Advantech Industrial IoT Systems and Devices Star Product Guide

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

WebAccess

XNavi

WISE-EdgeLink

WISE-DataConnect

5G

ADVANTECH

Enabling an Intelligent Planet

www.advantech.com

Innovative IIoT Edge to Cloud Technologies

Advanced Computer Vision

Industrial and AI Cameras
Quartz/ICAM-500

Frame Grabber and Video Capture Cards
PCIE/ DVP Series

EtherCAT

Motion Controllers
AMAX-3000/ 300 Series

EtherCAT Control & I/O Systems

Edge Controllers
AMAX-5500 Series

I/O Systems
AMAX-5000/ 4800 Series

Domain Platforms

Oil and Gas Applications
TPC/ FPM/ EKI/ ADAM/ UNO/ ULI Series

Railway Applications
ITA/ CPCI/ EKI Series

Utility and Energy Applications
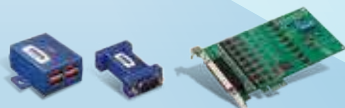ECU-4000 Series/ ECU-579/ EKI Series

Serial / USB Communications

USB 2.0   USB 3.0   CAN bus

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

VisionNavi
Machine Vision Application Software

AINavi
Deep-Learning-Based Image Analysis Software

HMINavi
HMI Software for Machine Visualization

ADVANTECH
XNavi
OPC UA

MotionNavi
Visualized Designer for Standalone Motion Controller

DAQNavi
High Speed Data Acquisition & Condition Monitoring

DAQ and Remote I/O

Modbus   PROFINET   USB SUPERSPEED   OPC UA   MQTT   Azure

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

Edge AI Systems

AI Video Systems/ AI Computing Systems
MIC-AI Series Based on NVIDIA Jetson

Edge Computing Systems

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

WebAccess/SCADA
IIoT Application Software Platform

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

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

ADVANTECH WISE-PaaS
AIoT Solutions & Marketplace

Alibaba Cloud
Google Cloud
Microsoft Azure
CUMULOCITY IoT
amazon web services
ThingsBoard

Wireless I/O and Sensors

Wi-Fi   LoRaWAN
NB-IoT   LTE-M

WISE-2000/ 4000 Series

ADVANTECH AIWireless
Advantech Industrial Wireless

IIoT Gateways and RTUs

Modbus   PROFINET
EtherNet/IP   OPC UA

Edge/ Communication/ Protocol/
Data Gateways
ADAM-3600/ 6700/ ECU/ EKI/
UNO/ WISE Series

Connectivity and TSN

10 Gigabit Ethernet   10/100 Ethernet   PoE 802.3at   Security Features

Lte   5G   TSN

Cellular Routers/ Switches/ Wireless
Communication
ICR-2000/ 3000/ 4000 Series,
EKI-7000/ 8000 Series

Intelligent Factory

Improve Energy Sustainability, Equipment Effectiveness and Operation Optimization

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

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WISE-PaaS WISE-Factory
AIoT Solutions & Marketplace

WISE-Factory Solutions

WISE-FactoryEHS

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

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

WISE-FactoryOEE&M

Real-time machine performance and maintenance support for operational excellence

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

WISE-FactoryMOM

Digital transformation of manufacturing operations for flexible capacity

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

RTM (Real-time Monitoring)

WISE-FactoryEHS (Environment, Health & Safety) SRPs

iFactory/RTM

IFS-RTM-M770W5A

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

IFS-RTM-U238L3A/U238L4A

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

IFS-RTM-UNO1372A

- UNO-1372G/ Celeron J1900/ 4G/ SSD32G/Linux/ RTM with iMobile, Event Notice, EdgeLink/ 300 tags/5sec

FEMS (Factory Energy Management System)

IFS-RTM-M770W4FEMS/ IFS-RTM-M770W5FEMS

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

IFS-RTM-SKY72WXFEM

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

WISE-FactoryOEE&M (OEE & Maintenance) SRPs

WISE-FactoryMOM (Manufacturing Operations Management) SRPs

OEE
(Overall Equipment Efficiency)

IFS-RTM-M770W4OEE
- RTM with OEE 20 licenses

IFS-RTM-M770W5OEE
- RTM with OEE 50 licenses

IFS-RTM-SKY72WXOEE
- RTM with OEE 100 licenses

SPC
(Statistical Process Control)

IFS-RTM-M770W4SPC
- RTM with SPC 5 licenses

IFS-RTM-M770W4SPC
- RTM with SPC 20 licenses

IFS-RTM-SKY72WXSPC
- RTM with SPC 50 licenses

Maintenance

IFS-RTM-M770W4MNT
- RTM with Maintenance 20 licenses

IFS-RTM-M770W5MNT
- RTM with Maintenance 50 licenses

IFS-RTM-SKY72WXMNT
- RTM with Maintenance 100 licenses

Shop Floor

IFS-RTM-M770W4SFC
- RTM with Shop Floor 20 licenses

IFS-RTM-M770W5SFC
- RTM with Shop Floor 50 licenses

IFS-RTM-SKY72WXSFC
- RTM with Shop Floor 100 licenses

Andon

IFS-RTM-M770W4ADN
- RTM with Andon 20 licenses

IFS-RTM-M770W5ADN
- RTM with Andon 50 licenses

IFS-RTM-SKY72WXADN
- RTM with Andon 100 licenses

eManual

IFS-RTM-M770W4EMN
- RTM with eManual 20 licenses

IFS-RTM-M770W5EMN
- RTM with eManual 50 licenses

IFS-RTM-SKY72WXEMN
- RTM with eManual 100 licenses

Energy & Environment Solutions

Accelerating Cloud-Enabled Industrial IoT and Smart City Applications

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

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WISE-PaaS
AIoT Solutions & Marketplace

Industrial IoT Cloud-based Management Services

WISE-DataConnect

WISE-DataConnect
IIoT Device Management Platform

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

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

E&E Patrol Inspection

Patrol Inspection
Service Patrol Dispatch Software

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

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

Water Treatment Solutions

WISE-DataConnect

Water

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-PaaS IoTSuite, WISE-DataConnect, Patrol Inspection

WebAccess/SCADA

Water A2O

iWater-42A
Biological Treatment A2O Solution

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

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

WebAccess/SCADA

Water Waste Dosing

iWater-43A
Coagulation Sedimentation Solution

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

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

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Environmental Facility Management

WISE-DataConnect

iEnv-46A
Edge Cloud Facility Management

• Factory HVAC monitoring
• Power consumption monitoring
• Motor facilities PHM

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

E&E Patrol Inspection

iEnv-49A
Patrol Inspection Management

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

Solution Suite Package:
MIC-770, Patrol Inspection

Energy Solutions

WISE-DataConnect

iEnergy-47A
Solar Power Management

• Power generation information
• Power invertors and solar panel management
• Environmental monitoring

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

Utility & Energy Solutions

Power Conversion Solutions for Maximum Energy Transition

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

Edge Gateways

ECU-579

Server Grade IEC 61850-3 Certified Power Automation Computer

- 2nd Generation Intel® Xeon® Scalable Processors
- 12 x DIMM sockets support up to 768GB DDR4
- 2 x hot-swappable PSU
- 4 x 2.5" hot-swappable HDD/ SSD (RAID0, 1, 5, 10)
- 2 x PCIe x16, 1 x PCIe x 8, 1 x PCIe x4 Gen. 3 Slots
- IPMI 2.0-compliant management

ECU-4784 Series

IEC 61850-3 Certified Power Automation Computer

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

ECU-4574

IEC 61850-3 Compliant Power Automation Computer

- Intel Atom® E3930 processor (1.3 GHz) up to 8G DDR3L RAM
- 10 x Giga LAN, 10 x Isolated RS-232/ 422/ 485 serial ports
- 8 x DI, 8 x DO - isolated, 1 x IRIG-B

PCIe Cards

ECU-P1524SPE/ 1524PE

2-Port SFP Ethernet Card with HSR/ PRP Support

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

ECU-P1628D/ 1618D

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

- RS-232: 50~115.2 kbps (max.)
- RS-422/ 485: 50~921.6 kbps (max.)
- 2500 V_{DC} isolation (ECU-P1628D)
- Wide operating temperature range (-20~70 °C)

ECU-P1528RE/ 1528PE

8-port LAN Module

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

Communication Gateways

WISE-EdgeLink

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)

WISE-EdgeLink

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)

WISE-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)

Intelligent Transportation Systems

Smart Solutions for Modern Infrastructures

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

Intelligent Edge Platforms

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

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

- Intel® 6th & 7th Generation Desktop processor
- Supports 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_{DC} power input
- Optional expansion for MXM GPU and networking

NEW
EN 50121-4

ITA-260

EN 50121-4 DIN-Rail Compact Fanless System

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

ITA-1711 / ITA-1711N

Intel® Celeron® J1900 Fanless Compact Systems

- 4 GB (up to 8G) of DDR3 onboard RAM
- Supports up to 4 x GbE, 6 x USB (includes 1 x USB 3.0) and 14 x COM
- Supports replaceable secondary display (VGA/DVI-D/LVDS)
- Supports dual outputs of full HD resolution video
- Supports 1 x easy-swap SATA slim/ CompactFlash module
- Supports 1 x 2.5" storage bay
- Operating temperature -25 ~ 60° and 9-36V_{DC} power input

Intelligent Railway Edge Platforms

EN 50155

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

EN 50155 Fanless Systems

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

EN 50155

ITA-5831

EN 50155 Compact Fanless System

- Intel® Core™ i7/ i5/ Celeron® platform with QM170
- EN 50155 TX (-40 ~ 70 °C) and IEC 61373 body mounted Class B standards
- Compliant with EMC standard EN 50121-3-2/ EN 50121-4
- Ruggedized communication and power port connectors (M12)
- Supports easy-swappable storage and I/O modules
- Compliant with EN 45545-2 fire safety

In-Vehicle AI Platform

NEW **E13**

ITA-460/ ITA-460G

Intelligent In-Vehicle AI Platforms

- Intel® 8th/9th Gen Core™ i CPU (LGA1151) 8GB memory onboard, 1 x SO-DIMM, 1 x mSATA, 2 x 2.5" SSD
- 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

MIC-3 CPCI Legacy Solution

Front-side LEDs

Rear-side I/O

Intelligent Wayside Signaling Control

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

Touch Panel PCs

EN 50155

ITA-8100/ 8100B/ 8120

EN 50155 Railway Driver Machine Interface

- 10.4" & 12.1" touch panel with 1024 x 768 resolution (1300 nits as optional for 10.4")
- 2 x GbE, 1 x USB 2.0, 2 x RS-422/485, 1 x Audio and 1 x DIO (M12)
- Expandable CANBus/ CANOpen/ MVB/ Wi-Fi/ LTE/ GPS
- Supports UIC 612-01 keypad and auto dimming by light sensor
- Wide voltage input range: 24/48/72/110 V_{DC} (±40%)
- Wide operating temperature range: -40 ~ 70 °C
- Compliant with EN 45545-2 fire safety

6

Intelligent Systems and Platforms

Infrastructure for the IoT

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

Modular Industrial Computers

NEW

MIC-770 V3

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

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

NEW

MIC-770 V3 + MIC-75GF10

Edge AI Fanless GPU System support MXM GPU

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

NEW

MIC-790

Compact 2U Fanless Edge Server

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

NEW

IPC-220/240/242

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

- Intel® 12th Gen Core™ i CPU socket-type (LGA1700) with Intel® Q670E/H610E chipset
- Up to 4 x expansion slots (PCIe/ PCI)
- Dual GbE, 6 x USB3.2, 2 x USB 2.0, 1 x NVMe M.2, 2 x SATAIII, 2 x RS-232/422/485 serial ports
- Supports power output 5V/12V (max. 2A)
- Compatible MB: PCE-2033/ 2133

NEW

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

NEW

IPC-320

Compact size Tower IPC with 12th Gen Intel® Core™ i CPU Socket (LGA 1700) and 250W ATX PSU

- Intel® 12th Gen Core i Desktop LGA 1700 CPU supported with H610E chipset
- Compact design fits in small cabinet or limited space
- Rich dual USB 3.2 and dual USB 2.0 port on both front and rear side
- Dual Independent Displays (HDMI/ DP)
- 2 x Expansion slots (PCIeX16 and PCIeX4)
- Built-in 250W 12V and 5V output only power supply

Slot Single Board Computers (SBCs)

NEW

PCE-5133

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

- Intel 12th Gen Core i9/i7/i5/i3 LGA1700 processor with R680E
- Dual LAN with Intel i225LM and i225V
- Up to 64GB of dual-channel (on-die ECC) DDR5 4800MHz
- PCIe Gen. 3.0, M.2 NVMe, USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10)
- Triple displays: 1 x VGA, 2 x DVI/DP/HDMI

PCA-6029

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
- PCIe Gen 3, M.2 M-key, USB 3.2, SATA 3.0 (RAID 0, 1, 5, 10), dual GbEs
- Up to triple displays: 1 x VGA, 1 x DVI-D (optional), 1 x DP (optional)

Industrial Motherboards & Computers

NEW

AIMB-788

12th Gen Intel® Core™ i ATX Motherboard

- Intel® 12th 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 Gen Intel® Core™ i ATX Motherboard

- Intel® 12th Gen Core™ i9/i7/i5/i3 LGA1700 processor with H610E chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 3200 MHz
- 1 x 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

ACP-2020G

2U Rackmount Chassis for GPU Applications

- Supports ATX/uATX motherboards
- Tool-less card cage for GPU card
- Thermal design for 350W GPU card
- Built in 850W 80 Plus Platinum single power supply

Industrial MXM GPU Cards

NEW

SKY-MXM-A2000-4SDA

MXM 3.1 Type A NVIDIA® Quadro® Embedded A2000 with DP 1.4a

- MXM 3.1 Type A form factor
- 2560 CUDA cores
- 20 RT Cores
- 80 Tensor Cores
- 8.25 TFLOPS
- 4 x DP 1.4a
- 4GB GDDR6 memory
- 224GB/s maximum memory bandwidth

SKY-MXM-T1000-4SDB

MXM 3.1 Type A NVIDIA® Quadro® Embedded T1000 with DP 1.4a

- MXM 3.1 Type A form factor
- 896 CUDA cores
- 2.7 TFLOPS
- 4 x DP 1.4a
- 4GB GDDR6 memory
- 192GB/s maximum memory bandwidth

NEW

SKY-MXM-R3000-6SDA

MXM 3.1 Type B NVIDIA® Quadro® Embedded RTX3000 with DP 1.4a

- MXM 3.1 Type B form factor
- 1920 CUDA cores
- 30 RT Cores
- 240 Tensor Cores
- 5.3 TFLOPS
- 4 x DP 1.4a
- 6GB GDDR6 memory
- 336GB/s maximum memory bandwidth

Industrial Quadro & Tesla GPU Cards (Bundle Sale)

SKY-QUAD-RTXA5000B

NVIDIA Quadro RTX A5000 PCIe 24GB DSFH w/ ATX bracket BULK

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

NEW

SKY-QUAD-T1000-8-B

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

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

SKY-TESL-A100-80P

NVIDIA Tesla A100 80GB PCIe DSFH w/ATX BKT

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

Embedded Automation Computers

Seamless Connection and Transmission for Edge IoT Applications

Advantech's UNO series embedded automation box PCs are ideal for edge computing and bridge the gap between IT and OT. The UNO series serve as flexible IoT gateways in different sizes and various mountings. They also support Advantech iDoor technology that gives them the flexibility to configure various I/O requirements, includes wireless communication, industrial I/O and peripherals, and industrial fieldbus, based on different applications.

Machine Control   Data Analytics   Protocol Conversion   Visualization

intel partner Titanium IoT Solutions

WISE-EdgeLink
WISE-DeviceOn

Microsoft Azure Certified   aws qualified device Internet of things   ubuntu Certified

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M2I Control Edge

NEW

UNO-127
Intel Atom® X Extremely Small Edge Computing DIN-Rail Controller

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

NEW

UNO-137
Intel Atom® E3940 Small-Size Integrated DIN-Rail Controller

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

NEW

UNO-148
Intel® Core™ i Real-Time DIN-Rail Controller

- Intel® 11th Gen Core™ i7/ i5/ i3 processor with 8GB DDR4 memory
- 3 x LAN, 4 x USB, 2 x DP (support DP++), Port isolation for 8 x DI, 8 x DO, 4 x COM
- High internal expandability: 1 x mPCIe, 1 x M.2 B key for 2242 SATA or 3042/ 3052 cellular module, 1 x M.2 M Key for 2280 NVMe, 1 x M.2 E Key for wireless module
- Built- in Intel® Ethernet Controller I225 for TSN capabilities
- Modular design for 2 optional extension kits provided: 1x iDoor + 1 x 2.5" SATA expansion, 1 x PCIE x4 expansion

NEW

UNO-348
Intel® Core™ i High Performance Expandable Controller

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

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Domain Specific Edge

UNO-420
PoE Powered Device Sensing Gateway

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

UNO-430
Intel Atom® Explosion-Protected IP66 Waterproof Gateway

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

UNO-410
Intel Atom® E3940 Explosion-Protected Gateway

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

IoT Gateway Edge

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

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

UNO-247
Intel® Celeron® J3455E Edge Gateway

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

UNO-220
Raspberry Pi Industrial Kit

- Tiny size for RPi-based IoT solution
- Industrial grade I/O board for the Raspberry Pi
- Battery-backed RTC chip for keeping the track of time
- The inclusion of OS allows the RPi to identify UNO-220 and automatically configure the GPIOs and drivers for the board
- Integrated with PoE function allows users to power Raspberry Pi 4 via an Ethernet cable (UNO-220-P4N2AE)

WISE-710
ARM Cortex™-A9 Industrial Gateway

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

Industrial Computing Edge

NEW

UNO-2271G V2
Pocket-Size Modular Box PCs

- Intel® Celeron® N6210 dual-core processor with 4GB of DDR4 RAM
- 2 x GbE, 2 x USB 3.2 Gen1, 1 x HDMI1.4
- 1 x mSATA slot shared with mPCIe slot
- 1 x Full-size mPCIe slot (SATA/PCIe/USB2.0 signal)
- Onboard 32G eMMC(Up to 256G)
- Expansion kit: UNO-2271G-EKCE, supports up to 1 x iDoor; UNO-2271G-RS2EA, supports 2 x COM,1 x M.2 B key, 1 x M.2 E key; UNO-2271G-RP1EA, supports 2 x COM (RS-232/422/485), terminal block, 1 x PoE+ (802.3at)*, 1 x M.2 B key

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

NEW

UNO-2372G V2
Small-Size Modular Box PCs

- Intel® Celeron® J6412 quad-core processor with 8GB of DDR4 RAM
- 2 x GbE, 3 x USB 3.2 Gen 2, 1 x USB 2.0, 1 x HDMI1.4, 1 x DP1.4, 4 x RS-232/ 422/ 485
- 1 x M.2 B key slot (USB Signal for 3042/ 3052 LTE/ 5G Module)
- 1 x 2.5" SSD SATA drive bay (support SSD/ HDD height up to 9.5mm)
- 1 x M.2 M key (PCIe x 2/ SATA for storage)
- 1 x mPCIe slot (PCIe, USB 2.0 Signal)
- Expansion kit: UNO-2372G-EKCE, support up to 1 x iDoor

NEW

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

- Intel® Core™ 6305E dual-core/ i3-1115G4E dual-core/ i5-1145G7E quad-core/ i7-1185G7E quad-core processor with 8GB of DDR4 RAM
- 4 x GbE, 3 x USB 3.2 Gen 2, 1 x USB 2.0, 1 x HDMI1.4 , 1 x DP1.4, 4 x RS-232/ 422/ 485
- 1 x M.2 B key slot (USB Signal for 3042/ 3052 LTE/ 5G Module, SATA Signal for storage)
- 1 x 2.5" SSD SATA drive bay (support SSD/ HDD height up to 9.5mm)
- 1 x M.2 M key (PCIe x 4)
- 2 x mPCIe slot (PCIe, USB 2.0 Signal)
- Expansion kit: UNO-2484G-EKCE, support up to 4 x iDoor

iDoor Modules

Industrial Fieldbus
PCM-26 Series

Industrial Fieldbus iDoor Modules Support Common Automation Protocols

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

Wireless Communication
PCM-24S Series

Wireless Communication iDoor Modules Enhance Connectivity for Industrial IoT

- Wi-Fi/ Bluetooth
- LTE/ GPS

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

Industrial I/O and Peripheral Modules Enable Flexible I/O Expansion

- RS232/ 422/ 485
- MRAM
- USB 3.0
- Digital I/O
- CFast slot
- PoE
- GigaLAN
- USB dongle
- TPM

Intelligent HMI and Industrial Monitors

Leading HMI Innovations for Smart Factories

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

Modular Industrial Panel PCs

Configurable Modules
Box Modules

Intel partner Titanium

NEW

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

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, M.2 NVMe (Key-M 2280)
• 5G Supported (M.2 Key-B 3052)
• TPM 2.0 built-in

TPC-B500 Series
• Intel® 6th Gen. i3-6100U/i5-6300U/i7-6600U/Celeron® 3955U
• 8GB DDR4 RAM (up to 32GB)
• mPCIe, M.2 SSD (Key-B 2280)
• 3 x LAN, PCIe x1
• TPM 2.0 built-in

TPC-B200 Series
• Intel® Celeron® J3455/Atom® E3940
• 4GB DDR3L RAM (up to 8GB)
• mPCIe, M.2 SSD (Key-B 2242)
• Wide Temperature (-20~60°C)
• TPM 2.0 built-in

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

Panel Modules

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

All-in-One High Performance Control Panels

NEW

TPC-300 Series with Intel® Core™ i
12.1"/ 15"/ 17"/ 23.8" TFT LED LCD Intel® Core™

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

All-in-One Industrial Thin Clients

NEW

TPC-300 EHL Series with Intel Atom®
12.1"/ 15"/ 17"/ 23.8" TFT LED LCD Intel Atom®

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

Domain-Focused Panel PCs

SPC-200 Series

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

- Intel® Core™ i3-6100U processor
- 7H surface hardness glass widescreen with true-flat design, and all-around IP66 rating VESA mount support
- Waterproof M12 I/O: 1 x RS-232, 1 x USB, and 2 x LAN (customization is allowed)
- Winner of the 2013 iF product design award

SPC-500 Series

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

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

SPC-800 Series

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

- Intel® Skylake-U Celeron®/ i3/ i5/ i7 processor or pure monitorr
- All-around IP65-rated protection
- Supports Rittal and Bernstein arm system dimension for mouting
- Supports RAFI FS22+ push button dimension for integration 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 with durable true-flat 5-wire resistive touchscreen
- 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" i.MX8M mini Cortex™-A53 Web Browser

- NXP® Cortex™-A53 i.MX 8M Mini quad-core 1.6 GHz processor
- Supports Linux Yocto 3.0, Android 10
- Wide operating temperature range (-20~60 ºC)
- Flat-sealed front multi-touch panel with IP66 rating

Industrial Monitors

FPM-7000 Series

True-flat Industrial Grade Monitor

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

FPM-5000 Series

Featured Industrial Monitor

- 15"/ 17"/ 19"
- Robust design with IP65/ 66 aluminum bezel
- Front USB extension for diverse applications
- Supports panel, rack, wall, desktop, and VESA arm mounting

FPM-3000 Series

Extreme Rugged Industrial Monitor

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

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Semi Industrial Monitors

NEW

FPM-200 Series

General Industrial Monitor

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

NEW

FPM-200W Series

General Industrial Monitor

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

Domain Industrial Monitor

FPM-800 Series

Domain Industrial Monitor

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

RISC Base Panel PC

NEW

PPC-100 Series

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

- Powered by Rockchip RK3399 chipset with support for 4K 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 PC

PPC-6000C Series

12.1"/15"/17"/19" High Performance Fan Panel PC w/ Selectable Mini-ITX Motherboard

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

NEW

PPC-600 Series

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

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

General Purpose Panel PC

PPC-3001S Series with Intel® Core™ i

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

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

NEW

PPC-300 Series with Intel® Core™ i

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

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

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

6.5"/10.4"/12.1"/15"/15.6"/18.5"/21.5" Intel® Celeron®/ Pentium Fanless Panel PC

- Intel® dual core N2807, quad core N2930/N4200 processor
- Supports E-Eye monitoring and protection
- Supports Android 6.0

NEW

PPC-300 Series with Intel® EHL Celeron®

10.4"/12.1"/15"/21.5" Intel® Celeron®

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

Multiple Function Panel PC

PPC-3001 Series with Intel® Core™ i

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

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

NEW

PPC-400 Series with Intel® Core™ i

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

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

PPC-3000 Series with Intel® Atom®

10.4"/12.1"/15"/17"/19" Intel® Atom® Fanless Panel PC

- Intel® Atom® quad core E3940/E3845 processor
- Wide operating temperature range (-20 ~ 60°C)
- Wide input voltage range (9~32 VDC) and built-in isolated RS-422/485
- Supports PCI/PCIe expansion and triple display

NEW

PPC-400 Series with Intel® EHL Atom®

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

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

Industrial Tablet Solutions

Supports On-site Management, Manufacturing and Patrol Inspection

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 10, and GMS 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-872

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

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

LEO-WS10

Handheld Dimensioning and Barcode Scanner

- 1 sec and 1 hand for dimensioning with OIML certification
- Laser aimer for accurate aiming at barcodes
- 3D handheld sizing scanner with embedded 2D scanner
- No pre-calibration needed
- Easy operation and portability
- Compatible with any computer and OS via standard USB I/F

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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-500

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

Ruggedized AI System

MIC-715

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

- Compact, IP67 rated, fanless design
- Supports 4 x IEEE 802.3af compliant PoE
- Linux OS with board support package
- Supports deep learning trained models
- Operating temperature -25 ~ 60 °C
- Supports 24/7 secure remote monitoring, control, and OTA deployment
- Optional SerDes GMSL

AI Video System

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

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

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

Edge AI Computing Systems

MIC-710AIT/AIX/AI

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

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

MIC-710AILT/AILX/AIL

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

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

GPU Server

SKY-640V2

4U Rackmount GPU Server (4U 4 GPUs)

- Dual 3rd Gen. Intel® Xeon® Scalable processor
- DDR4 3200 MHz RDIMM up to 2TB (16 DIMMs), and Intel® Optane™ support
- Supports 4 x double width PCIe cards and 3 x single width PCIe cards
- Easy maintenance system fan design
- Unified front bezel design

Edge Accelerator Servers

HPC-7420+ASMB-976

Short Depth 4U Edge Inference Server

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

HPC-6240+ASMB-622

Short Depth 2U Edge Inference Server

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

HPC-6120+ASMB-610

Short Depth 1U Edge Inference Server

- Intel® Xeon® W & 10th Gen. Core™ i9/i7/i5/i3 processors
- DDR4 2933 MHz ECC/Non-ECC UDIMM up to 128 GB (4 DIMMs)
- Flexible I/O module design and chassis depth <19"
- 1 x PCIe x16 or 2 PCIe x8 slot for 1 double deck card
- 2 x PCIe x4 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 care, enable equipment monitoring, and allow for efficient energy consumption analysis. This allows manufacturers, rental services, and end users to obtain insights on usage behaviors by deriving intelligence through big data analysis.

Data Acquisition Gateways

ADAM-5630/ ADAM-5630E

4/8 Slot Risc-Based Modular DA&C Controller

• TI Cortex-A8 (600 MHz) with 512 MB of DDR3 RAM
• Real-time Linux
• 2 x LAN ports with two MAC addresses
• 4/8 expansion slots
• SD slot for local data storage
• Wired and wireless communication expansion options
• Supports web services

Expansion Modules

ADAM-5091

Serial Expansion Module

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

ADAM-5192

Network Expansion Module

• 2 x LAN ports

ADAM-5000 Expansion I/O Modules

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

ADAM-3600

Wireless Intelligent RTU

• TI Cortex-A8 (600MHz) with 256MB DDR3L
• Real-time Linux
• 4 expansion slots
• SD slot for local data storage
• 2 x LAN ports with two MAC addresses
• 2 x wireless communication interface (mini-PCIe)
• 8 x DI, 8 x AI, 4 x isolated DO channels

ADAM-3651/ ADAM-3656

Digital I/O Expansion Module

• ADAM-3651: 8-ch DI module
• ADAM-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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EtherCAT Control and I/O Solutions

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

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

Edge Controllers

Cabinet Controllers

NEW

AMAX-637/ AMAX-637S

Real-Time Soft-Logic Cabinet Controller

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

Modular Controllers

NEW

AMAX-658

Real-Time Soft-Logic Modular Controller

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

Panel Controllers (Visualization)

NEW

AMAX-548

Real-Time Soft-Logic Panel Controller

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

Machine Vision Solutions

VisionNavi

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

Profibus Master Expansion Module

NEW

AMAX-5493M

1-Port Hilscher netX100 Profibus Master (DB9)

• Supports Hilscher PROFIBUS Protocol Library
• Supports Wide Operation Temperature -10~60 'C
• Easy to be integrated to AMAX-5580
• Protocol Profibus DP V1
• Speed 9.6 kbps ~ 12 Mbps

Modbus/TCP Coupler

NEW

AMAX-5070

Compact Modbus/TCP Coupler for AMAX-5000 IO Module

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

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 Function 4-Axis Stepping and Servo Motor Control PCI Express Card

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

Standalone Motion Controller Solution

Arm-Based Solutions

AMAX-3110

6-Axis Pulse Train Motion Controller

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

NEW

EtherCAT

AMAX-354

32-Axis EtherCAT Motion Controller

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

X86-Based Solution

NEW

EtherCAT

AMAX-337IO

EtherCAT I/O Controller

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

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

EtherCAT Step Drive

NEW

EtherCAT

AMAX-4240

4-Axis EtherCAT Step Drive with CiA402

- Drive Capacity : 24V @ 1.5A
- Max Step Frequency : 8.388 MHz
- CiA 402 Support : PP mode
- Optional for 4x Encoder Input
- Compact size with DIN-Rail mount
- Wide Operation Temperature : -20 ~ 50 °C

Slave Modules

EtherCAT

AMAX-3245

4-Axis Pulse Train EtherCAT Slave Module

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

Industrial Communication

Seamless Data Connectivity from the Network Edge to the Core

Advantech leverages over 35 years of industry experience to develop reliable wired and wireless communication solutions for mission critical applications. These products include industrial Ethernet switches, industrial Fieldbus gateways, Modbus gateways, cellular IP gateways, cellular routers, wireless access points/clients, media converters, and serial device servers, all of which contribute to the secure transmission of data, monitoring and controlling networked devices.

Intelligent Connectivity Software

WebAccess/DMP

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

Network Management System

• Cross-browser compatible
• Online Google Maps and offline OpenStreetMap support
• Dynamic connectivity indication
• Automatically discovers and diagrams network topology
• PoE, ring, wireless, cellular connection indication

WebAccess/VPN

Advanced Secure Networking Platform

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

Communication Gateways

ICR-4453

New 5G Ready High Speed Router Platform & Edge Computing Gateway

• 5G NR cellular connectivity
• Quad-core CPU & enhanced memory, docker ready
• 2 x SIM, eSIM, 5 x Gigabit Ethernet with optional 4 x PoE
• SFP fiber port, USB, GNSS Receiver, RS-232, RS-485, CAN bus, 2 x DI, 2 x DO
• Optional dual band WiFi 802.11AC

ICR-20/24/25/27/2800 Series

Industrial Entry 4G LTE Router & Gateway

• LTE CAT4, 1(2)x SIM
• 1/2/4 x Ethernet 10/100
• Optional DI/DO and RS232/485
• Optional USB Host 2.0 & TPM 2.0
• Robust metal cover with wall mount option
• Advanced security features, VPN, Open Linux OS

ICR-3200 Series

Industrial IoT 4G LTE Router & Gateway

• LTE Cat.4 with 3G/2G fallback, 2 x SIM, eSIM
• Powerful CPU with 1.3 GB storage to host customer SW applications, Python, Node-RED
• 2 x Ethernet 10/100, 1 x RS-232, 1 x RS-485 and I/O
• Optional - Wi-Fi 802.11ac, Bluetooth v5.1, GNSS Receiver
• Advanced security features, VPN, Open Linux OS

SmartFlex SR30x Series

Flexible, Modular 4G LTE Router & Gateway

• LTE Cat.4 with 3G/2G fallback, 2x SIM, GNSS Receiver
• 2 x Ethernet 10/100 (Independent or switched)
• Optional - 5 x Ethernet, PoE, RS-232/RS-422/ RS-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

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

• Supports 802.11 a/b/g/n/ac MIMO 2T2R
• EKI-136X series support serial device to Wi-Fi or Lan to Wi-Fi variety function
• Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
• Wireless band 2.4G/5G selective/dual
• Provides web-based configuration
• Cellular connectivity with dual SIM cards design for each cellular module (EKI-9502G)

Protocol Gateways

EKI-1242 Series

Modbus RTU/TCP to Various Industrial Protocols Fieldbus Gateway

- Dual power inputs
- Designed for protocol extensibility and adaption
- Built-in real-time diagnostics
- I models support a wide operating temperature ranges

Modbus Gateways/ Routers

NEW

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
- Optional fiber optics connectivity (1-port ST or 2-port SC)

Serial Device Servers

EKI-1500 Series

1/2/4/8/16-Port RS-232/ 422/ 485 Rackmount Serial Device Server

- Connect up to 8/ 16-port RS-232/ 422/ 485 devices directly to TCP/ IP networks
- High-speed baud rates (50 bps~976.5 Kbps)
- VCOM, TCP server, TCP client, UDP, and RFC2217 modes
- Optional fiber optics connectivity (1-port SC)

Entry-Level Device Servers

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

1-Port Device Server

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

Unmanaged Ethernet Switches

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
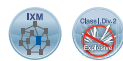
EKI-5000 Series

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
- Supports -40 ~ 75 °C wide operating temperature

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

NEW

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

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 options
- IP40/ IP54/ IP67 and rugged housing

10G Ethernet Solutions

NEW

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

Network Management System

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

L3 Managed Switches

EKI-9700/ 9600 Series

Industrial Layer 3 Managed Switch

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

Long Reach Ethernet Solutions

NEW

IMC-150

Hardened PoE Long Reach Ethernet Extender

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

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

EKI-2740 Series & IMC-390 Series

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

Industrial 15/30/60/90W PoE Injectors

EKI-2701 Series

- Supports IEEE802.3 at/af/bt standards
- Serves as power sourcing equipment (PSE)
- Extended operating temperatue (-40~75 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

Managed 10G Media Converters and Chassis

IMC-610-A & IMC-700 Series

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

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Data Acquisition and Control

Diverse Form Factors to Satisfy DAQ Requirements

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

PCI Express DAQ Cards

PCIE-1810

16-ch, 12-bit Multi-Function PCI Express Card

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

PCIE-1805

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

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

Vibration Sensing Gateways

WISE-750

Intelligent Vibration Sensing Gateway

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

PCIE-1812

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

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

PCIE-1802/ 1802L/ 1803

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

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

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 Digital Input w/ Digital Filter and Interrupt PCIe Card

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

PCIE-1763AH/ 1763DH

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

• 16-ch isolated digital input (IDI) with both dry and wet contact configurations
• Interrupt and noise filter for all IDI channels
• Suitable for both AC (> 80 V_{AC}) and DC low voltage load (< 60 V) applications with frequent ON/ OFF switching
• Much less contact problems such as arcs, bounce, and noise

Modular DAQ Chassis and Modules

NEW

iDAQ-934

4-Slot USB 3.0 iDAQ Chassis

• USB 3.0 with SuperSpeed USB (5Gbps)
• 1 x upstream and 1 x downstream USB port
• LED indicators for status indication
• 2 x PFP for multi-purpose software-configurable trigger/clock settings
• 4 x 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-5000

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

MIC-1810/ 1816

Data Acquisition Platform w/ Intel® Processer

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

MIC-1816R

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: 1MS/s
• 4 x IEPE inputs with preamp gain = 1, 10, 100
• 8 x analog inputs with voltage or 4~20mA
• 2 x analog outputs, up to 3 MS/s, 16-bit resolution
• 16 x isolated digital input and 8 x isolated digital output

USB DAQ Modules

USB-5801

4-ch, 24-bit USB 3.0 DSA Module

• USB 3.0 with SuperSpeed USB (5Gbps)
• 1 x upstream and 1 x downstream USB port
• 4 x 24bit simultaneous sampling analog inputs up to 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 Isolated Digital I/O USB 3.0 Module

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

Machine Condition Monitoring Software

Communication Solutions

DAQNavi

DAQNavi/MCM

Machine Condition Monitoring Software

• Dynamic signal acquisition and analysis
• Real-time monitoring and alarm notification
• Provides feature extraction algorithms for data processing
• Remote management for distributed monitoring solutions
• Integrated with WebAccess/SCADA
• Ensures easy setup without additional programming

PCI/PCIE-1600

PCI/PCIe Communication Cards

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

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Serial and USB Communication Solutions

Improving Legacy Serial Devices with IoT

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

Serial to Fiber Isolated Converters

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 °C operating temp.
- Supports Modbus ASCII/RTU protocols
- ULI-211C (BB-FOSTCDR): serial/MM ST converter
- ULI-211CI (BB-FOSTCDRi): rugged serial/MM ST converter with C1D2
- ULI-211E (BB-FOSTCDRI-PH-MT): IEC 61850-3 serial/MM ST converter

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 °C operating temp.
- Supports Modbus ASCII/RTU protocols
- ULI-212CI (BB-FOSTCDRi-ST): serial/SM ST converter
- ULI-213CI (BB-FOSTCDRI-SC): serial/SM SC converter
- ULI-213E (BB-FOSTCDRI-PH-SC): IEC 61850-3 serial/SM SC converter

RS-232 to RS-422/485/TTL Converters
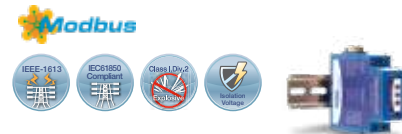
ULI-220 Series

- 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 °C / -40 ~ 80 °C operating temp.
- Supports Modbus ASCII/RTU protocols
- ULI-223D (BB-422PP9R): RS-232 to RS-422 (DB-9) converter
- ULI-224TC (BB-485LDRC9): RS-232 to RS-422/485 (TB) isolated converter
- ULI-226D (BB-485SD9R): RS-232 to RS-485 (DB-9) converter

RS-232/422/485/CANbus Repeaters/ Isolators
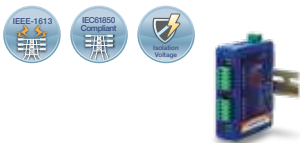
ULI-230 Series

- 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 °C 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 °C
- 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

ULI-300 Series

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

Industrial-Isolators USB 2.0/ 3.0 Hubs

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 °C 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 3.0 hub

USB Isolators

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 °C 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

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

Transformation for IIoT's Wider & Larger Applications

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

Node-RED

Link Nodes
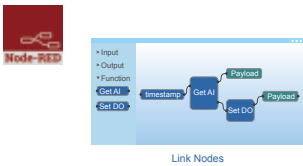
Node-RED

Low-Code Programming for Event-Driven Applications

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

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 ℃/ -40 ~158 °F)

Module Selection

Node-RED version
• ADAM-6717: 8AI/5DI/ 4DO
• ADAM-6750: 12DI/ 12DO
• ADAM-6760D: 8SSR/ 8 DI
• ADAM-6766: 6 Relay/ 12 DI

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

USB to MiniPCIe Adaptors

ADAM-6700E

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

OPC UA Ethernet I/Os

ADAM-6300 Series

OPC UA Ethernet I/O Modules

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

Module Selection

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

Daisy-Chain Ethernet I/Os

SNMP
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-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-6050: 12DI/ 6DO
• ADAM-6060: 6DI/ 6Relay

Serial I/Os

USB 2.0
Modbus

ADAM-4100 Series

Robust RS-485 I/O Modules

• Wide operating temperature range (-40 ~ 85 ℃/ -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 VDC over voltage protection
• 3,000 VDC voltage isolation

Module Selection

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

Wireless I/O and Sensors

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

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

Wireless I/O Modules

WISE-4210
Industrial Proprietary LPWAN (Sub-G) IoT Wireless I/O Module

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

WISE-4250AS
Industrial Dual Band 2.4/5GHz Wi-Fi IoT Wireless I/O Module

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

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
Intelligent Stack Light Monitoring Sensor

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

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 compare with 2.4GHz spectrum
- 3 x AI for CT and transmitter

WISE-2410/WISE-2410X
LoRaWAN Smart Condition Monitoring Sensor

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

WISE-2834
Intelligent RFID Gateway

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

Wzzard™ Edge Monitoring
Starter Kits, Nodes, Sensors

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

Wireless Fleet and Industrial Networking

Remote Device Management and Data Collection

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

Onboard Diagnostics (OBD) Vehicle Converters

WISE-4773-S51U

LTE CAT-M1 Data Interface-Light/ Heavy-Duty Vehicles

• J1939, J1708/J1587, OBDII (NA)
• GPS location, speed, altitude, heading
• Category M1 low power
• Digital accelerometer
• Industry leading, proprietary OBD database, algorithms
• Temperature range: -30 ~ 75 ℃
• Shock, vibration, and drop tested
• SAE J1113, Industry Canada

BB-HD3-A3

Intelligent Interface Adapter-Heavy-Duty Vehicles

• J1939 (250k & 500k) & J1708/J1587 protocols
• Temperature range: -40 ~ 85 ℃
• Shock, vibration, drop tested
• SAE J1113/11, /13, /14

BB-LD3IC-S

Intelligent Interface Adapter -Light/ Medium-Duty Vehicles

• J1979, J1962 protocols
• ISO 15765, LSGMLAN, Ford Secondary CAN
• Integrated Y cable
• Industry leading, proprietary OBD database/ algorithms
• Temperature range: -40 ~ 85 ℃
• Shock, vibration, drop tested
• SAE J1113/11, /13, /14

BB-LD3-1939P1D

Intelligent Interface Adapter -Light/ Medium-Duty Vehicles

• J1939 protocol
• ISO 15765 (CAN), LSGMLAN, Ford Secondary CAN
• ELD, ELR (FMCSA mandate)
• Industry leading, proprietary OBD database/ algorithms
• Temperature range: -40 ~ 85 ℃
• Shock, vibration, drop tested
• SAE J1113/11, /13, /14

Serial to BTLE 5.0 Extenders

WISE-4520-NA, WISE-4520-EA

Wireless Extension of RS-232/422/485 Serial Data

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

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