Advantech Industrial IoT Systems and Devices Star Product Guide







Innovative IIoT Edge to Cloud Technologies

Smart Camera

ICAM-7000 Series



EtherCAT I/O Controllers

EtherCAT Control IPC AMAX-5580



Ether CAT.

EtherCAT Remote I/O AMAX-5000/ 4800 Series





Domain Platforms



Oil & Gas TPC/ FPM/ EKI/ ADAM Series



Railway ITA/ ARS/ EKI Series



Utility & Energy ECU-4000 Series



VisionNavi

Task Flow Machine Vision APP. Software

AlNavi

Deep-learning-based Image Analysis Software

HMINavi

HMI Software for Machine Visualization



OPC UA

MotionNavi

SoftMotion on CODESYS Software Platform

DAONavi

High Speed Data Acquisition & Condition Monitoring

Wireless I/O & Sensors













DAQ and Remote I/O

USB/ ADAM-4000/ 6000 Series/ PCIe Cards



Edge AI Systems



Al Inference System MIC-700Al Series

Al Network Video Recorder MIC-700IVA Series

NVIDIA Jetson TX2

NVIDIA Jetson AGX Xavier

NVIDIA Jetson Nano







Automation Systems

UNO/ MIC/ HMI/ IPC Series



WebAccess/SCADA

IoT Application Software Platform

WISE-PaaS/EdgeLink

Powerful Edge-to-Cloud Middleware for Intelligent Gateway Solutions

WISE-PaaS/WISE.M+

Industrial IoT Cloud-Based Monitoring & Operating Platform

- Equipment Mgmt.
- Device Could Mgmt.
- Docker Container Mgmt.















IIoT Gateways





EtherNet/IP®

Edge/ Communication/ Protocol/ Data Gateways WISE/ UNO/ ADAM-6700/ ECU/ EKI Series



Connectivity & TSN











Cellular Router/ Switch/ Wireless Comm. ICR-1000/ 3000/ 4000 Series; EKI-7000/ 8000 Series





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 provides 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, sensor, 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

· Easy-to-use, rapid development, wiring-saving

Modularized Solutions









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

Renefits:

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

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

Fther CAT.



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 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



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/
- 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)
- Up to 2 x PCle x16 Gen3 slots, PCle x8 Gen3 slots, PCle x4 Gen3 slots
- IPMI 2.0-compliant management











IEC-61850-3-Certified Power **Automation Computer**

- Intel® Xeon® quad-core E3-1505L processor (2.0 GHz) w/ 16 GB of DDR4 ECC RAM
- Intel® Core™ i7 6600U/ Core™ i3 6100U/ Celeron® 3955U processor w/ 8 GB of DDR3L RAM
- 8 x 10/ 100/ 1000MB LAN, 2 x RS-232, 8 x RS-232/ 422/485 serial ports
- 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) w/ 4 GB of DDR3L RAM
- 10 x Giga LAN, 10 x Isolated RS-232/422/485 serial ports
- 8 x Dl. 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(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 Vnc 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

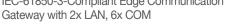
IEC-61850-3-Compliant Edge Communication Gateway with 2x LAN, 4x COM

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



WISE-PaaS/EdgeLink

ECU-1152 IEC-61850-3-Compliant Edge Communication



- ARM Cortex® A8 800-MHz processor w/ 512 MB of DDR3L RAM
- 2 x 10/ 100 MB LAN, 6 x RS-232/ 485 serial ports
- 1 x mini-PCle 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/ 100MB 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
- Supports easy-swappable storage and I/O modules

EN 50155



ITA-5231/ 5231S/ 5231G/ 5231W EN 50155 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
- Supports easy-swappable storage and I/O modules
- Supports anti-vibration HDD tray, MXM GPU modules, and connectivity modules in specific models





ITA-3650/ ITA-3650G/ ITA-3650N

Intel 6th & 7th Gen Fanless System for Traffic Management

- Intel 6th & 7th Generation Desktop Processor with H110 PCH 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 ~ 60 °C and 9-36V_{bc} power input
- Optional expansion for MXM GPU and Networking

Rugged-design Computer Platforms





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 signalling applications
- Provides 3 x ITA-EM modules, 1 x PC/104, and 1 × Mini PCIe slots for expansion
- Wide operating temperature range (-25~60 °C)
- Supports single and dual AC/DC power modules

ITA-1711



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

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

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 Vpc (±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

EN 50155



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
- Laver 3 routing function VRRP, R-NAT for on-board
- Provides 4 x Gigabit uplink port with bypass function



Industrial Al Platform from the Edge to the Cloud

Al Technology and **Server Solutions**

Implementing AI technology is important for advancing the scope of Industrial IoT. Al technologies are highly tailored to individual tasks and each application requires specialized research and unique construction. Advantech has developed a complete Al platform, from the edge to the cloud, inference to training. Our mission is to provide extraordinary Al technology under different applications in industrial scenarios.

Edge AI Computing



MIC-730AI

Al Inference System on NVIDIA Jetson® Xavier

- Fanless and compact design
- Linux Ubuntu 18.04 pre-installed
- Supports NVIDIA Jetpack and DeepStream SDK
- Supports 1x miniPCIE and 1x M.2 (NVMe)
- Supprots i-Door and i-Module
- Ideal for machine vision, robotic guidance and medical imaging applications



MIC-720AI

Al Inference System on NVIDIA® Jetson™ Tegra X2

- · Fanless and compact design
- Linux Ubuntu 18.04 pre-installed
- Supports NVIDIA Jetpack and DeepStream SDK
- Supports 1 x IEEE 802.3af PoE, 2 x USB 3.0 and 1 x internal USB 2.0
- Ideal for road-side traffic and machine vision applications



Al Inference System on NVIDIA® Jetson Nano™

- Fanless compact design
- Linux Ubuntu 18.04 pre-installed
- Supports NVIDIA Jetpack and DeepStream SDK
- Supports 1x miniPCIE and 1x M.2 (NVME)
- Supports i-Door expansion
- Ideal for automatic AI IoT and education applications

Al Network Video Recorders (NVRs)



MIC-730IVA

8ch Al Network Video Recorder on NVIDIA® Jetson AGX Xavier™

- Supports 8x PoE RJ45 LAN
- Linux Ubuntu 18.04 pre-installed
- Supports NVIDIA Jetpack and DeepStream SDK
- Supports 2 x 3.5" HDD
- Supports RS-485 and 8 Bit DI/DO
- Ideal for smart city, smart retail, logistics, casino and surveillance applications



MIC-710IVA

8ch Al Network Video Recorder on NVIDIA® Jetson Nano™

- Supports 8x PoE RJ45 LAN
- Linux Ubuntu 18.04 pre-installed
- Supports NVIDIA Jetpack and DeepStream SDK
- Supports 2x 3.5" HDD
- Supports RS-485 and 8 Bit DI/DO
- · Ideal for smart city, smart retail, logistics, casino and surveillance applications

Storage Solutions



HPC-8104 + ASMB-786

1U Rackmount Entery Storage Server

- Supports Intel Xeon E & 8th/9th Generation Core processors
- DDR4 2666/2400/2133 MHz ECC/Non-ECC UDIMM up to 128 GB
- 1 x PCle x16 (Gen3) expansion slot4-bay hot-swap 3.5"/2.5" SAS3/SATA3 drive bays with 2 x 2.5" internal SSD and one ultra slim ODD

Training Servers and Al Workstations



SKY-6420

High Density GPU Server (4U 10 GPUs)

- Supports dual 2nd Gen Intel Xeon Scalable Processors
- 24 DIMM slot, Intel Optane DCPMM
- Supports 10 x double width GPU card and 1 x single width PCIe card
- Hot Swappable system fan design
- 4800 W 3+1 redundant power supply



SKY-6400

Hybrid GPU Server (4U 4 GPUs)

- Supports dual 2nd Gen Intel Xeon Scalable Processors
- 12 DIMM slot, Intel Optane DCPMM
- Supports 4 x double width PCle cards and 2 x single width PCle cards
- Fasy maintenance system fan design
- Unify front bezel design



HPC-7484+ASMB-805

Al AOI Server (4U 2 GPUs)

- ATX workstation motherboard with Intel Xeon W-2100 & W-2200 processors
- DDR4 2666 MHz RDIMM up to 512 GB
- 3 x PCle x16 (or 1 x PCle x16 and 4 x PCle x8)
- Workstation 1S up to 4.1 GHz
- 8 x hot-swap 3.5"/ 2.5" SAS3/ SATA3 and 1 x 2.5" internal HDD bay



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 addon 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



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 Al 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 Al/ 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
- 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

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

- 8/4 x simultaneously sampled Al 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

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)

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



PCIE-1761H/ 1762H

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

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





PCIE-1763AH/ 1763DH

16-ch Solid-State Relay (SSR) Output and 16-ch Isolated Digital Input w/ Digital Filter & Interrupt PCIe Card

- 16-ch isolated digital input (IDI) with both dry and wet contact
- Interrupt and noise filter for all IDI channels
- Suitable for both AC (> 80 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

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 (5 Gbps)
- Built-in USB hub
- 2,500 Vpc 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_{DC}



USB-4630

4-Port Isolated USB 3.0 Hub

- The world's first isolated SuperSpeed USB Hub (5 Gbps)
- 2,500 V_{DC} voltage isolation for upstream ports
- Lockable USB 3.0 cable included
- \bullet Can be powered via USB bus or 10~30 V_{DC} external power source

Data Acquisition Gateways





WISE-750

Intelligent Vibration Gateway

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

DAQ-Embedded Computers



MIC-1810/ 1816

Data Acquisition Platform w/ Intel® Processer

- Intel® Celeron® 3955U / Core™ i3-6100U
- MIC-1810: 16x Al 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 Al 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 (Yotco 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
- 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



Booster for Equipment Manufacturers, Rental Services, and End Users

Edge DAQ Devices

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-6750

Compact Intelligent Gateway with Digital I/O

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







ADAM-6717

Compact Intelligent Gateway with Analog Input

- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1 GHz)
- RAM: 512MB
- Memory: 512MB
- External storage: micro-SD
- 2 x LAN, 2 x RS-485 port, 2 x USB
- 8-ch Al/ 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-6760D

Compact Intelligent Gateway with DC Relay Output

- Linux-based
- CPU: Arm® Cortex-A8 (32-bit,1GHz)
- RAM:512MB
- External storage: micro-SD
- 8 DC relay & 8DI
- 2 x LAN, 2 x RS-485 port, 2 x USB









ADAM-6718

Compact Intelligent Gateway with Thermocouple Input

- Linux-based
- CPU: Arm® Cortex-A8 (32-bit, 1GHz)
- RAM:512MB
- External storage: micro-SD
- 7 x T/C, 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
- 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





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 Al/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-PCle)
- 8 x DI, 8 x AI, 4 x isolated DO channels



WISE-PaaS/EdgeLink



ECU-1155

Container-Based Edge Intelligent Gateway

- i.MX6 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-PCle)
- Wide operation temperature -20 ~ 70°C



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 Al 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@30Vpc



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





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





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-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-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-S250 6 x DI, 2 x DO & 1-port RS-485
- WISE-S251 6 x DI & 1-port RS-485

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-S600/ WISE-S600T

I/O Module for WISE-4600 Series

- 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
- WISE-S672 6 x DI, 1-port RS- 485 & 1-port RS-485/232 terminal
- WISE-S614T 4 x AI & 4xDI
- 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





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, Al, DI sensors



Transformation for IIoT's Wider & Larger **Application**

Remote I/O Modules

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.

Serial & USB Products





Industrial Conversion & Isolation

• Port-power & high retention USB port options

BB-485LDRC9: Industrial RS-422/ 485 Converter

• BB-4850PDR: Industrial RS-422/ 485 Repeater

BB-USOPTL4: Industrial USB to RS-422/485

Converters, Repeaters, Hubs

• Isolation, surge and ESD protection

Industrial certifications

Converter

Module Selection

• Wide operating temperature range options

















Robust RS-485 I/O Modules

- Wide operating temperature range (-40~85°C/ -40~185°F)
- High protection level: 4-kV surge, 4KV EFT, 8-kV ESD
- High common mode voltage: 200 V_{DC}
- Power input:10~48V_{DC}

Module Selection

- ADAM-4117: Robust 8-ch Al module
- ADAM-4118: Robust 8-ch thermocouple
- ADAM-4150: 7-ch DI/ 8-ch DO module
- ADAM-4168: 8-ch relay module
- ADAM-4115: 6-ch RTD input module





ADAM-4000 Series

RS-485 I/O Modules

- Watchdog timer
- ±35 V_{DC} over voltage protection
- 3,000 V_{DC} voltage isolation

Module Selection

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

Ethernet I/O Modules

• BB-UHR307: Industrial 7-port USB Hub













ADAM-6200 Series

Daisy-Chain Ethernet I/O Module

- · Cloud management: configuration, monitoring, and firmware updates
- Daisy chain connectivity with auto-bypass protection
- Supports HTML5, JavaScript, XML
- Supports GCL and P2P functions
- Group configuration capability
- Supports security MQTT with TLS

Module Selection

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











ADAM-6100 Series

Real-Time Ethernet I/O Module

- · Daisy chain connectivity
- Coupler-free design
- GSD, L5K, and EDS file-ready
- 2,500 V_{DC} isolation protection

Module Selection

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











ADAM-6000 Series

Smart Ethernet I/O Module

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

Module Selection

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

^{*} PROFINET: PN, EtherNet/ IP: EI



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 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





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 RS232 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-
- 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



SmartFlex SR30x series

Flexible, Modular 4G LTE Router & Gateway

- LTE Cat.3 with 3G/2G fallback, 2x SIM, **GNSS** Receiver
- 2 x Ethernet 10/100 (Independent or switched) • Optional - 5x Ethernet, PoE, RS-232/RS-
- 422/ RS-485, Wi-Fi Advanced security features, VPN, Open
- Linux OS
- E-mark, UL CID2, ATEX certifications

Communication Gateways & I/O Nodes









WISE-6610 LoRaWAN Gateway and LoRaWAN I/O Node

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

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)

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 range

EKI-9700/ 9600 Series

• Static routing/ NAT (EKI-9612G, EKI-9628G)

• Static routing, RIP v1/ v2, OSPF v2, VRRP

• Supports up to 4 x 10GbE fiber ports

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

Modbus Gateways/ Routers





EKI-1220(R) Series

1/2/4-Port Modbus Gateway/Router

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

Serial Device Servers



EKI-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 RFC2217 modes

10G Ethernet Solutions L3 Managed Switchs



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
- IXM function enables fast deployment
- IP30-rated chassis design
- EN50121-4 and NEMA TS-2 certified
- · Supports Advantech Security Pack for cyber security

Unmanaged Switches





EKI-5000 Series

Industrial Unmanaged Switch

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

(EKI-9728G) • -40~75°C wide temperature

Industrial Laver 3

Managed Switch

(EKI-9728G)

EN50155 Rolling Stock 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

IEC 61850-3 Power Energy **Switches**





EKI-9200 series

Industrial IEC 61850-3 Switches

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

90W High Power PoE Solutions







EKI-7712G-4FMPI / EKI-2701MPI

Industrial 802.3bt Managed Switch and Injector

- Up to 90W power transmission via 4-wire cable
- IEEE 802.3bt/at compliant
- Wide operation temperature (-40~70°C)
- Fully layer 2 managed features (EKI-7712G-4FMPI)

Intelligent Modular Media Converters



IMC-700 series

Intelligent Modular Media Converter with Highest Density

- · Modular design with chassis up to 20 slots
- Widest varieities 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 hardwappable power supplies and fans

10/100/1000Mbps PoE+ Medial Converters



IMC-390

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

Long Reach Extenders



IMC-150L / EKI-1751I

- Extends Ethernet up to 800m at 10Mpbs or 500m at 100Mbps over UTP cable
- Extends Ethernet up to 1km at 10Mbps or 500m at 100Mbps over coaxial cable
- Dual design with PoE+ PD/PSE (IMC-150LPI)
- Extends Ethernet up to 2000 m over VDSL (EKI-1751I)

Industrial Long Haul PoE Extenders



10/100M PoE Extender Over VDSL2

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



Infrastructure for the IoT

Intelligent Systems and Platforms

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





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 Al application
- Dual 24V_{DC} 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 Al application
- Triple 24V_{DC} 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)
- AllS-3410P: 4-ch GbE PoE
- AllS-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 Voc 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/i3 (BGA type) processor w/ Intel® QM170 chipset
- 8 GB of DDR4 on board memory (up to 24 GB)
- 2 x DVI, 2 x GbE LAN, 8 x USB ports
- 2 x PCle x4/ 2 x PCl expansion slots
- 2 x 3.5"/ 2.5" HDD and 1 x M.2

Industrial Computers



ACP-2020

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

- 398-mm short-depth 2U rackmount chassis
- Supports ATX/uATX single-processor motherboards
- 350W single or 500W redundant power supply
- Optional dual 2.5" or hot-swap drive bays
- Intelligent system module for smart fan, selfdiagnosis, 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, selfdiagnosis, 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 PCle x16. 4 x PCle x4 Gen 3.0. 2 x PCl 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 PCle x16 Gen 3.0, 1 x PCle 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

- Intel® 8th/ 9th Gen. Core™ i7/i5/i3 LGA1151 processor with Q370 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- PCle 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 Display port 1.4
- DisplayPort with audio
- 4/5GB GDDR5 memory
- HDCP 2.2 support
- Bundle sale with Advantech IPC





SKY-TESL-V100-32P/T4-16P

NVIDIA® Tesla® PCI Express Graphic Card

- Tesla V100 32GB PCle x16 HS
- Tesla T4 16GB PCle 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
- PCle 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
- 60/50 fps (NTSC/PAL) at up to 1080p resolution for display and recording
- PCle x4 host interface
- Windows/Linux OS supported



DVP-7637HE

4-ch HDMI Full HD H.264 PCle 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
- PCle x4 host interface
- Windows/Linux OS supported

Visualization Protocol Analytics Conversion

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

Machine Control



WISE-PaaS/ EdgeLink

UNO-1372G-J

hardware security

Intel® Celeron® J1900 Small-

processor with 4GB DDR3L Memory

• 2 x GbE, 2 x mPCle, 3 x USB 2.0, 1 x

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

DP, 1 x HDMI, 4 x DI/O, 1 x iDoor

• Dedicated TPM2.0 onboard for

Size DIN-rail Control PC

• Intel® Celeron® J1900 2.0GHz





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 PCIEx1 (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 mPCle (UNO-3283G: 2 x PCl/ PCle, UNO-3285G: 4 x PCl/ PCle)
- 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 mPCle x8 + 2 x PCl
- 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 mPCle slot with USB signal
- Embedded security chip for data security
- ESRP Package: Support WISE-PaaS/Edgelink

Communication Gateways





UNO-220

Raspberry Pi Industrial Kit

- Tiny size for RPi-based IoT solution (100 x 70 x
- Industrial grade I/O board for the Raspberry Pi
- Battery-backed RTC chip for keeping the track of
- 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

Modular Automation Box PCs

Pocket-Size Modular Box PCs

- Intel® Atom™ F3815/F3825 processor
- Built-in 4GB DDR3L memory & 32G eMMC

Small-Size Modular Box PCs

- Intel Atom E3845/Celeron® J1900 Quad-Core Processors w/ 4GB of DDR3L RAM
- TPM 2.0 technology for cyber security

Regular-Size 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

WISE-PaaS/EdgeLink





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-2271G-EKBE

Expension Kit

• Supports up to 1 x iDoor installation

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-2372G-EKBE

Expension Kit

• Supports up to 2 x iDoor installation



UNO-2484G

WISE-PaaS/EdgeLink

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



UNO-2484G-EKBE UNO-2484G-S2AE

Expension Kit

• Supports up to 4 x iDoor installation or external swappable HDD/SSD

Domain-Focused Edge Gateways



UNO-430

Gateway

DDR3L memory





Intel® Atom™ IP66 Ruggedized Outdoor

Intel® ATOM™ E3950 Quad-core processor with 8G

• Supports wireless extension with M.2 module

(console), M.2 2242 key B, TPM2.0

• 2 x GbE, 2 x RS-422/485 (isolated), 1 x RS-232

• IP66 water proof design for outdoor environment

• C1D2 + IEC-ATEX standalone type certified PC

WISE-PaaS/ EdgeLink



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 mPCle, 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
- PROFIBUS • EtherNet/ IP
- PROFINET • Sercos 3





Wireless Communication PCM-24S Series

Wireless communication iDoor modules enhance connectivity for industrial IoT

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







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

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

- RS232/422/485
- MRAM
- Digital I/O CFast slot
 - GigaLAN • USB dongle

- USB 3.0
- PoE • TPM
- Power Drop Protection Audio



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
- iDOOR, PCle, 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 with 4GB DDR3L
- Compact, universal design with low power consumption
- Industrial-grade, wide operating temperature range
- Supports iDoor, mPCle, M.2 storage, and 2.5" SSD for expansion



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

Configurable Modules

Box Modules



TPC-B500-6C2AE

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

TPC-B500-633AE

Intel® i3-6100U, 8 GB of DDR4 RAM

TPC-B500-653AE

Intel® i5-6300U, 8 GB of DDR4 RAM

TPC-B500-673AE

Intel® i7-6600U, 8 GB of DDR4 RAM

TPC-B200-J12AE

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

TPC-B200-E12AE

Intel® Atom® E3940 1.60 GHz, 4G of DDR3L RAM



FPM-B700-AE

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

Panel Modules



FPM-D12T-BF

12.1" XGA



FPM-D15T-BE

15" XGA



FPM-D15W-FBE

15.6" FHD



17" SXGA

FPM-D17T-BE

18.5" HD





FPM-D21W-BE

21.5" FHD



FPM-D24W-BE

23.8" FHD

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 with 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™ i3-4010U/ i7-4650U 1.7GHz Processor with 4G/8G DDR3L SDRAM (TPC-1x81WP)
- Intel Core i3-5010U/ 4010U (1.7/ 2.1GHz) w/ 4G of DDR3L SDRAM (TPC-1x82)
- 7H surface hardness glass widescreen with PCT multi-touch control, IP66 rating and true-flat design (TPC-1x81WP)
- Expandable system I/O, isolated digital I/O, Fieldbus and communication via iDoor technology





TPC-1881WPH

C1D2 Certified 18.5"TFT LED LCD Intel® Core™ i5 Touch Panel Computer

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

Industrial Thin Clients





TPC-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)





TPC-xx51WP/xx40WP series

10.1"/ 15.6"/ 18.5"/ 21.5" TFT LCD Intel[®] Atom™ Dual-Core or AMD Dual-Core Industrial Thin Client

- Intel® Atom™ dual-core E3827, 1.75 GHz processor (10.1" & 15.6")
- AMD dual-core T56E (1.65 GHz) w/ independent GPU (18.5" & 21.5")
- 16:9 WXGA/ FHD TFT LED LCD display with PCT multi-touch control
- Built-in function and home key buttons

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 °C)
- Flat-sealed front multi-touch panel with IP66 rating



SPC-115W/121W

15.6"/ 21.5" Cortex™-A72 Web Browser

- Supports Android 8.1
- Supports 16:9 1920 x 1080 resolution wide display
- Dual Ethernet Lan port with 10/100/1000 Mbps
- 4K HDMI Video Output



WebOP-2000 Series

4.3"/7"/10.1" WSVGA Operator Panel

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

Domain-Focused Panel PCs





SPC-200 Series

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

- Intel® Core™ i3-4010U/ 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 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 supportedEN 1672-2 Compliance
- Shatter protection film





- Industrial Monitors
 Intel® Skylake-U Celeron / i3/ i5/ i7 processor or pure
- monitor
 All-Around IP66-rated protection
- Supports Rittal and Bernstein arm system dimension for mouting
- Supports RAFI FS22+ push button dimension for integration maintenance
- Flexible configuration with integrated customizable extension unit

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 PCle x 4 or 2 x PCl)
- Supports TPM 2.0

Multiple Function



PPC-3000 Series

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

- Intel® Atom™ quad-core E3940/ E3845 processor
- Wide operating temperature range (-20~60°C)
 Wide input voltage rang (9~32V_{pc}) and built-in isolated RS-422/485
- Supports 1 x PCI/ PCIe bus expansion
- Optional expansion for CF/ CFast, USB dongle, RS232 and GPIO

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 w/ PCAP or resistive touchscreen
- \bullet Wide input voltage range (9~32Vpc, 12~32Vpc) and built-in isolated RS-422/485
- Supports PCle/PCl expansion and TPM 2.0
- Supports triple display (1 x DP, 1 x VGA)

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/i3-6100U processor
- True-flat, IP65-rated front bezel with PCAP touchscreen
- Compact fanless design with solid aluminum alloy enclosure
- Wide input voltage range (12~24 VDC)
- 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/ N4200 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
- 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





Universal



Vehicle

Docking

Station



Desk Docking

Station





External Battery



Modules





Protection Film

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









Docking

Station



Office Docking Station













Hand Strap



Active Stylus

Modules



Station



Charging Station

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
- 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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						I MEXICO CITY	32-33-0213-2121
		Kuala Lumpur	60-3-7725-4188 60-4-537-9188	UK			
		Penang		Newcastle	44-0-191-262-4844	Middle Fas	st and Africa
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		Hanoi	84-24-3399-1155	Sweden			
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				Ireland			

Galway

353-91-792444



