Innovative IIoT Edge to Cloud Technologies

Smart Camera
ICAM-7000 Series

EtherCAT I/O Controllers
EtherCAT Control IPC
AMAX-5580
EtherCAT Remote I/O
AMAX-5000/4800 Series

HMI Software for Machine Visualization

EtherCAT I/O Controllers

VisionNavi
Task Flow Machine Vision APP. Software

AlNavi
Deep-learning-based Image Analysis Software

MotionNavi
SoftMotion on CODESYS Software Platform

DAQNavi
High Speed Data Acquisition & Condition Monitoring

Domain Platforms

Oil & Gas
TPC/ FPM/ EKI/ ADAM Series

Railway
ITA/ ARS/ EKI Series

Utility & Energy
ECU-4000 Series

Wireless I/O & Sensors

Wi-Fi
WISE-2000/4000 Series

LoraWAN

NB-IoT

LTE-M

DAQ and Remote I/O

USB/ADAM-4000/6000 Series/PCIe Cards

EOC UA

AIW Wireless
Advantech Industrial Wireless
Integrated Soft Computing to Enable Intelligent Machines

Machine Automation

Advantech offers unique SoftMotion kernel EtherCAT-based solutions for distributed, deterministic motion control with multiple I/O capabilities. Our innovative GigE Vision offload engine uses field programmable gate arrays (FPGA), digital signal processing (DSP) units, and Arm processors as the core of our computing platforms. We also provide versatile application ready platforms and software tools for motion control and machine vision, enabling customers to continuously advance their technologies.

Intelligent Vision Inspection Solutions

Seamless Integration with One-Stop Solution
• The integration of cameras, sensors, software, and platforms, delivering a one-stop shop solution

Easy-to-Use Multitasking Software
• Designed with a graphical and flowchart-based user interface, allowing users to develop and deploy the system in 4 easy steps
• Multitasking capability to improve productivity and efficiency

Powerful, Scalable Computing Platforms
• Supports various kinds of computing platforms with Intel Core i3-i7 CPU, providing powerful performance for a variety of applications

EtherCAT Motion Control Solutions

PC-Based Solutions

PCI-1203/PCIE-1203/PCIE-1203L
EtherCAT PCI/PCIE Master Cards
Feature:
• Supports up to 64-axis, domain focus APIs, on board compare trigger, position latch and MPG function

Advantage:
• High precision motion and I/O control, no need to understand the complicated EtherCAT protocol

Benefits:
• Easy-to-use, rapid development, wiring-saving

Slave Modules

AMAX-3245
4-Axis Pulse Train EtherCAT Slave Module
• EtherCAT packet to pulse output with compact size
• 4-Ch 100kHz compare trigger, 4-Ch 100kHz position latch
• Easy wire to pulse-type servo/stepping motor, high speed trigger for on-the-fly camera capture and dispensing

AMAX-4830
16-Ch Isolated DI and 16-Ch Isolated DO EtherCAT Remote I/O Module
• Suitable for EtherCAT networks
• 2.500 V_{dc} isolation
• Quick-remove European-type connector
• Supports distributed clock (DC) mode
• LED indicators for I/O status

AMAX-5000 Series
Compact Modular EtherCAT Controller
Feature:
• IEC 61131-3 solution with EtherCAT slice I/O, empowered by CODESYS

Advantage:
• Open platform with standard interface, easily integrate into any IT/OT applications

Benefits:
• Compact size with high efficiency to improve equipment intelligence and stability as well as maintenance efficiency

Modularized Solutions

AMAX-5000 I/O Series
Compact Modular EtherCAT Slice I/O
• Removable push-in I/O terminal
• Smart power quality diagnosis
• Dual power input
• 2000V_{dc} isolation
• Support isolated DI/DO, analogue (V/mV/mA, RTD, thermal couple), AO (V/mA), counter/encoder
• DC mode selectable

Intelligent Vision Inspection Solutions

VisionNavi

EtherCAT Motion Control Solutions

EtherCAT Motion Control Solutions

Slave Modules

AMAX-3245
4-Axis Pulse Train EtherCAT Slave Module
• EtherCAT packet to pulse output with compact size
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• Easy wire to pulse-type servo/stepping motor, high speed trigger for on-the-fly camera capture and dispensing
Power Conversion Solutions for Maximum Energy Transition

Utility and Energy Solutions

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

**Edge Gateways**

**ECU-500**
Server Grade IEC-61850-3-Certified Power Automation Computer
- Intel® Xeon® scalable CPU 20/14/8 Core (125W/85W/70W)
- 12 x DIMM sockets support up to 768GB DDR4
- Up to 2 x hot-swappable PSU
- Up to 4 x 2.5” hot-swappable HDD/SSD (RAID0, 1, 5, 10)
- 8 x 10/100/1000MB 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
- Supports iCDManager/VT-D/AMT/TPM

**ECU-4784 Series (Skylake)**
IEC-61850-3-Certified Power Automation Computer
- Intel® Xeon® E3-1505L processor (2.0 GHz) with 16 GB of DDR4 ECC RAM
- Intel® Core™ i7 6600U/Core™ i3 6100U/Celeron® 3955U processor with 8 GB of DDR3L RAM
- 8 x 10/100/1000MB 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
- Supports iCDManager/VT-D/AMT/TPM

**ECU-4676**
IEC-61850-3-Compliant Power Automation Computer
- Intel® Atom® E3940 processor (1.6 GHz) with 4 GB of DDR3L RAM
- 10 x Giga LAN, 10 x Isolated RS-232/422/485 serial ports
- 8 x DI, 8 x DO - isolated, 1 x I/FIG-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(Comport)**
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 V DC 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-PaaS/EdgeLink**

**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 10/100/1000 MB LAN, 4 x RS-232/485 serial ports
- 1 x mini-Pcie slot for wireless expansion
- Wide operating temperature range (-40~70 °C)

**WISE-PaaS/EdgeLink**

**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 10/100/1000 MB LAN, 6 x RS-232/485 serial ports
- 1 x mini-Pcie slot for wireless expansion
- Wide operating temperature range (-40~70 °C)

**WISE-PaaS/EdgeLink**

**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 10/100/1000 MB LAN, 16 x RS-232/485 serial ports
- Wide operating temperature range (-40~70 °C)
Total Solutions for Modern Infrastructures

Intelligent Transportation Systems

Advantech is dedicated to developing systems that fulfill our vision of building 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, and transportation hub management.

Rugged-design Computer Platforms

ITA-5831
EN 50155 Compact Fanless System

- 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
- Ruggedized communication and power port connectors (M12)
- Supports easy-swappable storage and I/O modules

ITA-2231
EN 50121-4 2U Fanless System

- Intel® 6th Gen Core™ i7 processor w/ 16 GB onboard memory (up to 32 GB via DIMM expansion)
- Compliant with EN 50121-4 EMC standard for signaling applications
- Provides 3 x ITA-EM modules, 1 x PC/104, and 1 x Mini PCIe slot for expansion
- Wide operating temperature range (-25~60 °C)
- Supports single and dual AC/DC power modules

Touch Panel PCs

ITA-8100/ ITA-8120
EN 50155 Railway Panel Computer

- 10.4" & 12.1" touch panel with 1024x768 resolution
- 2 x GbE, 1 x USB 2.0, 2 x RS-422/485, 1 x Audio and 1 x DIO (M12)
- Supports UIC 612-01 keypad and auto brightness adjustment
- Wide voltage input range: 24/48/72/110 VDC (+40%)
- Wide operating temperature range: -40~70 °C

EN 50155 Switches

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 option
- IP40/ IP54/ IP67 and rugged housing

Display Systems

ARS-P2800/ P3800
EN 50155 Passenger Information System Panel PC

- 28" LCD (1920x357) and 38" LCD (1920x540) resolution
- 1 x GbE (optional 2 x GbE for Daisy-Chain), 1 x USB 2.0
- EN 50155 T1 (-25~55°C), IEC 61373 Class B
- IP54 rating ensures protection against dust/ water ingress
- Customized panel sizes available upon request

EKI-9512E-4GETB
EN 50155 Rolling Stock NAT Router for Ethernet Train Backbone

- EN 50155, EN 50121-3-2, IEC 61373 compliant
- IEC 61375 compliant - TRDP & TTDP for railway application
- Layer 3 routing function - VRRP, P-NAT for on-board routing
- Provides 4 x Gigabit uplink port with bypass function
Implementing AI technology is important for advancing the scope of Industrial IoT. AI technologies are highly tailored to individual tasks and each application requires specialized research and unique construction. Advantech has developed a complete AI platform, from the edge to the cloud, inference to training. Our mission is to provide extraordinary AI technology under different applications in industrial scenarios.
Diverse Form Factors to Satisfy All DAQ Requirements

Data Acquisition and Control

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

**PCI Express DAQ Cards**

**PCIE-1810**
16-ch, 12-bit Multi-Function PCI Express Card
- Sample rate: 500 KHz
- 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
- 8 x differential simultaneous sampling AI channels (sample rate: up to 250 KHz; resolution: 16-bit)
- 2 x AO channels (sample rate: up to 3 MHz; resolution: 16-bit)
- 2 x analog/ digital triggers for AI/ AO channels
- 4 x 32-bit programmable encoder counters/ timers
- 32 x programmable DI/DO channels with interrupt function

**PCIE-1805**
32-ch, 16-bit Analog Input PCI Express Card
- 32-ch single-ended or 16-ch differential analog input, up to 1MS/s
- 16-bit resolution for A/D conversion
- ±10 V to ±1 V voltage measurement
- 0 – 20 mA or 4 – 20 mA current measurement
- Support digital and analog triggers

**PCIE-1802/ 1802L/ 1803**
8/ 4-ch, 24-bit Dynamic Signal Acquisition
- 8/ 4 x simultaneously sampled AI channels (sample rate: up to 216 KHz)
- 24-bit resolution A/ D converters (dynamic range: 115 dB)
- Wide input voltage range (±0.2~10 V)
- Built-in anti-aliasing filter

**Counter Cards**

**PCIE-1884**
4-ch, 32-bit Encoder Counter with Preload Position Compare FIFO PCI Express Card
- 4 x 32-bit programmable encoder counters
- Quadrature (X1, X2, X4), dual pulse (CW/CCW), signed pulse (OUT/DIR) modes
- Programmable trigger output (preload FIFO) for position comparison

** PCI Express AO Cards**

**PCIE-1824**
32-ch, 16-bit Analog Output PCIE Card
- 32 high-density analog output channels
- Flexible Output Range: +/-10 V, 0 – 20 mA and 4 – 20 mA
- Synchronized output function
- High ESD protection (2,000 VDC)

** 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
- 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 VDC)

**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 (DI) with both dry and wet contact configurations
- Interrupt and noise filter for all DI 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 arca, bounce, and noise
USB DAQ Modules

**USB-5801**
4-ch, 24-bit USB 3.0 DSA Module
- SuperSpeed USB (5Gbps)
- 4 x 24bit simultaneous sampling analog inputs up to 192kS/s
- IEPE excitation for every channel
- 1 x tachometer for revolution speed measurement
- Built-in USB hub

**USB-5817**
8-ch, 16-bit USB 3.0 Analog Input Module
- SuperSpeed USB (5Gbps)
- 16-bit resolution with 200kS/s Sampling rate
- ±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
- SuperSpeed USB (5Gbps)
- Built-in USB hub
- 2,500 V<sub>DC</sub> isolation protection
- Level 3 ESD and surge protection

Communication Solutions

**PCI-1600/ PCIE-1600**
2/ 4/ 8-Port PCI/ PCIe Serial Communication Card with Surge/ Isolation Protection
- PCI/ PCIE-1604/ 1610/ 1620: RS-232 port
- PCI/ PCIE-1602/ 1612/ 1622: RS-232/ 422/ 485 port
- Optional surge/ isolation protection
- Fast data transmission: up to 921.6 kbps

**PCI-1680/ PCIE-1680**
2-Port CAN Bus PCI/ PCIe Communication Card
- Supports two simultaneous CAN networks
- Fast data transmission: up to 1 Mbps
- CAN controller frequency: 16 MHz
- Isolation protection: 2,500 V<sub>DC</sub>

**USB-4630**
4-Port Isolated USB 3.0 Hub
- The world’s first isolated SuperSpeed USB Hub (5 Gbps)
- 2,500 V<sub>DC</sub> voltage isolation for upstream ports
- Lockable USB 3.0 cable included
- Can be powered via USB bus or 10-30 V<sub>DC</sub> external power source

Data Acquisition Gateways

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

**MIC-1810/ 1816**
Data Acquisition Platform w/ Intel® Processor
- Intel® Celeron® 3955U / Core™ i3-6100U
- MC-1810: 16x AI channels (sample rate: up to 500 kHz; resolution: 12-bit), 2 x AO channels (sample rate: up to 500 kHz; resolution: 12-bit)
- MIC-1816: 16-bit, 16 x AI channels (sample rate: up to 1 MHz) 16-bit, 2 x AO channels (update rate: up to 3 MHz)
- 16 x isolated DI/O

**MIC-1816R**
DAQ Platform with ARM Cortex™-A9
- i.MX6 Quad - 4x Cortex-A9 processor
- Build-in 4G EMMC NAND Flash for OS (Yocto only)
- Sampling rate up to 1MS/s
- 4 x IEPE input with preamp gain = 1, 10, 100
- 8 x Analog Input 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

Machine Condition Monitoring Software

**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
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-6717**
Compact Intelligent Gateway with Analog Input
- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1 GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 2 x LAN, 2 x RS-485 port, 2 x USB
- 8-ch AI/ 4-ch DO/ 5-ch DI

**ADAM-6715**
Compact Intelligent Gateway with RTD Input
- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1 GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 2 x LAN, 2 x RS-485 port, 2 x USB
- 6-ch RTD/ 4-ch DO/ 4-ch DI

**ADAM-6718**
Compact Intelligent Gateway with Thermocouple Input
- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 7 x TC, 7 x DO, 4 x DI
- 2 x LAN, 2 x RS-485 port, 2 x USB

**ADAM-6724**
Compact Intelligent Gateway with Analog Output
- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 3 x AO, 3 x AI, 6 x DO, 5 x DI
- 2 x LAN, 2 x RS-485 port, 2 x USB
Data Acquisition Gateways

**Star Product Highlights**

**ADAM-3600**  
Wireless Intelligent RTU  
- TI Cortex-A8 (600 MHz) with 256MB DDR3L  
- Real-time Linux  
- 4 expansion slots  
- SD slot for local data storage  
- 2 x LAN ports with two MAC addresses  
- Supports web services  

**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-5101**  
Storage Expansion Module  
- Supports mini PCI express or M.2 interface  

**ADAM-5101P**  
Mini-PCI Express Expansion  
- Supports wireless expansion  
- 2 x Antenna Points  

**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/DO Modules  
- 16 x DI/DO Modules  
- 2 x Counter/Frequency Modules  

**ADAM-3651/ ADAM-3656**  
Digital I/O Expansion 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 AI module  
- ADAM-3624: 4-ch AO module  

**ADAM-5192**  
Storage Expansion Module  
- Supports mini PCI express or M.2 interface  

**ADAM-5101P**  
Mini-PCI Express Expansion  
- Supports wireless expansion  
- 2 x Antenna Points  

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

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

**ADAM-3651/ ADAM-3656**  
Digital I/O Expansion 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 AI module  
- ADAM-3624: 4-ch AO module  

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

**WISE-PaaS/EdgeLink**

**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-3656: 8-ch DO module  

**ADAM-3617/ ADAM-3624**  
Analog I/O Expansion Module  
- ADAM-3617: 4-ch AI module  
- ADAM-3624: 4-ch AO module  

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

**ECU-1155**  
Container-Based Edge Intelligent Gateway  
- LMX6 dual lite 1GHz CPU with 512MB DDR3L  
- Ubuntu 18.04 Linux  
- 2 expansion slots for ADAM-3600 series I/O  
- 2 x LAN ports, 2 x COMPORT, 2 x CAN  
- 1 x wireless communication interface (mini-Pcie)  
- Wide operation temperature -20 ~ 70°C
Industrial Wireless I/O and Sensor Modules for Big Data Acquisition and Cloud Integration

Wireless IoT Sensing Devices

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

- **WISE-4220**
  - Industrial 2.4GHz Wi-Fi IoT Wireless I/O Module
  - Wireless interface to reduce the wiring cost for data acquisition
  - Configuring by mobile devices directly without installing any APPs
  - Zero data loss by using log function with RTC time stamp

- **WISE-S200**
  - I/O and Sensor Module for WISE-4200/4400 Series
  - WISE-S214 4 x AI & 4 x DI
  - WISE-S215 4 x RTD
  - WISE-S231 Temperature & Humidity Sensor

- **WISE-S400**
  - I/O and Sensor Module for WISE-4400 Series
  - WISE-S414 4 x AI (upon request)
  - WISE-S472 1 x D1, 1-port RS-485 & 1-port RS-485/232

- **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**
  - Advanced Industrial LoRaWAN IoT Wireless I/O Module
  - Longer communication range compare with 2.4GHz for wide range outdoor application
  - Better penetration through concrete and steel with less interference
  - Rechargeable battery inside with solar panel charging

- **WISE-S250**
  - I/O Module for WISE-4600 Series
  - M12:
    - WISE-S614 4 x AI & 4 x DI
    - WISE-S615 4 x RTD
    - WISE-S617 2 x AI, 2 x DI, 1 x DO & 1-port RS-485
  - Block:
    - WISE-S614T 4 x AI & 4 x DI
    - WISE-S615T 4 x RTD
    - WISE-S617TT 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 AI for CT and transmitter

- **WISE-2410**
  - LoRaWAN Smart Condition Monitoring Sensor
  - Compliant with ISO 10816 (guidelines 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 sensors
Advantech’s ADAM remote I/O modules have been used by industry for over 25 years. New product offerings and latest technology updates continue to fulfill an increasingly diverse range of applications. With RFID and USB technology, users have additional options for configuration and inspection, even when unpowered. Additionally, for larger network infrastructures, ADAM Ethernet-based remote I/O modules use SNMP and MQTT to enhance communication efficiency.
Seamless Data Connectivity from the Network Edge to the Core

**Industrial Communication**

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 securely transmitting data, monitoring and controlling networked devices.

**Intelligent Connectivity Software**

- **WebAccess/DMP**
  - Device Management and Provisioning
  - Remote Router management and application delivery
  - Device health monitoring and statistics
  - RESTful APIs
  - Zero-Touch provisioning for mass deployment
  - Multi-Tenancy options
  - Supports cloud & on-premise version

- **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**
  - 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 & I/O Nodes**

- **ICR-4400 series**
  - New 5G Ready High Speed Router Platform & Edge Computing Gateway
  - LTE advanced PRO cellular connectivity, download speed up to 1Gbps
  - 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-3800 series**
  - Railway 4G LTE Router & Gateway - EN 50155 Certified
  - Railway LTE 4G router for rolling stock applications
  - LTE Cat.4, 2 x SIM, GNSS Receiver
  - 2 x Ethernet 10/100, 1 x RS222 and I/O, 1 x USB, all M12 connectors
  - 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

- **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 IP65-rated reinforced-fiber polyester PBT enclosure

**Industrial Wireless AP/Clients**

- **EKI-6333AC/EKI-136X Series/EKI-9502G**
  - 802.11N Wi-Fi AP/ Bridge/ Client/ EN50155 Router
  - Supports 802.11n 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
  - Provides web-based configuration
  - Cellular connectivity with dual SIM cards design for each cellular module (EKI-9502G)
**Star Product Highlights**

**EN50155 Rolling Stock Switches**

- **EKI-1242 Series**
  - Modbus RTU/TCP to Various Industrial Protocols Fieldbus Gateway
  - Dual power inputs
  - Designed for protocol extensibility and adaption
  - Built-in real-time diagnostics
  - I models support a wide operating temperature range

- **EKI-1220(R) Series**
  - 1/2/4-Port Modbus Gateway/ Router
  - Integrated stateful firewall for protection from intrusion
  - Supports redundancy-enhanced Modbus ID
  - Built-in real-time diagnostics
  - I models support a wide operating temperature range

- **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

**IEC 61850-3 Power Energy Switches**

- **EKI-9700/ 9600 Series**
  - Industrial Layer 3 Managed Switch
  - Static routing/ NAT (EKI-9612G, EKI-9628G)
  - Static routing, RIP v1/ v2, OSPF v2, VRRP (EKI-9728G)
  - Supports up to 4 x 10Gbe fiber ports (EKI-9728G)
  - -40~75°C wide temperature

- **EKI-7700/ 8500 Series**
  - Industrial Managed Switch
  - EKI-8500 TSN Ethernet Switch
  - Supports Gigabit / Fast Ethernet ports + Gigabit Copper/ SFP combo ports
  - XM function enables fast deployment
  - IP30-rated chassis design
  - EN50121-4 and NEMA TS-2 certified
  - Supports Advantech Security Pack for security

**90W High Power PoE 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 option
  - IP40/ IP54/ IP67 and rugged housing

- **EKI-7712G-4FMPI / EKI-2701MPI Industrial 802.3bt Managed Switch and Injector**
  - Local/remote units featuring power-over-VDSL PSE/PD, respectively
  - VDSL2 compliant with transmission distance over kilometers
  - Long haul data and power transmission over UTP or coaxial cables
  - Remote unit supports PoE PSE per each Ethernet downlink port, with maximum 30 watt power budget

**L3 Managed Switches**

- **EKI-9700/ 9600 Series**
  - Industrial Layer 3 Managed Switch
  - Static routing/ NAT (EKI-9612G, EKI-9628G)
  - Static routing, RIP v1/ v2, OSPF v2, VRRP (EKI-9728G)
  - Supports up to 4 x 10Gbe fiber ports (EKI-9728G)
  - -40~75°C wide temperature

- **EKI-7700/ 8500 Series**
  - Industrial Managed Switch
  - EKI-8500 TSN Ethernet Switch
  - Supports Gigabit / Fast Ethernet ports + Gigabit Copper/ SFP combo ports
  - XM function enables fast deployment
  - IP30-rated chassis design
  - EN50121-4 and NEMA TS-2 certified
  - Supports Advantech Security Pack for security

- **EKI-9700/ 9600 Series**
  - Industrial Layer 3 Managed Switch
  - Static routing/ NAT (EKI-9612G, EKI-9628G)
  - Static routing, RIP v1/ v2, OSPF v2, VRRP (EKI-9728G)
  - Supports up to 4 x 10Gbe fiber ports (EKI-9728G)
  - -40~75°C wide temperature

**L2 Managed Switches**

- **EKI-7700/ 8500 Series**
  - Industrial Managed Switch
  - EKI-8500 TSN Ethernet Switch
  - Supports Gigabit / Fast Ethernet ports + Gigabit Copper/ SFP combo ports
  - XM function enables fast deployment
  - IP30-rated chassis design
  - EN50121-4 and NEMA TS-2 certified
  - Supports Advantech Security Pack for security

**Unmanaged Switches**

- **EKI-9700/ 9600 Series**
  - Industrial Layer 3 Managed Switch
  - Static routing/ NAT (EKI-9612G, EKI-9628G)
  - Static routing, RIP v1/ v2, OSPF v2, VRRP (EKI-9728G)
  - Supports up to 4 x 10Gbe fiber ports (EKI-9728G)
  - -40~75°C wide temperature

- **EKI-7700/ 8500 Series**
  - Industrial Managed Switch
  - EKI-8500 TSN Ethernet Switch
  - Supports Gigabit / Fast Ethernet ports + Gigabit Copper/ SFP combo ports
  - XM function enables fast deployment
  - IP30-rated chassis design
  - EN50121-4 and NEMA TS-2 certified
  - Supports Advantech Security Pack for security

- **EKI-5000 Series**
  - Industrial Unmanaged Switch
  - IECEx, ATEX, CID2 certification
  - Monitoring utility
  - Port-based QoS for deterministic data transmissions
  - Loop detection
  - Dual power inputs

**Intelligent Modular Media Converters**

- **IMC-700 series**
  - Intelligent Modular Media Converter with Highest Density
  - Modular design with chassis up to 20 slots
  - Widest varieties of slide-in media conversion and optical demarcation modules
  - SNMP manageable via IView software featuring massive provision and monitoring
  - Dual (redundant) AC and/or DC hard-wappable power supplies and fans

- **IMC-390**
  - Support IEEE802.3at PoE+ standards
  - Serves as power sourcing equipment (PSE) device
  - Supports Link Fault Pass Through (LFPT)
  - Designed with two 10/100/1000Base-T and SFP or a fixed fiber transceiver 1x9 uplink port

- **IMC-150L / EKI-1751I**
  - Extends Ethernet up to 300m at 10M/100M over UTP cable
  - Extends Ethernet up to 1km at 100M over coaxial cable (IMC-150LI)
  - Dual design with PoE+ PD/PSE (IMC-150LPJ)
  - Extends Ethernet up to 2000 m over VDSL (EKI-1751I)

**10G Ethernet Solutions**

- **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

**L3 Managed Switches**

- **EKI-9700/ 9600 Series**
  - Industrial Layer 3 Managed Switch
  - Static routing/ NAT (EKI-9612G, EKI-9628G)
  - Static routing, RIP v1/ v2, OSPF v2, VRRP (EKI-9728G)
  - Supports up to 4 x 10Gbe fiber ports (EKI-9728G)
  - -40~75°C wide temperature

- **EKI-7700/ 8500 Series**
  - Industrial Managed Switch
  - EKI-8500 TSN Ethernet Switch
  - Supports Gigabit / Fast Ethernet ports + Gigabit Copper/ SFP combo ports
  - XM function enables fast deployment
  - IP30-rated chassis design
  - EN50121-4 and NEMA TS-2 certified
  - Supports Advantech Security Pack for security

**L2 Managed Switches**

- **EKI-7700/ 8500 Series**
  - Industrial Managed Switch
  - EKI-8500 TSN Ethernet Switch
  - Supports Gigabit / Fast Ethernet ports + Gigabit Copper/ SFP combo ports
  - XM function enables fast deployment
  - IP30-rated chassis design
  - EN50121-4 and NEMA TS-2 certified
  - Supports Advantech Security Pack for security
Star Product Highlights

MIC-770
Compact Fan-Less System with 8th Gen Intel® Core™ i CPU Socket
- Intel® 8th/9th Gen Core™ i CPU socket-type (LGA1151) with Intel® Q370/H310 chipset
- Wide operating temperature (-10 ~ 50 °C)
- VGA and HDMI output
- 2 x GigaLAN, 2 x USB 3.1 and 6 x USB 3.0

MIC-770 + MIC-75G20
Desktop Compact Fan-Less System with GPU iModule
- Intel® 8th/9th Gen Core™ i CPU socket-type (LGA1151) with Intel® Q370/H310 chipset
- Offering powerful GPU solution with nVIDIA 250W, 2-slot width/287.35mm length GPU cards for new AI application
- Dual 24Vdc power inputs with reliable power and OCP solution for up to 600W maximum peak power currency

MIC-770 + MIC-75G30
Desktop Compact Fan-Less System with GPU iModule
- Intel® 8th/9th Gen Core™ i CPU socket-type (LGA1151) with Intel® Q370/H310 chipset
- Powerful GPU solution with dual NVIDIA 250W, 2.75-slot width, 330mm length GPU cards for new AI application
- Triple 24Vdc power inputs with reliable power and OCP solution for up to 900W maximum peak power currency

AIIS-3410 U/ P
Compact Vision System, Intel® 6th/7th Gen Core™ i CPU, 4-ch Camera Interface for GigE PoE or USB 3.0
- Intel® 6th/7th Gen Core™ i CPU (LGA1151)
- AIIS-3410P: 4-ch Gbe PoE
- AIIS-3410U: 4-ch USB 3.0 w/ dedicated controller
- Supports 1 x expansion slot

IPC-220, IPC-240
Compact Industrial Computer System with 6th/7th Gen Intel® Core™ i CPU Socket (LGA 1151)
- 2 x GigaLAN, 6 x USB 3.0 and 2 x USB 2.0
- 2 x 2.5" HDD/SSD, and 1 x mSATA
- 19 – 24 Vdc input power range
- 2/4 PCIe/PCI slot expansions
- Supports power out 12V/5V - 2A
- Supports MB: PCE-2029/2129

MIC-7420
Compact Fanless System with Intel® 6th Gen Core™ i CPU
- Intel® 6th Gen Core™ i7/i5/i3 (BGA type) processor w/ Intel® QM170 chipset
- 8 GB of DDR4 on board memory (up to 24 GB)
- 2 x DVI, 2 x GbeE LAN, 8 x USB ports
- 2 x PCIe x4/ 2 x PCI expansion slots
- 2 x 3.5"/2.5" HDD and 1 x M.2

Infrastructure for the IoT

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

Modular Industrial Computers
### Industrial Computers

**ACP-2020**
2U Rackmount Short Depth Intelligent Chassis for ATX/ uATX Motherboards
- 398-mm short-depth 2U rackmount chassis
- Supports ATX/uATX single-processor motherboards
- 350W single or 500W redundant power supply
- Optional dual 2.5” or hot-swap drive bays
- Intelligent system module for smart fan, self-diagnosis, and remote management

**IPC-631**
4U Front I/O Short Depth Rackmount Chassis for ATX/ uATX Motherboards
- 350mm short-depth rackmount chassis
- Supports ATX/uATX single-processor motherboards, CPU TDP up to 120 W
- 500W single power supply
- All I/O ports, buttons, LEDs, drive bays, and AC inlet on the same side
- PWM-controlled smart fan for minimal noise

**ACP-4340**
4U Rackmount Intelligent Chassis with 4 Hot-Swap Drive Bays
- Supports 14-slot PICMG backplane or ATX/uATX motherboard
- Built-in 4 hot swap drive bays supporting 3.5”/2.5” HDD/SSD
- Front-accessible, easy-maintenance system fans
- Intelligent system module for smart fan control, self-diagnosis, and remote management

### Industrial Motherboards

**AIMB-786**
8th/ 9th Gen Intel® Core™ i ATX Motherboard
- Intel® 8th/ 9th generation Core™ i7/i5/i3 LGA1151 processor with Q370 chipset
- Up to 128 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- 1 x PCIe x16, 4 x PCIe x4 Gen 3.0, 2 x PCI slots, USB 3.1, SATA 3.0 (RAID 0, 1, 5, 10)
- Triple displays: 1 x VGA, 1 x DVI, 1 x DP

**AIMB-706**
8th/ 9th Gen Intel® Core™ i ATX Motherboard
- Intel® 8th/ 9th generation Core™ i7/i5/i3 LGA1151 processor with H310 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- 1 x PCIe x16 Gen 3.0, 1 x PCIe x4 Gen 2.0, 5 x PCI slots, USB 3.1, SATA 3.0
- Dual displays: 1 x VGA, 1 x DVI

**PCE-5131**
8th/ 9th Gen Intel® Core™ i System Host Board
- Intel® 8th/ 9th Gen. Core™ i7/i5/i3 LGA1151 processor with H310 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- PCIe Gen. 3.0, M.2, USB 3.1, SATA 3.0 (RAID 0, 1, 5, 10), dual GbEs
- Triple displays: 1 x VGA, 2 x DVI or DP

### Industrial GPU Cards (Bundle Sale)

**SKY-MXM-P1000/P2000**
NVIDIA® Quadro® Embedded MXM Module
- MXM 3.1 Type A form factor
- 512/768 CUDA cores
- 4GB GDDR5 memory
- 96GB/s maximum memory bandwidth
- Bundle sale with Advantech IPC

**SKY-QUAD-P1000/P2200**
NVIDIA® Quadro® PCI Express Graphic Card
- P1000: 4 x Mini display port 1.4; P2200: 4 x DisplayPort 1.4
- DisplayPort with audio
- 4/8GB GDDR5 memory
- HDCP 2.2 support
- Bundle sale with Advantech IPC

**SKY-QUAD-P1000/P2200**
NVIDIA® Quadro® PCI Express Graphic Card
- Tesla V100 32GB PCIe x16 HS
- Tesla T4 16GB PCIe x16
- Bundle sale with Advantech IPC

### Video Capture Cards

**DVP-7621HE**
2-ch Full HD Capture Card
- 2-channel HDMI/DVI/VGA/S-Video/YPbPr video inputs with H.264/MPEG4 hardware compression
- 60/50 fps (NTSC/PAL) at up to 1920 x 1080p resolution for recording and display for each channel
- PCIe x1 host interface
- Supports watchdog function

**DVP-7636HE**
4-ch SDI Full HD H.264 PCIe Capture Card
- 4-channel SDI video input with H.264 hardware compression
- 60/60 fps (NTSC/PAL) at up to 1080p resolution for display and recording
- PCIe x4 host interface
- Windows/Linux OS supported

**DVP-7637HE**
4-ch HDMI Full HD H.264 PCIe Capture Card
- 4-channel HDMI video input with H.264 hardware compression
- 60/50 fps (NTSC/PAL) at up to 1080p resolution for display and recording
- PCIe x4 host interface
- Windows/Linux OS supported
Seamless Connection and Transmission for Edge IoT Applications

Embedded Automation Computers

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

Industrial Controllers

UNO-1372G-J
Intel® Celeron® J1900 Small-Size DIN-rail Control PC
- Intel® Celeron® J1900 2.0GHz processor with 4GB DDR3L Memory
- 2 x GbE, 2 x mPCIe, 3 x USB 2.0, 1 x USB 3.0, 4 x RS-232/422/485, 1 x DP, 1 x HDMI, 4 x DIO, 1 x iDoor
- Dedicated TPM2.0 onboard for hardware security

UNO-3272G
Intel® Celeron J1900 Automation Computer
- Intel® Celeron® J1900 2.0GHz processor with 4GB DDR3L memory
- 3 x USB 2.0, 1 x USB 3.0, 2 x RS-232/422/485, 2 x RS232, 2 x 10/100/1000BASE-T Ethernet, 2 x PCIe x1 (or 2 x PCI)
- Supports 2 x independent displays (VGA, HDMI)
- Dedicated TPM2.0 microcontroller designed for hardware security
- Optional digital 4DI/4DO board

UNO-3283G/3285G
Intel® Core™ i Wall Mount Automation Computer
- 6th Gen Intel® Core™ i3/i5/i7 processor w/ 8 GB of DDR4 RAM
- 2 x GbE, 6 x USB 3.0, 2 x RS-232/422/485, 1 x DVI-I, 1 x HDMI, 1 x CFast, 1 x iDoor, 2 x mPCIe (UNO-3283G: 2 x PCI/PCIe, UNO-3285G: 4 x PCI/PCIe)
- Dual hot-swappable HDD/SSD slots with thumb screws
- Redundant power input

UNO-3285C
- 6th Gen Core™ i7-6822EQ w/ 8GB DDR4 RAM & Celeron G3902E with 4GB DDR4 RAM
- 2 x GbE, 6 x USB 3.0, 2 x RS-232/422/485, 1 x DVI-I, 1 x HDMI, 1 x CFast, 1 x iDoor, 2 x mPCIe x8 + 2 x PCI
- Dual internal HDD/SSD support
- Redundant power input

Communication Gateways

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, 4 x DI/O, 1 x Micro USB, and 1 x Micro SD Slot
- 1 x full-size mPCIe slot with USB signal
- Embedded security chip for data security
- ESRP Package: Support WISE-PaaS/EdgeLink

UNO-220
Raspberry Pi Industrial Kit
- Tiny size for RPi-based IoT solution (100 x 70 x 33mm)
- 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

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 RS232, 2 x RS485, 1 x HDMI, 1 x VGA
- Threaded DC Jack design for more steady power supply
- ESRP Package: supports WISE-PaaS/DeviceOn
## Star Product Highlights

### UNO-2271G
- Basic Unit
- 2 x GbE, 1 x USB 3.0, 1 x HDMI
- ESRP Package: Support Azure IoT Edge, WISE-PaaS/ EdgeLink

### UNO-2372G
- Basic Unit
- 2 x GbE, 1 x USB 3.0, 3 x USB 2.0, 1 x HDMI, 1 x DP
- ESRP Package: Support Azure IoT Edge, WISE-PaaS/ EdgeLink

### UNO-2484G
- Basic Unit
- 4 x GbE, 4 x USB 3.0, 1 x HDMI, 1 x DP, 4 x RS-232/422/485
- ESRP Package: Support Azure IoT Edge, WISE-PaaS/ EdgeLink

### Pocket-Sized Modular Box PCs
- Intel® Atom™ E3815/E3825 processor
- Built-in 4GB DDR3L memory & 32G eMMC

### Small-Sized Modular Box PCs
- Intel Atom E3845/Celeron® J1900 Quad-Core Processors w/ 4GB of DDR3L RAM
- TPM 2.0 technology for cyber security

### Regular-Sized High-Performance Modular Box PCs
- Intel® Core™ i7/i5/i3 processor w/ 8 GB of DDR4 RAM
- Cable-less & fan-less design ensure highest reliability
- TPM 2.0 technology for cyber security

### Domain-Focused Edge Gateways

### UNO-430
- Intel® Atom™ IP66 Ruggedized Outdoor Gateway
  - Intel® ATOM™ E3950 Quad-core processor with 8G DDR3L memory
  - Supports wireless extension with M.2 module
  - 2 x GbE, 2 x RS-422/485 (isolated), 1 x RS-232 (console), M.2 2242 key B, TPM2.0
  - IP66 water proof design for outdoor environment
  - C1D2 + IEC-ATEX standalone type certified PC

### UNO-420
- Intel® Atom™ PoE Powered Device Sensing Gateway
  - Intel® ATOM™ E3815 Processor with 2GB DDR3L onboard memory
  - 2 x GbE (1 x PoE-IN), 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-PaaS/ EdgeLink

### UNO-1372GH
- Intel® Atom™ Quad-Core Control DIN-rail PC
  - Intel® ATOM™ E3845 1.91GHz processor with 4GB DDR3L Memory
  - 3 x GbE, 3 x USB, 2 x COM, 1 x VGA, 1 x HDMI, Audio, iDoor, mSATA, 2 x mPCIe, 1 x SATA, 4 x DI, 4 x DO, 1 x Power Terminal
  - Spark-free design with lockable I/O kit
  - Dual power input for avoiding power down time
  - UL listed for hazardous locations: Class I, Division 2

### iDoor Modules

### Industrial Fieldbus
**PCM-26 Series**
Industrial Fieldbus iDoor modules support common automation protocols
- CANopen
- EtherCAT
- POWERLINK
- PROFINET
- PROFINET
- Sercos 3

### Wireless Communication
**PCM-24S Series**
Wireless communication iDoor modules enhance connectivity for industrial IoT
- Wi-Fi/ Bluetooth
- LTE/GPS
- 3G/ GPS

### Industrial I/O and Peripherals
**PCM-23/ 24 /27/ 29 Series**
Industrial I/O and peripheral modules enable flexible I/O expansion
- RS232 / 422 / 485
- MRAM
- USB 3.0
- Audio
- Digital I/O
- CFast slot
- PoE
- Power Drop Protection
- GigalAN
- USB LAN
- TPM
Leading HMI Innovations for Smart Factories

Intelligent HMI and Industrial Monitor

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

Preconfigured Systems

TPC-5000 Series
Modular 12”/ 15”/ 15.6”/ 18.5”/ 21.5”/ 23.8” LED LCD Intel® Core™ i7/ i3/ i5/ Celeron® Industrial Control Panel

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

TPC-2000 Series
Modular 12”/ 15”/ 15.6”/ 18.5”/ 21.5”/ 23.8” LED LCD Intel® Celeron®/Atom™ Industrial Thin Client

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

TPC-B500-6C2AE
Intel® Celeron® 3955U, 4 GB of DDR4 RAM

TPC-B500-633AE
Intel® i3-6100U, 8 GB of DDR4 RAM

TPC-B500-653AE
Intel® i5-6300U, 8 GB of DDR4 RAM

TPC-B500-673AE
Intel® i7-6600U, 8 GB of DDR4 RAM

TPC-B200-653AE
Intel® i5-6300U, 8 GB of DDR4 RAM

TPC-B200-673AE
Intel® i7-6600U, 8 GB of DDR4 RAM

TPC-B200-J12AE
Intel® Celeron® J3455 1.50 GHz, 4G of DDR3L RAM

TPC-B200-E12AE
Intel® Atom® E3940 1.60 GHz, 4G of DDR3L RAM

FPM-7002 Series
Modular 12”/ 15”/ 15.6”/ 18.5”/ 21.5”/ 23.8” LED LCD Industrial Monitor

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

FPM-7002-12T-BE
FPM-7002-15T-BE
FPM-7002-15W-FBE
FPM-7002-17T-BE
FPM-7002-18W-BE
FPM-7002-21W-BE
FPM-7002-24W-BE

FPM-B700-AE
Modular monitor box w/ 2 x I/O slots for FPM-M700 I/O modules

FPM-B12T-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

FPM-D21W-BE
21.5” FHD

FPM-D24W-BE
23.8” FHD

Configurable Modules

Box 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

FPM-D21W-BE
21.5” FHD

FPM-D24W-BE
23.8” FHD

Panel Modules
**High Performance Control Panels**

**TPC-315/ TPC-324W**  
15"/ 24" TFT LED LCD Intel® Core™ i3/ i7 Touch Panel Computer  
- 8th Gen Intel® Core™ i3-8145UE/ i7-8665UE Processor  
- 8G DDR4 SDRAM  
- 1x USB 2.0, 4 x USB 3.0, 1 x RS-232/422/485, 1 x DP  
- Default supports digital I/O via iDoor technology  
- Supports M.2 NVMe high speed storage

**TPC-1x81WP Series/ 1x82 Series**  
12"/ 15"/ 15.6"/ 17"/ 18.5" TFT LED LCD Intel® Core™ i7/ i3 Touch Panel Computer  
- Intel® Core™ i3-8145UE/ i7-8665UE Processor  
- 8G DDR4 SDRAM  
- 1x USB 2.0, 4 x USB 3.0, 1 x RS-232/422/485, 1 x DP  
- Default supports digital I/O via iDoor technology  
- Supports M.2 NVMe high speed storage

**TPC-1881WPH**  
C1D2 Certified 18.5" TFT LED LCD Intel® Core™ i5 Touch Panel Computer  
- Intel® Core™ i5-4300U Processor with 4GB/ 8GB DDR3L SDRAM  
- Certified with UL C1D2 for hazardous environments  
- Expandable system I/O, isolated digital I/O, Fieldbus, and communication via iDoor technology  
- Supports USB 3.0 and HDMI for independent displays

**Industrial Thin Clients**

**TPC-125H/ 815H**  
C1D2 Certified 12.1"/15" TFT LED LCD Intel® Atom™ Quad-Core Industrial Thin Client  
- Intel® Atom™ Quad-core E3845 1.9GHz w/ 4GB of DDR3L SDRAM (optional Intel® Celeron quad-core J1900 processor)  
- UL C1D2 certified for hazardous environments  
- IP66-rated front panel with durable true-flat 5-wire resistive touchscreen  
- Supports iDoor technology and HDD

**TPC-xx51A Series/ TPC-xx51B Series**  
5.7"/ 6.5"/ 12.1"/ 15"/ 17" TFT LED LCD Intel® Atom™ Dual-/ Quad-Core Industrial Thin Client  
- Intel® Atom™ dual-core E3827/ E3845 DDR3L SDRAM / Celeron quad-core J1900 (TPC-xx51A Series)  
- IP66-rated front panel with durable true-flat 5-wire resistive touchscreen  
- Wide operating temperature (-20~60°C)  
- Supports iDoor technology and VESA mounting (B Series)

**Web Browser Terminals**

**TPC-71W**  
7" Cortex™-A9 Web Browser  
- Cortex™-A9 Dual/Quad 1.0GHz 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-1x81WP Series/ 1x82 Series**  
12"/ 15"/ 15.6"/ 17"/ 18.5" TFT LED LCD Intel® Core™ i7/ i3 Touch Panel Computer  
- Intel® Core™ i7/ i3-5010U/ 4010U 1.7GHz Processor with 4G/ 8G DDR3L SDRAM (TPC-1x81WP)  
- IP66-rated front panel with durable true-flat 5-wire resistive touchscreen  
- Wide operating temperature (-20~60 ºC)  
- Supports iDoor technology and VESA mounting (B Series)

**TPC-1881WPH**  
C1D2 Certified 18.5" TFT LED LCD Intel® Core™ i5 Touch Panel Computer  
- Intel® Core™ i5-4300U Processor with 4GB/ 8GB DDR3L SDRAM  
- Certified with UL C1D2 for hazardous environments  
- Expandable system I/O, isolated digital I/O, Fieldbus, and communication via iDoor technology  
- Supports USB 3.0 and HDMI for independent displays

**Domain-Focused Panel PCs**

**SPC-200 Series**  
All-Around IP66-Rated 18.5"/ 21.5" Intel® i3/ i5/7 Dual-Core Encapsulated Touch Panel Computer  
- Intel® Core™ i3-4010U/ i5-6100U processor  
- IP66-rated front panel with 18.5" dedicated screen  
- Supports multi-touch control with home key buttons  
- Shatter proof film

**SPC-500 Series**  
All-around IP69k-Rated 15" TFT LEC LCD Intel® Core™ i3/ Celeron® Stainless Steel Touch Panel Computer  
- Intel® Skylake-U Celeron-3955U CPU/ i3-6100U CPU  
- All-round 304L stainless steel housing with IP69k & M12 connectors  
- VESA mount supported  
- EN 1092-2 Compliance  
- Shatter protection film

**SPC-800 Series**  
All-Around IP66-Rated 15.6"/ 21.5" arm-mounted HMI with Intel® i3/ i5/7 or Industrial Monitors  
- Intel® Skylake-U Celeron / i3/ i5/7 processor or pure monitor  
- All-Around IP66-rated protection  
- Supports Rittal and Bernstein arm system dimension for mounting  
- Supports RAFI FS22+ push button dimension for integration maintenance  
- Flexible configuration with integrated customizable extension unit
Panel PCs

Configurable

PPC-6000C Series
15"/17"/19" 6th/7th/8th/9th Gen Intel® Core™ i7/i5/i3 Panel PC w/ Selectable Mini-ITX Motherboard
- 6th/7th/8th/9th Gen Intel® Core™ i, up to 65W TDP (socket type)
- True-flat, IP65-rated, front bezel with resistive or optional PCAP touchscreen
- Selectable mini-ITX motherboard for diverse requirements
- 2 x expansion slots (1 x PCIe x 4 or 2 x PCI)
- Supports TPM 2.0

PPC-3000 Series
15"/17"/19" 6th/7th/8th/9th Gen Intel® Core™ i7/i5/i3 Panel PC w/ Selectable Mini-ITX Motherboard
- 6th/7th/8th/9th Gen Intel® Core™ i, up to 65W TDP (socket type)
- True-flat, IP65-rated, front bezel with resistive or optional PCAP touchscreen
- Selectable mini-ITX motherboard for diverse requirements
- 2 x expansion slots (1 x PCIe x 4 or 2 x PCI)
- Supports TPM 2.0

Multiple Function

PPC-3001 Series
12”/15”/15.6”/21.5” 6th/7th Gen Intel® Core™ i5/i3 Fanless Panel PC
- Intel® Core™ i5-6300U/7300U or i3-7100U processor
- True-flat, IP65-rated front bezel with PCAP or resistive touchscreen
- Wide input voltage range (9–32VDC, 12–32VDC) and built-in isolated RS-422/485
- Supports PCIe/PCI expansion and TPM 2.0
- Supports triple display (1 x DP, 1 x VGA)

PPC-3000 Series
10.4”/12.1”/15”/17”/19” Intel® Atom™ Quad-Core Fanless Panel PC
- Intel® Atom™ quad-core E3940/3955 or E3845 processor
- Wide operating temperature range (-20–60°C)
- Wide input voltage range (9–32VDC) and built-in isolated RS-422/485
- Supports 1 x PCI/PCIe bus expansion
- Optional expansion for CF/CFast, USB dongle, RS-232 and GPIO

General Purpose

PPC-3001S Series
15.6”/18.5”/21.5”/23.8” 6th Gen Intel® Core™ i5/i3 Fanless Panel PC
- Intel® Core™ i5-6300U/7300U or i3-7100U processor
- True-flat, IP65-rated front bezel with PCAP or resistive touchscreen
- Wide input voltage range (12–24VDC)
- Supports TPM 2.0

PPC-3000S Series
6.5”/10.4”/12.1”/15”/15.6”/18.5”/21.5”/23.8” Intel® Celeron Dual/Quad-Core Fanless Panel PC
- Intel® Celeron quad-core N2930/N4120 processor
- True-flat, IP65-rated front bezel with resistive or PCAP touchscreen
- Compact fanless design with solid aluminum alloy enclosure
- Wide input voltage range (12 – 24 VDC)

Industrial Monitors

FPM-7000/200 Series
General Industrial Monitor
- 6.5” / 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
- Supports -20–60°C operation temperature
- Supports panel, rack, wall, desktop, and VESA arm mounting
Supports On-Site Management, Manufacturing and Inspections

Industrial Mobile Solutions

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

Industrial-Grade Wearables and Tablets

Wearable

**LEO-W**
Wearable Barcode Scanner Ring
- Lightweight (33 g) and ergonomic wearable ring design
- Rugged industrial design with IP54 rating and 1 m drop protection
- Can be worn on either the left or right hand. Physical button avoids trigger errors and power waste
- Interchangeable ring available in 5 sizes to ensure flexible wear (supports both gloved and non-gloved operation)
- Magnetic connector enables easy battery recharging and eliminates cable bending issues typical of traditional micro-USB connectors

**Fully Rugged Tablets**

**PWS-872**
10.1” Industrial-Grade Tablet with 7th Gen Intel® Core™ i3/i5/ i7/Celeron® Processor
- 10.1" WXGA LED display with scratch-resistant Corning® Gorilla® Glass 3 panel
- Multi-touch PCAP touchscreen with support for gloved operation
- Rugged design with MIL-STD-810G certification, IP65 rating, and 4-ft. drop tolerance
- 4G LTE, WLAN (802.11 a/b/g/n/ac), Bluetooth 4.1, and GPS modules with Beidou/GLONASS support
- Built-in front and rear cameras, 1D/ 2D barcode scanner, and NFC reader

**Semi Rugged Tablets**

**AIM-68**
10.1” Industrial-Grade Tablet with Intel® Atom™ Processor
- Intel® Atom™ processor for Windows 10 IoT and Android 6.0
- Hot-swappable battery with capacity meter that shows the remaining power and recharge status
- Integrated barcode scanner supports data collection
- 10.1” WUXGA full HD display with scratch-resistant Corning® Gorilla® Glass 3 and multi-touch PCAP control
- WLAN, BT, NFC, 3G/4G LTE technology for seamless communications
- Optional extensions include 1D/2D barcode scanner, LAN+COM module, UHF RFID module

**AIM-65**
8” Industrial-Grade Tablet with Intel® Atom™ Processor
- Intel® Atom™ processor for Windows 10 IoT and Android 6.0
- 8” WUXGA full HD display with scratch-resistant Corning® Gorilla® Glass 3 and multi-touch PCAP control
- WLAN, BT, NFC, 3G/ 4G LTE technology for seamless communications
- Optional extensions include 1D/2D barcode scanner, LAN+COM module, UHF RFID module
- Light weight design and multi-tablet charging station
### Regional Service & Customization Centers

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