Advantech Industrial IoT Systems and Devices Star Product Guide

- ⟋ **Vertical Market Solutions**
- ⟋ **Edge Computing**
- ⟋ **Edge AI Technology**
- ⟋ **Edge Data Acquisition**
- ⟋ **Intelligent Connectivity**
- ⟋ **WISE-Edge365**
- ⟋ **Remote I/O**
- ⟋ **Wireless I/O & Sensors**
- ⟋ **Serial & USB Communications**

WISE-iEMS

WISE-iFactory

WISE-Edge365

Edge365 / EdgeLink

WebAccess/SCADA

AMC

ADVANTECH iAutomation
Premier Partner

Industrial Edge-to-Cloud Solutions

Intelligent Factory

- Automobile
- Pharmaceutical
- Food & Beverage
- Metal Process

Industrial Automation

- IoT Device & Connectivity
- Automation Solution & Systems
- Edge & Cloud Solutions

Cloud

IoTMart/AOnline
Cross-border eCommerce

Connectivity
Management

WISE-E

Your Data Management an

EdgeLink
IoT Gateway Service

Devic
IoT device
Manag

IoT Edge In

Sensing Devices

Serial / USB
Communications

Data Acquisition

Industrial Gateways

Conne

Accelerate Digital Transformation

Equipment Manufacturing

- • Semiconductor
- • PCBA/Electronics
- • Machinery
- • AGV/AMR

Energy & Environment

- • Green Energy
- • EV Charging Station
- • Energy Storage Systems
- • Environment Monitoring

Services

Data Management

Device Management

Intelligent Transportation

- • Road Transportation
- • Railway Transportation

dge365

d Digitalization Accelerator

ceOn
Operation
gement

WebAccess
Web-based Software
• SCADA • DMP • CNC

ntelligence

Edge Computers & Servers

Edge AI

Automation Control

Industrial Vision & Camera

ctivity

Intelligent Factory

Enable Total Productive Maintenance, Industrial AI and Predictive Analytics

WISE-iFactory provides a series of solutions for enabling digital transformation in manufacturing. It is powered by the low-code/no-code WISE-IoT cloud platform, which provides edge-to-cloud software and services to enable easier factory operations. For easy deployment, WISE-iFactory also offers several starter packages such as the WISE-iFactory RTM for real-time OT data monitoring, Total Productive Management to enhance production efficiency, Industrial AI for machine health management of data AI analysis, and video AI analysis for PPE detection and SOP monitoring.

ADVANTECH
WISE-IoT

ADVANTECH
WISE-iFactory

Real-Time Monitoring

WISE-iFactory RTM (Real-Time Monitoring)

IFS-RTM-M770W5A

Monitor your manufacturing IoT data in real-time for changes in production, and visualize machine/sensor data for early warnings & quick decisions
• Hardware: MIC-770 V2 (Intel® 10th Gen Xeon®/ Core™ i CPU socket-type (LGA1200) with Intel® W480E chipset/ i7/ 32G/ SSD 128G/ HDD 1T/ Win 10)

Total Productive Maintenance (TPM)

Quick Response

SRP-IFS420-E15OEE, 9804BKADN01

Monitor and respond to production anomalies to reduce downtimes
• Starter Package:
ECU-1251 intelligent communication gateway with OEE & Andon I.Apps

Total Productive Maintenance (TPM)

Machine Inspector

ESRP-1CNCD-UNO137, 9804IAMNT00
Avoid sudden production stoppages with automatic and routine maintenance plans
• Starter Package:
UNO-137 Edge SRP with CNC drivers & WebAccess and Maintenance I.App

Real-Time Progress

IFS-RTM-M770W4A, 9804EBSFC00
Real time work progress updates to ensure timely delivery of work
• Starter Package:
Edge Computing MIC-770 V2 (i7/ 32G/ SSD 128G & HDD 1T/ Win 10) with Shop Floor I.App and WISE-iFactory RTM

Work Mentor

IFS-RTM-M770W4A, 9804EBEMN00
Enhance work flexibility with digital SOP and interactive guidance
• Starter Package:
Edge Computing MIC-770 V2 (i7/ 32G/ SSD 128G & HDD 1T/ Win 10) with eManual, Shop Floor I.App and WISE-iFactory RTM

Industrial AI

Smart Maintenance

IFS-PHM-SKMTRLV02
Achieve near-zero downtime and increase factory productivity
• Starter Package:
PHM/Maintenance/OEE I.Apps, 2 x WISE-2410 LoRaWAN wireless vibration sensor, 1 x WISE-6610 LoRaWAN 8-Channel gateway

PPE (Personal Protective Equipment) Detection

IFS-ATR-SKPPECR00
Real-time streaming video AI analysis of PPE
• Starter Package:
Activity Recognition/Patrol Inspection I.Apps, 1 x ACP-4010 industrial server (i7/ 32G/ SSD 512GB & HDD 2T/ RTX 3060)

SOP Monitoring – Hand Cleaning

IFS-ATR-SKHCNCR00
Real-time streaming video AI analysis of cleaning SOP
• Starter Package:
Activity Recognition/Patrol Inspection I.Apps, 1 x ACP-4010 industrial server (i7/ 32G/ SSD 512GB & HDD 2T/ RTX 3060)

Energy & Environment Solutions

Accelerating Cloud-Enabled Industrial IoT and Smart City Applications for a Sustainable Future

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

ADVANTECH WISE-IoT   **ADVANTECH WISE-iEMS**

IoT Edge Device Management Service

WISE-Edge365

One Single Platform for Managing All IoT Devices

Leveraging edge-to-cloud technologies, Advantech WISE-Edge365 can operate in either a SaaS or on-premise environment allowing users to remotely monitor and manage all Advantech IoT devices and connected equipment along with their data and applications.

*For more information, please go to page 7.

Connect all things at the Edge
• Data acquisition from field devices
• Edge software for protocol conversion

Link IoT devices to the cloud
• Authentication & instant onboarding
• Enhanced security with VPN & MQTTs

Manage device and data from the cloud
• Real-time monitoring & remote control
• Virtual physics model
• OTA: firmware, software, applications
• Dashboard and alarm notification
• Open API for easy integration

Environmental Monitoring Solutions

WISE-Edge365

iWater-41A
Operation & Maintenance Command Center

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

Solution Suite Package:
SKY-7221, WISE-IoTSuite, WISE-Edge365, Patrol Inspection

WISE-Edge365

iWater Pumping Station
Unmanned Pump Station Management

• KPIs for asset management
• Environmental safety monitoring
• Predictive maintenance of pumps

Solution Suite Package:
SKY-7221, WISE-Edge365, Patrol Inspection (optional)

Intelligent Energy Solutions (iEMS)

iEMS/ECOWatch
Energy Management

• Energy consumption EUI/ energy consumption per capita
• Demand control
• Energy consumption analysis and performance management
• Energy saving benefits management

iEMS/ECOEnterprise
Eneterprise Energy Saving & Carbon Reduction

• Decarbonization and energy saving actions
• Carbon footprint inventory
• Carbon emissions analysis
• Site emissions overview
• Decarbonization cost management

iEMS/HVAC
HVAC Energy Efficiency Management

• Equipment monitoring and management
• Energy efficiency diagnosis and analysis
• Energy efficiency operation evaluation
• Optimization of operational strategy

Utility & Energy Solutions

Power Conversion Solutions for Maximum Energy Transition

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

Common Substation Platforms

ECU-579

IEC 61850-3 Substation Server

- 2nd Generation Intel® Xeon® Scalable Processors
- 12 x DIMM sockets support up to 768GB DDR4
- 4 x 2.5" hot-swappable HDD/ SSD, 1 x M.2 2280 NVMe/SATA
- 2 x hot-swappable PSU (100-240 V_{DC}/V_{AC})
- 2 x PCIe x16, 1 x PCIe x8, 1 x PCIe x4, and 1 x ECU-P slots
- IPMI 2.0-compliant management

NEW

ECU-479

IEC-61850-3 Substation SCADA Server

- 12th Generation Intel® Core™ processors support up to 16 cores
- 2 x DDR4 SODIMM RAM with ECC, support up to 64GB
- 4 x 2.5" swappable SSD, 1 x M.2 2280 NVMe/SATA
- 2 x hot-swappable PSU (100-240V_{DC}/V_{AC}, 48V_{DC} optional)
- 3 x PCIe x4 Gen. 3, 1 x PCIe x16 Gen. 4, and 1 x ECU-P slots
- Supports TPM 2.0 by optional TPM 2.0 module

ECU-4784 Series

IEC 61850-3 Substation Automation PC

- Intel® Xeon® E-2276ML, up to 64G DDR4 ECC RAM
- Intel® Xeon® E3-1505L v5, up to 32G DDR4 ECC RAM
- Intel® 6th Core™ Celeron, i3, i5, i7 Processor up to 16G DDR3L RAM
- 8 x Giga LAN, 2 x RS-232, 8 x RS-232/ 422/ 485 serial ports
- 3 x Display output/ 3 x SATA/ 2 x I/O expansion slots

PCIe Cards

ECU-P1522LPE/ 1524PE

2-Port SFP Ethernet Card with HSR/ PRP Support

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

ECU-P1628D/ 1618D

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

- RS-232: 50~115.2 kbps (max.)
- RS-422/ 485: 50~921.6 kbps (max.)
- 2500 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

ECU-1251

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

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

ECU-1152

IEC-61850-3-Compliant Edge Communication Gateway with 2 x LAN, 6 x COM

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

ECU-4553

IEC-61850-3-Compliant Edge Communication Gateway 4 x LAN, 6 x COM

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

Intelligent Transportation Systems

Smart Solutions for Modern Infrastructures

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

Intelligent Edge Platforms

NEW

ITA-360

Compact Fanless Edge Computer

- Intel® 12th/13th Gen Core™ (LGA1700) processor
- Supports 2 x SO-DIMM slots, up to 64GB memory
- Supports 4 x GbE(TSN), 4 x USB3.0, 2 x HDMI, 6 x COM ports
- Supports 2 x 2.5'' SSD, 1 x full-size mPCIe or mSATA,1 x M.2 B key (SATA/ USB 3.0 signal) for 2280 SATA SSD or 3052 5G module
- Operating temperature -25~60°C and 9-36V$_{DC}$ power input

EN 50121-4

ITA-260

EN 50121-4 DIN-Rail Compact Fanless System

- Intel® 11th Gen Core™ U-Series processor
- Supports up to 64GB SO-DIMM memory
- Compliant with EN 50121-4 EMC standard for signaling applications
- Supports 6 x GbE, 4 x USB, 2 x COM ports
- Wide operating temperature range (-40 ~ 60 °C)
- Dual power input: 9-48V$_{DC}$

ITA-1711 / ITA-1711N

Rich I/O Compact Fanless Systems

- Intel® Celeron® J1900 processor
- 4 GB (up to 8GB) of DDR3 onboard memory
- Supports up to 4 x GbE, 6 x USB (includes 1 x USB 3.0) and 14 x COM
- Supports replaceable secondary display (VGA/DVI-D/LVDS)
- Supports 1 x easy-swap SATA slim/ CompactFlash module
- Supports 1 x 2.5" storage bay
- Operating temperature -25 ~60 °C and 9-36V$_{DC}$ power input

Railway Platforms

NEW

EN 50155

ITA-580

EN 50155 Fanless System

- Intel® 11th Gen Core™ H-Series processor with RM590E
- Virtualization for multiple tasks
- Supports advanced 5G and Wi-Fi 6 wireless connectivity
- SuperCap-based power backup module for unexpected power failure
- Wide range 24-110 V$_{DC}$ power input, compliant with EN 50155

NEW

EN 50155

ITA-510NX/ ITA-560NX

EN 50155 AI Inference Systems

- Fanless systems designed for AI inference
- Embedded NVIDIA® Jetson Orin NX™ platform
- Compliant with EN 50155 and EN 50121-3-2 standards
- Rugged M12 connectors suitable for harsh, industrial environments
- 1 x Mini PCIe, 1 x M.2 (E-key), 1 x M.2 (M-key) and 1 x M.2 (B-key) for easy expansion

In-Vehicle AI Platform

E13

ITA-460/ ITA-460G

In-Vehicle AI Platforms

- Intel® 8th/9th Gen Core™ (LGA1151) processor, 8GB memory onboard, 1 x SO-DIMM, 1 x mSATA, 2 x 2.5'' SSD
- Supports 2 x GbE, 2 x USB3.0/3.1, 2 x COM
- Supports 3 x mini PCIe expansion sockets
- All-around IP65 rating
- Wide operation temperature (-25 ~ 60 °C)
- Optional expansion for MXM GPU

3U CPCI Platforms

MIC-3 CPCI Serial Solution

AI/Machine Vision on Rolling Stock

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

Front-side LEDs

Rear-side I/O

MIC-3 CPCI Legacy Solution

Wayside Signaling Control

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

Touch Panel PCs

EN 50155

ITA-8100/ 8100B/ 8120

EN 50155 Railway Driver Machine Interface

- 10.4" & 12.1" touch panel with 1024 x 768 resolution (1300 nits as optional for 10.4")
- 2 x GbE, 1 x USB 2.0, 2 x RS-422/485, 1 x Audio and 1 x DIO)
- Expandable CANBus/ CANOpen/ MVB/ Wi-Fi/ LTE/ GPS
- Supports UIC 612-01 keypad and auto dimming by light sensor
- Wide voltage input range: 24/48/72/110 V$_{DC}$ (±40%)
- Wide operating temperature range: -40 ~ 70 °C
- Compliant with EN 45545-2 fire safety

IoT Edge Device Management Service `NEW`

Connect and Manage All IoT Devices with WISE-Edge365

WISE-Edge365 offers you a complete portfolio of hardware, software, cloud service, and applications for device management. Leveraging edge-to-cloud technologies, WISE-Edge365 can connect, monitor, and manage IoT devices and fixed assets via cloud or on-premise environment.

1. Connect all Things at the Edge

• 200+ communication drivers and multiple protocols support

2. Link IoT Devices to Cloud

• Authentication & instant onboarding
• Enhanced security with VPN & MQTTs

3. Manage Device and Data from the Cloud

• Real-time monitoring & remote control
• OTA update: firmware, software, applications
• Virtual physics model
• Dashboard and alarm notification
• Multi-tenant architecture
• Public cloud and on-premise
• Open API for easy integration
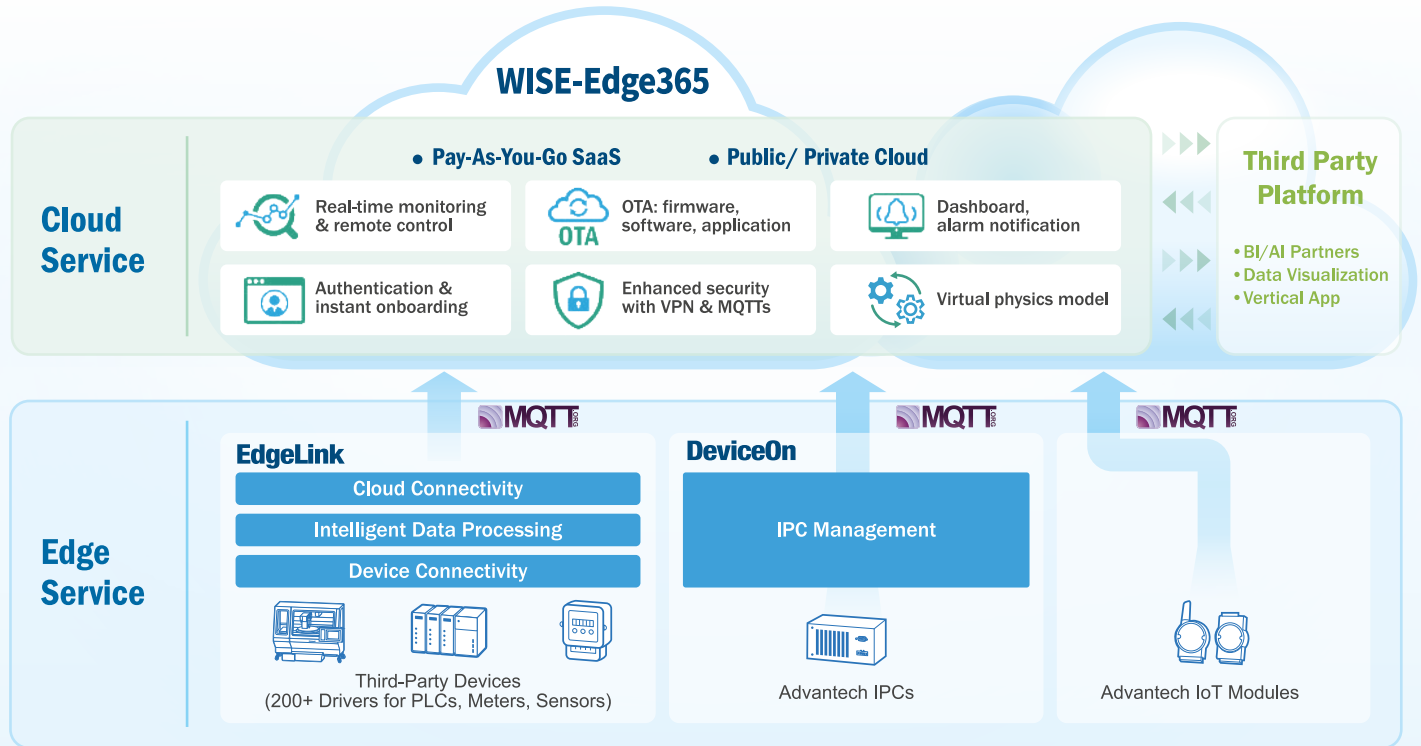
Start Your Next Project with WISE-Edge365

Get started with the beta trial or visit our website to learn more about WISE-Edge365.

Learn More   Try Beta Now

Intelligent HMI and Industrial Monitors

Leading HMI Innovations for Smart Factories

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

Supported by
WISE-Edge365

Modular Industrial Panel PCs

Configurable Modules

Computing Box Modules

Intel partner Titanium

TPC-B610 Series

- IntelR10th Gen. Core i Socket (LGA1200)
- Dual Channel DDR4 RAM (up to 64GB)
- Graphic cards supported (PCIe x16)
- PCIe x16, PCIe x4/ PCI
- M.2 NVMe SSD (Key-M 2280)
- 5G Supported (M.2 Key-B 3052)
- Dual 2.5" HDD/SSD
- TPM 2.0 built-in

Why Modular TPC series?

Rapid Customization

Platforms can be rapidly customized according to usage requirements.

Flexibility

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

Easy Maintenance

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

Forward Compatibility

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

TPC-B510 Series

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

TPC-B500 Series

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

TPC-B200 Series

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

FPM-B700-BE

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

Panel Modules

NEW

FPM-D12T-BE	FPM-D15T-BE	FPM-D15W-FBE	FPM-D17T-BE	FPM-D18W-BE	FPM-D19T-BE	FPM-D21W-BE	FPM-D24W-BE
12.1" XGA	15" XGA	15.6" FHD	17" SXGA	18.5" HD	19" SXGA	21.5" FHD	23.8" FHD

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All-in-One High Performance Control Panels

TPC-300 Series with Intel® Core™ i

12.1"/ 15"/ 17"/ 23.8" TFT LED LCD Intel® Core™

• 8th Gen Intel® CoreTM i3-8145UE / i5-8365UE / i7-8665UE processor with 8G DDR4 SDRAM
• 1 x USB 2.0, 4 x USB 3.2, 2 x RS-232/422/485, 1 x DP
• Supports dual channel memory
• Supports M.2 NVMe high speed storage
• Supports TPM 2.0, TSN

All-in-One Industrial Thin Clients

NEW

TPC-300 EHL Series with Intel Atom®

7"/ 10.1"/ 12.1"/ 15"/ 17"/ 23.8" TFT LED LCD Intel Atom®

• Intel® Elkhart Lake (EHL) Atom™ X6425E & X6211E/ CeleronR J6412 processor with 4 GB DDR4 SDRAM
• Powered by Intel® Ethernet Network Adapter I226 and support speeds up to 2.5GbE in 12.1" - 23.8"
• Wide operating temperature (-20~60℃)
• Supports IP66 waterproof front panel
• Supports TPM 2.0, TSN

Domain-Focused Panel PCs

SPC-200 Series

All-Around IP66-Rated 21.5" with Intel® Core™ i Dual-Core Encapsulated Touch Panel Computer

• Intel® Core™ i3-6100U processor
• 7H surface hardness glass widescreen with true-flat design, and all-around IP66 rating VESA mount support
• Waterproof M12 I/O: 1 x RS-232, 1 x USB, and 2 x LAN (customization is allowed)

SPC-500 Series

All-Around IP69k-Rated 15" TFT LED LCD Intel® Core™ i3/ Celeron® Stainless Steel Touch Panel Computer

• Intel® Skylake-U i3-6100U CPU
• All-around 304L stainless steel housing with IP69k & M12 connectors
• VESA mount supported
• EN 1672-2 compliance
• Shatter protection film

SPC-800 Series

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

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

Explosion Proof Panel PCs

NEW

TPC-125H/155H/318WH

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

• TPC-125H/155H: Intel Atom® quad-core E3845 1.9GHz w/ 4GB of DDR3L SDRAM (optional Intel® Celeron® quad-core J1900 processor)
• TPC-318WH: 8th Gen Intel® CoreTM i5-8365UE processor with 8G DDR4 SDRAM
• UL C1D2 certified for hazardous enviroments
• IP66-rated front panel
• Supports iDoor technology and HDD

Web Brower Terminals

TPC-71W

7" i.MX6 Cortex™-A9 Web Browser

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

NEW

TPC-100W

7"/ 10.1"/ 15.6"/ 21.5" i.MX8M mini Cortex™-A53 Web Browser

• NXPR Cortex™-A53 i.MX 8M Mini quad-core 1.6 GHz processor
• Supports Linux Yocto 3.3, Android 10
• Wide operating temperature range (-20~60 ºC)
• Flat-sealed front multi-touch panel with IP66 rating
• Embedded chromium and QT browser

Industrial Monitors

FPM-7000 Series

True-flat 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-3000 Series

Extreme Rugged Industrial Monitor

• 12"/ 15"/ 17"/ 19"
• Robust design with IP65/ 66 hardened anodized front bezel & stainless steel rear cover
• Wide operating temperature (-20 ~ 60 °C)
• Supports panel, rack, wall, desktop, and VESA arm mounting

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Semi Industrial Monitors

NEW

FPM-200/200W Series

General Industrial Monitor

• 12"/ 15"/ 15.6"/ 17"/ 19"/ 21.5"
• Robust system with die-casting aluminum chassis and IP66-rated aluminum alloy front bezel
• Supports various mount options: panel, desktop, and VESA arm

FPM-700/700W Series

Advanced Industrial Monitor

• 15"/ 15.6"/ 17"/ 19"
• 24 V$_{DC}$ supported
• On screen display (OSD) added and optimized lockable I/O connectors
• Robust system with Die-casting aluminum chassis and IP66-rated aluminum alloy front bezel
• Supports panel, wall, desktop, rack or VESA arm mounting

Domain Industrial Monitors

FPM-800 Series

Domain Industrial Monitor

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

RISC Base Panel PCs

PPC-100 Series

11.6"/15.6" All-in-One Android Panel PC

• Powered by Rockchip RK3399 chipset with support for 4K decoding
• 16:9 widescreen display with P-CAP touch control
• Front panel with IP65-rated protection
• Pre-installed Android 10 and supports Linux/Debian
• Built-in WISE-IOTSuite/AppHub remote management service for Android devices

Configurable Panel PCs

PPC-600 series

12"/15"/17"/19"/15.6"/18.5"/21.5" high performance Fan Panel PC with selectable PPC-MB Mini-ITX Motherboard

• Supports Intel® Core™ i desktop processor, up to 65W TDP (socket type)
• Selectable mini-ITX motherboard for diverse requirements
• 2 x expansion slots of PCI or PCIe
• Supports dual SATA storage (RAID 0, 1)
• Compatible with PPC-MB series

NEW

PPC-MB-620

Mini-ITX Motherboard Supports Intel® 12th Gen Core™ i Processor (LGA1700) with Q670E/ H610E Chipset

• Two 262-pin SO-DIMM up to 64GB DDR5 4800 MHz SDRAM
• Supports triple display of DP/HDMI/LVDS
• Supports PCIe x16 (Gen 5), 1 x M.2 M key & 1 M.2 E key, 6 x USB 3.2
• Supports 2 x SATA 3.0 (Raid 0, 1) (only for PCH Q670E)
• Supports 4 x RS-232, 1 x RS-232/422/485

General Purpose Panel PCs

PPC-300 Series with Intel® Core™ i

15.6"/18.5"/21.5"/23.8" Intel® 11th Gen Core™ i7/i5/i3 Fanelss Panel PC

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

NEW

PPC-300 Series with Intel® Celeron®

6.5"/10.4"/12"/15"/15.6"/18.5"/21.5"Intel®Celeron® Fanless Panel PC

• Intel® quad core N4200/J6412 processor
• 2 x USB 2.0, 2 x USB 3.1, 1 x RS-232/422/485, 1 x RS-232, 1 x HDMI
• Supports dual Ethernet Network (Intel i225), up to 2.5GbE
• Supports USB Type-C x 1 and TSN
• Supports Android

Multiple Function Panel PCs

NEW

PPC-400 Series with Intel® Core™ i

15.6"/21.5" Intel 13th Gen Core i7/i5/i3 Fanless Panle PC

• Intel® Core™ i7/i5/i3 processor, up to quad core
• Supports dual channel memory up to 64G
• Wide input voltage range (9~32 V$_{DC}$) and built-in isolated RS-422/485
• Supports M.2 2280(NVMe) and RAID 0,1
• Supports TPM and TSN
• Support PCI/PCIe expansion

NEW

PPC-400 Series with Intel® Atom®

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

• Intel® Atom® quad core x6413E processor
• Wide operating temperature range (-20 ~ 60℃)
• Wide input voltage range (9~32 V$_{DC}$) and built-in isolated RS-422/485
• Supports PCI/PCIe expansion and triple display
• Supports TPM and TSN

10

Embedded Automation Computers

Seamless Connection and Transmission for Edge IoT Applications

Advantech's UNO series embedded automation box PCs are ideal for edge computing and bridge the gap between IT and OT. The UNO series serve as flexible IoT gateways and industrial controllers in different sizes and various mountings. They also support Advantech iDoor technology that gives them the flexibility to configure various I/O requirements. Moreover, the compatibility with IoT edge software enable UNO series to support various industrial applications.

Machine Control   Data Analytics   Protocol Conversion   Visualization

Supported by WISE-Edge365

Machine-to-Intelligent Computers

UNO-127
Pocket-Size DIN-Rail Edge IPC with Intel® Atom® x6413E CPU

• Intel Atom® x6413E processor (1.5 GHz) with 4GB DDR4 onboard memory
• Onboard 64G eMMC 5.1
• 2 x LAN, 2 x USB, 1 x HDMI, 1 x mPCIe, 2 x LED Indicators (Power/Run)
• Modular design for optional 4 x iso, COM, 1 x LAN, 1 x M.2 B Key expansion
• Onboard TPM 2.0, IBECC supported

UNO-137
Small-Size Integrated DIN-Rail IPC with Intel® Atom® E3940 CPU

• Intel® Atom® E3940 processor (1.6 GHz) with 8GB DDR3L memory
• Modular design for optional 1 x iDoor expansion
• Wide operating temperature range (-40~70℃/ -40~158°F)
• Port isolation for 8 x DI, 8 x DO, 2 x COM
• Microsoft Azure IoT Edge and Amazon AWS IoT Greengrass certified

UNO-148
Fanless DIN-Rail IPC with 11th Gen Intel® Core™ i CPU

• 11th gen Intel® Core™ i processor with 8 GB DDR4 memory
• Port isolation for 8 x DI, 8 x DO, 4 x COM
• Supports M.2 M key 2280 NVMe SSD storage, M.2 B key 2242 storage, 3042/3052 cellular modules, and M.2 E Key 2230 wi-fi modules
• Supports Time-Sensitive Network(TSN) technology
• Remote out-of-band (OOB) power management with iBMC technology
• Microsoft Azure IoT Edge and Amazon AWS IoT Greengrass certified

UNO-348
Expandable Embedded Box IPC with 10th Gen Intel® CPU

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

Explosion-Proof Computers

UNO-430 EXP
Waterproof Outdoor Gateway with IP66 Rating and Explosion Protection

• Intel® Atom® E3950 quad-core processor with 8G DDR3L memory
• Reserve M.2 3052/3042 key B, M.2 2230 key E for Wi-Fi, LTE & GPS expansion
• Water-proof and sustain -40 ~ 70℃ for outdoor environments
• Easy maintenance and installation with front door and cable gland design
• C1D2, ATEX, IECEx certified
• Microsoft Azure IoT Edge and Amazon AWS IoT Greengrass certified

UNO-410
Explosion-Proof DIN-Rail Gateway with Intel® Atom® E3940 CPU

• Intel Atom® E3940 processor (1.6 GHz) with 8GB DDR3L memory
• 2 x GbE, 3 x USB 3.2, 1 x USB 2.0, 2 x RS-232/ 422/ 485, 8 x DI, 8 x DO, 2 x DP1.2
• Wide operating temperature range (-40~70 ℃/ -40~158 °F)
• Onboard TPM 2.0 provides hardware-based security
• C1D2, ATEX, IECEx certified
• Microsoft Azure IoT Edge and Amazon AWS IoT Greengrass certified

IoT Edge Gateways

NEW

UNO-238 V2
Compact IoT Edge Computer with Intel® Core™ i CPU

- 12th Gen Intel® Core™ i processor
- 2 x LAN, 4 x USB, 2 x COM, 2x CAN,1 x HDMI, 1 x DP, 1 x GPIO, 2x Type-C
- 24V terminal block DC-in
- Integrated with CANBus for reliable communication
- Dual M.2 E/B Key expansion for wireless solutions

UNO-247
IoT Edge Computer with Intel® Celeron® J3455

- Intel® Celeron® J3455E processor
- 2 x GbE, 2 x USB 3.0, 2 x USB 2.0, 4 x RS-232, 2 x RS-485, 1 x HDMI, 1 x VGA
- Threaded DC Jack design for more steady power supply

UNO-220
Industrial Raspberry Pi 4 HAT Gateway Kit

- Tiny size for RPi-based IoT solution
- Industrial grade with plug-and-play support for RPi 4
- Battery-backed RTC chip for keeping the track of time
- Preloaded with the open-source Raspbian® OS for easy integration and deployment
- Integrated with PoE function allows users to power Raspberry Pi 4 via an Ethernet cable (UNO-220-P4N2AE)
- Amazon AWS IoT Greengrass certified

WISE-710
FreeScale i.MX 6 DualLite Industrial Protocol Gateway

- NXP® ARM® Cortex™-A9 i.MX6 dual-core 1.0 GHz processor
- 2 x GbE, 3 x COM, 1 x Micro USB, and 1 x Micro SD slot
- Optional mPCIe expansion slot for wireless modules
- Operating system Linux Ubuntu 16.04/ 18.04 support

Compact Embedded Computers

NEW

UNO-2271G V2
Pocket-Size Edge IoT Gateway with Intel® Celeron®N6210/Pentium® N6415

- Intel® Celeron® Dual core N6210/ Pentium® Quad core N6415 processor with 4GB/8GB DDR4 onboard memory.
- Pocket-size, robust, fanless and cable-free system with high stability.
- Microsoft Azure IoT Edge and Amazon AWS IoT Greengrass certified.
- Expansion kit: UNO-2271G-EKCE, supports up to 1 x iDoor; UNO-2271G-RS2EA, supports 2 x COM,1 x M.2 B key, 1 x M.2 E key; UNO-2271G-RP1EA, supports 2 x COM (RS-232/422/485), terminal block, 1 x PoE+ (802.3at)*, 1 x M.2 B key

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

NEW

UNO-2372G V2
Small-Size Modular Embedded Box PC with Intel® Celeron® J6412

- Intel® Celeron® J6412 quad-core processor with 8GB DDR4 memory
- 2 x GbE, 3 x USB 3.2 Gen 2, 1 x USB 2.0, 1 x HDMI1.4, 1 x DP1.4, 4 x RS-232/ 422/ 485
- Modular design with optional SSD/ NVME/ Wi-Fi/ 4G/ 5G/ AI accelerator scalability
- Supports dual wireless communication to satisfy diverse usage requirements for IoT applications
- Expansion kit: UNO-2372G-EKCE, supports 1 x iDoor, 4 x antenna

NEW

UNO-2484G V2
Modular Embedded Box PC with 11th Gen Intel® Core™ i CPU

- Intel® Core™ 11th i7/i5/i3/Celeron® processor with 8GB DDR4 RAM memory
- 4 x GbE, 3 x USB 3.2 Gen2, 1 x USB2.0, 1 x HDMI 1.4, 1 x DP 1.4a, 4 x RS232/422/485
- Ruggedized with cableless and lockable I/O design
- Scalability with optional SSD/ NVME/ Wi-Fi/ 4G/ 5G/ AI accelerator.
- Optimized I/O with USB 3.2 (Gen2), 2.5 GbE, and PCIe 4.0 to deliver excellent data transmission speed and double bandwidth performance, providing timeliness synchronization with IT network
- Expansion kit: UNO-2484G-EKCE, supports up to 2 x iDoor, 4 x antenna

iDoor Modules

CANopen
EtherCAT®
PROFI NET®

Industrial Fieldbus
PCM-26 Series
Industrial Fieldbus iDoor Modules Support Common Automation Protocols

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

Wi-Fi
3G
Lte

Wireless Communication
PCM-24S Series
Wireless Communication iDoor Modules Enhance Connectivity for Industrial IoT

- Wi-Fi/ Bluetooth
- LTE/ GPS

GiGE VISION
USB3 VISION
PoE

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
- Digital I/O
- CFast slot
- PoE
- GigaLAN
- USB dongle
- TPM

12

Intelligent Systems and GPU Cards

Infrastructure for the IoT

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

Supported by
WISE-Edge365

Intel partner Titanium IoT Solutions | Azure Certified Device | aws qualified device Internet of things | ubuntu Certified | NVIDIA ELITE PARTNER

Modular IPC

NEW

MIC-770 V3

Compact Fanless System with 12th/13th Gen Intel® Core™ i CPU Socket

• Intel® 12th/13th Gen Core™ i CPU socket-type (LGA1700) with Intel® R680E/H610E chipset
• Wide operating temperature (-20 ~ 60 °C)
• VGA/HDMI output and NVMe M.2
• 2 x GigaLAN, 2 x USB 3.2 (Gen2) and 6 x USB 3.2 (Gen1)
• 2 x DDR5 ECC/Non-ECC SO-DIMM, up to 64GB

NEW

MIC-770 V3 + MIC-75GF10

Edge AI Fanless GPU System support MXM GPU

• Intel® 12th/13th Gen Core™ i CPU socket-type (LGA1700) with Intel® R680E/H610E chipset
• Fanless system support NVIDIA MXM GPU (up to 80W)
• 3 x DP and 1x HDMI with 2x removable 2.5" SATA storage bay

NEW

MIC-790

Compact 2U Fanless Edge Server

• Intel® Xeon® D-2752TER SoC Processor (formerly Ice Lake-D HCC)
• 6 x DDR4 ECC/Non-ECC SO-DIMM, up to 192GB for VM application
• 2 x 10GbE, 3 x 2.5gGbE, 1 x GigaLAN
• 2 x NVMe M.2, 2x removable 2.5" SATA SSD
• IPMI supported
• 1 x PCIe x16 and 1 x PCIe x8 (reserved)

Box IPC

NEW

IPC-320

Compact size Tower IPC with 12th/13th Gen Intel® Core™ i CPU Socket and 250W PSU

• Intel® 12th/13th Gen Core i Desktop (LGA1700) CPU supported with H610E chipset
• Compact design fits in small cabinet or limited space
• Rich dual USB 3.2 and dual USB 2.0 port on both front and rear side
• Dual independent displays (HDMI/DP)
• 2 x Expansion slots (PCIe x16 and PCIe x4)
• Built-in 250W 12V and 5V output only power supply
• Compatible motherboard : AIMB-308

NEW

IPC-220/240/242

Compact Industrial Computer System with 12th/13th Gen Intel® Core™ i CPU Socket

• Intel® 12th/13th Gen Core™ i CPU socket-type (LGA1700) with Intel® Q670E/H610E chipset
• Up to 4 x expansion slots (PCIe/ PCI)
• Dual GbE, 1 x NVMe M.2, 2 x SATAIII, 2 x RS-232/422/485 serial ports
• Supports power output 5V/12V (max. 2A)
• Compatible motherboard : PCE-2033/ 2133

AIIS-3411U/ AIIS-3411P

All-in-One Compact Vision System, Intel® 10th Gen Core i CPU, 4-ch PoE or USB Camera Interface and Lighting Control

• Intel 10th Gen Core i CPU (LGA1200)
• AIIS-3411P: 4-ch GbE PoE
• AIIS-3411U: 4-ch USB 3.0
• Optional AIIS-1882 with 4-ch PWM Lighting output with 4 dedicated trigger
• 12 x DI and 16 x DO with 2500 V_{DC} isolation

Slot Single Board Computers (SBCs)

NEW

PCE-5133

12th/13th Gen Intel® Core™ i PICMG 1.3 Full-size Single Board Computer

- Intel 12th/13th Gen Core i9/i7/i5/i3 LGA1700 processor with R680E
- Up to 64GB of dual-channel ECC/non-ECC DDR5 4800/5600MHz
- M.2 NVMe, USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10)
- Triple displays: 1 x VGA, 2 x DVI/DP/HDMI
- Dual 2.5Gbps LAN

PCA-6029

6th/7th Gen Intel® Core™ i PICMG 1.0 Full-size Single Board Computer

- Intel® 6th/7th Gen Core™ i7/i5/i3 LGA1151 processor with H110 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2133/2400 MHz
- USB 3.0, SATA 3.0
- Dual displays: 1 x VGA, 1 x DP/DVI-D (optional)

PCE-4132/ PCE-3032

10th Gen Intel® Core™ i PICMG 1.3 Half-size Single Board Computer

- Intel® 10th Gen Core™ i9/i7/i5/i3 LGA1200 processor with W480E/H420E chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2666/2933 MHz
- M.2 M-key, USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10), dual GbEs
- Up to triple displays: 1 x VGA, 1 x DVI-D (optional), 1 x DP (optional)

Industrial Motherboards & Computers

NEW

AIMB-788

12th/13th Gen Intel® Core™ i ATX Motherboard

- Intel® 12th/13th Gen Core™ i9/i7/i5/i3 LGA1700 processor with Q670E chipset
- Up to 128 GB of dual-channel (non-ECC) DDR4 3200 MHz
- 1 x PCIe x16 (Gen 4), 4 x PCIe x4 (Gen 3), 2 x PCI slots, M.2 M-key, USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10)
- Triple displays: 1 x DP, 1 x HDMI, 1 x VGA

NEW

AIMB-708

12th/13th Gen Intel® Core™ i ATX Motherboard

- Intel® 12th/13th Gen Core™ i9/i7/i5/i3 LGA1700 processor with H610E chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 3200 MHz
- 1 x PCIe x16 (Gen 4), 2 x PCIe x4 (Gen 3), 4 x PCI slots, M.2 M-key, USB 3.2, SATA 3.0
- Dual displays: 1 x HDMI, 1 x VGA

IPC-7120

Desktop/Wallmount Chassis with front I/O Interfaces for ATX Motherboard

- With front I/O interface and seven expansion slots
- Shockproof drive bay for one 5.25" ODD and two 3.5" HDDs
- LED indicators for power status and HDD activity
- Supports seven half-size add-on cards
- Low noise PWM controlled

Industrial MXM GPU Cards

NEW

SKY-MXM-A500-4SHA (4GB)

MXM 3.1 Type A NVIDIA Quadro Embedded A500

- MXM 3.1 Type A form factor
- 2,048 CUDA cores; 16 RT Cores; 64 Tensor Cores
- 6.54 TFLOPS
- 4GB GDDR6 memory
- 112GB/s maximum memory bandwidth
- Supports MS-hybrid mode only

NEW

SKY-MXM-A1000-4SDA

MXM 3.1 Type A NVIDIA Quadro Embedded A1000

- MXM 3.1 Type A form factor
- 2,048 CUDA cores; 16 RT Cores; 64 Tensor Cores
- 6.66 TFLOPS
- 4 x DP 1.4a
- 4GB GDDR6 memory
- 224GB/s maximum memory bandwidth

NEW

SKY-MXM-A4500-6SDA (16GB)

MXM 3.1 Type B+ NVIDIA Quadro Embedded A4500

- MXM 3.1 Type B+ form factor (proprietary thermal solution required)
- 5,888 CUDA cores; 46 RT Cores; 184 Tensor Cores
- 17.66 TFLOPS
- 4 x DP 1.4a
- 16GB GDDR6 memory
- 512 GB/s maximum memory bandwidth

Industrial PCIe GPU Cards (Bundle Sale)

NEW

SKY-QUAD-6000A-48 (Ada Lovelace)

NVIDIA Quadro RTX 6000 Ada PCIe 48GB DSFH w/ATX bracket

- PCIe x16 (Gen4), dual slot, full height
- 18,176 CUDA cores
- 142 RT Cores
- 568 Tensor Cores
- 4 x DP 1.4
- 48 GB GDDR6 memory
- 960 GB/s maximum memory bandwidth

NEW

SKY-QUAD-RTXA4000B

NVIDIA Quadro RTX A4000 PCIe 16GB SSFH w/ ATX bracket

- PCIe x16 (Gen4), single slot, full height
- 6,144 CUDA cores
- 19.2 TFLOPS
- 4 x DP 1.4
- 16GB GDDR6 memory
- 512GB/s maximum memory bandwidth

NEW

SKY-TESL-L4-24P

NVIDIA Tesla L4 24GB PCIe SSHH w/ATX bracket

- PCIe x16 (Gen4), single slot, low profile
- 7,424 CUDA cores
- 30.3 TFLOPS
- 24 GB GDDR6 memory
- 300GB/s maximum memory bandwidth

Edge AI Platforms and Industrial Servers

Industrial AI Platforms at the Edge

Artificial intelligence (AI) technology breaks away from static rule-based programming as it substitutes inference systems using dynamic learning for smarter decisions. Advanced AI technology, in combination with IoT technology, is redefining entire industries using smart applications. Advantech has collaborated with NVIDIA to deliver AI products at the edge for AI inference and training. These products adopt NVIDIA's Jetson System on Module (SOM) and GPU cards. In sum, these systems deliver AI to manufacturing, transportation, and smart city applications.

AI Camera

ICAM-520

Industrial AI Camera equipped with NVIDIA Jetson AI system on module

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

AI Solution Kit

MIC-713-OX/MIC-713-ON

AI Solution Carrier Board Based on NVIDIA® Jetson Orin™ NX / Orin Nano™

- Open frame solution kit design
- Embedded with NVIDIA® Jetson Orin™ NX/ Orin Nano™
- Multiple expansion slots for different applications
- Flexibility to insert PCIe x4 expansion cards
- Supports 5G/4G/Wi-Fi module
- PoE (optional) for camera integration

High-end Edge AI System

MIC-733-AO

AI Inference System Based on NVIDIA® Jetson AGX Orin™

- Fanless compact design
- Embedded with NVIDIA® Jetson AGX Orin™ up to 275 TOPS
- Multiple video inputs for camera integration: USB, PoE & GMSL
- Supports 4G/Wi-Fi module and a dedicated M.2 3052 for 5G
- Supports Allxon 24/7 remote monitoring and OTA deployment; Azure Certified Devices

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Edge AI Systems & Developer Kits

MIC-711D-OX/MIC-711D-ON

AI Developer Kit Based on NVIDIA® Jetson Orin™ NX / Orin Nano™

- Open frame carrier board design
- Embedded with NVIDIA® Jetson Orin™ NX/Orin Nano™
- Multiple expansion for different applications
- Supports wireless module with 1 x M.2 3052 B-key
- Linux OS with board support package (BSP)

MIC-711-OX/MIC-711-ON

AI Inference System Based on NVIDIA® Jetson Orin™ NX / Orin Nano™

- Fanless and ultra-compact design
- Embedded with NVIDIA® Jetson Orin™ NX/Orin Nano™
- Multiple expansion for different applications
- Supports wireless module with 1 x M.2 3052 B-key
- Linux OS with board support package (BSP)
- Operating temperatures from -10 ~ 50 °C

GPU Server

SKY-620V3

2U Rackmount GPU Servers (2U 6GPUs)

- Dual 4th Gen Intel® Celeron® Scalable processors
- Supports 6 x PCIe x16 (Gen5) double-width cards plus 2 x PCIe x8 (Gen5) Single-width Cards
- 16 DDR5 slots supports Optane persistent memory 300 series (Crow Pass)
- Supports up to 6 U.2 NVMe drives and up to 8 x SASA/SATA drives.

Edge Accelerator Servers

HPC-7420+ASMB-977

Short Depth 4U Edge Accelerator Server

- 4th Gen Intel® Xeon® Scalable processors
- DDR5 ECC RDIMM up to 4800 MHz, Intel® Optane DCPMM™
- Front access I/O and chassis depth < 18"
- 5 x PCIe x16 (Gen5) and 5 x PCIe x8 (Gen4)
- 2 x hot-swappable 2.5" SATA/SAS/SSD drive bays
- 1 x slim/ultra slim ODD bay

HPC-6240+ASMB-622V3

Short Depth 2U Edge Accelerator Server

- 4th Gen Intel® Xeon® Scalable processors
- DDR5 RDIMM up to 4400 MHz, Intel Optane DCPMM™
- Flexible I/O module design and chassis depth ~20"<21"
- 2 x PCIe x16 (Gen5) and 4 x PCIe x8 (Gen5) for double deck cards
- 4 x hot-swappable 2.5" SATA/SAS/SSD drive bays (2 x NVMe in option)
- 1 x ultra slim ODD bay in option

HPC-6120+ASMB-610V3

Short Depth 1U Edge Accelerator Server

- 12th/ 13th Gen Intel® Core™ i9/i7/i5/i3 processors
- DDR5 ECC/Non-ECC UDIMM up to 4400 MHz
- Flexible I/O module design and chassis depth <19"
- 1 x PCIe x16 (Gen5)/ 2 x PCIe x8 (Gen4) for double deck cards
- 2 x PCIe x4 (Gen4) for low-profile expansion slots
- 2 x hot-swappable 2.5" SATA/SAS/SSD drive bays

Edge DAQ Devices

Booster for Equipment Manufacturers, Rental Services, and End Users

Advantech's edge data acquisition solutions with WISE-PaaS/EdgeLink, Node-RED, and Python are designed to simplify remote monitoring. These solutions improve service quality by facilitating product maintenance, 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.

Supported by
WISE-Edge365

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 DDR3L RAM
• Real-time Linux
• 2 x LAN ports with two MAC addresses
• 4/8 expansion slots
• SD slot for local data storage
• Wired and wireless communication expansion options
• Supports web services

Expansion Modules

ADAM-5091

Serial Expansion Module

• 4 x serial ports
• Supports RS-485/ 232/ 422

ADAM-5192

Network Expansion Module

• 2 x LAN ports

ADAM-5000 Expansion I/O Modules

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

WISE-EdgeLink

ADAM-3600

Wireless Intelligent RTU

• TI Cortex-A8 (600MHz) with 256MB DDR3L
• Real-time Linux
• 4 x 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

• 2-ch form A and 2-ch form C
• Contact rating: 0.3A@125V_{AC}, 1A@30V_{DC}

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Industrial Communication

Seamless Data Connectivity from the Network Edge to the Cloud

Advantech leverages over 40 years of industry experience to develop reliable wired and wireless communication solutions for mission critical applications. These products include industrial Ethernet switches, industrial Fieldbus gateways, Modbus gateways, cellular IP gateways, cellular routers, wireless access points/clients, media converters, and serial device servers, all of which contribute to the secure transmission of data, monitoring and control of networked devices.

Supported by
WISE-Edge365

Intelligent Connectivity Software

WebAccess/DMP₂

WebAccess/DMP₂

Remote Device Provisioning, Monitoring, and Management Platform

• Performance at scale, extensible architecture
• AssureAuth PKI, multi-tenancy
• AssureSync configuration management
• Secure device health monitoring
• Built for interoperability & fully API enabled

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 for Cellular Routers and Gateways

• Secure private networks in Internet
• Encrypted & reliable communication
• Centrally defined VPN topology
• Managed LAN, 1:1 NAT modes
• Firewall & access control

Industrial Cellular Routers and IoT Gateways

ICR-4461

Ultra-high-speed 5G NR Router & Edge Computing Gateway

• 5G NR cellular connectivity, Sub-6GHz
• 3GPP Release 16; support NSA & SA modes
• Quad-core CPU with 1 GB RAM
• 2 x SIM, eSIM Ready, TPM 2.0
• 5 x Gigabit Ethernet (optional 4 x PoE+ PSE)
• SFP connector, GNSS receiver, Micro SD card
• RS232, RS485, CAN BUS, 2 x DI, 2 x DO, USB Host

ICR-3200 Series

Industrial 4G Router & IoT Gateway

• LTE Cat.4, 3G/2G fallback, 2 x SIM, eSIM ready
• Powerful CPU, 1.3 GB storage to host customer SW applications
• 2 x Ethernet 10/100, 1 x RS232, 1 x RS485 and I/O
• Wide temperature range
• Sleep mode & Power ignition
• Optional Wi-Fi 802.11ac, Bluetooth, GNSS
• E-Mark and EN 50155 Railway compliance

ICR-2000 Series

Entry Level Cellular Routers

• LTE Cat.4, 1(2) x SIM
• 1/2/4 x Ethernet 10/100
• Optional I/O and RS232/485
• Optional USB Host 2.0 & TPM 2.0
• Robust metal cover with wall mount option

Smart Flex SR-30x

Flexible, Modular 4G LTE Router & Gateway

• LTE Cat.4, 3G/2G fallback, 2 x SIM, GNSS Receiver
• 2 x Ethernet 10/100 (Independent or switched)
• Optional - 5 x Ethernet, PoE, RS-232/RS-422/ RS-485, Wi-Fi
• E-mark, UL C1D2, ATEX certifications

Communication Gateways & I/O Nodes

LoRaWAN Gateway, I/O Node, and Sensor

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

Industrial Wireless AP/Clients

EKI-6333AC/ EKI-136X Series/ EKI-9502G

802.11AC Wi-Fi AP/ Bridge/ Client/ EN 50155 Router

• Supports 802.11 a/b/g/n/ac MIMO 2T2R
• EKI-136X Series support serial device to Wi-Fi or Lan to Wi-Fi variety function
• Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
• Wireless band 2.4G/5G selective/dual
• Provides web-based configuration

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 wide operating temperature ranges

Modbus Gateways

EKI-1200 Series

1/ 2/ 4-Port Modbus Gateway

• Supports redundancy-enhanced Modbus ID
• Integrates Modbus TCP and Modbus RTU/ ASCII network
• Optional fiber optics connectivity (1-port ST or 2-port SC)

Serial Device Servers

EKI-1500 Series

1/2/4/8/16-Port Serial Device Server

• Connect up to 8 / 16-port RS-232/ 422/ 485 devices directly to TCP/ IP networks
• VCOM, TCP server, TCP client, UDP, and RFC2217 modes
• EKI-1511 series for Entry-Level device server
• Optional fiber optics connectivity (1-port SC)

Console Server

EKI-1526NL-CS

16-port Console Server

• RS-232 serial communication
• Cisco compatible pinout
• User authentication
• Secured out-of-band management

Unmanaged Ethernet Switches

EKI-2000 Series

Industrial unmanaged Ethernet Switch

• Supports -40~75 °C wide operation temperatures
• Features fast Ethernet, gigabit Ethernet, POE, POE+ and fiber optics connectors
• Designed in slim size with IP30 metal mechanism
• Supports DIN-rail mounting method

Lite-Management Switches

EKI-5000 Series

Industrial Entry-level Managed Switch

• Provides commonly used managed switch features
• ATEX, C1D2 certification
• Supports Advantech IXM/NMS technology
• Supports X-Ring Elite and Web GUI for easy configuration

L2 Managed Switches

EKI-7700 Series

Industrial Managed Switch

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

TSN Ethernet Switch

EKI-8510G

Industrial Time-Sensitive Networking (TSN) Ethernet Switch

• Fully layer 2 managed features
• IEEE 802.1AS time synchronization
• IEEE 802.1Qbu frame preemption
• IEEE 802.1Qbv time aware shaper
• IEEE 802.1CB seamless redundancy

EN 50155 Switches

NEW

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/10G Ethernet options
• IP40/ IP54/ IP67 and rugged housing

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

NEW

EKI-9700/9600 Series & EKI-8528

Industrial Layer 3 Managed Switch

• L3 Modular Switch (EKI-8528)
• Static routing/ NAT (EKI-9612G, EKI-9628G)
• Static routing, RIP v1/ v2, OSPF v3, PIM-SM, PIM-DM, VRRP(EKI-9728G)
• Supports up to 4 x 10G SFP+ ports (EKI-9728G)

Long Reach Ethernet Solutions

IMC-150 Series

Hardened PoE Long Reach Ethernet Extender

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

Industrial PoE Switches

EKI-2700 Series & EKI-7700 Series & EKI-7428G-4CPI

• Supports IEEE802.3 af/at PoE(+) standards
• Serves as power sourcing equipment (PSE)
• Designed with 10/100/1000Base-T and SFP
• Supports up to 685W power budget

Industrial 15/30/60/90W PoE Injectors

EKI-2701 Series

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

Smart Dual Channel 802.3bt Media Converters

IMC-595MPI

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

Industrial Media Converters and Chassis

IMC-300 & IMC-318I Series

• Wide range of choices from 10/100Mbps to 10G
• Flexible power input DC/AC/USB/PoE
• Flexible Installation: Din-rail, wall-mount, chassis
• Easy plug-in for central management with Chassis IMC-318I

18

EtherCAT Control and I/O Solutions

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

Advantech, a leading provider of innovative solutions, offers a wide range of hardware products equipped with CODESYS software. CODESYS supports a diverse range of control applications. Advantech integrates hardware and software solutions and is committed to delivering innovative industrial computing platforms and I/O technology that eases IoT application development. Advantech provides a full range of products, controllers, and fieldbus I/O modules. These allow complete control and support domain-focused markets and accelerate Industry 4.0.

Supported by
WISE-Edge365

Edge Controllers

Cabinet Controllers

NEW

AMAX-637/ AMAX-637S/ AMAX-657
Real-Time Soft-Logic Cabinet Controller

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

Modular Controllers

AMAX-658
Real-Time Soft-Logic Modular Controller

- CODESYS Control Real Time Engine (RTE) & Visualization (Target & Web)
- Supports IEC 61131-3 programming languages (FBD, LD, IL, ST, and SFC) and PLCopen automation specification
- Upstream connectivity facilitates IT/OT integration (MQTT, OPC UA, and ODBC)
- Supports flexible slices I/O modulars expansion
- CODESYS software control redundancy & cable redundancy supported (EtherCAT)

Panel Controllers (Visualization)

AMAX-548
Real-Time Soft-Logic Panel Controller

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

Machine Vision Solutions

VisionNavi

VisionNavi
Machine Vision Application Software

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

Filedbus & I/Os

EtherNet/IP Coupler

NEW

AMAX-5072
Compact EtherNet/IP Coupler for AMAX-5000 I/O Modules

- Supports EtherNet/IP EDS file import for PLC
- Supports up to 255 I/O modules
- Dual power input with diagnosis
- Supports EtherCAT cable redundancy connection for local I/O

Modbus/TCP Coupler

NEW

AMAX-5070
Compact Modbus/TCP Coupler for AMAX-5000 IO Module

- Supports Modbus/TCP & Data Streaming
- Supports up to 255 I/O modules
- Dual Power Input with Diagnosis
- Supports EtherCAT cable redundancy connection for local I/O

Motion Control Software

NEW

MotionNavi

MotionNavi

Visualized Designer for Standalone Motion Controller

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

PC-based Motion Control Solutions

EtherCAT

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

EtherCAT PCI Express Master Cards

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

NEW

PCIE-1245/PCIE-1245E

Full / Economic 4-Axis Motion Control PCI Express Card

• Pulse output and Encoder input support CW/CCW,P/D,AB phase
• Memory buffer (10 K points) for trajectory planning
• Supports position latch and trigger
• Supports 1D & 2D position compensation
• Supports gantry mode by offerring 1-D and 2-D dynamic error corrections
• Supports dynamic PWM output for velocity following

Standalone Motion Controller Solution

Arm-Based Solutions

AMAX-314

6-Axis Pulse Train Motion Controller with EtherCAT I/O Expansion

• 6-axis servo/stepping pulse motor control with built-in SoftMotion kernel
• Supports on-board 16DI/12DO, CMP, LTC, Handwheel and PWM function
• Supports EtherCAT I/O sub-device expansion
• Supports Advantech MotionNavi Designer
• Easy, rapid development and cost-effective

NEW

EtherCAT

AMAX-354

32-Axis EtherCAT Motion Controller

• Ultra compact size with 100(H) x 70(D) x 34(W) mm
• Provides high precise and low latency control
• Flexible I/O expansion with remote EtherCAT modules and local AMAX-5000 I/O expansion
• Supports MotionNavi Designer low-code environment for rapid development

X86-Based Solution

NEW

EtherCAT

AMAX-357

PC-Based 32-Axis EtherCAT Motion Controller

• Compact size for control panel space optimization
• Flexible I/O expansion with remote EtherCAT modules and local AMAX-5000 I/O expansion
• Supports MotionNavi Utility providing EtherCAT diagnostic tool to reduces downtime
• Supports C/C++, VS.NET, LabVIEW programming languages
• Integration of IT and OT application

Filedbus & I/Os

Industrial Slice I/Os

EtherCAT

AMAX-5000 I/O Series

Compact Modular EtherCAT Slice I/O

• Removable push-in I/O terminal
• Smart power quality diagnosis
• Dual power inputs
• 2000 V$_{DC}$ isolation
• Supports isolated DI/DO, analogue (V/mV/mA, RTD, thermal couple), AO (V/mA), counter/encoder, Timestamp module
• DC mode selectable

Position Measurement Slice I/O Module

NEW

EtherCAT

AMAX-5080/ 5081/ 5082

Position Measurement Family for AMAX-5000 EtherCAT Slice I/O Modules

• Support incremental and absolute encoder type
• Incremental encoder
  AMAX-5080 : 2-Ch, 24V HTL, 1MHz
  AMAX-5081 : 1-Ch, TTL/RS-422, 10MHz
• Absolute encoder
  AMAX-5082 : 1-Ch, SSI, 2MHz

EtherCAT Application I/O

NEW

EtherCAT

AMAX-4270

4-CH Trigger & 4-CH Latch EtherCAT SubDevice

• Application I/O for inspection and measurement
• 4-CH encoder & 4-CH position trigger & 4-CH position latch
• Max trigger frequency : 10KHz (support 1D & 2D trigger)
• Max latch frequency : 10KHz (edge rising/falling/both)

Data Acquisition and Control

Diverse Form Factors to Satisfy DAQ Requirements

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

Supported by
WISE-Edge365

PCI Express DAQ Cards

PCIE-1810/ 1816
16-ch, 12/ 16-bit Multi-Function PCIe Card

- Sample rate: 500 kS/s, 1 MS/s
- Resolution: 12 /16-bit
- Analog and digital triggers
- Waveform generator for AO channels

PCIE-1805
32-ch, 16-bit Analog Input PCIe Card

- Sample rate: 1 MS/s
- Resolution: 16-bit
- ±10 V to ±1 V voltage measurement
- 0 ~ 20 mA or 4 ~ 20 mA current measurement
- Analog and digital triggers

Vibration Sensing Gateways

WISE-750 Starter Kit
Intelligent Vibration Sensing Gateway

- Set-and-run AI monitoring system
- Comprehensive evaluation, configuration and deployment kit
- 4-channel measurement paired with alarm indication
- Mems vibration sensor included

PCIE-1841/ 1841L/ 1812
16/ 8/ 8-ch, 16-bit Simultaneous AI Multi-Function PCIe Card

- Sample rate: 1 MS/s/ch, 250 kS/s/ch
- Resolution: 16-bit
- Analog and digital triggers
- Waveform generator for AO channels(PCIE-1812 only)

PCIE-1802/ 1802L/ 1803
8/ 4/ 8-ch, 24-bit Sound and Vibration Input PCIe Card

- Sample rate: 216 kS/s/ch
- Resolution: 24-bit
- Dynamic range:115 dB
- Wide input voltage range (±0.2~10 V)
- Built-in anti-aliasing filter

PCI Express AO Cards

PCIE-1824
32-ch, 16-bit Analog Output PCIe Card

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

PCI Express Digital I/O Cards

PCIE-1730H/ 1756H/ 1758
32/ 64/ 128-ch Isolated DI/DO PCIe Card

- 32/ 64/ 128-ch isolated DI/DO channels w/ 24 V compatibility
- Interrupt handling capability for all DI channels
- 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 DI PCIe Card

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

PCIE-1763AH/ 1763DH
16-ch Solid-State Relay (SSR) Output and 16-ch Isolated DI PCIe Card

- 16-ch isolated digital input (IDI) with both dry and wet contact configurations
- Interrupt and noise filter for all IDI channels
- Suitable for both AC (> 80 V_{AC}) and DC low voltage load (< 60 V) applications with frequent ON/ OFF switching
- Software-selectable digital filter time for all DI channels

Modular DAQ Chassis and Modules

NEW

iDAQ-934 / 938

4/ 8-Slot USB 3.0 iDAQ Chassis

• USB 3.0 with SuperSpeed USB (5Gbps)
• 1 x upstream and 1 x downstream USB port
• LED indicators for status indication
• 2 x PFP for multi-purpose software-configurable
  trigger/clock settings
• 4/ 8 x iDAQ slots

NEW

DAQ Modules

• iDAQ-731, 16-ch isolated DI and 16-ch universal isolated DO
  iDAQ module
• iDAQ-763D, 16-ch solid-state relay (SSR) DO iDAQ module
• iDAQ-817, 8-ch, 16-bit, 200 kS/s AI iDAQ module
• iDAQ-821, 4-ch, 16-bit, 10 kS/s/ch AO iDAQ module
• iDAQ-801, 4-ch, 24-bit, 256 kS/s/ch IEPE sensor input iDAQ
  module

• iDAQ-815, 8-ch, 24-bit, 400 S/s RTD input iDAQ module
• iDAQ-841, 8-ch, 16-bit, 1 MS/s/ch AI iDAQ module
• iDAQ-751, 48-ch TTL DI/O iDAQ module

DAQ-Embedded Computers

NEW

iDAQ-964

**4-slot Industrial DAQ Chassis Module for
AMAX-5500 Series**

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

MIC-1810/ 1816

DAQ Platform w/ Intel® Processer

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

MIC-1842/ 1842L

High Speed DAQ Platform with Intel® Processor

• Intel® Celeron® 3955U / Core™ i5-6300U
• 8/4 x Simultaneously Analog Inputs, up to 20 MS/s,
  12-bit resolution
• Supports digital and analog triggers
• 32-ch TTL digital I/O
• Onboard FIFO memory (16 K samples)

USB DAQ Modules

USB-5801

4-ch, 24-bit USB 3.0 Sound & Vibration Input Module

• USB 3.0 with SuperSpeed USB (5Gbps)
• 1 x upstream and 1 x downstream USB port
• 4 x 24-bit 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

• USB 3.0 with SuperSpeed USB (5Gbps)
• 1 x upstream and 1 x downstream USB port
• 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 USB 3.0 Isolated Digital I/O Module

• USB 3.0 with SuperSpeed USB (5Gbps)
• 1 x upstream and 1 x downstream USB port
• Built-in USB hub
• 2,500 V_{DC} isolation protection
• Level 3 ESD and surge protection

DAQ Software Development Kit

DAQNavi

DAQNavi/SDK

DAQ Software Development Kit

• Supports multiple OS: Windows (32-bit and 64-bit), Linux
• Open development environment: C++, .NET, C#, Java, Python, LabVIEW
• Pre-defined scenario application examples with source code
• Express VI and Polymorphic VIs support in LabVIEW environment

Communication Solutions

PCI/PCIE-1600 Series

PCI/PCIe Communication Cards

• 2/ 4/ 8 port PCI serial
• 2/ 4/ 8 port PCIE serial
• 2 port PCI/PCIE CAN

# IoT-ready Remote I/O and Intelligent I/O Gateways

Remote Condition Monitoring for Machine Downtime Reduction

Advantech's ADAM remote I/O modules have been used by industry for over 40 years. The ADAM-4100 features robust RS-485 Modbus I/O with USB for easy configuration and diagnosis. Analogously, the ADAM-6000/6200 series is an Ethernet I/O used for IoT applications with SNMP, MQTT, RESTful API, Web Service, and Azure/AWS interfaces. Likewise, the ADAM-6300 series is an innovative OPC UA I/O with security/encryption features. In addition, the ADAM-6700 series is equipped with Node-RED or WISE-EdgeLink software and built-in I/O. It functions as an all-in-one intelligent I/O gateway solution.

Supported by
WISE-Edge365

Node-RED

Link Nodes
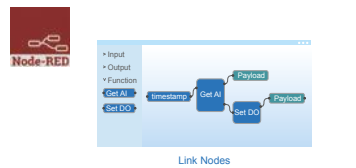
Node-RED

Low-Code Programming for Event-Driven Applications

- Node-RED 2.2.2, Node.js 16.16.0
- Browser-based editor to wire flows quickly
- Drag and drop nodes for programming
- Users can visualize the real-time data on the built-in dashboard remotely.
- ADAM-6700 series have built-in sample flows on Node-RED including cloud/database access (SQL Azure), data transmission (MQTT, Modbus), data visualization, logic control, and extended I/O

Intelligent I/O Gateways

WISE-EdgeLink

ADAM-6700 Series

- RISC/Linux-based, Node-RED
- Multiple I/O & wireless connectivities
- Wide operating temperature range (-40 ~ 70 °C/ -40 ~158 °F)

Module Selection

Node-RED version
- ADAM-6717: 8AI/ 5DI/ 4DO
- ADAM-6750: 12DI/ 12DO
- ADAM-6760D: 8SSR/ 8 DI

WISE-EdgeLink Version
- ESRP-PCS-ADAM6717: 8AI/ 5DI/ 4DO
- ESRP-PCS-ADAM6750: 12DI/ 12DO
- ESRP-PCS-ADAM6760D: 8SSR/ 8 DI

OPC UA Ethernet I/Os

Daisy-chain
Modbus
OPC UA

ADAM-6300 Series

OPC UA Ethernet I/O Modules

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

Module Selection

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

PROFINET IP67 I/Os

PROFINET
Modbus
MQTT

ADAM-200PN Series

- PROFINET ports support RT mode / MRP / FSU / I&M
- Independent access of device data via IoT port
- IP67-rated zinc housing is very rugged and resistant to vibration, dust, oil, and water
- UL C1D2 certification for harsh industrial environments
- M12 plug-and-play connectors reduce installation time and wiring efforts

Module Selection

- ADAM-251PN: 16DI
- ADAM-250PN: 16DIO
- ADAM-256PN: 16DO
- ADAM-217PN: 8AI
- ADAM-221PN: 4AO
- ADAM-215PN: 8RTD/ TC

Daisy-Chain Ethernet I/Os

SNMP
Daisy-chain
Modbus
MQTT

ADAM-6200 Series

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

Module Selection

- ADAM-6217: 8AI
- ADAM-6224: 4AO/ 4DI
- ADAM-6250: 8DI/ 7DO
- ADAM-6251: 16DI
- ADAM-6256: 16DO
- ADAM-6260: 6Relay
- ADAM-6266: 4Relay/ 4DI

Smart Ethernet I/Os

GCL
SNMP
Modbus
MQTT

ADAM-6000 Series

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

Module Selection

- ADAM-6015: 7-ch RTD
- ADAM-6017: 8AI/ 2DO
- ADAM-6018: 8-ch thermocouple
- ADAM-6024: 6AI/ 2AO/ 2DI/ 2DO
- ADAM-6050: 12DI/ 6DO
- ADAM-6051: 12DI/ 2DI/ 2Counter
- ADAM-6052: 8DI/ 8DO(source)
- ADAM-6060: 6DI/ 6Relay
- ADAM-6066: 6DI/ 6Relay

Serial I/Os

USB 2.0
Modbus

ADAM-4100 Series

Robust RS-485 I/O Modules

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

Module Selection

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

Modbus

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-4015: 6-ch RTD
- ADAM-4017+: 8AI
- ADAM-4018+: 8-ch thermocouple
- ADAM-4024: 4AO/ 4DO
- ADAM-4051: 16DI
- ADAM-4055: 8DI/ 8DO
- ADAM-4068: 8Relay
- ADAM-4080: 2-ch counter module

Wireless I/O and Sensors

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

With developments in wireless and cloud technologies, more and more remote monitoring applications have adopted cloud services for wide area management systems. To shorten the gap between the field site data and the cloud, Advantech provides wireless I/O and sensor modules that can get and pass data directly to the cloud by utilizing wireless technologies such as, Wi-Fi, 4G, LoRaWAN, NB-IoT/LTE-M, and proprietary LPWAN (Sub-G) through IoT protocols - MQTT, CoAP and LwM2M.

Supported by
WISE-Edge365

Wireless I/O Modules

WISE-4210

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

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

WISE-4250/ WISE-4250AS

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

• Dual band 1T1R 2.4/5 GHz IEEE 802.11a/b/g/n/ac (WISE-4250)
• Fast roaming and smart band management technology (WISE-4250)
• Build-in higher security subsystem
• Secure Over-the-Air (OTA) OS/application updates (WISE-4250AS)
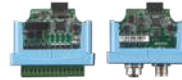• Compatible with Azure Sphere (WISE-4250AS)

WISE-4471/ WISE-4671

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

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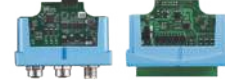• Supports direct public cloud service for IoT integration

WISE-4610/ WISE-2200-M

Advanced Industrial LoRaWAN IoT Wireless I/O Module

• Longer communication range with low power consumption
• Better penetration through concrete and steel with less interface
• One stop station with single and multiple I/O solution

WISE-S100 / 96PD-THS16B / WISE-2460P

Smart Sensors

• Stack light OEE monitoring sensor
• High accuracy temperature and humidity sensor
• High frequency vibration sensor
• RS-485 Modbus data directly output
• Can be paired with any RS-485 supported wire/wireless I/O solutions

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 x 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

M12:
• WISE-S614 4 x AI & 4 x DI
• WISE-S615 4 x RTD
• WISE-S672 6 x DI, 1 x RS- 485 & 1 x RS-485/ 232 terminal

Block:
• 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 compared with 2.4GHz spectrum
• 3 x AI for CT and transmitter

WISE-2410 Series & EVA Series

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 for UHF RFID read/write function
• Node-RED package solution
• 4-ports for 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

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Serial and USB Communication Solutions

Connecting Your Legacy Serial Assets with the IoT World

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

Serial to Fiber Isolated Converters

ULI-211 Series

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

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

ULI-212/213 Series

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

• Up to 3kV 3-way isolation and 10~48V$_{DC}$ power input
• Up to 115.2 kbps data rate and -40 ~ 80 ℃ operating temp.
• Supports Modbus ASCII/RTU protocols
• ULI-212CI (BB-FOSTCDRi-ST): serial/SM ST converter
• ULI-213CI (BB-FOSTCDRi-SC): serial/SM SC converter
• ULI-213E (BB-FOSTCDRI-PH-SC): IEC 61850-3 serial/SM SC converter

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

ULI-220 Series

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

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

ULI-230 Series

• Extend additional distance: RS-232 15m; RS-422/485 1,200m
• Up to 2kV 3-way isolation and 10~48V$_{DC}$ power Input
• Up to 115.2 Kbps data rate and -40 ~ 85 ℃ operating temperature
• ULI-232DS (BB-9SPOP2): RS-232 isolator with DB-9
• ULI-234TCI (BB-485OPDRi): RS-422/485 (TB) isolated repeater
• ULI-234TE (BB-485OPDRi-PH): IEC 61850-3 RS-422/485 (TB) isolated repeater

RS-232/422/485 Surge Suppressors

ULI-240 Series

• 3-stage surge protection on every data line
• Protected signal ground connection with dedicated chassis ground lug
• Wide operation temperature up to -40 ~ 80 ℃
• ULI-242T (BB-232HESP): RS-232 (TB) surge suppressor
• ULI-244TI (BB-HESP4DR): RS-422/485 (TB) surge suppressor
• ULI-246T (BB-485HESP): 2-wire RS-485 (TB) surge suppressor

RS-232 Data Taps / Data Splitters

ULI-250/260 Series

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

USB to Serial Converters

USB 2.0

ULI-300 Series

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

Industrial-Isolators USB 2.0/ 3.0 Hubs

USB 3.0 / 2.0

ULI-410 Series

• Expand one USB port to 4 or 7 USB ports
• Up to 4kV isolation and 15kV / 8kV ESD protection
• Powered by USB port or 10-30V$_{DC}$ power input, -40 ~ 80 ℃ operating temp.
• ULI-414LIB (BB-USBHUB4OEM): 4-port USB 2.0 hub bare board
• ULI-414CI (BB-UHR304): 4-port USB 2.0 isolated hub module
• ULI-417H (BB-USH207): 7-port USB 3.2 Gen1 hub
• ULI-414HCL (USB-4630-BE): 4-port USB 3.2 Gen1 isolated hub
• ULI-417HC: 7-port USB 3.2 Gen1 isolated hub

USB Isolators

USB 2.0

ULI-420 Series

• Up to 4kV isolation and 15kV / 8kV ESD protection for PCs, Laptops, Equipment
• Full (12Mbps) USB speed with high retention USB connectors
• Powered by USB port or 10-30V$_{DC}$ power input, -40 ~ 80 ℃ operating temp.
• ULI-421CL (BB-UH401): 1-port USB 2.0 isolator
• ULI-421C (BB-UHR401): 1-port USB 2.0 isolator
• ULI-422C (BB-UHR402): 2-port USB 2.0 isolator

Industrial Tablet Solutions

Supports On-site Management, Manufacturing and Patrol Inspection

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

Industrial-Grade Tablet & Peripherals

AIM-75S
8" Industrial-Grade Tablet with Qualcomm Snapdragon 660 Processor, Android 12, and Google AER Certified

AIM-65
8" Industrial-Grade Tablet with Intel Atom® Processor, Windows 10 IoT

- 1920 x 1200 resolution, 400nits brightness, Corning® Gorilla® and multitouch PCAP TS
- LTE, WLAN, Bluetooth, NFC
- IP65 and 4-ft drop tolerance
- Optional vertical solution extension modules and docking station

AIM-78S
10" Industrial-Grade Tablet with Qualcomm® Snapdragon™ 660 Processor, Android 10

AIM-68
10.1" Industrial-Grade Tablet with Intel Atom® Processor, Windows 10 IoT

- 1920 x 1200 resolution, 380/800nits brightness, Corning® Gorilla® and multitouch PCAP control
- 3G/4G LTE, WLAN, Bluetooth, NFC
- IP65 and 4-ft drop tolerance
- Integrated barcode scanner supports data collection as option
- Optional vertical solution extension modules and docking station

Multi-Battery Charging Station

Multi-Tablet Charging Station

Vehicle Docking Station

VESA Docking Station

Office Docking Station

Extension Modules

Rugged Case

Holster

Hand Strap

PWS-872FL
10" Industrial-Grade Tablet with Intel® Core™ i Series Processor, Windows 10 IoT

- 1920x1200 with 1000nits / 1280x800 with 300nits display brightness, Corning Gorilla and multi-touch PCAP, supports gloved operation
- WIFI 6E, 4G LTE, Bluetooth 5.2, and GPS modules with BeiDou/GLONASS support
- Hot-swappable battery, MIL-STD-810G, IP65, 4 ft drop
- Integrated barcode scanner supports data collection as option
- RFID and Finger printer support ID identification
- Optional vertical solution extension modules and docking station

Universal cover: Hand Strap, Shoulder Belt, Carry Bag

Extension Modules:
I/O Extension, MSR & Smart Card Reader

Desk Docking Station

Vehicle Docking Station

Multi-Battery Charging Station

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