applications.
Advantech’s edge data acquisition solutions with WISE-PaaS/EdgeLink, Node-RED, and Python are designed to simplify remote monitoring. These solutions improve service quality by facilitating product care, enable equipment monitoring, and allow for efficient energy consumption analysis. This allows manufacturers, rental services, and end users to obtain insights on usage behaviors by deriving intelligence through big data analysis.

**Edge DAQ Devices**
**Booster for Equipment Manufacturers, Rental Services, and End Users**

Data Acquisition Gateways

**ADAM-3600**
*Wireless Intelligent RTU*
- Ti Cortex-A8 (600MHz) with 256MB DDR3L
- Real-time Linux
- 4 expansion slots
- 2 x LAN ports with two MAC addresses
- 2 x wireless communication interface (mini-PCIe)
- 8 x DI, 8 x AI, 4 x isolated DO channels

**ADAM-3651/ ADAM-3656**
*Digital I/O Expansion Module*
- ADAM-3651: 8-ch DI module
- ADAM-3656: 8-ch DO module

**ADAM-3668**
*4-ch Relay Output Module*
- 2-ch form A and 2-ch form C
- Contact rating: 0.3A@125VAC, 1A@30VDC

**ADAM-5000 Expansion I/O Modules**
- 9 x AI/AO modules
- 16 x DI/DO modules
- 2 x counter/ frequency modules

**Expansion Modules**

**ADAM-5091**
*Serial Expansion Module*
- 4 x serial ports
- Supports RS-485/ 232/ 422

**ADAM-5192**
*Network Expansion Module*
- 2 x LAN ports

**ADAM-5091**
*Serial Expansion Module*
- 4 x serial ports
- Supports RS-485/ 232/ 422

**ADAM-5192**
*Network Expansion Module*
- 2 x LAN ports

**ADAM-5630/ ADAM-5630E**
*4/8 Slot Risc-Based Modular DA&C Controller*
- Ti Cortex-A8 (600 MHz) with 512 MB of DDR3 RAM
- Real-time Linux
- 4/8 expansion slots
- SD slot for local data storage
- Wired and wireless communication expansion options
- Supports web services
Advantech, a leading provider of innovative solutions, offers a wide range of hardware products equipped with CODESYS software. CODESYS supports a diverse range of control applications. Advantech integrates hardware and software solutions and is committed to delivering innovative industrial computing platforms and I/O technology that eases IoT application development. Advantech provides a full range of products, controllers, and fieldbus I/O modules. These allow complete control and support domain-focused markets and accelerate Industry 4.0.
Motion Control Software

MotionNavi
Visualized Designer for Standalone Motion Controller
- MotionNavi UT supports motion control cards and MotionNavi Designer for standalone controllers.
- MotionNavi UT and MotionNavi API supports VS.Net programming languages and user-friendly UI for testing purposes.
- MotionNavi Designer provides visualized integrated development environment (IDE) and BASIC programming languages.
- Provides various diagnostic tools such as one click helper, 3D path display, oscilloscope, and off-line simulator.

PC-based Motion Control Solutions

EtherCAT PCI Express Master Cards
- Supports up to 64-axis, domain focus APIs, on-board compare trigger, position latch, and MPG function.
- High precision motion and I/O control, no need to understand the complicated EtherCAT protocol.
- Easy-to-use, rapid development, and wiring-saving.
- PCE-1203 is an EtherCAT master card for EtherCAT I/O module access only, without motion control functionality. Typical applications include data collection in the field.

Arm-Based Solutions

AMAX-3110
6-Axis Pulse Train Motion Controller
- 6-axis servo/stepping pulse motor control with built-in SoftMotion kernel.
- Supports 16DI/12DO, CMP, LTC, Handwheel, and PWM function.
- Supports Advantech MotionNavi Designer.
- Easy, rapid development and cost-effective.

AMAX-354
32-Axis EtherCAT Motion Controller
- Ultra compact size with 100(H) x 70(D) x 34(W) mm.
- Flexible I/O Extension with remote EtherCAT modules and local E-bus AMAX-5000 I/O.
- Supports MotionNavi Designer low-code environment for rapid development.

X86-Based Solution

AMAX-3370
EtherCAT I/O Controller
- Compact size for control panel space optimization.
- Supports EtherCAT I/O modules which are compatible with EtherCAT standard to realize data collection applications.
- Supports MotionNavi Utility providing EtherCAT diagnostic tool to reduce downtime.
- Supports C/C++, VS.NET programming languages.

EtherCAT Step Drive

AMAX-5000 I/O Series
Compact Modular EtherCAT Slice I/O
- Removable push-in I/O terminal.
- Smart power quality diagnosis.
- Dual power inputs.
- 2000 Vrms isolation.
- Supports isolated DI/DO, analogue (V/mV/mA, RTD, thermal couple), AD (V/mA), counter/encoder, Timestamp module.
- DC mode selectable.

AMAX-4240
4-Axis EtherCAT Step Drive with CIA402
- Drive capacity: 24V @ 1.5A.
- Max step frequency: 8.388 MHz.
- CIA 402 support: PP mode.
- Optional for 4x Encoder Input.
- Compact size with DIN-Rail mount.
- Wide operation temperature: -20 ~ 50 °C.

Slave Modules

AMAX-3245
4-Axis Pulse Train EtherCAT Slave Module
- EtherCAT packet to pulse output with compact size.
- 4-Ch 100kHz compare trigger and 4-Ch 100kHz position latch.
- Easy wire to pulse-type servo/stepping motor, high-speed trigger for on-the-fly camera capture and dispensing.
Advantech leverages over 35 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 the secure transmission of data, monitoring and controlling networked devices.

### Communication Gateways

**ICR-4453**
New 5G Ready High Speed Router Platform & Edge Computing Gateway
- 5G NR cellular connectivity
- Quad-core CPU & enhanced memory, docker ready
- 2 x SIM, eSIM, 5 x Gigabit Ethernet with optional 4 x PoE
- SFP fiber port, USB, GNSS Receiver, RS-232, RS-485, CAN bus, 2 x DI, 2 x DO
- Optional dual band WiFi 802.11AC

**ICR-20/24/25/27/2800 Series**
Industrial Entry 4G LTE Router & Gateway
- LTE Cat.4, 1/2x SIM
- 1/2/4 x Ethernet 10/100
- Optional DI/DO and RS232/485
- Optional USB Host 2.0 & TPM 2.0
- Robust metal cover with wall mount option
- Advanced security features, VPN, Open Linux OS
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Wireless band 2.4G/5G selective/dual
- Provides web-based configuration

**ICR-3200 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
- 2 x Ethernet 10/100, 1 x RS-232, 1 x RS-485 and I/O
- Optional - Wi-Fi 802.11ac, Bluetooth v5.1, GNSS Receiver
- Advanced security features, VPN, Open Linux OS

**SmartFlex SR30x Series**
Flexible, Modular 4G LTE Router & Gateway
- LTE Cat.4 with 3G/2G fallback, 2x SIM, GNSS Receiver
- 2 x Ethernet 10/100 (independent or switched)
- Optional - 5 x Ethernet, PoE, RS-232/RS-422/RS-485, Wi-Fi
- Advanced security features, VPN, Open Linux OS
- E-mark, UL CID2, ATEX certifications

### Communication Gateways & I/O Nodes

**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

**EKI-6333AC/ EKI-136X Series/ EKI-9502G**
802.11AC Wi-Fi AP/ Bridge/ Client/ EN 50155 Router
- Supports 802.11 a/b/g/n/ac MIMO 2T2R
- EKI-136X series 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/dual
- Provides web-based configuration
- Cellular connectivity with dual SIM cards design for each cellular module (EKI-9502G)
<table>
<thead>
<tr>
<th>Protocol Gateways</th>
<th>Modbus Gateways/ Routers</th>
<th>Serial Device Servers</th>
<th>Entry-Level Device Servers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EKI-1242 Series</strong>&lt;br&gt;Modbus RTU/TCP to Various Industrial Protocols Fieldbus Gateway&lt;br&gt;• Dual power inputs&lt;br&gt;• Designed for protocol extensibility and adaption&lt;br&gt;• Built-in real-time diagnostics&lt;br&gt;• I models support a wide operating temperature ranges</td>
<td><strong>EKI-1220(R) Series</strong>&lt;br&gt;1/ 2/ 4-Port Modbus Gateway/ Router&lt;br&gt;• Integrated stateful firewall for protection from intrusion&lt;br&gt;• Supports redundancy-enhanced Modbus ID&lt;br&gt;• Integrates Modbus TCP and Modbus RTU/ ASCll network&lt;br&gt;• Optional fiber optics connectivity (1-port ST or 2-port SC)</td>
<td><strong>EKI-1500 Series</strong>&lt;br&gt;1/2/4/8/16-Port RS-232/ 422/ 485 Rackmount Serial Device Server&lt;br&gt;• Connect up to 8/ 16-port RS-232/ 422/ 485 devices directly to TCP/ IP networks&lt;br&gt;• High-speed baud rates (50 bps~976.5 Kbps)&lt;br&gt;• VCDM, TCP server, TCP client, UDP, and RFC2217 modes&lt;br&gt;• Optional fiber optics connectivity (1-port SC)</td>
<td><strong>EKI-1511(L)(X)(I) Series</strong>&lt;br&gt;1-Port Device Server&lt;br&gt;• L models support RS-232&lt;br&gt;• X models support RS-422/ 485&lt;br&gt;• I models support wide operating temperature&lt;br&gt;• Robust stainless steel exterior with minimalist design</td>
</tr>
<tr>
<td><strong>Unmanaged Ethernet Switches</strong>&lt;br&gt;<strong>EKI-2000 Series</strong>&lt;br&gt;Industrial unmanaged Ethernet Switch&lt;br&gt;• Supports -40~75 ºC wide operation temperatures&lt;br&gt;• Features fast Ethernet, gigabit Ethernet, PoE, POE+ and fiber optics connectors&lt;br&gt;• Designed in slim size with IP30 metal mechanism&lt;br&gt;• Supports DIN-rail mounting method</td>
<td><strong>L2 Managed Switches</strong>&lt;br&gt;<strong>EKI-5000 Series</strong>&lt;br&gt;Industrial Entry-level Managed Switch&lt;br&gt;• Provides commonly used managed switch features&lt;br&gt;• ATEN, C122 certification&lt;br&gt;• Supports Advantech IXM/NMS technology&lt;br&gt;• Supports X-Ring Elite and Web GUI for easy configuration&lt;br&gt;• Supports -40 – 75 ºC wide operating temperature</td>
<td><strong>TSN Ethernet Switch</strong>&lt;br&gt;<strong>EKI-7700 Series</strong>&lt;br&gt;Industrial Managed Switch&lt;br&gt;• High variety of port combinations&lt;br&gt;• Supports Advantech Security Pack for cyber security&lt;br&gt;• XRM function enables fast deployment&lt;br&gt;• Supports X-Ring Pro and CLI/Web GUI&lt;br&gt;• EN 50121-4 and NEMA TS-2 certified</td>
<td><strong>Long Reach Ethernet Solutions</strong>&lt;br&gt;<strong>EKI-8510G</strong>&lt;br&gt;Industrial Time-Sensitive Networking (TSN) Ethernet Switch&lt;br&gt;• Fully layer 2 managed features&lt;br&gt;• IEEE 802.1AS Time Synchronization&lt;br&gt;• EEE 802.1Qbu Frame Preemption&lt;br&gt;• IEEE 802.10av Time Aware Shaper&lt;br&gt;• IEEE 802.1CB Seamless Redundancy</td>
</tr>
<tr>
<td><strong>Unmanaged Ethernet Switches</strong>&lt;br&gt;<strong>EKI-9500 Series</strong>&lt;br&gt;28/16/12/10-Port EN 50155 Rolling Stock Switch&lt;br&gt;• EN 50155, EN 50121-3-2, IEC 61373 compliant&lt;br&gt;• PoE/ PoE+ models are available&lt;br&gt;• Various port combination with Fast Ethernet/ GigE Ethernet options&lt;br&gt;• IP40/ IP54/ IP67 and rugged housing</td>
<td><strong>L3 Managed Switches</strong>&lt;br&gt;<strong>EKI-7412G-4X/7428G-4X 10G Series</strong>&lt;br&gt;Network Management System&lt;br&gt;• 10G uplink bandwidth supported&lt;br&gt;• Powerful and reliability managed features&lt;br&gt;• 1U 19 inch rack-mount design&lt;br&gt;• Up to 60 ºC operating temperature</td>
<td><strong>Managed 10G Media Converters and Chassis</strong>&lt;br&gt;<strong>EKI-9700/ 9600 Series</strong>&lt;br&gt;Industrial Layer 3 Managed Switch&lt;br&gt;• Static routing/ NAT (EKI-9612G, EKI-9628G)&lt;br&gt;• Static routing, RIP v1/ v2, OSPF v2, VRRP (EKI-9728G)&lt;br&gt;• Supports up to 4 x 10GbE fiber ports (EKI-9728G)&lt;br&gt;• –40 – 75 ºC wide operating temperature&lt;br&gt;• Dual (redundant) AC and/or DC hot-swappable power supplies</td>
<td><strong>IMC-150</strong>&lt;br&gt;Hardened PoE Long Reach Ethernet Extender&lt;br&gt;• Extend the reach of both power and data delivery&lt;br&gt;• Supports Link Fault Pass Through (LFPT) mechanism&lt;br&gt;• Leverage pre-built UTP and coaxial cables to upgrade network infrastructure&lt;br&gt;• Industrial grade hardware design with EN50121-4 EMC certification</td>
</tr>
<tr>
<td><strong>Commanded Ethernet Switches</strong>&lt;br&gt;<strong>EKI-1000 Series</strong>&lt;br&gt;20/10/10/100-Port 10G Ethernet Solutions&lt;br&gt;• Supports –40 ~ 75 °C wide operating&lt;br&gt;• Supports Link Fault Pass Through (LFPT) mechanism&lt;br&gt;• Extends the reach of both power and data delivery&lt;br&gt;• Supports Link Fault Pass Through (LFPT) mechanism&lt;br&gt;• Leverage pre-built UTP and coaxial cables to upgrade network infrastructure&lt;br&gt;• Industrial grade hardware design with EN50121-4 EMC certification</td>
<td><strong>TSN Ethernet Switch</strong>&lt;br&gt;<strong>EKI-1511(L)(X)(I) Series</strong>&lt;br&gt;1-Port Device Server&lt;br&gt;• L models support RS-232&lt;br&gt;• X models support RS-422/ 485&lt;br&gt;• I models support wide operating temperature&lt;br&gt;• Robust stainless steel exterior with minimalist design</td>
<td><strong>Managed 10G Media Converters and Chassis</strong>&lt;br&gt;<strong>EKI-610-A &amp; IMC-700 Series</strong>&lt;br&gt;10G standalone media converter (IMC-610-A)&lt;br&gt;• Modular design with chassis from 3/6/20 slots (IMC-790-A)&lt;br&gt;• SNMP manageable via IxExplorer sofware featuring massive provision and monitoring&lt;br&gt;• Dual (redundant) AC and/or DC hot-swappable power supplies</td>
<td><strong>TSN Ethernet Switch</strong>&lt;br&gt;<strong>EKI-7700 Series</strong>&lt;br&gt;Industrial Managed Switch&lt;br&gt;• High variety of port combinations&lt;br&gt;• Supports Advantech Security Pack for cyber security&lt;br&gt;• XRM function enables fast deployment&lt;br&gt;• Supports X-Ring Pro and CLI/Web GUI&lt;br&gt;• EN 50121-4 and NEMA TS-2 certified</td>
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</table>
Advantech offers a wide range of industrial data acquisition and control devices with various interfaces and functions. Based on PC technologies, 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, production testing and much more.

### Data Acquisition and Control

#### Diverse Form Factors to Satisfy DAQ Requirements

Advantech provides a variety of products tailored to different data acquisition requirements. The product range includes:

- **PCI Express DAQ Cards**
- **PCI Express AO Cards**
- **PCI Express Digital I/O Cards**
- **Vibration Sensing Gateways**

#### PCI Express DAQ Cards

- **PCIE-1810**
  - 16-ch, 12-bit Multi-Function PCI Express Card
  - Sample rate: 500 kS/s
  - Resolution: 12-bit
  - Analog and digital triggers
  - Waveform generator for AO channels

- **PCIE-1805**
  - 32-ch, 16-bit Analog Input PCI Express Card
  - Sample rate: 1 MS/s
  - Resolution: 16-bit
  - ±10 V to ±1 V voltage measurement
  - 0 – 20 mA or 4 – 20 mA current measurement
  - Supports digital and analog triggers

- **PCIE-1802/ 1802L/ 1803**
  - 8/ 4/ 8-ch, 24-bit Dynamic Signal Acquisition
  - Sample rate: 216 kS/s/ch
  - Resolution: 24-bit
  - Dynamic range: 115 dB
  - Wide input voltage range (±0.2~10 V)
  - Built-in anti-aliasing filter

- **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-1763AH/ 1763DH**
  - 16-ch Solid-State Relay (SSR) Output and 16-ch Isolated Digital Input w/ Digital Filter & Interrupt PCIe Card
  - 16-ch isolated digital input (IDI) with both dry and wet contact configurations
  - Interrupt and noise filter for all IDI channels
  - Suitable for both AC (> 80 VAC) and DC low voltage load (< 60 V) applications with frequent ON/OFF switching
  - Much less contact problems such as arcs, bounce, and noise

- **WISE-750**
  - Intelligent Vibration Sensing Gateway
  - Set-and-run AI monitoring system
  - Comprehensive evaluation, configuration and deployment kit
  - Compact size
  - 4-channel measurement paired with alarm indication
  - Accelerometer included
Modular DAQ Chassis and Modules

**iDAQ-934**
- 4-Slot USB 3.0 iDAQ Chassis
  - USB 3.0 with SuperSpeed USB (5Gbps)
  - 1 x upstream and 1 x downstream USB port
  - LED indicators for status indication
  - 2 x PFP for multi-purpose software-configurable trigger/clock settings
  - 4 x (DAQ) slots

**iDAQ-964**
- 4-slot Industrial DAQ Chassis Module for AMAX-5000
  - PCIe interface connecting to AMAX-5000 series controllers
  - LED status indicators
  - 4x (DAQ) slots
  - 2x programmable function pin for timing signal (trigger, clock) input/output

**USB DAQ Modules**

**USB-5801**
- 4-ch, 24-bit USB 3.0 DSA Module
  - USB 3.0 with SuperSpeed USB (5Gbps)
  - 1 x upstream and 1 x downstream USB port
  - 4 x 24bit simultaneous sampling analog inputs up to 192K/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
  - USB 3.0 with SuperSpeed USB (5Gbps)
  - 1 x upstream and 1 x downstream USB port
  - 16-bit resolution with 200K/S sampling rate
  - ±275 V high common-mode voltage range
  - Measuring and output error < ±0.1%
  - Built-in USB hub

**USB-5830/ 5856**
- 32/ 64-ch Isolated Digital I/O USB 3.0 Module
  - USB 3.0 with SuperSpeed USB (5Gbps)
  - 1 x upstream and 1 x downstream USB port
  - Built-in USB hub
  - 2,500 VDC isolation protection
  - Level 3 ESD and surge protection

**DAQ-Navi/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

**Communication Solutions**

**PCI/PCIE-1600**
- PCI/PCIE Communication Cards
  - 2/4/8 port PCI serial
  - 2/4/8 port PCIE serial
  - 2 port PC/PCIE CAN
Improving Legacy Serial Devices with IoT

Serial RS-232, RS-422 and RS-485 are viable options when it comes to industrial and commercial data communications. The Advantech ULI series offers a complete line of serial-serial and serial-fiber converters as well as isolated repeaters, surge suppressors, data taps, and data splitter products to choose from, including options for harsh-duty Class 1/Division 2 oil & gas and IEC 61850-3 substation applications. Additionally, the ULI series has options for USB to serial converters as well as USB isolators and hubs.
IoT-ready Remote I/O and Intelligent I/O Gateways
Transformation for IIoT’s Wider & Larger Applications

Advantech’s ADAM remote I/O modules have been used by industry for over 30 years. The ADAM-4100 features robust RS-485 Modbus I/O with USB for easy configuration and diagnosis. Analogously, the ADAM-6000/6200 series is an Ethernet I/O used for IoT applications with SNMP, MQTT, RESTful API, Web Service, and Azure/AWS interfaces. Likewise, the ADAM-6300 series is an innovative OPC UA I/O with security/encryption features. In addition, the ADAM-6700 series is equipped with Node-RED or WISE-EdgeLink software and built-in I/O. It functions as an all-in-one intelligent I/O gateway solution.

Node-RED
Low-Code Programming for Event-Driven Applications
- Node-RED 1.2.2, Node.js 10.22.1
- Browser-based editor to wire flows quickly
- Drag and drop nodes for programming
- Users can visualize the real-time data on the built-in dashboard remotely
- ADAM-6700 series have built-in sample flows on Node-RED including cloud/database access (SQL Azure), data transmission (MQTT, Modbus), data visualization, logic control, and extended I/O

Module Selection
- ADAM-6700 Series
  - RISC/Linux-based, Node-RED
  - Multiple I/O & wireless connectivities
  - Wide operating temperature range (-40 ~ 70 °C / -40 ~ 158 °F)
- Module Selection
  - Node-RED version
    - ADAM-6717: 8AI/5DI/4DO
    - ADAM-6750: 12DI/12DO
    - ADAM-6760D: 8SSR/8DI
- WISE-EdgeLink Version
  - ESRP-PCS-ADAM6717: 8AI/5DI/4DO
  - ESRP-PCS-ADAM6750: 12DI/12DO
  - ESRP-PCS-ADAM6760D: 8SSR/8DI

ADAM-6700E
- Extend wireless connectivity for ADAM-6700
- Connection between ADAM-6700 series via USB cable
- 1 x wireless communication interface (mini-PCIe)
- 1 x micro-8 USB
- 1 x nano SIM card slot
- LEDs for power, reserve LTE module (optional)
- Power reversal protection

ADAM-6300 Series
OPC UA Ethernet I/O Modules
- Uniquely-designed remote I/O with OPC UA protocol
- Directly links to SCADA and cloud, accelerating OT and IT convergence
- Security certificate and encryption
- Cost effective high I/O density
- Supports Modbus and daisy chain

Module Selection
- ADAM-6350: 18DI/18DO
- ADAM-6317: 8AI/11DI/10DO
- ADAM-6360D: 8SSR/14DI/6DO
- ADAM-6366: 6Relay/18DI/6DO
- ADAM-6315: RTD module

ADAM-6300 Series
OPC UA Ethernet I/O Modules
- Uniquely-designed remote I/O with OPC UA protocol
- Directly links to SCADA and cloud, accelerating OT and IT convergence
- Security certificate and encryption
- Cost effective high I/O density
- Supports Modbus and daisy chain

Module Selection
- ADAM-6350: 18DI/18DO
- ADAM-6317: 8AI/11DI/10DO
- ADAM-6360D: 8SSR/14DI/6DO
- ADAM-6366: 6Relay/18DI/6DO
- ADAM-6315: RTD module

ADAM-6200 Series
- Cloud management: configuration, monitoring, and firmware updates
- Daisy chain connectivity with auto-bypass protection
- Supports HTML5, JavaScript, XML
- Supports GCL/PS/RESTful API
- Group configuration capability
- Supports security MQTT with TLS

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

ADAM-6000 Series
- Cloud management: configuration, monitoring, and firmware updates
- Embedded web server
- Data stream function to push data
- Supports GCL/PS/RESTful API
- Supports C# .NET and VB.NET
- Supports security MQTT with TLS

Module Selection
- ADAM-6015: 7-ch RTD
- ADAM-6017: 8AI/2DO
- ADAM-6018: 8-ch thermocouple
- ADAM-6050: 12DI/6DO
- ADAM-6060: 6DI/6Relay

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, 4-kV EFT, 8-kV ESD
- High common mode voltage: 200 VDC
- Power input: 10~48VDC

Module Selection
- ADAM-4115: 6-ch RTD
- ADAM-4117: 8AI
- ADAM-4118: 8-ch thermocouple
- ADAM-4150: 7DO/8DO
- ADAM-4168: 8Relay

ADAM-4000 Series
RS-485 I/O Modules
- Watchdog timer
- ±35 VDC over voltage protection
- 3,000 VDC voltage isolation

Module Selection
- ADAM-4015: 6-ch RTD
- ADAM-4017: 8AI
- ADAM-4018: 8-ch thermocouple
- ADAM-4024: 4AO/4DI
- ADAM-4051: 16DI
- ADAM-4068: 8Relay
- ADAM-4080: 2-ch counter module
With developments in wireless and cloud technologies, more and more remote monitoring applications have adopted cloud services 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, 4G, LoRaWAN, NB-IoT/LTE-M, and proprietary LPWAN (Sub-G) through IoT protocols MQTT, CoAP and LwM2M.
Wireless Fleet and Industrial Networking
Remote Device Management and Data Collection

Remote device management solutions from Advantech enable wireless asset monitoring, data retrieval, and control. Advantech wireless solutions offer a variety of interfaces, functionalities and smart, secure, energy-saving features – all of which contribute to transmitting data, monitoring, controlling and networking remote devices or mobile vehicle fleets. Advantech’s industry and technology expertise provides solutions that are rugged, reliable, affordable and suitable for a variety of applications.

Onboard Diagnostics (OBD) Vehicle Converters

WISE-4773-S51U
LTE CAT-M1 Data Interface-Light/Heavy-Duty Vehicles
• J1939, J1708/J1587, OBDII (NA)
• GPS location, speed, altitude, heading
• Category M1 low power
• Digital accelerometer
• Industry leading, proprietary OBD database, algorithms
• Temperature range: -30 ~ 75 °C
• Shock, vibration, drop tested
• SAE J1113, Industry Canada

BB-HD3-A3
Intelligent Interface Adapter-Heavy-Duty Vehicles
• J1939, J1962 protocols
• Temperature range: -40 ~ 85 °C
• Shock, vibration, drop tested
• SAE J1113/11, /13, /14

BB-LD3IC-S
Intelligent Interface Adapter -Light/Medium-Duty Vehicles
• J1979, J1962 protocols
• ISO 15765, LSGMLAN, Ford Secondary CAN
• Integrated Y cable
• Industry leading, proprietary OBD database/ algorithms
• Temperature range: -40 ~ 85 °C
• Shock, vibration, drop tested
• SAE J1113/11, /13, /14

BB-LD3-1939P1D
Intelligent Interface Adapter -Light/Medium-Duty Vehicles
• J1939 protocol
• ISO 15765 (CAN), LSGMLAN, Ford Secondary CAN
• ELD, ELR (FMCSA mandate)
• Industry leading, proprietary OBD database/ algorithms
• Temperature range: -40 ~ 85 °C
• Shock, vibration, drop tested
• SAE J1113/11, /13, /14

Serial to BTLE 5.0 Extenders

WISE-4520-NA, WISE-4520-EA
Wireless Extension of RS-232/422/485 Serial Data
• Simple wireless extension of RS-232/422/485 data using BT 5.0 technology
• Easy serial wired communications replacement
• 2.4 GHz frequency band
• Data rate: up to 115.2 kbps
• Input power: 10-30 VDC via terminal block
• Range: up to 800 meters (USA version)
• One digital I/O point
• LED indicators: Power, Connection Status, RSSI
• DIP switch configuration and button pairing (no software required)
• Wide operating temperature
• DIN rail mounting bracket included
• Two or more extenders required
• Power supply required for each unit, sold separately
• Certifications for USA, Canada, Europe
## Regional Service & Customization Centers

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<tr>
<th>Country</th>
<th>Region</th>
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## Worldwide Offices

### Asia Pacific

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### Americas

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### Additional Information

- Please verify specifications before quoting. This guide is intended for reference purposes only.
- All product specifications are subject to change without notice.
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