# **Advantech Industrial IoT Systems and Devices Star Product Guide**

- **Vertical Market Solutions**
- **Edge Computing**
- **Edge Al Technology**
- **Automation Control**
- **Intelligent Connectivity**
- **Edge Data Acquisition**
- **Wireless Sensing and Fleet Networking**





# 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





# Ether CAT.

Motion Controllers AMAX-3000/ 300 Series

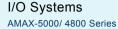




### EtherCAT Control & I/O Systems

**Edge Controllers** 

AMAX-5500 Series









#### **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



#### **VisionNavi**

Machine Vision **Application Software** 

#### **AlNavi**

Deep-Learning-Based Image Analysis Software

#### **HMINavi**

**HMI Software** for Machine Visualization



OPC UA

#### **MotionNavi**

Visualized Designer for Standalone Motion Controller

#### **DAQNavi**

High Speed Data Acquisition & Condition Monitoring

#### Serial / USB Communications







Serial and USB Converters/ Isolators/ USB Hubs/ Serial Repeaters

**ULI Series and Serial Communication Cards** 



#### DAQ and Remote I/O













iDAQ Series/ USB-5800 Series/ PCI/PCIe Cards/ ADAM-4000/5000/6000 Series











#### **Edge AI Systems**



Al Video Systems/ Al 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











WISE-2000/ 4000 Series



#### **IIoT Gateways and RTUs**









#### Edge/ Communication/ Protocol/ Data Gateways

ADAM-3600/ 6700/ ECU/ EKI/ **UNO/ WISE Series** 



#### **Connectivity and TSN**















#### Cellular Routers/ Switches/ Wireless Communication

ICR-2000/ 3000/ 4000 Series, EKI-7000/ 8000 Series





# **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 AloT cloud platform, which provides edge-to-cloud software and services to enable easier factory operations.

#### **WISE-Factory Solutions**



#### WISE-FactorvEHS

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



#### WISE-Factory0EE&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, APQ 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)**





#### 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/ SSD32G/Linux/RTM with iMobile, Event Notice, Edgel ink/300 tags/5sec



#### **FEMS (Factory Energy Management System)**

#### IFS-RTM-M770W4FFMS/ IFS-RTM-M770W5FEMS

 MIC-770 V2/i7/32G/SSD128G-HDD1T/ Win10/ RTM with FEMS 20 license(W4FEMS)/ 50 licenses (W5FEMS)

#### IFS-RTM-SKY72WXFEM

• SKY-7221/ Xeon Silver 4210 10C x1/ 32G x2/4TB x5/RTM with FEMS 100 licenses

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





(Overall Equipment Efficiency)

IFS-RTM-M770W4OEE • RTM with OEE 20 licenses IFS-RTM-M770W5OEE • RTM with OEE 50 licenses

IFS-RTM-SKY72WXOEE • RTM with OEE 100 licenses



(Statistical Process Control)

IFS-RTM-M770W4SPC • RTM with SPC 5 licenses IFS-RTM-M770W4SPC • RTM with SPC 20 licenses

IFS-RTM-SKY72WXSPC RTM with SPC 50 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



WISE-FactoryMOM (Manufacturing Operations Management) SRPs

#### 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**

#### **IIoT 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

#### Feature

- · 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

- Hierarchical organization management
- · Alarm/event management and patrol inspection
- Device/equipment operation and maintenance management

#### Solution Suite Package:

 ${\sf SKY-7221,WISE-PaaS\ IoTSuite,WISE-DataConnect,Patrol\ Inspection}$ 

#### WebAccess/SCADA





#### iWater-42A

#### **Biological Treatment A2O Solution**

- 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

#### WebAccess/SCADA





#### iWater-43A

#### **Coagulation Sedimentation Solution**

- Enables 100% web-based remote engineering, monitoring, and control
- $\bullet \, \text{Effective prediction of water quality and coagulant dosage} \\$
- 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**

- Factory HVAC monitoring
- $\bullet \, \text{Power consumption monitoring} \,$
- Motor facilities PHM

#### Solution Suite Package:

SKY-7221, WISE-PaaS/IoTSuite, WISE-DataConnect, Patrol Inspection





#### iEnv-49A

#### **Patrol Inspection Management**

- 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**

- Power generation information
- Power invertors and solar panel management
- $\bullet \, {\sf Environmental} \, {\sf monitoring} \,$

#### 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 PCle x16, 1 x PCle x 8, 1 x PCle 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 Vpc isolation (ECU-P1628D)
- Wide operating temperature range (-20~70 °C)



#### ECU-P1528RE/ 1528PE

#### 8-port LAN Module

- 1528RE: 8 x RJ45 LAN gigabit module for ECU-4784
- 1528PE: 8 x SFP LAN gigabit module for ECU-4784

#### **Communication Gateways**



#### WISE-EdgeLink



#### **ECU-1251**

## $\label{lem:eq:energy} \mbox{IEC-61850-3-Compliant Edge Communication} \\ \mbox{Gateway with 2 x LAN, 4 x COM} \\$

- ARM Cortex  $^{\circ}$  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-PCle slot for wireless expansion
- Wide operating temperature range (-40~70 °C)



#### **WISE-EdgeLink**



#### **ECU-1152**

## $\label{lec-first-energy} \mbox{IEC-61850-3-Compliant Edge Communication} \\ \mbox{Gateway with 2 x LAN, 6 x COM}$

- ARM Cortex  $^{\circ}$  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-PCle slot for wireless expansion
- Wide operating temperature range (-40  $\sim$  70  $^{\circ}$ C)



#### WISE-EdgeLink



#### ECU-4553

## IEC-61850-3-Compliant Edge Communication Gateway with 4x LAN, 16x COM

- $\bullet$  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

- $\bullet\, \text{Intel}^{*}\, 6^{th}\, \&\, 7^{th}\, \text{Generation Desktop processor}$
- Supports onboard 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  $\sim$  60 °C and 9-36Vpc power input
- Optional expansion for MXM GPU and networking

ITA-5231/5231S/5231G/5231W

• Intel® Core™ i7/ i5/ Celeron® platform with QM170

 $\bullet$  EN 50155 TX (-40  $\sim$  70 °C) and IEC 61373 body mounted

Compliant with EMC standard EN 50121-3-2/ EN 50121-4

• Supports easy-swappable storage and I/O modules

and connectivity modules in specific models

· Supports anti-vibration HDD tray, MXM GPU modules,









#### 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  $\sim$  60 °C)
- Dual power input: 9-48V<sub>DC</sub>





#### 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° and 9-36V<sub>DC</sub> power input

#### **Intelligent Railway Edge Platforms**



class B standards



### EN 50155



#### ITA-5831

#### EN 50155 Compact Fanless System

- Intel® Core™ i7/ i5/ Celeron® platform with QM170
- $\bullet$  EN 50155 TX (-40  $\sim$  70 °C) and IEC 61373 body mounted Class B standards
- Compliant with EMC standard 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

#### **In-Vehicle AI Platform**







#### ITA-460/ ITA-460G

#### Intelligent In-Vehicle AI Platforms

- Intel® 8th/9th Gen Core™ i CPU (LGA1151) 8GB memory
- onboard, 1 x SO-DIMM, 1 x mSATA, 2 x 2.5" SSD
- $\bullet$  Supports 2 x GbE, 2 x USB3.0/3.1, 2 x COM
- Supports 3 x mini PCle expansion sockets
- All-around IP65 rating
- Wide operation temperature (-25  $\sim$  60 °C)
- $\bullet \, \mathsf{Optional} \, \mathsf{expansion} \, \mathsf{for} \, \mathsf{MXM} \, \mathsf{GPU}$

#### **3U CPCI Platforms**

EN 50155 Fanless Systems



#### **MIC-3 CPCI Serial Solution**

#### AI/Machine Vision on Rolling Stock

- 3U or 4U height 19 inch on-rack, DC input
- $\bullet \ \, \text{High performance Xeon/Core i7/i5, 2 or 3 systems in chassis}$
- 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
- PICMG2.0 R3.0, PICMG2.1 R2.0 compliant



#### **Touch Panel PCs**

EN 50155



#### ITA-8100/8100B/8120

#### EN 50155 Railway Driver Machine Interface

- 10.4" & 12.1" touch panel with 1024 x 768 resolution (1300 nits as optional for 10.4")
- $\bullet$  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 V<sub>DC</sub> (±40%)
- $\bullet$  Wide operating temperature range: -40  $\sim$  70  $^{\circ}\text{C}$
- Compliant with EN 45545-2 fire safety



# **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 Al 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  $\sim$  60  $^{\circ}$ 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 1x 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 PCle 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 (PCIe/PCI)
- Dual GbE, 6 x USB3.2, 2 x USB 2.0, 1 x NVMe M.2,
- 2 x SATAIII, 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)
- · AllS-3411P: 4-ch GbF PoF
- AIIS-3411U: 4-ch USB 3.0
- Optional AllS-1882 with 4-ch PWM Lighting output with 4 dedicated trigger
- 12 x DI and 16 x DO with 2500 Vpc 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 (PCleX16 and PCleX4)
- Built-in 250W 12V and 5V output only power supply



#### **Slot Single Board Computers (SBCs)**







#### **PCE-5133**

#### 12<sup>th</sup> 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
- PCle Gen. 3.0, M.2 NVMe, USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10)
- Triple displays: 1 x VGA, 2 x DVI/DP/HDMI





#### PCA-6029

#### 6<sup>th</sup>/7<sup>th</sup> 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
- $\bullet$  Up to 64 GB of dual-channel (non-ECC) DDR4 2133/2400 MHz
- USB 3.0, SATA 3.0
  Dual displays: 1 x VGA, 1 x DP/DVI-D (optional)





#### PCE-4132/ PCE-3032

#### 10<sup>th</sup> 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 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2666/2933 MHz
- PCle Gen 3, M.2 M-key, 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
- $\bullet$  Up to 128 GB of dual-channel (non-ECC) DDR4 3200 MHz
- 1 x PCle x16 Gen 4, 4 x PCle x4 Gen 3, 2 x PCl slots, M.2 M-key, USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10)
- 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 64 GB of dual-channel (non-ECC) DDR4 3200 MHz
- 1 x PCle x16 Gen 4, 2 x PCle x4 Gen 3, 4 x PCl slots, M.2 M-key, USB 3.2, SATA 3.0
- Dual displays: 1 x HDMI, 1 x VGA



#### ACP-2020G

#### **2U Rackmount Chassis for GPU Applications**

- Supports ATX/uATX 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
- 8.25 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
- 2.7 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

- PCle 4.0 x 16, Dual slot, Full height
- 8192 CUDA cores
- 64 RT Cores • 256 Tensor Cores
- 27.8 TFLOPS
- •4 x DP 1.4
- 24GB GDDR6 memory
- 768GB/s maximum memory bandwidth





#### SKY-QUAD-T1000-8-B

## NVIDIA Quadro RTX T1000 PCIe 8GB SSLP w/ATX bracket BULK

- PCle 3.0 x 16, Single slot, Low Profile
- 896 CUDA cores
- 2.5 TFLOPS • 4 x DP 1.4
- 8GB GDDR6 memory
- 160GB/s maximum memory bandwidth



#### SKY-TESL-A100-80P

#### NVIDIA Tesla A100 80GB PCIe DSFH w/ATX BKT

- PCle 4.0 x 16, Dual slot, Full height
- 3 x NVLINK Bridges
- 7 x Multi-Instance GPU
- 80GB HBM2e memory
- $\bullet\,1935 GB/s\,maximum\,memory\,bandwidth$





# **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.



WISE-EdgeLink WISE-DeviceOn









#### **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 mPCle, 2 x LED Indicators (Power/Run)
- Modular design for optional 4 x iso, COM, 1 x LAN, 1x M.2 B Key expansion
- Onboard TPM 2.0, IBECC 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 mPCle, 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 mPCle, 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
- Modular design for 2 optional extension kits provided: 1x iDoor + 1 x 2.5" SATA expansion, 1 x PCIE x4 expansion

#### **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 x RS-232/ 422/ 485, 4 x USB 3.2, 2 x USB 2.0, 1 x DP++, 1 x HDMI, Micin. Line-out
- $\bullet$  Flexible expansion with up to 3 x PCIe/PCI
- slots, 1 x M.2 B key, 1 x mPCle 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  $\sim$  70  $^{\circ}$ C for outdoor environments
- Easy maintenance and installation with front door and cable gland design
- •C1D2, ATEX, IECEx certified



#### 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 DP1.2
- Wide operating temperature range (-40~70 °C/ -40~158 °F)
- Onboard TPM 2.0 provides hardware-based security
- · C1D2, ATEX, IECEx 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, 1 x GPIO (8 bit)
- 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-P4N2AE)



#### **UNO-247**

#### Intel® Celeron® J3455E Edge Gateway

- · Intel® Celeron® J3455E processor
- 2 x GbE, 2 x USB 3.0, 2 x USB 2.0, 4 x RS-232, 2 x RS-485, 1 x HDML 1 x VGA
- Threaded DC Jack design for more steady power supply
- ESRP package: supports WISE-DeviceOn



#### **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 mPCle expansion slot for wireless modules
- Operating system Linux Ubuntu 16.04 support
- ESRP package: supports WISE-Edgelink

#### **Industrial Computing Edge**





#### UNO-2271G V2

#### Pocket-Size 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 mSATA slot shared with mPCle slot
- 1 x Eull-size mPCle slot (SATA/PCle/LISB2 () signal)
- Onboard 32G eMMC(Up to 256G)
- Expansion kit: UNO-2271G-EKCE, 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

\*Note: Due to max 25.5W supply via PoE, USB ports should be limited to connect with USB 2.0 devices only.

#### NEW



#### **UNO-2372G V2**

#### **Small-Size Modular Box PCs**

- Intel® Celeron® J6412 quad-core processor with 8GB of DDR4 RAM • 2 x GbF, 3 x USB 3.2 Gen 2.1 x USB 2.0.1 x HDMI1.4.1 x DP1.4.
- 4 x RS-232/422/485
- $\bullet$  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 2/ SATA for storage) • 1 x mPCle slot (PCle, USB 2.0 Signal)
- Expansion kit: UNO-2372G-EKCE, support up to 1 x iDoor

#### NEW



#### **UNO-2484G V2**

#### Regular-Size High-Performance Modular Box PCs

- Intel® Core™ 6305E dual-core/ i3-1115G4E dual-core/ i5-1145G7E quad-core/i7-1185G7E quad-core processor with 8GB of DDR4 RAM
- •4 x GbE, 3 x USB 3.2 Gen 2, 1 x USB 2.0, 1 x HDMI1.4 , 1 x DP1.4, 4 x RS-232/422/485
- 1 x M.2 B key slot (USB Signal for 3042/3052 LTE/5G Module, SATA Signal for storage)
- $\cdot$  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 mPCle slot (PCle, USB 2.0 Signal)
- Expansion kit: UNO-2484G-EKCE, support up to 4 x iDoor

#### **iDoor Modules**











#### **Industrial Fieldbus**

#### **PCM-26 Series**

#### Industrial Fieldbus iDoor Modules Support Common **Automation Protocols**

- CANOpen EtherCAT • POWERLINK
- PROFIBLIS
- · EtherNet/IP
- · Sercos 3
- PROFINIT

### **Wireless Communication**

#### **PCM-24S Series**

#### Wireless Communication iDoor Modules Enhance Connectivity for Industrial IoT

- · Wi-Fi/ Bluetooth
- · 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
- Digital I/O CFast slot
- GigaLAN • USB dongle
- USB 3.0
- PoE
- TPM





# **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 guick time to market and high level of expandability.

#### **Modular Industrial Panel PCs**

#### **Configurable Modules Box Modules**







#### **TPC-B610 Series**

- Intel® 10th Gen. Core i Socket (LGA1200)
- Optional DDR4 RAM (up to 64GB)
- Graphic Cards Supported (PClex16)
- 5G Supported (M.2 Kev-B 3052)
- Dual 2.5" HDD/SSD
- TPM 2.0 built-in



### 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.



#### **TPC-B510 Series**

- Intel® 8th Gen. Core™ i3- 8145UE/i5-8365UE/i7-8665UE
- · 8GB DDR4 RAM (up to 32GB)
- mPCle, M.2 NVMe (Key-M 2280)
- 5G Supported (M.2 Key-B 3052)
- TPM 2.0 built-in



#### **TPC-B500 Series**

- Intel® 6th Gen. i3-6100U/i5-6300U/i7-6600U/Celeron® 3955U
- 8GB DDR4 RAM (up to 32GB)
- mPCle, M.2 SSD (Key-B 2280)
- 3 x I AN, PCIe x1
- TPM 2.0 built-in



#### **TPC-B200 Series**

- Intel® Celeron® J3455/Atom® E3940
- 4GB DDR3L RAM (up to 8GB)
- mPCle, M.2 SSD (Kev-B 2242)
- · Wide Temperature (-20~60°C) • TPM 2.0 built-in



#### FPM-B700-AE

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

#### **Panel Modules**



FPM-D12T-BE 12.1" XGA



FPM-D15T-BE

15" XGA



FPM-D15W-FBE

15.6" FHD



FPM-D17T-BE

17" SXGA



FPM-D18W-BE

18.5" HD



NEW

FPM-D19T-BE

19" SXGA



FPM-D21W-BE

21.5" FHD



FPM-D24W-BE

23.8" FHD



#### **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® CoreTM 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

#### **All-in-One Industrial Thin Clients**

#### **NEW**





#### 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™ i3-6100U 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

#### **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

#### **SPC-800 Series**

#### All-Around IP65-Rated 15.6"/21.5" arm-mounted HMI with Intel® i3/i5/i7 or Industrial Monitors

- Intel® Skylake-U Celeron®/ i3/ i5/ i7 processor or pure monitorr
- · All-around IP65-rated protection
- Supports Rittal and Bernstein arm system dimension for mouting
- · Supports RAFI FS22+ push button dimension for integration
- Flexible configuration with integrated customizable extension unit

#### **Explosion Proof Panel PCs**

TPC-125H/155H/318WH



Thin Client

processor)

touchscreen

8G DDR4 SDRAM





C1D2 Certified 12"/15"/18.5" TFT LED LCD Industrial

• TPC-125H/155H: Intel Atom® quad-core E3845 1.9GHz w/ 4GB

of DDR3L SDRAM (optional Intel® Celeron® quad-core J1900

• TPC-318WH: 8th Gen Intel® CoreTM i5-8365UE processor with

• IP66-rated front panel with durable true-flat 5-wire resistive

#### **Web Brower Terminals**



#### TPC-71W

#### 7" i.MX6 Cortex™-A9 Web Browser

- NXP® Cortex™-A9 Dual/ Quad 1.0GHz Processor
- Supports Linux Ubuntu, Windows Embedded Compact 7 and Android 6
- Wide operating temperature range (-20~60 °C)
- Flat-sealed front multi-touch panel with IP66 rating

#### NEW



#### **TPC-100W**

#### 7"/10.1"/15.6" i.MX8M 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 °C)
- · Flat-sealed front multi-touch panel with IP66 rating

#### **Industrial Monitors**

Supports iDoor technology and HDD

• UL C1D2 certified for hazardous enviroments



#### FPM-7000 Series

#### **True-flat Industrial Grade Monitor**

- · 6.5"/ 12"/ 15"/ 15.6"/ 18.5"/ 21.5"
- Robust design with IP65/66 aluminum bezel
- · Elegant true flat design
- $\bullet$  Supports panel, wall, desktop, and VESA arm mounting



#### FPM-5000 Series

#### **Featured Industrial Monitor**

- 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  $\sim$  60 °C)
- · Supports panel, rack, wall, desktop, and VESA arm mounting



#### **Semi Industrial Monitors**





#### 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

### **Domain Industrial Monitor**



#### 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

#### **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 decodina
- 16:9 widescreen display with P-CAP touch control
- Front panel with IP65-rated protection
- Pre-installed Android 10 and supports Linux/Debian
- · Built-in WISE-IOTSuite/AppHub remote management service for Android devices

#### **Configurable Panel PC**





#### **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)







#### **PPC-600 Series**

#### 15.6"/18.5/21.5" high performance Fan Panel PC w/ selectable Mini-ITX Motherboard

- · Wide LCD display with multi-point PCAP touch
- · Supports PPC-MB mini-ITX motherboard series
- 24 VDC +/-20% power input

#### **General Purpose Panel PC**





#### PPC-3001S Series with Intel® Core™ i

#### 15.6"/18.5"/21.5"/23.8" Intel® 6th /7th Gen Core™ i7/i5/i3 Fanelss Panel PC

- Intel® Core™ i3-6100U/7100U, i5-6300U/7300U. i7-6600U/7600U processor
- Slim and compact with aluminum alloy enclosure
- · Supports dual display and TPM 2.0







#### **PPC-300 Series with** Intel® Core™ i

#### 15.6"/21.5" Intel® 11th Gen Core™ i7/i5/i3 Fanelss Panel PC

- Intel® Core™ i3-1115G7E, i5-1145G7E, i7-1185G7E processor, up to quad core
- Supports dual channel memory, up to DDR4 3200 64GB
- Supports M.2 2280(NVMe) and RAID 0,1
- Supports TPM and TSN





#### PPC-3000S Series with Intel® Celeron®/ Pentium

#### 6.5"/10.4"/12.1"/15"/15.6"/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





#### PPC-300 Series with Intel® **EHL Celeron®**

#### 10.4"/12.1"/15"/21.5" Intel® Celeron®

- Intel® quad core J6412 processor
- Supports USB Type C x1 and TSN
- · Supports Android

#### **Multiple Function Panel PC**





#### **PPC-3001 Series** with Intel® Core™ i

#### 12"/15.6"/21.5" Intel® 6th /7th Gen Core™ i7/i5/i3 Fanelss Panel PC

- Intel® Core™ i3-6100U/7100U, i5-6300U/7300U, i7-6600U/7600U processor
- · Wide input voltage range (9~32 VDC) and builtin isolated RS-422/485 · Supports PCI/PCIe expansion and triple display
- · Flexible expansion through optional module







#### **PPC-400 Series** with Intel® Core™i

#### 15" Intel® 11th Gen Core™ i7/i5/i3 **Fanelss Panel**

- Intel® Core™ i3-1115G7E, i5-1145G7E, i7-1185G7E processor, up to quad core • Supports M.2 2280(NVMe) and RAID 0,1
- Supports 5G, TPM and TSN
- Support PCI/PCIe expansion





#### **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 operating temperature range (-20 ~ 60°C) · Wide input voltage range (9~32 VDC) and builtin isolated RS-422/485
- · Supports PCI/PCIe expansion and triple display







#### **PPC-400 Series** with Intel® EHL Atom®

#### 15"/17"/19" Intel® Atom® Fanless Panel PC

- · Intel® Atom® quad core x6413E processor
- Wide operating temperature range (-20 ~ 60°C) • Wide input voltage range (9~32 VDC) and builtin isolated RS-422/485
- · Supports PCI/PCIe expansion and triple display
- · Supports 5G, TPM and TSN





# **Industrial Tablet Solutions**

# Supports On-site Management, Manufacturing and Patrol Inspection

AlM 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 AlM 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**



#### AIM-75S

8" Industrial-Grade Tablet with Qualcomm° Snapdragon™ 660 Processor, Android 10, and GMS Certified



**ΔIM-65** 

8" Industrial-Grade Tablet with Intel Atom® Processor, Windows 10 IoT

- $\bullet$  1920 x 1200 resolution, 400 nits brightness, Corning  $^{\circ}$  Gorilla  $^{\circ}$  and multitouch PCAPTS
- 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, Android 10



AIM-68

10.1" Industrial-Grade Tablet with Intel Atom® Processor, Windows 10 IoT

- $\bullet 1920\,x\,1200\,resolution, 380/800 nits\,brightness, Corning^*\,Gorilla^*\,and\,multitouch\,PCAP\,control\, and\,Moreover and Moreover and Mo$
- $\bullet\,3\text{G}/4\text{G}\,\text{LTE, WLAN, Bluetooth, NFC}$
- IP65 and 4-ft drop tolerance
- $\bullet$  Integrated barcode scanner supports data collection as option
- Optional vertical solution extension modules and docking station



Multi-Battery Charging Station



Multi-Tablet Charging Station



Vehicle Docking Station



VESA Docking Station



Office Docking Station



Docking Extension Modules



Rugged Case



Holster



Hand Strap



#### **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
- $\bullet$  Compatible with any computer and OS via standard USB I/F





# **Edge AI Platforms and Industrial Servers**

### Industrial AI Platforms at The Edge

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.

#### **Al Camera**



#### **ICAM-500**

## Industrial AI Camera equipped with NVIDIA Jetson AI system on module

- NVIDIA Jetson Al system on module
- 1.6MP 60 FPS, SONY industrial grade sensor
- Programmable variable focus lens
- Advanced LEDs illumination
- HW ISP no GPU/CPU workload

#### **Ruggedized AI System**



#### **MIC-715**

## Ruggedize AI inference system based on NVIDIA® Jetson™ Xavier NX

- · Compact, IP67 rated, fanless design
- · Supports 4 x IEEE 802.3af compliant PoE
- Linux OS with board support package
- · Supports deep learning trained models
- $\bullet$  Operating temperature -25  $\sim$  60  $^{\circ}\text{C}$
- Supports 24/7 secure remote monitoring, control, and OTA deployment
- · Optional SerDes GMSL

#### Al Video System



#### MIC-730IVA/MIC-710IVX /MIC-710IVA

#### 8ch AI Video System on NVIDIA® Jetson AGX Xavier™ / Xavier NX /Nano™

- · Supports 8ch PoE video input
- Supports 2 x 3.5" HDD
- · Board support package (BSP) includes Linux Ubuntu 18.04
- · Supports H.264/H.265 cameras

#### **Edge AI Computing Systems**



#### MIC-710AIT/AIX/AI

#### Al Inference System with NVIDIA® Jetson™ TX2 NX// Xavier NX /Nano™

- · Compact fanless design
- 2 x embedded LAN ports
- Linux OS with board support package (BSP)
- Supports deep learning trained models
- Wide operating temperature range
- Supports 24/7 secure remote monitoring, control, and OTA deployment

# 100

#### MIC-710AILT/AILX/AIL

#### Lite AI System based on NVIDIA® Jetson TX2 NX/ Xavier™ NX/Nano™

- · Ultra-compact fanless design
- 1 x embedded LAN port
- Linux OS with board support package (BSP)
- Supports deep learning trained models
- Wide operating temperature range
- Supports 24/7 secure remote monitoring, control, and OTA deployment

#### **GPU Server**



#### **SKY-640V2**

#### 4U Rackmount GPU Server (4U 4 GPUs)

- Dual 3rd Gen. Intel® Xeon® Scalable processor
- Supports 4 x double width PCle cards and 3 x single width PCle cards
- Easy maintenance system fan design
- Unified front bezel design

#### **Edge Accelerator Servers**



#### HPC-7420+ASMB-976

#### Short Depth 4U Edge Inference Server

- 3rd Gen. Intel® Xeon® Scalable processor
- DDR4 3200 MHz RDIMM up to 2TB (16 DIMMs), and Intel® Optane™ support
- Front access I/O and chassis depth < 18"
- 11 x PCle expansion slots (up to 2 GPUs)
- Environment temperature 0 ~ 50 °C
- 2 x hot-swappable 2.5" SATA/SAS/SSD drive bays
- 1 x Slim/ultra slim ODD bay



#### HPC-6240+ASMB-622

#### Short Depth 2U Edge Inference Server

- 3rd Gen. Intel® Xeon® Scalable processor
- DDR4 3200 MHz RDIMM up to 1TB (16 DIMMs), and Intel® Optane™ support
- Flexible I/O module design and chassis depth ~20"
- 4 PCle x16 slots supporting 2 double deck cards
- $\bullet \text{ 4 PCle x8 slots for single deck expansion slots } \\$
- 4 hot-swappable 2.5" SATA/SAS/SSD drive bays (NVMe in option)
- •1 x Ultra Slim ODD bay



#### HPC-6120+ASMB-610

#### Short Depth 1U Edge Inference Server

- Intel® Xeon® W & 10th Gen. Core™ i9/i7/i5/i3 processors
- DDR4 2933 MHz ECC/Non-ECC UDIMM up to 128 GB (4 DIMMs) • Flexible I/O module design and chassis depth <19"
- 1 x PCle x16 or 2 PCle x8 slot for 1 double deck card
- 2 x PCle x4 for low-profile expansion slots
- $\hbox{-} 2\,x\,hot\hbox{-swappable}\,2.5\text{''}\,SATA/SAS/SSD\,drive\,bays$





# **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 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.

#### **Data Acquisition Gateways**





#### 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
- 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

#### **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-5000 Expansion I/O Modules**

- 9 x AI/AO modules
- 16 x DI/DO modules
- 2 x counter/ frequency modules



#### **ADAM-3600**

#### Wireless Intelligent RTU

- •TI Cortex-A8 (600MHz) with 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 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-3651: 8-ch DI module
   ADAM-3656: 8-ch DO module

#### ADAM-3617/ ADAM-3624

#### Analog I/O Expansion Module

- ADAM-3617: 4-ch Al module
- ADAM-3624: 4-ch AO module



#### **ADAM-3668**

#### 4-ch Relay Output Module

- 2-ch form A and 2-ch form C
- Contact rating: 0.3A@125VAC, 1A@30VbC





# **EtherCAT Control and I/O Solutions**

# Integrated CODESYS Solutions for Real-time Machine Control and Data Acquisition

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.

#### **Edge Controllers**

#### **Cabinet Controllers**







#### **Modular Controllers**









#### Panel Controllers (Visualization)







#### **AMAX-637/ AMAX-637S**

#### Real-Time Soft-Logic Cabinet Controller

- CODESYS Control Real Time Engine (RTE) & Visualization (Target & Web)
- Supports IEC-61131-3 PLCopen languages (FBD, LD, IL, ST, and SFC)
- Upstream connectivity facilitates IT/OT integration (MQTT, OPC UA, and ODBC)

#### **AMAX-658**

#### Real-Time Soft-Logic Modular Controller

- CODESYS Control Real Time Engine (RTE) & Visualization (Target & Web)
   Supports IEC-61131-3 PLCopen languages (FBD, LD, IL, ST,
- and SFC)
   Upstream connectivity facilitates IT/OT integration (MQTT,
- Upstream connectivity facilitates II/O1 integration (MQI OPC UA, and ODBC)
- · Supports flexible slices I/O modulars expansion

#### **AMAX-548**

#### Real-Time Soft-Logic Panel Controller

- CODESYS Control Real Time Engine (RTE) & Visualization (Target & Web)
- Supports IEC-61131-3 PLCopen languages (FBD, LD, IL, ST, and SFC)
- Upstream connectivity facilitates IT/OT integration (MQTT, OPC UA, and ODBC)

#### **Machine Vision Solutions**

#### **VisionNavi**



#### Filedbus & I/Os

#### **Profibus Master Expansion Module**







#### Modbus/TCP Coupler







#### **VisionNavi**

#### **Machine Vision Application Software**

- Intuitive GUI does not require programming skills
- Flexible licensing options including full, ID, and alignment • Supports up to 6 x GigE vision cameras with up to 20M resolution
- Supports up to 6 x GigE vision cameras with up to 20M resolution in mono and bayer formats
- Supports conditional operator, external API for advanced applications

#### **AMAX-5493M**

#### 1-Port Hilscher netX100 Profibus Master (DB9)

- Supports Hilscher PROFIBUS Protocol Library
   Supports Wilds Operation Topportune 10, 666
- $\bullet$  Supports Wide Operation Temperature -10 $\sim$ 60 'C
- Easy to be integrated to AMAX-5580 • Protocol Profibus DP V1
- Speed 9.6 kbps ~ 12 Mbps

#### **AMAX-5070**

### Compact Modbus/TCP Coupler for AMAX-5000 IO Module

- Supports Modbus/TCP & Data Streaming
- Supports up to 255 IO modules
- Dual Power Input with Diagnosis
- $\bullet \, {\sf Supports} \, {\sf EtherCAT} \, {\sf cable} \, {\sf redundancy} \, {\sf connection} \, {\sf for} \, {\sf local} \, {\sf IO} \\$



#### **Motion Control Software**



#### **MotionNavi**



#### **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 purpose
- 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.



### NEW



#### PCIE-1203/ PCIE-1203L/ PCIE-1203IO

#### **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
- PCIE-1203IO is an EtherCAT master card for EtherCAT I/O module access only without motion control functionality. Typical applications include data collection in the field.

#### PCIE-1245/PCIE-1245E

#### Full / Economic Function 4-Axis Stepping and Servo Motor Control PCI Express Card

- Pulse output and Encoder input support CW/CCW,P/D,AB phase
- Memory buffer (10 K points) for trajectory planning
- · Supports position latch and trigger
- Supports 1D&2D plane position compensation
- · Supports gantry mode by semi-closed loop pulse train control
- Supports dynamic PWM output for velocity following

#### **Standalone Motion Controller Solution**

#### **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**



EtherCAT.



#### **AMAX-33710**

#### EtherCAT I/O Controller

- ${\boldsymbol{\cdot}}$  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 reduces downtime
- Supports C/C++, VS.NET programming languages

#### Filedbus & I/Os

#### Industrial Slice I/Os



#### AMAX-5000 I/O Series

#### Compact Modular EtherCAT Slice I/O

- Removable push-in I/O terminal
- Smart power quality diagnosisDual power inputs
- 2000 Voc isolation
- Supports isolated DI/DO, analogue (WmV/mA, RTD, thermal couple ), AO (WmA), counter/encoder, Timestamp module
- DC mode selectable

#### **EtherCAT Step Drive**





#### **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 InputCompact 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
- $\bullet$  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

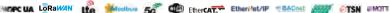




## **Industrial Communication**

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

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.























#### **Intelligent Connectivity Software**

#### WebAccess/DMP



#### WebAccess/DMP

#### **Device Management and Provisioning**

- Remote router management and application delivery
- $\cdot$  Device health monitoring and statictics
- · RESTful APIs
- · Zero-touch provisioning for mass deployment
- Multi-tenancy options
- Supports cloud & on-premise version

#### WebAccess/NMS



#### 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

#### WebAccess/VPN



#### WebAccess/VPN

#### Advanced Secure Networking Platform

- · Remote access solution for routers
- · Secure Private Networks in Internet
- Encrypted & reliable communication, centrally defined VPN topology
- · Managed LAN, 1:1 NAT modes, firewall & access control
- · User-friendly management, easy deployment

#### **Communication Gateways**



#### 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 PoF
- · 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 CAT4, 1(2)x 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

#### **ICR-3200 Series**

#### Industrial IoT 4G LTE Router & Gateway

- LTE Cat.4 with 3G/2G fallback, 2 x 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-
- · 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

#### **Industrial Wireless AP/Clients**





#### 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)



#### **Protocol 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 ranges

#### **Modbus Gateways/ Routers**



#### EKI-1220(R) Series

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

- Integrated stateful firewall for protection from
- Supports redundancy-enhanced Modbus ID
- Integrates Modbus TCP and Modbus RTU/ ASCII network
- · Optional fiber optics connectivity (1-port ST or 2-port SC)

#### **Serial Device Servers**



#### EKI-1500 Series

#### 1/2/4/8/16-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
- REC2217 modes
- · Optional fiber optics connectivity (1-port SC)

**Entry-Level Device Servers** 

#### EKI-1511(L)(X)(I) Series

#### 1-Port Device Server

- · L models support RS-232
- X models support RS-422/485
- I models support wide operating temperature
- Robust stainless steel exterior with minimalist design

#### **Unmanaged Ethernet Switches**

Industrial unmanaged Ethernet Switch

• Features fast Ethernet, gigabit Ethernet, POE,

• Supports -40~75 °C wide operation

POE+ and fiber optics connectors

· Designed in slim size with IP30 metal

· Supports DIN-rail mounting method

**EKI-2000 Series** 

temperatures

mechanism

#### **Lite-Management Switches**

#### **L2 Managed Switches**

#### **TSN Ethernet Switch**









#### Industrial Entry-level Managed Switch

- Provides commonly used managed switch
- ATEX. C1D2 certification
- · Supports Advantech IXM/NMS technology
- · Supports X-Ring Elite and Web GUI for easy configuration
- Supports -40 ~ 75 °C wide operating temperature

### NEW





#### **EKI-5000 Series**

- features

#### EKI-7700 Series

#### Industrial Managed Switch

- · High variety of port combinations
- · Supports Advantech Security Pack for cyber security
- IXM function enables fast deployment
- Supports X-Ring Pro and CLI/Web GUI
- EN 50121-4 and NEMA TS-2 certified

#### **EKI-8510G**

#### Industrial Time-Sensitive Networking (TSN) Ethernet Switch

- Fully layer 2 managed features
- IEEE 802.1AS Time Synchronization
- IEEE 802.1Qbu Frame Preemption
- IFFF 802.1Oby Time Aware Shaper
- IEEE 802.1CB Seamless Redundancy

#### **EN50155 Rolling Stock Switches**

### **10G Ethernet Solutions**

#### **L3 Managed Switches**

#### **Long Reach Ethernet Solutions**



#### **EKI-9500 Series**

#### 28/16/12/10/8-Port EN 50155 Rolling Stock Switch

- EN 50155, EN 50121-3-2, IEC 61373 compliant
- PoE/ PoE+ models are available
- · Various port combination with Fast Ethernet/ Giga Ethernet options
- IP40/ IP54/ IP67 and rugged housing

### **NEW**



#### EKI-7412G-4X/7428G-4X 10G **Series**

#### **Network Management System**

- 10G uplink bandwidth supported
- · Powerful and reliability managed features
- 1U 19 inch rack-mount design
- Up to 60 °C operating temperature

#### EKI-9700/9600 Series

#### Industrial Layer 3 Managed Switch

- · Static routing/ NAT (EKI-9612G, EKI-9628G)
- · Static routing, RIP v1/ v2, OSPF v2, VRRP (FKI-9728G)
- Supports up to 4 x 10GbE fiber ports (EKI-9728G)
- -40 ~ 75 °C wide operating temperature

#### **NEW**



#### **IMC-150**

#### Hardened PoE Long Reach Ethernet Extender

- Extend the reach of both power and data delivery
- Supports Link Fault Pass Through (LFPT) mechanism
- Leverage pre-built UTP and coaxial cables to upgrade network infrastructure
- Industrial grade hardware design with EN50121-4 **FMC** certification

**Managed 10G Media Converters** 

#### 10/100/1000 Mbps PoE(+) **Media Converters**



#### **EKI-2740 Series & IMC-390** Series

- Supports IEEE802.3 af/at PoE(+) standards
- · Serves as power sourcing equipment (PSE)
- Designed with 10/100/1000Base-T and SEP or a fixed fiber optics transceiver

#### Industrial 15/30/60/90W PoE Injectors



#### **EKI-2701 Series**

- · Supports IEEE802.3 at/af/bt standards
- Serves as power sourcing equipment (PSE) • Extended operating temperatue (-40~75 °C)
- EKI-2701MP1-5G supports 10/100/1G/2.5G/5G multi-speed data transmission

#### **Smart Dual Channel 802.3bt Media Converters**



#### IMC-595MPI

- Smart media converter with SFP uplink port and .bt PoE port x 2
- · Configurable PoE power allocation with max, 180W power
- Configurable PoE behavior to reboot PD and notify link down



and Chassis

#### IMC-610-A & IMC-700 Series

- 10G standalone medial coverter (IMC-610-A)
- Modular design with chassis from 3/6/20 slots (IMC-790-A)
- SNMP manageable via iView software featuring massive provision and monitoring
- · Dual (redundant) AC and/or DC hot-swappable power supplies





# **Data Acquisition and Control**

#### Diverse Form Factors to Satisfy DAQ Requirements

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.

#### **PCI Express DAQ Cards**



#### PCIF-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-1812**

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

- Sample rate: 250 kS/s/ch
- Resolution: 16-bit
- Analog and digital triggers
- Waveform generator for AO channels



#### PCIF-1804

#### 32-ch, 16-bit Analog Input PCI Express Card

- Sample rate: 1 MS/s
- Resolution: 16-bit
- $\cdot$  ±10 V to ±1 V voltage measurement
- $\cdot$  0  $\sim$  20 mA or 4  $\sim$  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

#### **Vibration Sensing Gateways**



#### **WISE-750**

#### Intelligent Vibration Sensing Gateway

- · Set-and-run Al monitoring system
- Comprehensive evaluation, configuration and deployment kit
- Compact size
- 4-channel measurement paired with alarm indication
- · Accelerometer included

#### **PCI Express AO Cards**



#### PCIE-1824

#### 32-ch, 16-bit Analog Output PCle Card

- Resolution: 16-bit
- Update rate: static
- Output range: +/-10 V, 0  $\sim$  20 mA and 4  $\sim$  20 mA
- Synchronized output function
- High ESD protection (2,000  $V_{DC}$ )

#### **PCI Express Digital I/O Cards**



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

#### 32/64/128-ch Isolated DI/DO PCIe Card

- 32/64/128-ch isolated DI/DO channels w/24 V compatibility
- · Interrupt handling capability for all DI channels
- $\bullet$  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  $V_{DC}$ )



- 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 (>  $80~\text{V}_{AC}$ ) and DC low voltage load (< 60~V) applications with frequent ON/ OFF switching
- Much less contact problems such as arcs, bounce, and noise



#### **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 triager/clock settings
- 4 x iDAQ slots

#### **DAQ Modules**

NEW

- iDAQ-731, 16-ch isolated DI and 16-ch universal isolated DO iDAQ module
- iDAQ-763D, 16-ch solid-state relay (SSR) DO iDAQ module
- iDAQ-817, 8-ch, 16-bit, 200 kS/s Al iDAQ module
- iDAQ-821, 4-ch, 16-bit, 10 kS/s/ch AO iDAQ module
- iDAQ-801, 4-ch, 24-bit, 256 kS/s/ch IEPE sensor input iDAQ module
- · iDAQ-815, 8-ch, 24-bit, 400 S/s RTD input iDAQ module
- iDAQ-841, 8-ch, 16-bit, 1 MS/s/ch Al iDAQ module
- iDAQ-751, 48-ch TTL DI/O iDAQ module

#### **DAQ-Embedded Computers**











#### 4-slot Industrial DAQ Chassis Module for AMAX-5000

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

#### MIC-1810/1816

#### Data Acquisition Platform w/Intel® Processer

- Intel® Celeron® 3955U / Core™ i3-6100U
- MIC-1810: 16x Al channels (sample rate: 500 KS/s; resolution: 12-bit),
- 2 x AO channels (update rate: 500 KS/s; resolution: 12-bit)
- MIC-1816: 16x AI channels (sample rate: 1 MS/s: resolution: 16-bit), 2 x AO channels (update rate: 3 MS/s; resolution: 16-bit)
- 16 x isolated DI/O



#### **MIC-1816R**

#### DAO Platform with ARM® Cortex®-A9

- i.MX6 Quad 4x Cortex-A9 processor
- · Build-in 4G EMMC NAND Flash for OS (Yotco only)
- Sampling rate: 1MS/s
- $4 \times IEPE$  inputs with preamp gain = 1, 10, 100
- •8 x analog inputs with voltage or 4~20mA
- 2 x analog outputs, up to 3 MS/s, 16-bit resolution
- 16 x isolated digital input and 8 x isolated digital output

#### **USB DAQ Modules**

4-ch, 24-bit USB 3.0 DSA Module

• USB 3.0 with SuperSpeed USB (5Gbps)

 $\bullet \, \mathsf{IEPE} \, \, \mathsf{excitation} \, \, \mathsf{for} \, \mathsf{every} \, \mathsf{channel} \,$ 

• 1 x upstream and 1 x downstream USB port

•1 x tachometer for revolution speed measurement



**USB-5801** 



#### **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 200kS/s sampling rate
- $\bullet$  ±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

- 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

### **Machine Condition Monitoring Software**

-  $4 \times 24$ bit simultaneous sampling analog inputs up to 192kS/s

#### **DAONavi**

• Built-in USB hub



#### DAQNavi/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 PCI/PCIE CAN





# **Serial and USB Communication Solutions**

#### 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.

#### **Serial to Fiber Isolated Converters**

























**l**odbus





RS-232 to RS-422/485/TTL Converters



#### **ULI-211 Series**

#### RS-232/422/485 to Multi-Mode ST Fiber

- Up to 3kV 3-way isolation and 10~48Vpc power input
- $\bullet$  Up to 115.2 kbps data rate and -40  $\sim$  80 °C operating temp.
- Supports Modbus ASCII/RTU protocols
- ULI-211C (BB-FOSTCDR): serial/MM ST converter
- ULI-211CI (BB-FOSTCDRi): rugged serial/MM ST converter with C1D2
- ULI-211E (BB-FOSTCDRI-PH-MT): IEC 61850-3 serial/MM ST converter

• Extend additional distance: RS-232 15m: RS-422/485 1 200m

ULI-234TCI (BB-485OPDRi): RS-422/485 (TB) isolated repeater

• Up to 115.2 Kbps data rate and -40 ~ 85 °C operating temperature

ULI-234TE (BB-485OPDRi-PH): IEC 61850-3 RS-422/485 (TB) isolated

• Up to 2kV 3-way isolation and 10~48Vpc power Input

• UI I-232DS (BB-9SPOP2): RS-232 isolator with DB-9

#### **ULI-212/213 Series**

#### RS-232/422/485 to Single-Mode ST/SC Fiber

- Up to 3kV 3-way isolation and 10~48Vpc power input
- $\bullet$  Up to 115.2 kbps data rate and -40  $\sim$  80 °C operating temp.
- Supports Modbus ASCII/RTU protocols
- ULI-212CI (BB-FOSTCDRi-ST): serial/SM ST converter
- ULI-213CI (BB-FOSTCDRi-SC): serial/SM SC converte • ULI-213E (BB-FOSTCDRI-PH-SC): IEC 61850-3 serial/SM SC converter

#### **ULI-220 Series**

- Converts RS-232 to RS-422, RS-422/485, RS-485, TTL signals
- · Various connector options: DB-9, terminal block, RJ-11
- Up to 2kV 3-way isolation and 10~48Vpc power input
- 115.2 kbps  $\sim$  460Kbps data rate and 0  $\sim$  70 °C /
- -40 ~ 80 °C operating temp.
- · Supports Modbus ASCII/RTU protocols
- ULI-223D (BB-422PP9R): RS-232 to RS-422 (DB-9) converter
- ULI-224TC (BB-485LDRC9): RS-232 to RS-422/485 (TB) isolated
- ULI-226D (BB-485SD9R): RS-232 to RS-485 (DB-9) converter

#### RS-232/422/485/CANbus Repeaters/Isolators





**ULI-230 Series** 





### RS-232/422/485 Surge Suppressors



- · Protected signal ground connection with dedicated chassis around lua
- ULI-242T (BB-232HESP): RS-232 (TB) surge suppressor

### RS-232 Data Taps / Data Splitters



#### **ULI-240 Series**

- · 3-stage surge protection on every data line
- Wide operation temperature up to -40 ~ 80 °C
- ULI-244TI (BB-HESP4DR): RS-422/485 (TB) surge suppressor
- ULI-246T (BB-485HESP): 2-wire RS-485 (TB) surge suppressor

#### **ULI-250/260 Series**

- Data taps: monitor and record RS-232 data streams no external power required
- Data splitter: enable 2 PCs to connect one RS-232 serial device without switching
- ULI-252D (BB-9PCDT): RS-232 (DB-9) data taps
- ULI-262D (BB-9PMDS): RS-232 (DB-9) data splitter

#### **USB to Serial Converters**



repeater





#### **ULI-300 Series**

- Add a COM port to your PC via USB
- Up to 4kV isolation, powered by USB port
- Up to 921.6kbps data rate & -40 ~ 80 °C operating temp.
- ULI-321DC (BB-USO9ML2-A): USB 2.0 to RS-232 (DB-9) isolated converter
- ULI-341TC (BB-USOPTL4): USB 2.0 to RS-422/485 (TB) isolated converter
- ULI-361D (BB-485USB9F-2W): USB 2.0 to 2-wire RS-485 (DB-9) converter

#### Industrial-Isolators USB 2.0/3.0 Hubs

















**USB** Isolators



#### **ULI-410 Series**

- Expand one USB port to 4 or 7 USB ports Up to 4kV isolation and 15kV / 8kV FSD protection.
- Powered by USB port or 10-30V<sub>DC</sub> power input, -40 ~ 80 °C operating temp.
- ULI-414LIB (BB-USBHUB4OFM): 4-port USB 2.0 hub bare board
- ULI-414CI (BB-UHR304): 4-port USB 2.0 isolated hub module
- ULI-417H (BB-USH207): 7-port USB 3.0 hub

### **ULI-420 Series**

- Up to 4kV isolation and 15kV / 8kV ESD protection for PCs, Laptops. Fauipment
- Full (12Mbps) USB speed with high retention USB connectors
- $\bullet$  Powered by USB port or 10-30Vpc power input, ~ -40  $\sim$  80  $^{\circ}\text{C}$ operating temp.
- ULI-421CL (BB-UH401): 1-port USB 2.0 isolator
- I JI I-421C (BB-UHR401): 1-port USB 2.0 isolator
- ULI-422C (BB-UHR402): 2-port USB 2.0 isolator





# 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

#### **Node-RED**



**Node-RED** 

**Applications** 

• Node-RED 1.2.2, Node.js 10.22.1

in dashboard remotely



Low-Code Programming for Event-Driven

· Users can visualize the real-time data on the built-

· ADAM-6700 series have built-in sample flows on

Node-RED including cloud/database access (SQL

Azure), data transmission (MOTT, Modbus), data

visualization, logic control, and extended I/O

· Browser-based editor to wire flows quickly

Drag and drop nodes for programming

### Intelligent I/O Gateways

# WISE-EdgeLink



#### **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/8 DI · ADAM-6766: 6 Relay/ 12 DI

#### WISE-EdgeLink Version

- ESRP-PCS-ADAM6717: 8AI/ 5DI/ 4DO
- FSRP-PCS-ADAM6750: 12DI/ 12DO
- · ESRP-PCS-ADAM6760D: 8SSR /8 DI

#### **USB to MiniPCle Adaptors**



#### **ADAM-6700E**

- Extend wireless connectivity for ADAM-6700
- Connection between ADAM-6700 series via USB cable
- 1 x wireless communication interface (mini-
- 1 x micro-B USB
- 1 x nano SIM rard slot
- · LEDs for power, \* reserve LTE module (optional)
- · Power reversal protection

#### **OPC UA Ethernet I/Os**





#### 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

#### **Daisy-Chain Ethernet I/Os**





#### **Smart Ethernet I/Os**



**SNMP** 







#### Serial I/Os











#### **ADAM-6200 Series**

- · Cloud management: configuration, monitoring, and firmware updates
- · Daisy chain connectivity with auto-bypass protection
- · Supports HTML5, JavaScript, XML
- · Supports GCL/ P2P/ 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/ P2P/ 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,
- High common mode voltage: 200 V<sub>DC</sub>
- Power input:10~48V<sub>DC</sub>

#### **Module Selection**

- ADAM-4115: 6-ch RTD
- ADAM-4117: 8AI
- ADAM-4118: 8-ch thermocouple
- ADAM-4150: 7DI/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/4DO • ADAM-4051: 16DI
- ADAM-4055: 8DI/ 8DO
- ADAM-4068: 8Relay
- · ADAM-4080: 2-ch counter module





## Wireless I/O and Sensors

### Industrial Wireless I/O and Sensor Modules for Machine Condition Monitoring and Cloud Integration

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 I/O Modules





#### WISE-4210

#### Industrial Proprietary LPWAN (Sub-G) IoT Wireless I/O Module

- · Battery power for 5 years with 3 x 3.6V AA batteries
- · Application-ready I/O combination with modularization design
- · Supports MQTT & Modbus/TCP protocol



#### WISE-S100

#### Intelligent Stack Light Monitoring Sensor

- · 8 x light sensors for variety stack-type liaht towers
- · No need to stop the machinery while deployment
- · Remote OEE solution by pairing with WISE-4000 series





#### **WISE-4250AS**

#### Industrial Dual Band 2.4/5GHz Wi-Fi IoT Wireless I/O Module

- Dual band 1T1R 2.4/5 GHz IEEE 802.11a/b/g/n · Build-in security subsystem with its own dedicated Cortex-M4F core
- Secure Over-the-Air (OTA) updates infrastructure and robust application
- · Compatible with Azure Sphere

I/O and Sensor Module for

WISF-4200/4400 Series

• WISE-S214 4 x AI & 4 x DI

· WISE-S215 4 x RTD

WISE-S200



#### WISE-4471/ WISE-4671

#### Industrial NB-IoT/LTE-M IoT Wireless I/O Module

- · Dual mode support with global coverage in NB-IoT and LTE-M
- · Faster and easier deployment with existing infrastructures
- Supports direct public cloud service for IoT integration





#### WISE-4610/WISE-2200-M

#### Advanced Industrial LoRaWAN IoT Wireless I/O Module

- · Longer communication range with low power consumption
- $\bullet \, \mathsf{Better} \, \mathsf{penetration} \, \mathsf{through} \, \mathsf{concrete} \, \mathsf{and} \, \mathsf{steel} \,$ with less interface
- One stop station with single and multiple I/O solution





#### WISE-S400

1-port RS-485/232

### WISF-4400 Series

- · WISE-S414 4 x Al (upon request)
- I/O and Sensor Module for
- WISE-S472 1 x D1, 1-port RS- 485 &

#### WISE-S600/ WISE-S600T

#### I/O Module for WISE-4600 Series

- WISE-S614 4 x AI & 4 x DI
- · WISE-S615 4 x RTD
- WISF-S672 6 x DI. 1 x RS- 485 & 1 x RS-485/ 232 terminal

- · WISE-S615T 4 x RTD
- WISE-S617T 2 x AI, 2 x DI. 1 x DO & 1-port
- RS-485

#### **Wireless Sensor Modules**





#### WISE-2210/ WISE-2211

#### Proprietary LPWAN (Sub-G) Self-Powered Analog Input Module

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



TAIWÂN



WISF-S231 temperature & humidity sensor

• WISE-S250 6 x DI, 2 x DO, 1 x RS-485

• WISE-S251 6 x DI & 1-port RS- 485





#### WISE-2410/WISE-2410X

#### **LoRaWAN Smart Condition** Monitoring Sensor

- · Compliant with ISO 10816 (quidelines for machine vibration evaluation)
- No power and communication wiring with LoRaWAN technology
- Computing onboard, directly transmits vibration characteristic values to application



#### **WISE-2834**

#### Intelligent RFID Gateway

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





#### Wzzard™ Edge Monitoring

#### Starter Kits, Nodes, Sensors

- Non-intrusive, non-disruptive to existing networks
- · Network overlay is self-configuring, self-healing
- · Condition-based, energy, refrigeration, HVAC/ compressor starter kits are scalable at any time
- Industrial and commercial low-power nodes
- · Humidity, vibration, current, temperature, AI, DI





# **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  $\sim$  75  $^{\circ}$ C
- · Shock, vibration, and drop tested
- SAE J1113, Industry Canada



#### BB-HD3-A3

#### Intelligent Interface Adapter-Heavy-**Duty Vehicles**

- J1939 (250k & 500k) & J1708/J1587 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/
- 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/
- 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
- $\bullet \, \mathsf{Two} \, \mathsf{or} \, \mathsf{more} \, \mathsf{extenders} \, \mathsf{required}$
- Power supply required for each unit, sold separately
- · Certifications for USA, Canada, Europe



#### **Regional Service & Customization Centers**

China Kunshan 86-512-5777-5666 **Taiwan** | Taipei | 886-2-7732-3399 Netherlands | Eindhoven | 31-40-267-7000 USA Milpitas, CA 1-408-519-3898 Poland | Warsaw 00800-2426-8080

#### **Worldwide Offices**

Asia Pacific		Asia Pacific		Europe		Americas	
Taiwan		Japan		Netherlands		North America	
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		Vietnam Hanoi Hochiminh	84-24-3399-1155 84-28-3836-5856	Madrid  Sweden	34-91-668-86-76	Turkey Turkey-Bursa	90-212-222-0422 90-224-413-3134
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