Industrial Communication

Providing Interconnected Solutions for Enabling an Intelligent Planet

- Industrial Ethernet Switches
- Wireless Access Point
- Media Converters
- Serial Device Servers

ADVANTECH

Enabling an Intelligent Planet

www.advantech.com

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About Advantech

Advantech: Partnering for Smart City & IoT Solutions

Founded in 1983, Advantech is a leader in providing trusted innovative embedded and automation products and solutions. Advantech offers comprehensive system integration, hardware, software, customer-centric design services, and global logistics support; all backed by industry-leading front and back office e-business solutions. Advantech has always been an innovator in the development and manufacture of high-quality, high-performance computing platforms. We cooperate closely with our partners to help provide complete solutions for a wide array of applications across a diverse range of industries. To realize our corporate vision of Enabling an Intelligent Planet, Advantech will continue collaborating and partnering for smart city and IoT solutions.

Advantech's Good-to-Great 3-Circle Principle

The Advantech 3-Circle Principle is based on the book "Good to Great," by Jim Collins. According to the book, a company looking for long-term success should clearly address these three fundamental principles, and commit to their continuing, solid execution. Advantech is fully committed to this approach and has defined the Advantech "Good to Great 3-Circle Principle" as a means of adhering to it.

World-Class Recognition

Advantech is an authorized alliance partner of both Intel® and Microsoft®. Our customers find the technologies we use inside our products to be widely compatible with other products in the global marketplace. Interbrand, the world renowned brand consulting firm, recognized Advantech as one of the Top 20 Taiwanese Global Brands for many years. Advantech appreciates this recognition of our efforts to build a trusted, global brand; it also symbolizes a promise we give to our business partners, which is to keep building a trustworthy brand that is recognized everywhere and improves the lives of all.

Advantech Corporate Structure and Growth Engines

Embedded Design-In

Networks & Communications
- Blade Computing & Systems
- Network Appliances
- Network Virtualization Platforms
- Network & Embedded Switches
- Broadcasting & Surveillance Platforms

Embedded Core Computing
- Embedded Box Computers
- Modular Computing Boards
- Wireless IoT Modules
- Display Systems & Gaming Solutions
- Industrial Motherboard & DTOS
- Embedded Peripherals

Design & Manufacturing Services
- Applied Computing DMS
- Embedded DMS
- Advanixs
- Allied DMS
- Allied Purchasing Services

ADVANTECH
Enabling an Intelligent Planet

Industrial-IoT

Industrial Automation
- Industrial I/O & Controllers
- Industrial HMI
- Automation Computing
- IoT Devices & Solutions
- WebAccess+ Solutions
- iFactory (Industry 4.0) Solutions
- Machine Automation Solutions
- Power & Energy Solutions

Intelligent Systems
- Industrial Computers
- Industrial Servers & Storage
- Intelligent Video Solutions
- Intelligent IoT Modules
- Transportation Solutions

iConnectivity
- Industrial Communications
- Wireless Industrial Comm.
- iNetworking(B+B)

Smart City Solutions

Service Automation Platforms
- Industrial Mobile Computing
- iRetail Platforms
- Medical Computing & Tablets
- In-Vehicle Computing

Intelligent Service Solutions
- Intelligent Hospital
- Digital Logistics & Fleet Management
- Intelligent Retail & Hospitality

About Industrial Communication

Providing Interconnected Solutions for Advantech's Mission of Enabling an Intelligent Planet

Advantech's iConnectivity group offers a full range of Industrial Communication products including wired and wireless communication solutions for mission critical applications. These products include: Industrial Ethernet Switches, Industrial Wireless AP/CPE, Media Converters, Serial Device Servers, Modbus Gateways, and Cellular IP Gateways/ Routers. They are also capable of securely transmitting, remotely monitoring and controlling networked devices and high communication capabilities for industrial applications. These reliable and robust industrial grade communication products from Advantech's iConnectivity group fit different applications including process manufacturing, discrete manufacturing, security, and intelligent transportation system and the mission is to simplify the way you connect.

Our Technologies

Reliable and stable communication is critical for device connection and information transmission. Advantech's Industrial Ethernet Switches with advanced ring topology reduce traffic down time and provide faster recovery time. Serial device servers have been widely used for decades and are easy to install and configure, and provide various redundant configuration types and multi-access configuration for remotely controlling and monitoring serial devices via Ethernet. The Modbus protocol is the most popular and royalty free industrial protocol used globally, it is divided into Modbus RTU/ASCII serial technology and Modbus TCP Ethernet technology. Advantech offers Modbus Gateway solutions to convert Modbus RTU/ASCII to Modbus TCP to ensure seamless data transmission. Moreover, Industrial Wireless Solutions provide an easier way to connect devices, particularly for those in dispersed locations or harsh environments and routers enable easy connectivity between these isolated networks to give greater flexibility in building secure applications.

WebAccess/NMS

Advantech WebAccess/NMS has been designed to manage and support Advantech's IP-based products*and is capable of importing third party IP-based devices. By offering centralized management to Advantech IP based devices over HTML5 there is no need for a centralized operation center, since they can be monitored across the Internet or Intranet from any modern browser, once installed on a central server.

Alliance, Service Selling

Advantech IXM

Advantech routing technology builds maps and gives directions to networks to allow easy connectivity between isolated networks giving greater flexibility in building secure applications. The technologies involved are:

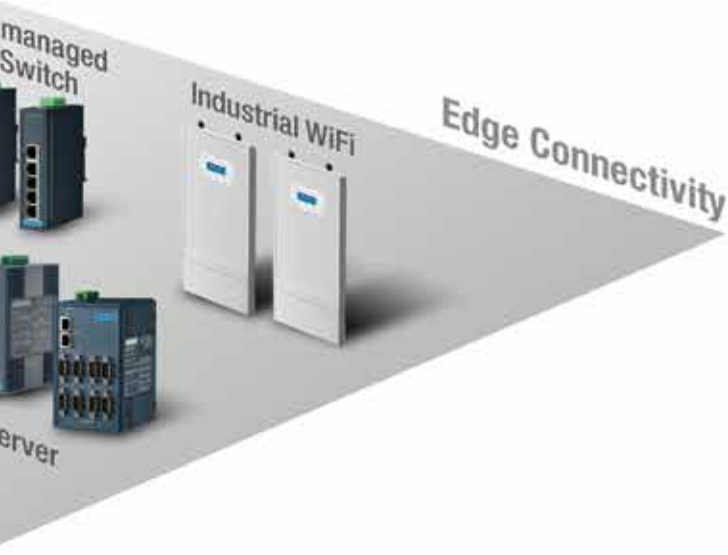
- VPN: supports VPN to provide secure remote access for users
- NAT: hides user's web servers behind our Router with Destination NAT
- Firewall: secures the infrastructure with a network-based firewall that can perform safely
- Routing: creates application tiers on different isolated networks
- Multiple-interface: Advantech routers provides numerous sku for various interface combinations including: RS232/485, DI/O, WiFi, dual-SIM, USB

IoT to the Cloud

Advantech IXM

IXM technology embedded in EKI-7700 Series Managed Switches provide engineers with the ability to assign a fixed range of IP address to many devices at the same time, and also provides them with the ability to simultaneously copy the same switch configuration across multiple switches. This technology saves up to 90% of the configuration time not only speeds up the configuration but also ensures that mistakes aren't made.

Verticals: ITS, P&E, video



Viewable Unmanaged Switch

Advantech's EKI-5000 series Viewable Unmanaged Ethernet Switches allow users to monitor port information from the central room to quickly resolve issues.

WiFi

Advantech provides a feature rich WiFi AP/Client which provides reliable wireless connectivity for industrial environments. The PoE adapter enhances flexibility even where DC power supply is hard to acquire. With the support of STP, WMM and IGMP snooping protocols WPA2/WPA/802.1x, powerful security authentication and the latest encryption technologies are also included. Wide temperature adaptability and water resistance allow the device to work in harsh environments. Fast roaming is another important feature for factories in Industry 4.0. AGV and automatic warehousing requires WiFi clients to link with different WiFi APs, so Advantech's fast roaming allows roaming under 100ms, this means higher reliability for faster factory production.

Media Converter

Media Converter is the reliable, most cost effective and flexible solution for lengthening the distance of the network connections offering security and immunity from transmission interference.

Generic: FA/MA, EFMS

Industrial Communication

Simplify the Way You Connect

Advantech's Industrial Communication products draw on over 20 years of experience to provide reliable wired and wireless communication (3G, GPRS, and WLAN) for mission critical applications. These products include: Industrial Ethernet Switches, Industrial Wireless AP/Client, Media Converters, Serial Device Servers, Cellular IP Gateways, and Modbus Gateways. They are also capable of securely transmitting critical and sensitive information, remotely monitoring and controlling networked devices and emphasizing high communication capabilities for industrial applications.

Software

WebAccess/NMS

Newwork Management System

- Cross Web Browser Compatible
- Online Google map and offline OpenStreetMap support
- Supports all Advantech Ethernet-based products
- Automatically generated topology
- PoE, ring, wireless, cellular connection indication

Industrial Routers

EKI-1331/ 1334

Industrial HSPA+ Gateway/Router

- Universal five-band UMTS/HSPA+ 850/900/1800/1900/2100 MHz
- Protocols converting between serial and Ethernet: Modbus RTU & TCP
- Provides NAT and VPN
- EMC Level III for industrial standards

NEW

Industrial Wireless AP/ Clients

NEW

EKI-6331AN/ 6332GN

802.11N WiFi AP/ Bridge/ Client

- Compliant with IEEE 802.11 a/n and 802.11 b/g/n
- High output power
- Fast roaming
- IP55 waterproof

Serial Device Servers

EKI-1521/ 1522/ 1524/CI/I

1-port/ 2-port/ 4-port RS-232/ 422/ 485 Serial Device Server

- 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- VCOM, TCP server, TCP Client, UDP and RFC2217 operating modes
- I models support a wide operating temperature; CI models support isolation and wide operating temperature

NEW

EKI-1528I/CI-DR

8-port RS-232/ 422/ 485 Din Rail Serial Device Server

- 2 x 10/100 Mbps Ethernet port for LAN redundancy
- VCOM, TCP server, TCP Client, UDP and RFC2217 operating mode
- I models support a wide operating temperature; CI models support isolation and wide operating temperature

Serial Device Servers

EKI-1526/ 1528 Series

16/8-port RS-232/ 422/ 485 Rackmount Serial Device Server

- Connect up to 8 or 16 port series RS-232/422/485 devices directly to TCP/IP networks
- High speed baud rates from 50bps to 921.6Kbps ensure high volume transmission needs
- VCOM, TCP server, TCP Client ,UDP and RFC2217 operating modes

WLAN Device Servers

EKI-1361/ 1362 / EKI-1361-MB/ 1362-MB

1/ 2-port RS232/ 422/ 485 to 802.11b/ g/ n WLAN Serial/ Mobus Device Servers

- Links any serial device to an IEEE 802.11b/ g/ n network
- Provides 1/2 x RS-232/ 422/ 485 port
- Secures data access with WEP, WPA, and WPA2
- Supports WLAN Ad-Hoc and Infrastructure modes
- MB version supports Modbus TCP and Modbus RTU

Modbus Gateways

EKI-1221/ 1222/ 1224/CI/I

1-port/ 2-port/ 4-port Modbus Gateway

- 2 x 10/100 Mbps Ethernet port for LAN redundancy
- Surge protection for D.C. power ports with line to line 2KV and line to earth 4KV for signal port with 4KV
- Integration of Modbus TCP and Modbus RTU/ASCII networks
- I models support a wide operating temperature
- CI models support isolation and wide operating temperature

Industrial Ethernet Managed Switches

EKI-7428G-4CI
24G+4G Combo ports Industrial Rackmount Managed Switch

- IXM for Fast Deployment
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB
- -40 ~ 70°C wide-range operating temperature
- Dual 12~48 V_{DC} power input
- Redundancy: Gigabit X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D),MSTP

EKI-7710E/G-2C
EKI-7712E/G-4F
8FE / 8G +2G Combo Ports / 8FE / 8G + 4G SFP Ports Industrial Managed Switch

- 8 Gigabit ports + 2 Gigabit Copper/SFP combo ports (EKI-7710G)
- 8 Fast Ethernet / Gigabit ports + 4 Gigabit SFP ports (EKI-7712G)
- IXM function enables fast deployment
- IP30
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

EKI-7720E/G-4F
16FE / 16G + 4G SFP Ports Industrial Managed Switch

- 16 Fast Ethernet / Gigabit ports + 4 Gigabit SFP ports
- Redundancy: X-Ring Pro (recovery time < 20 ms)
- IXM function enables fast deployment
- Security: 802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption), RADIUS
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

PROFINET or EtherNet/IP supporting Industrial Ethernet Switches

EKI-5500/ 5600-EI
Entry-Level Managed Switch Support EtherNet/IP Protocol

- EtherNet/IP protocol
- EDS files /AOI available
- FactoryTalk® compliant Faceplate
- Dual 12 ~ 48 V_{DC} power input and P-Fail relay
- EMS level 3 protection

EKI-5500/5600-PN
Entry-Level Managed Switch Support PROFINET Protocol

- Real-time PROFINET protocol
- Media Redundancy(MRP)Master/Salve
- GSD files available
- -40 ~ 70°C wide-range operating temperature
- IEEE 802.3az Energy Efficient Ethernet (EEE)

Viewable Unmanaged Ethernet Switches

EKI-5000 Series
Viewable Unmanaged Switch

- Communicates with SCADA software via Modbus/TCP
- Communicates with NMS via SNMP
- Port-based QoS for deterministic data transmission
- Loop detection
- Dual Power input

Industrial PoE Switches

EKI-7428G-4CPI
24G PoE ports +4G Combo ports Industrial Rackmount Managed Switch

- 24 x IEEE 802.3 af/at PoE Gigabit ports + 4 x Gigabit Copper/SFP combo ports
- IXM for Fast Deployment
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB
- -40 ~ 70°C wide-range operating temperature
- Dual 48 V_{DC} power input

EKI-7710E/G-2CP
8FE/ 8G PoE ports +2G Combo Ports Industrial Managed Switch

- 8 x IEEE 802.3 af/at PoE ports + 2 Gigabit Copper/SFP combo ports
- IXM function enables fast deployment
- IP30
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

EKI-7712G-4FP
8G PoE ports + 4G SFP Ports Industrial Managed Switch

- 8 x IEEE 802.3 af/at PoE ports + 4 Gigabit SFP ports
- Redundancy: X-Ring Pro (recovery time < 20 ms)
- IXM function enables fast deployment
- IP30
- -40 ~ 75°C wide-range operating temperature (Wide temp model)

EN50155 Railway Switches

EKI-9512/P 9516/P
EN-50155 M12 Managed Switch Ethernet Switch

- Complies with EN50155 and EN45545-2
- All Gigabit connections support dual ring protection and non-blocking traffic forwarding
- M12 connector with IP67 protection
- IEEE 802.3af/802.3at per port with system PoE power management (PoE models)
- Supports wide operating temperatures from -40 to 75°C

eMark In-Vehicle Switches

EKI-5728/5729P/5624P
In-Vehicle Viewable Unmanaged Switch

- eMark certified
- Port-based QoS for deterministic data transmission
- Dual power input
- IEEE 802.3az Energy Efficient Ethernet (EEE)
- -40~75°C operating temperature range
- Dual Power input
- Communicates with SCADA software via Modbus/TCP

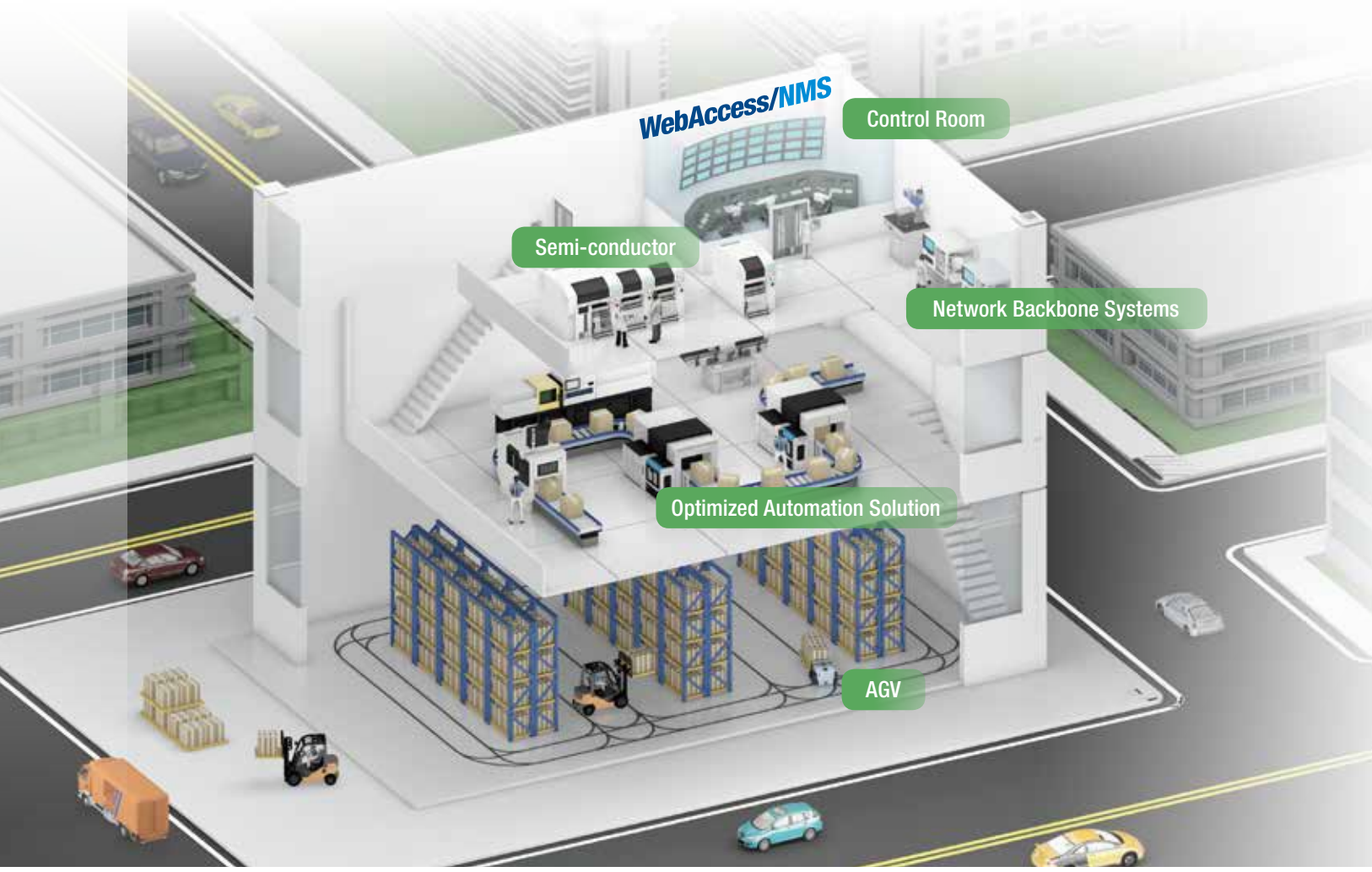
IEC61850-3 Power & Energy Switch

EKI-9228G
IEC-61850 Industrial Rackmount Managed Switch

- 16 x Gigabit RJ-45 ports + 4 Gigabit x SFP ports + 8 x Gigabit Combo ports
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: Gigabit X-Ring (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D), MSTP
- Dual wide range AC/DC power input

Machine and Factory Automation Systems

Ethernet networking offers a reliable and open network infrastructure that allows the various systems used with today's machine and factory automation applications to communicate effectively, resulting in a highly synchronized operation. Advantech's Factory and Machine Automation products target production automation, packaging automation, and logistics & warehousing that require a compact, reliable, and robust network system. Advantech helps customers to achieve high scale volume production goals and raise market competitiveness.



Comprehensive Industrial Networking Solutions for Machine and Factory Automation

Software

WebAccess/NMS

WebAccess/NMS System
Network Management System

Industrial Routers

EKI-1331
Serial to 3G Industrial Gateway

SmartFlex
LTE Industrial Router

Industrial Wireless

EKI-6331AN/EKI-6332GN
IEEE 802.11n WiFi AP/Bridge/Client

Control Room

Data in modern factories are transmitted through networking systems to center control rooms either for system monitoring or machine health prediction. Advantech's WebAccess/NMS is designed with SNMP and ICMP communication standards for managing all Ethernet-enabled Advantech products and third-party devices. WebAccess/NMS provides an easy-to-use platform to monitor and manage networks remotely. WebAccess/NMS enables industrial grade centralized networking management; a synthetic platform developed for monitoring, setting and maintaining devices via IP-based network.

Optimized Automation Solution

EtherNet/IP is one of the leading automation communication standards that combines standard Ethernet technologies with industrial protocols to enable network convergence for IT and manufacturing control systems. Advantech new generation of entry-level managed switches supports EtherNet/IP protocols to communicate with Ethernet/IP based PLCs and also provides a FactoryTalk® View compliant faceplate for users to easily integrate with Allen-Bradley® PLCs.

Network Backbone Systems

Stable network connection is critical to modern factories as machines and devices are connected and require Ethernet to communicate. Advantech EKI-7700 series Managed Ethernet Switches support NMS to help IT managers with networking maintenance and failure prevention. X-Ring achieves ultra high speed recovery time of less than 20 ms to ensure high network stability.

Auto Guided Vehicle (AGV)

Widely used across many industries, Automated Guided Vehicles (AGV) have been darting around factory floors for decades to facilitate production. To build an AGV system requires Ethernet switches and wireless modules. The AGV system includes a small EKI-5525 5-port Fast Ethernet ProView Switch, an EKI-1361 wireless serial device server, and an EKI-6331AN IEEE 802.11 a/n Wi-Fi AP/CPE wireless module to communicate with the control station, while in the control site an EKI-7710E Managed switch is responsible for sending signals to EKI-6331AN devices spread throughout the site.

Industrial Protocol Gateways

EKI-1528/EKI-1526 Series
Rackmount Serial Device Servers

EKI-1520 Series
Din-Rail Serial Device Servers

VESP211
Ultra Compact Serial Device

Industrial Ethernet Switches

EKI-7700 Series
Industrial Managed Ethernet Switch

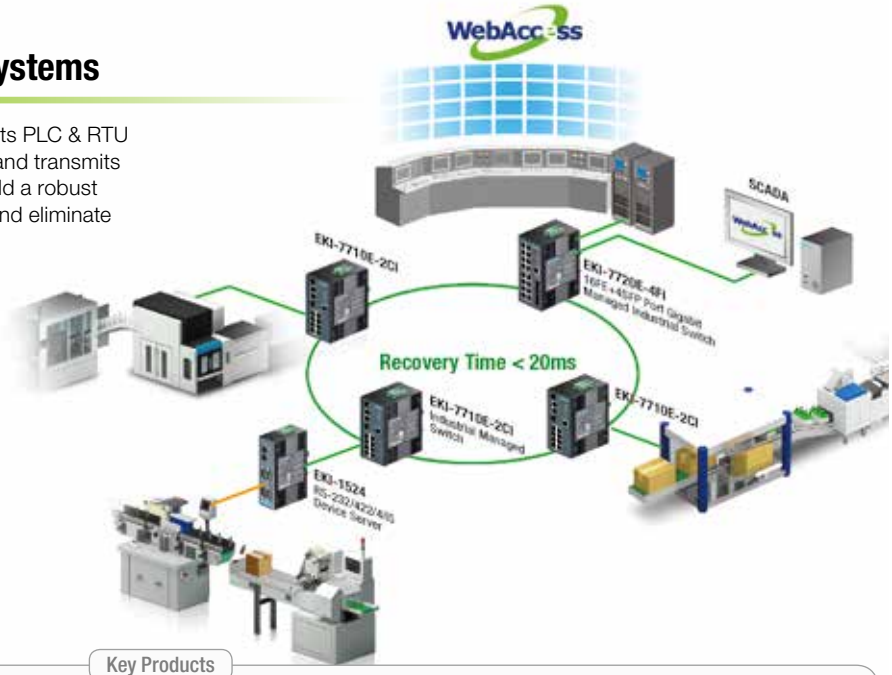
EKI-5600 Series
EKI-5500 Series
Entry-Level Managed Switch

EKI-5000 Series
Viewable Unmanaged Ethernet Switch

Machine and Factory Automation Systems

Control Room & Network Backbone Systems

Advantech EKI-1526 rackmount serial device server connects PLC & RTU devices to EKI-7700 series Redundant Managed Switches and transmits real-time data to the SCADA system. Together they help build a robust network backbone system to ensure constant networking and eliminate downtime from broken links or points.



Why Advantech?

- Complete communication solution
- Various form factor servers fit different system requirements
- Redundant managed Ethernet switch solution with IXM fast deployment technology for better control room and network backbone systems.

Key Products

EKI-1524

RS-232/422/485 Device Server

- Provides 10/100 Mbps Ethernet ports for LAN redundancy
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Built-in 15 KV ESD protection for all serial signals

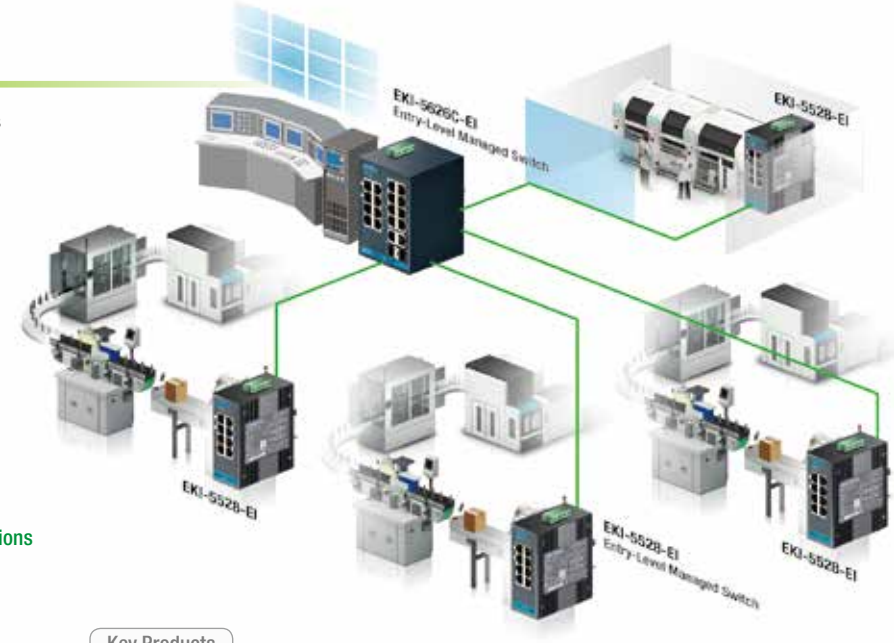
EKI-7700 Series

Industrial Managed Switch

- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

Optimized Automation Solution

Advantech new generation of entry-level managed switches support EtherNet/IP protocol to communicate with Ethernet/IP based PLCs and also provides FactoryTalk® View compliant faceplate for users to easily integrate with Allen-Bradley® PLCs. The IP30 compact metal housing mechanism protects against dusty industrial environments and therefore ensure continuous device connectivity while the input power range from 8.4 to 52.8 VDC is dedicated to operating in areas with unstable power and rugged environments.



Why Advantech?

- Seemless integration with Rockwell PLCs
- Ethernet solutions with only the most crucial management functions
- Easy and fast deployment from Advantech IXM technology

Key Products

EKI-5526/I-EI
EKI-5528/I-EI

Entry-Level Managed Switch Supporting EtherNet/IP

- Supports Fast Ethernet RJ-45 Ports
- Entry-Level Managed Switch
- IXM function enables fast deployment
- Provides EtherNet/IP EDS (Electronic Data Sheet) file, AOI (Add-On Instructions) file, and FactoryTalk® View faceplate
- Management: SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB

EKI-5626C/I-EI
EKI-5629C/I-EI

Combo ports Entry-Level Managed Switch Supporting EtherNet/IP

- Supports Fast Ethernet ports and Gigabit Copper/SFP combo ports
- Entry-Level Managed Switch
- IXM function enables fast deployment
- Provides EtherNet/IP EDS (Electronic Data Sheet) file, AOI (Add-On Instructions) file, and FactoryTalk ® View faceplate
- Management: SNMP v1/v2c/v3, WEB, Standard MIB, Private MIB

Auto Guided Vehicle (AGV)

EKI-5525 managed Ethernet switch allows for better control and monitoring of network status with rich EKI-6331AN wireless AP/Client providing reliable 5GHz wireless connectivity and more channels for communication with less interference. The EKI-6331AN PoE adapter also enhances flexibility in AP/Client deployment even where DC power supply is not available. Along with EKI-7710E-2C managed Ethernet switches, they help you build a solid AGV system for modern factories.

Why Advantech?

- Viewable managed switch for device connectivity status
- Feature rich EKI-6331AN wireless AP/Client enhances flexibility in device deployment
- X-Ring Pro supports rapid and predictable convergence in control site

Key Products

EKI-5525

Viewable Unmanaged ProView Ethernet Switch

- Port-based QoS for deterministic data transmission
- 12 ~ 48 VDC (8.4 ~ 52.8 VDC) wide-range power input
- IEEE 802.3az Energy Efficient Ethernet (EEE) Jumbo Frame Support
- Loop detection

EKI-6331AN

IEEE 802.11 a/n Wi-Fi AP/Client

- Compliant with IEEE 802.11 a/n
- IP55 waterproof certification
- MIMO 2 x 2 11n
- External RP-SMA connectors for 2T2R antennae
- High output power
- Passive 24V PoE

EKI-7710E-2C

Industrial Managed Switch

- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB
- IP30

Railway Systems

The rapid acceptance of Ethernet-based networking in railway infrastructures provides many subtle benefits to traveler's worldwide. Industrial Ethernet backbones offer high bandwidth to enable many IP-based applications. Advantech's industrial communication solutions provide stable industrial communication solutions to fulfill railway system applications in train stations, onboard trains, and train-to-ground applications.

Comprehensive Industrial Networking Solutions for Railway Systems

Rackmount Switch

EKI-9428G
L3 Rackmount Industrial Managed Switch

EKI-9228G
Rackmount Industrial Managed Switch

EN50155 Switches

EKI-9512E
EN50155 ETB Switch

EKI-9516P
EN50155 M12 Managed Ethernet PoE Switch

EKI-6528TPI
EN50155 Unmanaged PoE switch

Passenger Information System

Advantech WebAccess/NMS is designed with SNMP and ICMP communication standards for managing all Ethernet-enabled Advantech products and third-party devices. WebAccess/NMS can bring users an easy-to-use platform to monitor and manage networking remotely. WebAccess/NMS enables industrial grade centralized networking management.

Onboard Train Communication

Advantech's EN50155 M12 Switch fulfills a wide range of applications in moving trains as it guarantees reliable performance under vibration and shock. For passenger information systems (PIS) this allows modules to connect with LCD and LED display boards which offer travel information, news and advertisements. For in-seat video entertainment systems (VES) this offers video monitors mounted on the back of every seat. And for IP surveillance this guarantees these devices can reliably connect with cameras for a variety of applications that provide increased safety and security.

Auto Fare Collection System

In modern railway stations, automatic fare collection (AFC) systems include ticket vending machines (TVM), ticket checking machines (TCM), and gate control systems which require layer 2 and 3 switches that can ensure fast, reliable, safe, and redundant operation.

Wayside Control

To control the trains from the wayside control cabinet, there are specific controllers including CBI, TCC, RBC, and TSRS to ensure non-stop operation. Advantech industrial Ethernet switches form a dual fiber optic ring network, and each controller is connected simultaneously to these 2 fiber rings. With Advantech's X-Ring Pro technology which ensures that a backup circuit is established in just 20ms to compensate for errors such as broken links, this comprehensive redundancy concept offers maximum possible security.

Station Control Room

Transportation systems include control room systems aimed at providing communication, security, surveillance, and technology for safe, convenient and comfortable travel for all commuters. Advantech's industrial communication solutions provides robust Ethernet solutions that connect devices and ensure secure data transmission to the backend system.

Power Supply System

Maintaining the accuracy of electric source switching for each rail track is a great challenge for operators. The power supply system in train depots requires communication products to control and monitor a mass of relays and to cover the entire area through optical fiber transmission. The solution contains traditional serial (RS-232/422/485) devices that transmit data over an IP-based network, with a redundancy assurance so as to leverage the peak performance of power supply system.

Industrial Ethernet Switches

EKI-7700 Series
Industrial Managed
Ethernet Switches

EKI-7700 Series
Industrial Managed
PoE Switches

EKI-5000 Series
Viewable
Unmanaged
Ethernet Switch

Industrial Protocol Gateways

EKI-1520 Series
Rackmount Serial
Device Servers

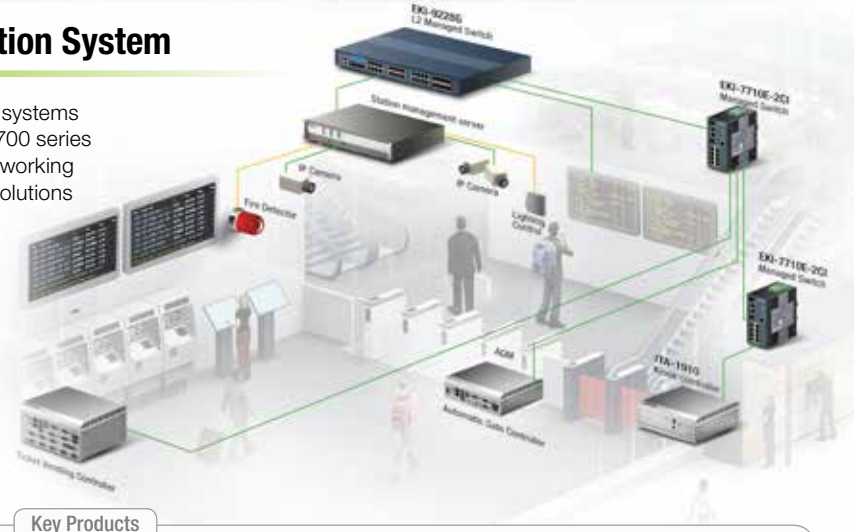
EKI-1520 Series
Serial Device Server

VESP211
Ultra Compact Serial
Device Server

Railway Systems

Auto Fare Collection & Passenger Information System

EKI-5000 viewable unmanaged ProView Ethernet switches in AFC systems ensure secure data transmissions. The redundant managed EKI-7700 series switches offer PoE and non PoE models to provide continuous networking while EKI-9228G L2 managed switches serve as communication solutions in the backend system.



Why Advantech?

- Complete communication solution
- Viewable unmanaged switches allow device monitoring for secured data transmissions.

Key Products

EKI-5000 Series

Viewable Unmanaged ProView Ethernet Switch

- Port-based QoS for deterministic data transmission
- 12 ~ 48 VDC (8.4 ~ 52.8 VDC) wide-range power input
- IEEE 802.3az Energy Efficient Ethernet (EEE) Jumbo Frame Support
- Loop detection

EKI-7700 Series

Industrial Managed Switch

- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB
- PoE Models for surveillance available

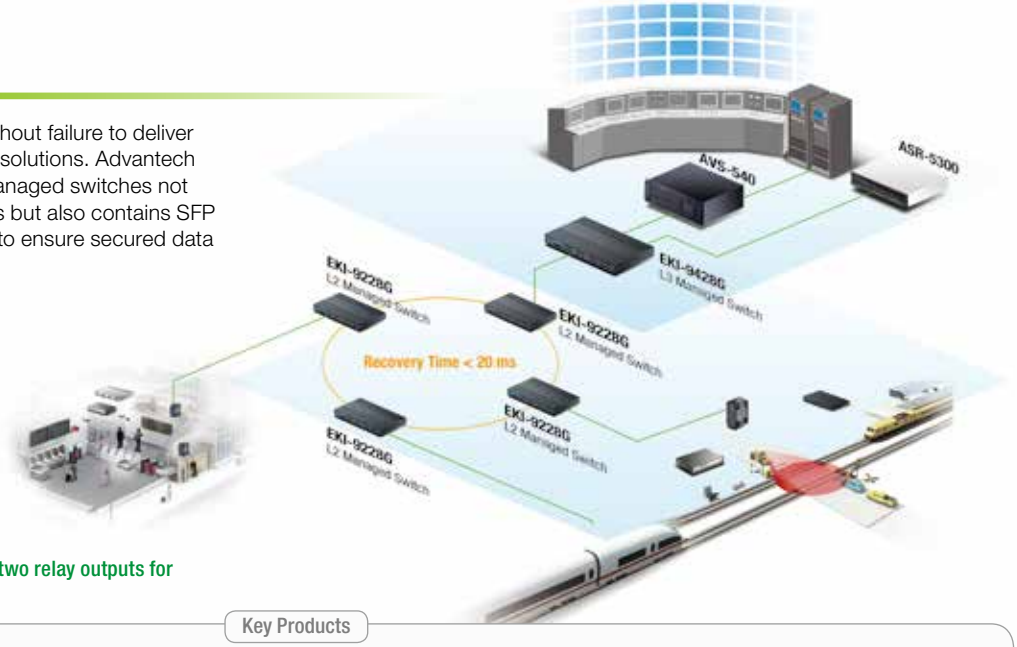
EKI-9228G Series

Industrial Rackmount L2 Managed Switch

- SFP socket for easy and flexible fiber expansion
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB Security:802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption),HTTPS,SSH and SNMPv3
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)

Station Control Room

Control room systems must function 24/7 without failure to deliver critical information and emergency response solutions. Advantech EKI-9228G series industrial rackmount L2 managed switches not only provides redundant networking solutions but also contains SFP sockets for easy and flexible fiber expansion to ensure secured data transmission.



Why Advantech?

- Abundant and flexible I/O ports
- Dual power inputs ensures system stability and two relay outputs for greater flexibility

Key Products

EKI-9228G Series

Industrial Rackmount L2 Managed Switch

- SFP socket for Easy and Flexible Fiber Expansion
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB Security:802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption),HTTPS,SSH and SNMPv3
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D), MSTP

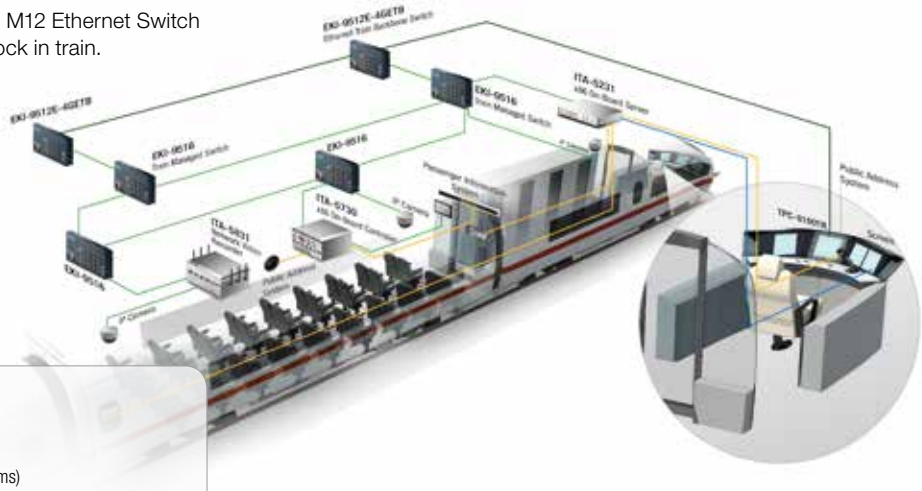
EKI-9428G Series

Industrial Rackmount L3 Managed Switch

- Static Routing
- Dynamic routing:VRRP, OSPF,RIP V1/V2, PIM-DM
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB Security:802.1x (Port-Based, MD5/TLS/TTLS/ PEAP Encryption),HTTPS,SSH and SNMPv3
- Dual power input and 2 relay output

Onboard Train Communication

Advantech EKI-7624 and EKI-9500 series EN50155 complied M12 Ethernet Switch fulfills guarantee reliable performance under vibration and shock in train.



Why Advantech?

- M12 connector with IP67 protection
- Complies with EN50155 and EN45545-2
- X-Ring Pro supports rapid and predictable convergence
- LAN Bypass will assure continuous system operation when Ethernet Switch fails

Key Products

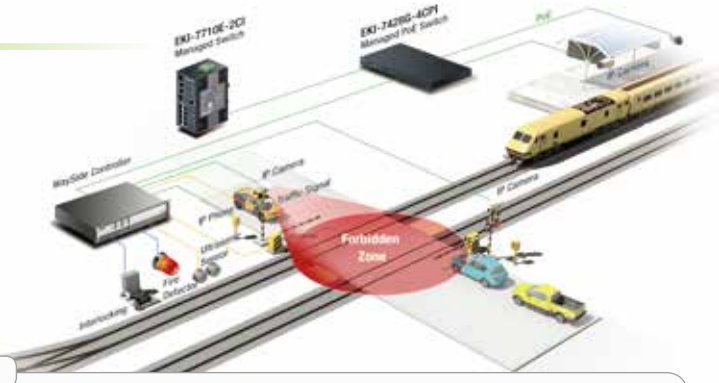
EKI-9512/P/9516/P

EN-50155 M12 Managed Ethernet Switch

- Complies with EN50155 and EN45545-2
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- M12 connector with IP67 protection
- IEEE 802.3af/802.3at per port with system PoE power management (PoE models)
- Two-pair LAN-Bypass ports

Wayside Control

In a wayside control system, Advantech EKI-7000 series managed Ethernet switch provides an easy way to establish a redundant network with a recovery time of less than 20ms to ensure continuous networking, which is critical in transportation systems.



Why Advantech?

- Complete communication solution
- Various form factors to fit different system requirements

Key Products

EKI-7700 Series

Industrial Managed Switch

- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

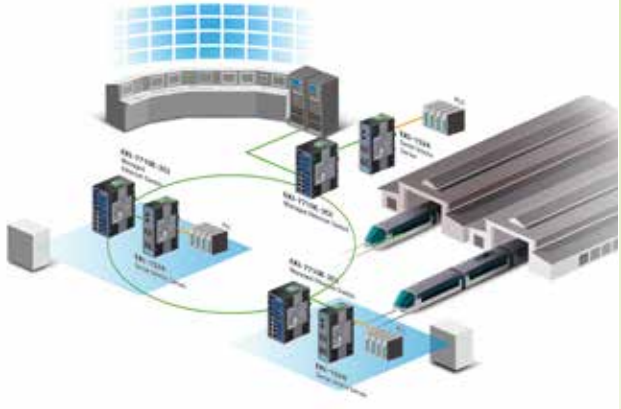
EKI-7428G-4CPI

Industrial Rackmount Managed PoE Switch

- 24 x IEEE 802.3 af/at PoE Gigabit ports + 4 x Gigabit Copper/SFP combo ports
- IXM for Fast Deployment
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB
- -40 ~ 70°C wide-range operating temperature

Power Supply System

Advantech EKI-1500 series device server allows any serial device to be easily implemented in an IP-based network. With wider temperature operation, anti-interference, and redundant functions, it is a stable communication solution while the EKI-7000 Series managed Ethernet switch provides an easy way to establish a redundant network.



Why Advantech?

- Complete communication solution
- Total solution to allow serial devices to be implemented in IP-based network.

Key Products

EKI-1520 Series

RS-232/422/485 Device Server

- Provides 10/100 Mbps Ethernet ports for LAN redundancy
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Built-in 15 KV ESD protection for all serial signals

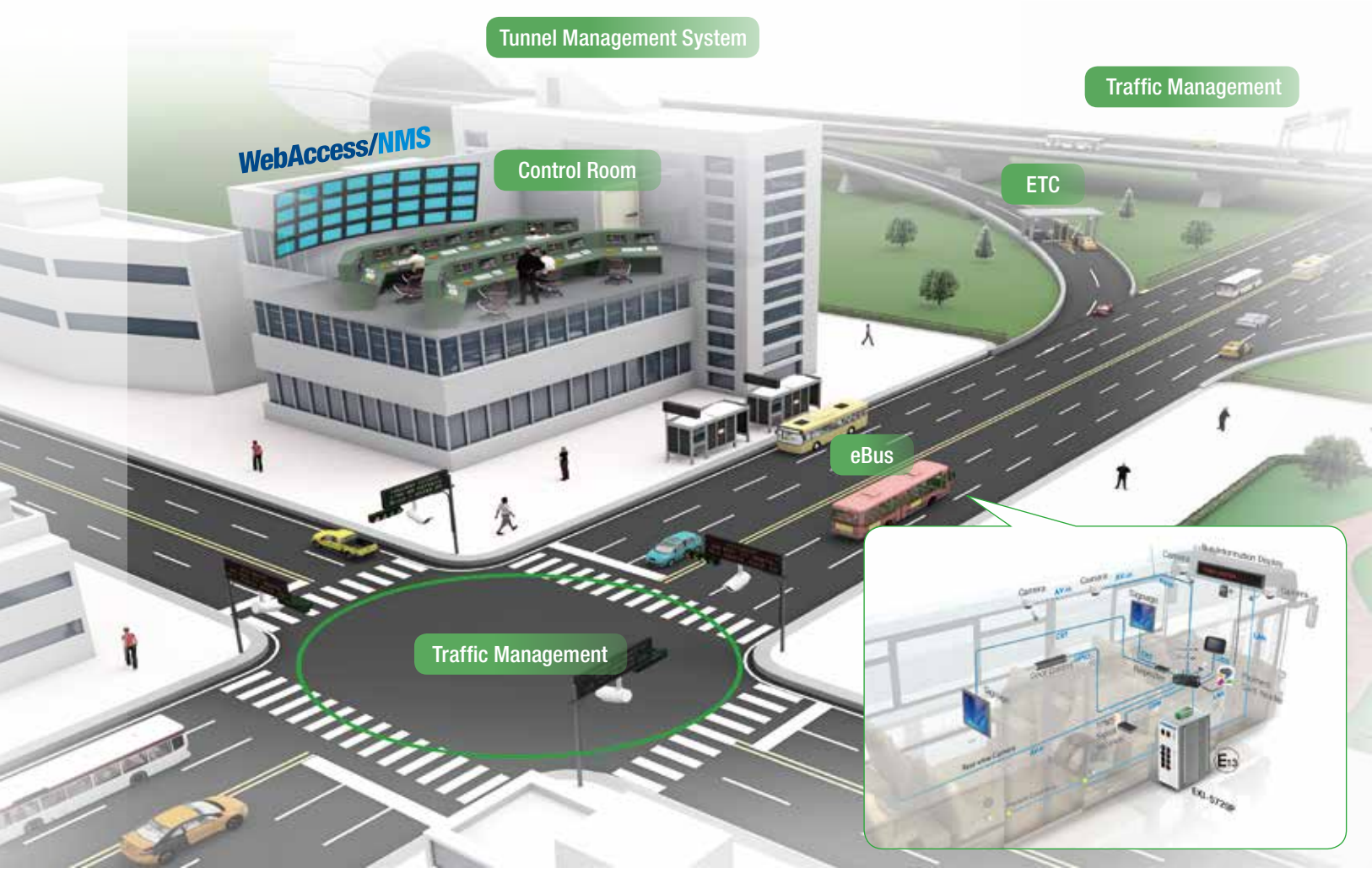
EKI-7700 Series

Industrial Managed Switch

- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) aim at providing communications and technology that allow safe, convenient, comfortable, efficient, and environmentally friendly travel for all commuters. Many cities worldwide are in the midst of improving their transportation system infrastructures, and Advantech is there to provide a helping hand, offering advanced product solutions for the freeway market segment, including freeway entrance controls, traffic information systems, tunnel monitoring systems, electronic toll systems, vehicle count & classification, and IP surveillance.



Comprehensive Industrial Networking Solutions for Machine and Factory Automation

Software

WebAccess/NMS

WebAccess/NMS System
Network Management System

Industrial Routers

LR77 V2 Libratum
LTE Industrial Router with WiFi

SmartFlex
LTE Industrial Router

Media Converters

MiniMc
Miniature Media Converters

Control Room

Transportation systems include control room systems aimed at providing communication, security, surveillance, and technology for safe, convenient and comfortable travel for all commuters. Many cities worldwide are in the midst of improving their control room systems, and Advantech is there to provide a helping hand, offering advanced industrial communication product solutions with flexible and high-performance, trusted monitoring system WebAccess/NMS to make ideal solutions for system integrators.

Tunnel Management System

Distributed network control architectures are used for Tunnel Management Systems to provide traffic guidance, CCTV, fire alarm, and ventilating systems while collecting several sensor data, such as vehicle detectors, COVI, visibility, and wind sensors. Compact and high performance Ethernet switches provide redundant network connections.

City Traffic Management

Advantech offers total solutions for Real-time Traffic Information Display Systems to accommodate difference needs. We offer Ethernet switches, serial device servers, and controllers. The system quickly and reliably sends urban traffic information to the control center real-time city traffic management.

eBus

A mobile onboard computing and back-office communications system was applied in a Bus Rapid Transit (BRT) system application. This not only offers a rapid, punctual, secure and convenient service to passengers, but it also improves the operational efficiency for fleet management via real-time communication. Advantech's eMark certified in-vehicle solutions ensure the realization of the BRT system. eMark certified EKI-5 are used to ensure the BRT provides secure data transmission for signage displays to deliver instant information to passengers. While the surveillance cameras enhance security by recording interior views of the passenger compartment.

Electronic Toll Collection (ETC)

In the evolution from manual to electronic toll collection, an intelligent and high performance system was required to decrease workforce requirements as well as assuring traffic flows on the highway. Its inherent robustness assures stable roadside functionality. Our communication solutions ensure nonstop data transmission and play a critical role in the system. The compact size, industrial grade mechanism design make Advantech's communication products offered the best connectivity solution for this electronic toll collection application.

Industrial Ethernet Switches

EKI-7700 Series
Industrial Managed
Ethernet Switch

EKI-7700 Series
Industrial Managed
PoE Switch

EKI-5000 Series
Viewable Unmanaged
Ethernet Switch

EKI-5000 Series
Emark In-Vehicle Switches

EKI-9228G
IEC-61850 Industrial Rackmount
Managed Switch

Intelligent Transportation Systems

Control Room

Advantech EKI-9428G Industrial Rackmount L3 Managed Switch provides static and dynamic routing to connect data transmitted from the roadside to the control room and provide real time status updates and monitoring to ensure efficiency and safety.

Key Products

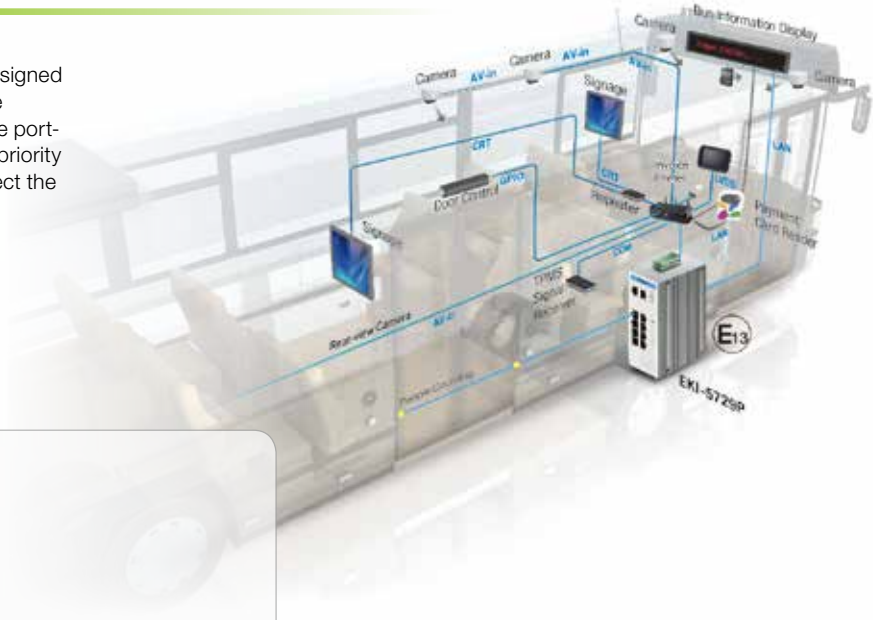
EKI-9428G Series

Industrial Rackmount L3 Managed Switch

- Static Routing
- Dynamic routing:VRRP, OSPF,RIP V1/V2, PIM-DM
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB Security: 802.1x (Port-Based, MD5/TLS/TTLS/ PEAP Encryption),HTTPS,SSH and SNMPv3
- Dual power input and 2 relay output

eBus

Advantech EKI-5729P/PI and EKI-5624P/PI from the Viewable Unmanaged Ethernet Switch series are eMark certified and designed for in-vehicle applications and surveillance. These switches are classified as power source equipment (PSE) and come with the port-based QoS for deterministic data transmissions that allow the priority ports to prioritize the traffic coming over those ports and redirect the less immediately necessary data over the remaining ports.



Why Advantech?

- eMark certified Ethernet Switch solution
- Various form factors to fit different system requirements

Key Products

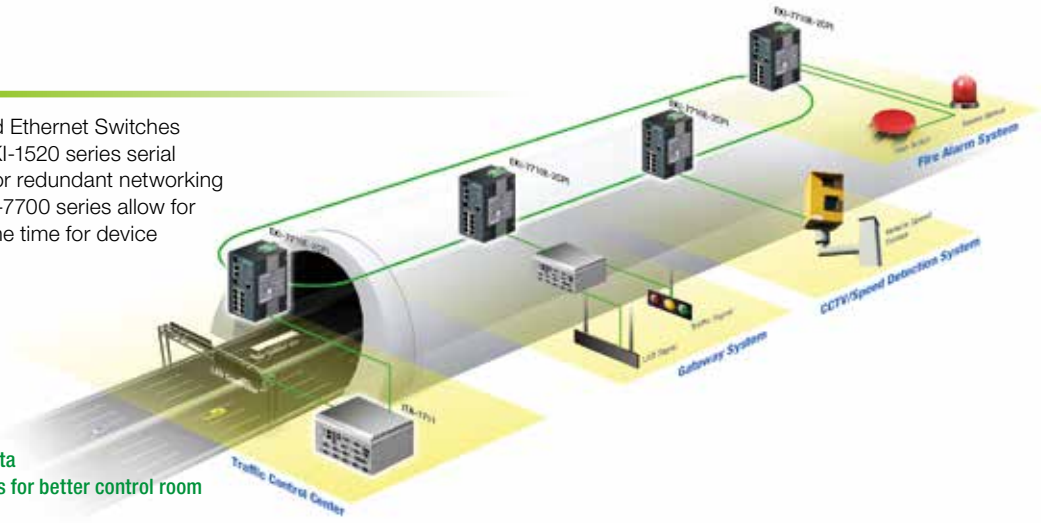
EKI-5729P/PI, EKI-5624P/PI

Viewable Unmanaged ProView PoE Switch

- EMS level 3 protection for extreme outdoor environments
- Port-based QoS for deterministic data transmission
- Jumbo Frame Support (Up to 9,216 Bytes)
- e-Mark compliant for on-vehicle application

Tunnel Management System

Advantech EKI-7700 series Redundant Managed Ethernet Switches allow for continuous network operation, while EKI-1520 series serial device servers connect serial devices together for redundant networking solutions. The IXM technology embedded in EKI-7700 series allow for device fast deployment which reduces 90% of the time for device setting and maintenance.



Why Advantech?

- Device servers and Ethernet solutions to connect data
- Redundant Managed Ethernet Switch solution allows for better control room and network backbone systems
- EKI-7700 series with IXM fast deployment technology for better efficiency

Key Products

EKI-7712E Series
Gigabit Managed Redundant Industrial Switch
- IXM function enables fast deployment
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

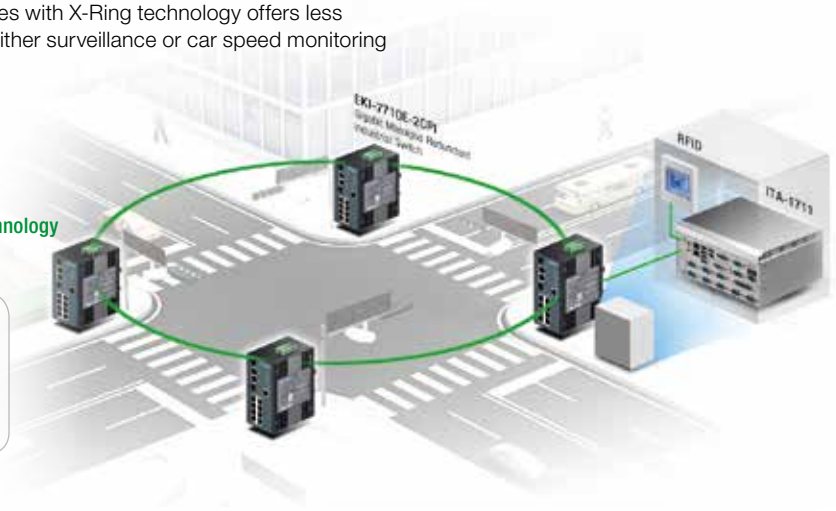
EKI-1524 Series
RS-232/422/485 Device Server
- Provides 10/100 Mbps Ethernet ports for LAN redundancy
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Built-in 15 KV ESD protection for all serial signals

City Traffic Management System

Advantech EKI-7700 series Redundant Managed PoE Ethernet Switches with X-Ring technology offers less than 20ms recovery time to ensure always an connected network for either surveillance or car speed monitoring systems to provide better and safer city traffic information sharing.

Why Advantech?

- Complete communication solution
- Various form factor device servers to fit different system requirements
- Redundant Managed Ethernet Switch solution with IXM fast deployment technology for better control room and network backbone systems.



Key Products

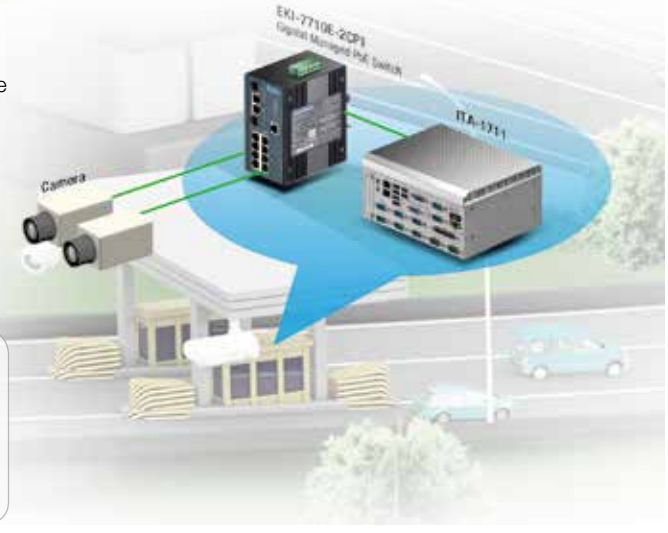
EKI-7710E-2CPI
Industrial Managed PoE Switch
- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

Electronic Toll Collection (ETC)

EKI-7710G-2CPI series Redundant Managed PoE Switches provide high bandwidth real-time data transmission for surveillance systems that requires real time and high resolution image transmission meanwhile offers less than 20ms recovery time to ensure a 24/7/365 continuous robust networking solution.

Why Advantech?

- Redundant Managed Gigabit Power over Ethernet (PoE) solutions offer high resolution image transmission with extra redundancy
- EKI-7700 series with embedded IXM fast deployment technology allows efficient device setting and maintenance.



Key Products

EKI-7710G-2CPI
Industrial Managed PoE Switch
- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

Smart Grids and Oil & Gas

Advantech provides Industrial communication solutions to build automated systems for the real-time central montoring of a variety of field data acquired from remote locations including wind farms, solar farms, and oil wells. Gateway solutions are used to acquire a variety of field data, while wireless solutions are used to solve the issue of complex wiring problems. Large amounts of information is processed in cloud servers and industrial grade switches with required certifications provide continuous data transmission. Finally, SCADA software presents real-time monitoring information, failure alarms and customized reports to effectively develop maximum operational efficiency of wind farms and photovoltaic power stations.

Comprehensive Industrial Networking Solutions for Smart Grids and Oil & Gas

Software

WebAccess/NMS

WebAccess/NMS System
Network Management System

Industrial Routers

EKI-1331
Serial to 3G Industrial Gateway

SmartFlex
LTE Industrial Router

Industrial Wireless

EKI-6331AN/EKI-6332GN
IEEE 802.11n WiFi AP/Bridge/Client

Oil and Gas

Wind Power Transmission System

Wind power plants require many information management systems and remote wind turbine monitoring systems. Wind power is often used in unforgiving environments with high day/night temperature differences and serious dust and/or sand exposure. The rugged electromagnetic environment of the motor control systems requires an industrial switch with excellent anti electromagnetic interference capability and long MTBF. In order to enhance communication reliability, the operator has to set up a redundant ring with short failover time. When any error occurs in the communication network, the switch should smoothly switch to the redundant backup line. Fiber optic managed switches with wide temperature operating ranges help provide a reliable X-Ring Pro networking topology to ensure uninterruptible data transmission.

Solar Power Transmission System

To harness the sun's power, many countries have been investing in solar technologies for over 30 years. Today's solar power systems include reflectors, mirrors, heat insulating absorbers, motion control technologies, and data transmission systems. Advantech's industrial GPRS/3G Serial Device Servers are a perfect fit for wireless data transmission systems due to their great performance, reliability and ruggedness. GPRS/3G Serial Device Servers collect data from solar panels and inverter, pyranometer, and relative sensors. This information is then transmitted through cellular data networks to the control center to easily access real-time information. GPRS/3G Serial Device Servers provide dual SIM slots for redundancy and one SD slot for storage expansion.

Oil and Gas

Wells and pumping stations are located in remote and extreme environments where wide temperatures, pressure, and vibration are normal. Oil wellheads on oil platforms must be operational 24/7/365, so Advantech's industry certified Gigabit wireless switches build robust communication solutions to connect central control rooms with remote devices to ensure continuous data transmission for remote monitoring and maintenance.

Media Converters

MiniMc
Miniature Media Converters

Industrial Ethernet Switches

EKI-7700 Series
Industrial Managed
Ethernet Switch

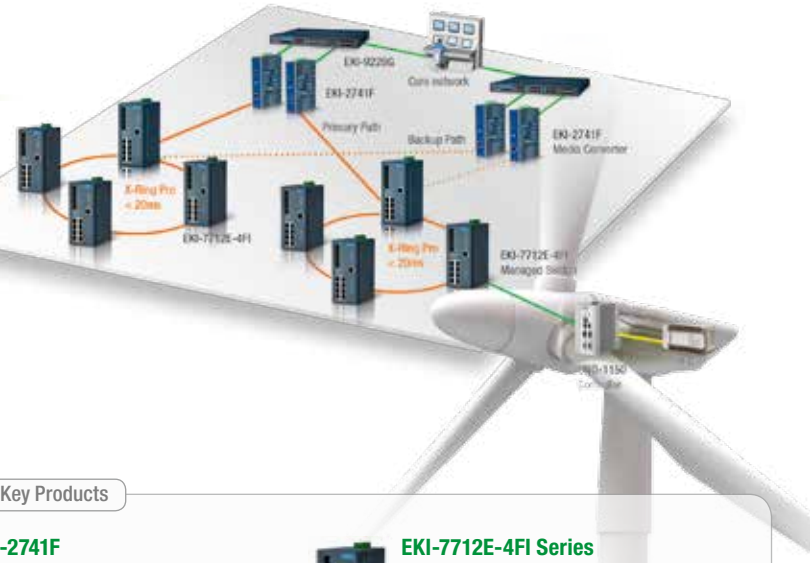
EKI-7700 Series
Industrial Managed
PoE Switch

EKI-9228G
IEC-61850 Industrial Rackmount
Managed Switch

Smart Grids and Oil & Gas

Wind Power

Advantech industrial grade Ethernet Switches provide rugged communication solutions for harsh environments such as wind farms in contact with high/low, day/night temperature fluctuations and extreme dust/sand exposure. EKI-7712E-4FI Redundant Managed Ethernet Switch with redundant ring smoothly switches to the redundant backup line if connection failures occur. Moreover, the IXM embedded function allows for fast deployment which dramatically saves engineers time and cost. The overall solution also included EKI-2541M Fiber Optic Industrial Media Converter and EKI-9228G Rackmount L2 Managed Switch, which provides redundant networking with excellent anti-electromagnetic interference capability and long MTBF to ensure smooth transmission rates.



Key Products

EKI-9228G Series
Industrial Rackmount L2 Managed Switch
- SFP socket for Easy and Flexible Fiber Expansion
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB Security:802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption),HTTPS,SSH and SNMPv3
- Redundancy: Gigabit X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D),MSTP

EKI-2741F
Fiber Optic Gigabit Industrial Media Converters
- 1000 Mbps Ethernet port with RJ45 connector
- Supports MDI/MDI-X auto crossover
- Provides Link Fault Pass-through (LFP)
- Jumbo Frame: 9K bytes

EKI-7712E-4FI Series
Gigabit Managed Redundant Industrial Switch
- IXM function enables fast deployment
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

Oil and Gas

Wired and Wireless Communication Solution for Oil Platforms

To ensure continuous remote monitoring of drilling platforms, the communication infrastructure needs to be robust and redundant due to the severe hazards and challenges present in oil platforms. Advantech EKI-7710G-2CPI PoE Managed Switch provides a stable communication solution for extreme temperature operation, while its high bandwidth enables high quality data, voice, and video transmission. Combined with EKI-6330 series WiFi solutions and EKI-1334 router, they provide a robust industrial grade communication solution for oil platforms.

Why Advantech?

- Wide temperature models allow for stable communication in extreme temperatures
- High bandwidth Ethernet Switch solutions for high quality data, voice, and video transmission
- Redundancy prevents data loss from network connection failures
- Complete communication solutions to provide solid networking

Key Products

EKI-7710G-2CPI
Industrial Managed PoE Switch
- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

EKI-6331AN
IEEE 802.11 a/n Wi-Fi AP/Client
- IP55 waterproof certification
- MIMO 2 x 2 11n
- High output power
- Passive 24V PoE

EKI-1524 Series
RS-232/422/485 Device Server
- COM port redirection (Virtual COM), TCP and UDP operation modes
- Built-in 15 KV ESD protection for all serial signals
- Supports line to line 4 KV, line to ground 8 KV
- Provides isolation and wide operating temperature

EKI-1334
Industrial Ethernet/Serial Router
- Universal five-band UMTS/HSPA+ 850/900/1800/1900/2100 MHz
- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Dual WAN (Ethernet WAN and Cellular WAN) for redundancy

Solar Farm

Advantech SmartFlex cellular routers offer abundant connection options to the cellular network including, Serial Ports, Modbus, WiFi, and Ethernet devices for reliable connection in remote areas. The dual SIM slots support LTE signal redundancy and switch to an available channel automatically while disconnecting the current channel. Additional modules provide a flexible SW architecture environment for creating various customized applications.

Why Advantech?

- Wide range power input from 10 to 60 VDC, 2 KV EFT/Surge protection to prevent damage from various types of power resources
- 2.5 KV insulation between Serial and Ethernet
- Dual SIM slots support LTE signal redundancy and switch to an available channel automatically

Key Products

SmartFlex

LTE Industrial Router

- LTE(800 / 900 / 1800 / 2100 / 2600 MHz)
- Dual SIM for telecom redundancy
- Wide range DC input(10-60VDC) and wide range operating temperature (-40 to +75 °C)
- Connect Ethernet and Serial Devices over VPN
- Various interface: serial ports, Modbus, I/O, WiFi, GPS, USB, SD card slot, and Ethernet

Wireless Solutions for Oil Well Pump Trucks

Pump trucks with WiFi solve the problem of oil and gas wells that are located far from existing Ethernet networks. Advantech EKI-6330 series WiFi AP/Bridge/Client are simple to deploy and easy to adapt. They can be installed on pump trucks and in mobile control centers to achieve excellent communication and allow nearby laptops and wireless devices to connect to the same network.

Why Advantech?

- High flexibility WiFi devices allow for user friendly device deployment

Key Products

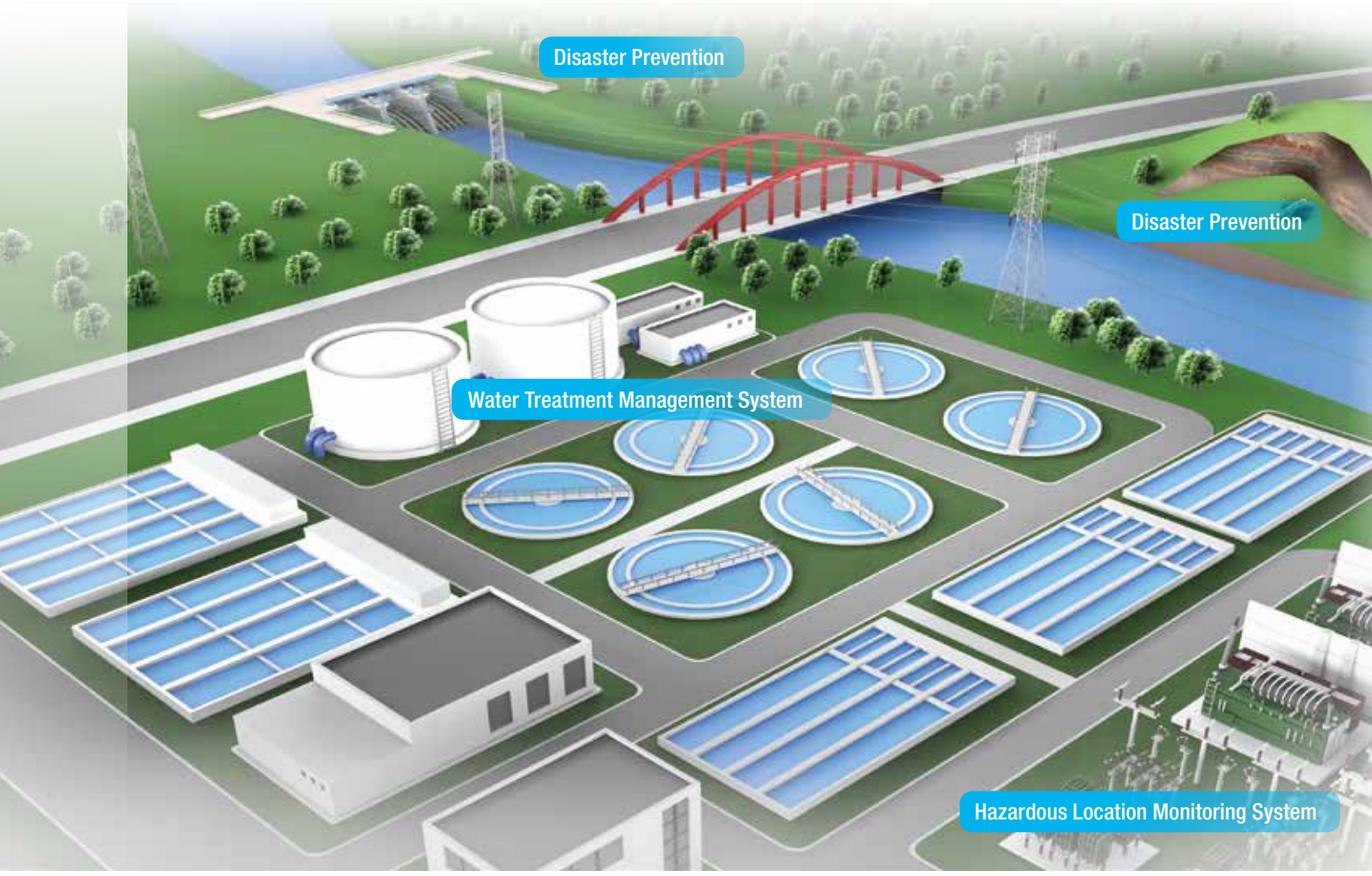
EKI-6331AN

IEEE 802.11 a/n Wi-Fi AP/Client

- IP55 waterproof certification
- MIMO 2 x 2 11n
- High output power
- Passive 24V PoE

Environment and Facility Management Systems

Advantech has an excellent reputation for developing Environmental and Facility Management Systems (EMS). While Environmental Monitoring applications focus on air, water, river, dam, and electric applications. Facility Management targets factory and remote SCADA applications. Advantech's air quality monitoring systems, hazardous location monitoring systems, and waste water treatment management systems provide value-added systems and solutions, allowing users to monitor and operate processes anytime anywhere.



Comprehensive Industrial Networking Solutions for Environment and Facility Management Systems

Software

WebAccess/NMS

WebAccess/NMS System
Network Management System

Industrial Routers

LR77 V2 Libratum
LTE Industrial Router with WiFi

SmartFlex
LTE Industrial Router

Media Converters

EKI-2741 / EKI-2541 Series
Media Converter

MiniMc
Miniature Media Converters

Water and Wastewater Treatment

Proper water treatment is a very important endeavor for all industrial and public enterprises. Water treatment produces organic and mineral sludge from filtration and sedimentation. Therefore, it is important to centralize the measurement of water consumption, collect all the information on the status of the water, and remotely control the water flow level in each node (branch). Advantech offers complete water and waste water treatment monitoring and control systems for treating water to obtain very high quality water. The Modbus Gateway with Integrated Ethernet Switch offers daisy chain connectivity so it can minimize cabling efforts. Moreover, it supports Ethernet auto-bypass to prevent accidental power failure.

Disaster Prevention

Data needed for disaster prevention is collected from remote locations therefore product stability and remote firmware upgrade functions are crucial to reduce manpower on maintenance. Advantech's robust communication solution including Network Management System, Industrial Router, Media Converter, and Managed Ethernet Switches provide a complete communication solution for real time monitoring of dams and rivers to prevent disasters.

Hazardous Location Monitoring System

In chemical and petrochemical plants with hazardous areas, high security is required to protect valuable equipment and prevent accidents. Advantech Industrial Communication Solutions includes Industrial Routers, Ethernet switches, and serial device servers that are UL Class I and Division 2 certified. They are designed for hazardous locations and provide trustworthy communication solutions.

Industrial Ethernet Switches

EKI-7700 Series
Industrial Managed Ethernet Switch

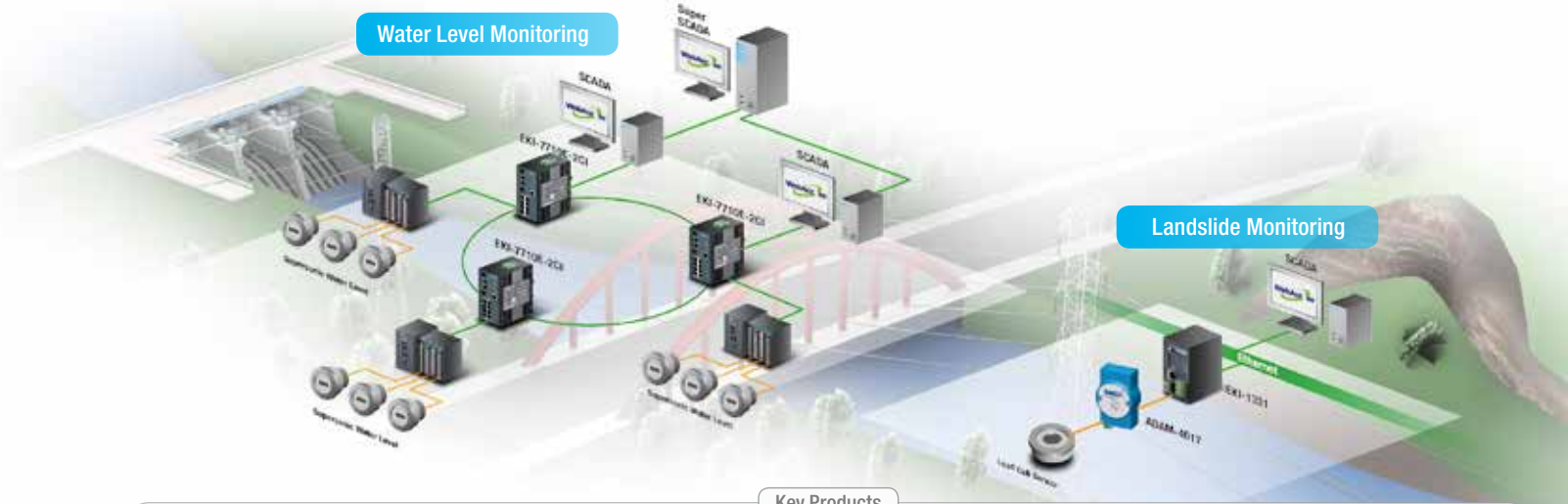
EKI-7700 Series
Industrial Managed PoE Switch

EKI-7428G-4CI
Combo ports Rackmount Managed Switch

Environment and Facility Management Systems

Disaster Prevention

Disaster prevention service providers need to collect various kinds of data from remote locations. This data often comes from different devices using different formats and protocols. The fact that this data often takes a long time to process before it is usable reduces the time available for the development of the GIS. To overcome the incompatibilities of different data formats, service providers should offer a total data acquisition solution that can store the data in a database that the GIS can use. Another drawback is that current systems do not support remote management. Therefore, when system settings need to be changed or a firmware upgrade must be performed, personnel have to be dispatched to the site in order to carry out their tasks.



Key Products

EKI-9228G Series

Industrial Rackmount L2 Managed Switch

- SFP socket for Easy and Flexible Fiber Expansion
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB Security:802.1x (Port-Based, MD5/TLS/TTLS/PEAP Encryption),HTTPS,SSH and SNMPv3
- Redundancy: Gigabit X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D),MSTP

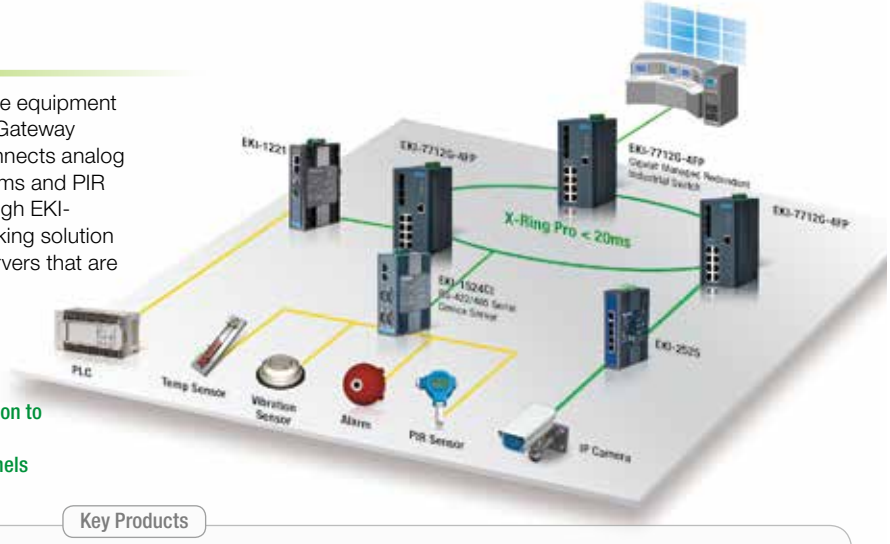
EKI-7710E-2CPI

Gigabit Managed Redundant Industrial Switch

- IXM function enables fast deployment
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms)
- Management: SNMP v1/v2c/v3, WEB, Telnet, Standard MIB, Private MIB

Hazardous Location Monitoring System

In hazardous areas, high security is required to protect valuable equipment and prevent accidents. Advantech's EKI-1220 series Modbus Gateway connects PLCs while EKI-1520 Series Serial Device Server connects analog devices including temperature sensors, vibration sensors, alarms and PIR sensors, and send back all the data to the control center through EKI-7700 series redundant Managed Ethernet Switch. The networking solution includes Ethernet switches, Modbus gateways, and device servers that are UL Class I, Division 2 certified for hazardous locations.



Why Advantech?

- Duel DC power input from 12 to 48 VDC and 2 KV EFT/Surge protection to prevent damage from various power sources
- Dual SIM slots support GPRS signal redundancy which switch channels automatically

Key Products

EKI-1220 Series

Modbus Gateway

- Integration of Modbus TCP and Modbus RTU/ASCII networks
- Auto searching slave ID over configuration utility
- Built-in 15 KV ESD protection for all serial signals
- Automatic RS-485 data flow control

EKI-1524CI

RS-422/485 Serial Device Server

- COM port redirection (Virtual COM), TCP and UDP operation modes
- Built-in 15 KV ESD protection for all serial signals
- Supports line to line 4 KV, line to ground 8 KV
- Provides isolation and wide operating temperature

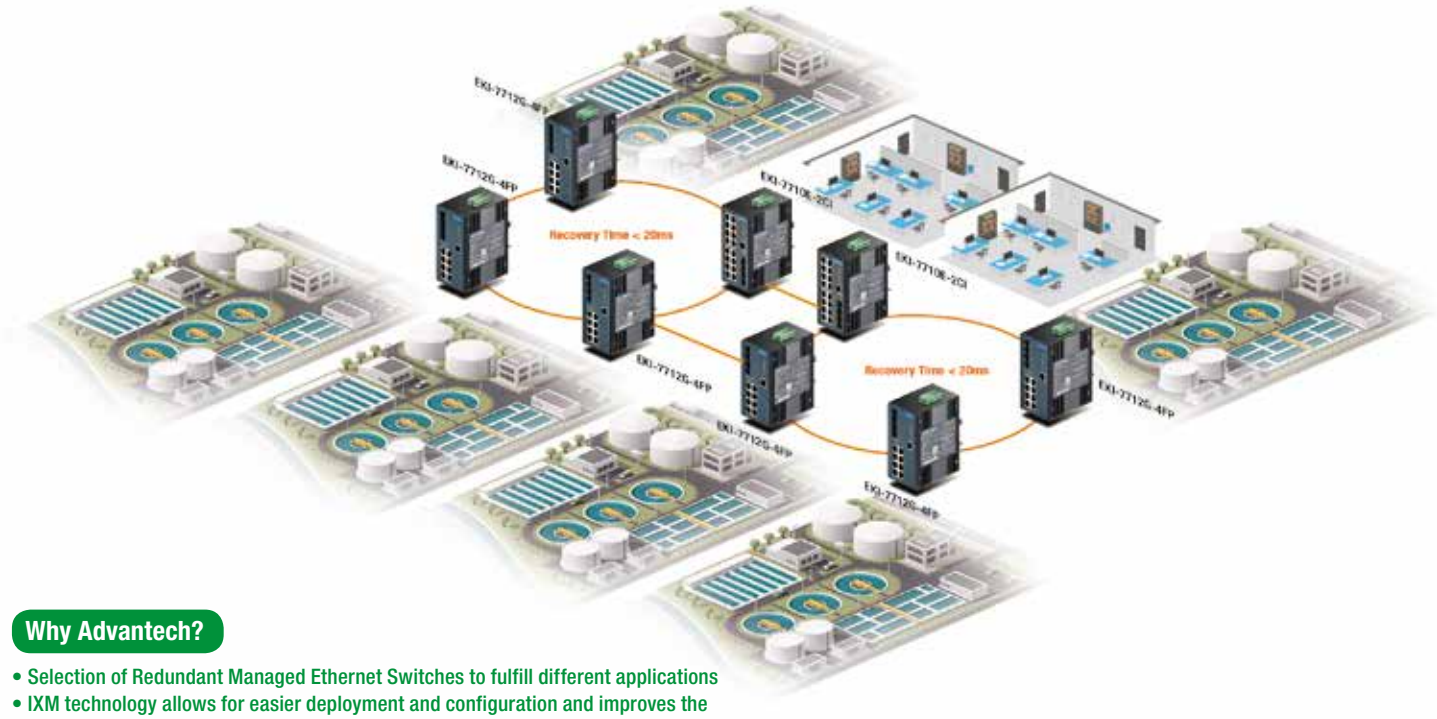
EKI-7712E-4FI Series

Gigabit Managed Redundant Industrial Switch

- IXM function enables fast deployment
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (Recovery time < 20 ms)

Water Treatment Management System

Advantech EKI-7712E-4F/FI and EKI-7720E-4F/4FI Gigabit Managed Redundant Industrial Switches with IXM fast deployment technology not only allow for redundant Ethernet connection but also provide efficient device configuration and deployment. In addition, the switch offered excellent reliability with X-Ring Pro to avoid network down times of less than 20ms.



Why Advantech?

- Selection of Redundant Managed Ethernet Switches to fulfill different applications
- IXM technology allows for easier deployment and configuration and improves the efficiency of device operation in remote areas

Key Products

EKI-7712E-4FI Series

Gigabit Managed Redundant Industrial Switch

- IXM function enables fast deployment
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (Recovery time < 20 ms)

EKI-7720E-4FI Series

Gigabit Managed Redundant Industrial Switch

- IXM function enables fast deployment
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: X-Ring Pro (Recovery time < 20 ms)

Surveillance System

The manufacturer chose Advantech's B+B PoE+ Giga-MiniMc with LFPT. The compact converter includes two 10/100/1000 Mbps Power-over-Ethernet (PoE) copper ports and an SFP (Small Form Pluggable) fiber port. Along with the Ethernet data connection, each of the Ethernet ports provides up to 25 W of power to connected devices. That eliminates the need to run dedicated power lines out to camera locations. The SFP fiber ports support 100 Mbps or 1000 Mbps which future-proofs the installation. The factory only requires 100 Mbps connectivity to meet its current needs. But, if they later wish to upgrade the system to Gigabit, the PoE+ Giga-MiniMc with LFPT easily transitions from multi-mode to single-mode fiber. The hot-swappable SFP transceiver is the only component that would need to be changed.

Comprehensive Industrial Networking Solutions for Surveillance Systems

Industrial Protocol Gateways

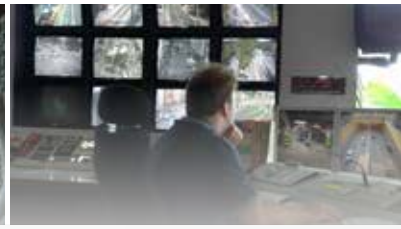
PoE Giga MiniMc SFP-LFPT

MediaLinx for Chassis

Chassis for iMcV Modules

Industrial Router

LTE router LR77



Simultaneous Connection and Powering for IP Surveillance Cameras

Advantech B+B PoE+ Giga-MiniMc with LFPT is designed with a compact converter that includes two 10/100/1000 Mbps Power-over-Ethernet (PoE) copper ports and an SFP (Small Form Pluggable) fiber port. Along with an Ethernet connection, each of the Ethernet ports provides up to 25 W power to connected devices. The SFP fiber ports support 100 Mbps or 1000 Mbps which future-proofs the installation. The factory only requires 100 Mbps connectivity to meet its current needs. But, if they later wish to upgrade the system to Gigabit, the PoE+ Giga-MiniMc with LFPT easily transitions from multi-mode to single-mode fiber.

High Speed and Remote CCTV Tower Communications

Advantech B+B SmartWorx is a reliable robust cellular 4G platform as the base for Quatro Tower communications. Deploying the cellular router Model LR77 with its dual SIM 4G capabilities ensures always on connectivity. Utilizing the option of built-in Global Positioning System allows Advantech B+B SmartWorx to provide Quatro with both asset tracking and real time date/time stamping of images generated by the cameras to the control center. The Quatro Tower is a totally IP based system, using IP cameras and wireless passive detectors. Using bespoke user modules specifically designed and written to integrate with the LR77, Advantech was able to provide a high level of bidirectional automation in the field, enabling the Quatro Towers to perform specific actions like directing a camera to a specific location on site, power management, and providing crucial alarm notifications to the remote control center.

Why Advantech?

- Compact sized Advantech B+B PoE+ Giga-MiniMc with LFPT converter includes two 10/100/1000 Mbps Power-over-Ethernet (PoE) copper ports and an SFP (Small Form Pluggable) fiber port
- Eliminates the need to run dedicated power lines out to the camera location
- SFP fiber ports support 100 Mbps or 1000 Mbps which future-proofs the installation

Wireless Access Points/Client

Model Name		EKI-6331AN	EKI-6332GN
Description		IEEE 802.11 a/n Wi-Fi AP/Client	IEEE 802.11 b/g/n Wi-Fi AP/Client
Interface	IEEE Standard	IEEE 802.11 a/n	802.11 b/g/n
	100BaseFX	✓	✓
	1000BaseFX	-	-
RF	Frequuency	2.4GHz	5GHz
	MIMO	2T2R	2T2R
	Multi-Hopping	✓	✓
	Mobility/Roaming	✓	✓
Operating Mode	Mesh	-	-
	Mobility/ Roaming	-	-
	Multi-Hopping	-	-
	AP/CPE	✓	✓
Power	PoE	Passive 24V	Passive 24V
	Power Input Voltage	24V$_{DC}$	24V$_{DC}$
	Redundant DC Power Input	-	-
Mechanism	DIN-rail Mount	-	-
	Wall Mount	-	-
	VESA Mount	-	-
	Pole Mount	✓	✓
	IP Grade	IP55	IP55
Operating Temperature	-20 ~ 70°C (-'4 ~ 158°F)	✓	✓
	-40 ~ 70° C ('-40 ~ 158° F)	-	-
Certifications	CE	✓	✓
	FCC	✓	✓
	Others	Telec, ANATEL	Telec

* Note: Transmit Output Power & Receive Sensitivity are specified on data sheet.

EN50155 Ethernet Switches

Model Name		EKI-6528TI	EKI-6528TPI	EKI-6558TI	EKI-9516	EKI-9516P
Description		EN50155 8-port M12 Unmanaged Switch with Wide Temperature	EN50155 8-port PoE M12 Unmanaged Switch with Wide Temperature	EN50155 IP67 8-port M12 Managed Ethernet Switch with Wide Temperature	EN 50155 16-port Full Gigabit Managed Ethernet Switch	EN 50155 16-port Full Gigabit Managed Ethernet Switch with PoE/PoE+
Interface	Ports Number	8	8	8	16	16
	10/100Base-T (X)	8	8	8	-	-
	100BaseFX	-	-	-	16	16
	10/100/1000Base-T (X)	-	-	-	-	-
	1000Base-SX/LX/ LHX/XD/ZX/EZX	-	-	-	-	-
	PoE (10/100 Mbps)	-	4	-	-	-
	PoE (10/100/1000 Mbps)	-	-	-	12	12
	DI/DO	-	-	-	-	-
	Console	-	-	✓	✓	✓
Network Management	Redundancy	-	-	✓	✓	✓
	Diagnostics	-	-	✓	✓	✓
	VLAN	-	-	✓	✓	✓
	Configuration	-	-	✓	✓	✓
	SNMP	-	-	✓	✓	✓
	Security	-	-	✓	✓	✓
	Traffic Control	-	-	✓	✓	✓
Power	2 x Unregulated 12 ~ 48 V DC	12~48V$_{DC}$	24~48V$_{DC}$	✓	24~110V$_{DC}$	24~48V$_{DC}$ or 72~110V$_{DC}$
	2 x Unregulated 100 ~ 240 V DC	-	-	-	-	-
	2 x Unregulated 100 ~ 240 V AC	-	-	-	-	-
	Relay Output	-	-	✓	✓	✓
Mechanism	DIN-rail Mount	✓	✓	-	-	-
	Wall Mount	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-
	IP Level	IP40	IP40	IP67	IP67	IP67
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	-	-	-	-	-
	-40 ~ 75°C (-40 ~ 167°F)	✓	✓	✓	✓	✓
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓
	UL/cUL 60950-1	✓	✓	-	-	-
	Class 1, Division 2	-	-	-	-	-
	UL 508	-	-	✓	-	-
	Others	EN50155	EN50155	EN50155	EN50155	EN50155

Managed Redundant Industrial Ethernet Switches

Model Name		EKI-7428G-4CI EKI-7428G-4CPI	EKI-9228G-8CMI EKI-9228G-8COI	EKI-9316/ EKI-9312	EKI-7758F	EKI-7710E-2C EKI-7710E-2CI	EKI-7710G-2C EKI-7710G-2CI	EKI-7712E-4F EKI-7712E-4FI
Description		24G+4G Combo port L2 Managed Switch	Ind. Rackmount L2 Managed Switch	16/12 Port Industrial-Class Managed DIN Rail Switch Full Gigabit Switch	4G+4SFP Gigabit Managed Redundant Switch	8FE+2G Port Gigabit Managed Redundant Industrial Switch	8G+2G Port Gigabit Managed Redundant Industrial Switch/with Wide Temperature	8FE+4G SFP Port Gigabit Managed Redundant Industrial Switch/with Wide Temperature
Interface	Ports Number	28	28	16/12	8	10	10	12
	10/100Base-T (X)	-	-	-	-	8	-	-
	100BaseFX	-	-	-	-	-	-	-
	10/100/1000Base-T (X)	28	24	12/8	4	2	8	8
	1000Base-SX/LX/LHX/XD/ZX/EZX	4	12	4	4	2	2	4
	PoE (10/100 Mbps)	-	-	-	-	-	-	-
	PoE (10/100/1000 Mbps)	0/4	-	-	-	-	-	-
	DI/DO	-	-	-	-	-	-	-
	Console	✓	✓	✓	✓	✓	✓	✓
Network Management	Redundancy	✓	✓	✓	✓	✓	✓	✓
	Diagnostics	✓	✓	✓	✓	✓	✓	✓
	VLAN	✓	✓	✓	✓	✓	✓	✓
	Configuration	✓	✓	✓	✓	✓	✓	✓
	SNMP	✓	✓	✓	✓	✓	✓	✓
	Security	✓	✓	✓	✓	✓	✓	✓
	Traffic Control	✓	-	✓	✓	✓	✓	✓
Power	2 x Unregulated 12 ~ 48 V_{DC}	12 ~ 48 V_{DC}/ 48 V_{DC}	EKI-9228G-8CMI: 48V_{DC}	24/48 V_{DC}	✓	✓	✓	✓
	2 x Unregulated 100 ~ 240 V_{DC}	-	-	-	-	-	-	-
	2 x Unregulated 100 ~ 240 V_{AC}	-	EKI-9228G-8COI 90~264V_{AC}/ 88~370V_{DC}	-	-	-	-	-
	Relay Output	-	-	-	✓	-	-	-
Mechanism	DIN-rail Mount	-	-	✓	✓	✓	✓	✓
	Wall Mount	-	-	✓	✓	✓	✓	✓
	Rack Mount	✓	✓	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	-	-	-	✓	✓	✓	✓
	-40 ~ 75°C (-40 ~ 167°F)	-40 ~ 70°C (-40 ~ 158°F)	-	✓	-	✓	✓	✓
	-40 ~ 85°C (-40 ~ 185°F)	-	✓	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	-	-	✓	✓	-	-	-
	Class 1, Division 2	-	-	✓	✓	-	-	-
	UL 508	✓	✓	-	-	✓	✓	✓
Others		NEMA TS2 EN50121-4	IEC 61850-3	-	-	NEMA TS2 EN50121-4	NEMA TS2 EN50121-4	NEMA TS2 EN50121-4

Managed Redundant Industrial Ethernet Switches

Model Name		EKI-7712G-4F EKI-7712G-4FI	EKI-7720E-4F EKI-7720E-4FI	EKI-7720G-4F EKI-7720G-4FI	EKI-7659C EKI-7659CI	EKI-7657C EKI-7657CI	EKI-7656C EKI-7656CI	EKI-7654C	EKI-7559SI EKI-7559MI	EKI-7554SI EKI-7554MI
Description		8G+4G SFP Port Gigabit Managed Redundant Industrial Switch/ with Wide Temperature	16FE+4G SFP Port Gigabit Managed Redundant Industrial Switch with Wide Temperature	16G+4G SFP Port Gigabit Managed Redundant Industrial Switch/ with Wide Temperature	8+2G Combo Port Gigabit Managed Redundant Industrial Ethernet Switch	7+3G Combo Port Gigabit Managed Redundant Industrial Ethernet Switch with 2 x DI/O	16+2G Combo Port Gigabit Managed Redundant Industrial Ethernet Switch	4+2G Combo Port Gigabit Managed Redundant Industrial Ethernet Switch	8+2 SC Type Fiber Optic Managed Redundant Industrial Ethernet Switch with Wide Temperature	4+2 SC Type Fiber Optic Managed Redundant Industrial Ethernet Switch with Wide Temperature
Interface	Ports Number	12	20	20	10	10	18	6	10	6
	10/100Base-T (X)	-	-	-	8	7	16	4	8	4
	100BaseFX	-	-	-	-	-	-	-	2	2
	10/100/1000Base-T (X)	8	16	16	2	3	2	2	-	-
	1000Base-SX/LX/ LHX/XD/ZX/EZX	4	4	4	2	3	2	2	-	-
	PoE (10/100 Mbps)	-	-	-	-	-	-	-	-	-
	PoE (10/100/1000 Mbps)	-	-	-	-	-	-	-	-	-
	DI/DO	-	-	-	-	2	-	-	-	-
	Console	✓	✓	✓	✓	✓	✓	✓	✓	✓
Network Management	Redundancy	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Diagnostics	✓	✓	✓	✓	✓	✓	✓	✓	✓
	VLAN	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Configuration	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SNMP	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Security	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Traffic Control	✓	✓	✓	✓	✓	✓	✓	✓	✓
Power	2 x Unregulated 12 ~ 48 V_{DC}	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2 x Unregulated 100 ~ 240 V_{DC}	-	-	-	-	-	-	-	-	-
	2 x Unregulated 100 ~ 240 V_{AC}	-	-	-	-	-	-	-	-	-
	Relay Output	-	-	-	✓	✓	✓	✓	✓	✓
Mechanism	DIN-rail Mount	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Wall Mount	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	✓	✓	✓	✓	✓	✓	✓	-	-
	-40 ~ 75°C (-40 ~ 167°F)	✓	✓	✓	EKI-7659CI	-	✓	-	✓	✓
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	-	-	-	✓	✓	✓	✓	✓	✓
	Class 1, Division 2	-	-	-	-	✓	-	-	✓	-
	UL 508	✓	✓	✓	-	-	-	-	-	-
	Others	NEMA TS2 EN50121-4	NEMA TS2 EN50121-4	NEMA TS2 EN50121-4	-	-	-	-	-	-

Managed Redundant Industrial Ethernet Switches

Entry Level Managed Ethernet Switches

Model Name		EKI-2748FI EKI-2748CI	EKI-2548I	EKI-5526/I-EI EKI-5528/I-EI	EKI-5526/I-PN EKI-5528/I-PN	EKI-5526/I-MB EKI-5528/I-MB	EKI-5626C/I-EI EKI-5629C/I-EI	EKI-5626C/I-PN EKI-5629C/I-PN	EKI-5626C/I-MB EKI-5629C/I-MB
Description		8Gx Managed Ethernet Switch with Wide Temperature	8Tx Managed Ethernet Switch with Wide Temperature	16/8 port Entry-Level Managed Switch Supporting EtherNet/IP	16/8 port Entry-Level Managed Switch Supporting PROFINET	16/8 port Entry-Level Managed Switch Supporting Modbus	18/10 port Entry-Level Managed Switch Supporting EtherNet/IP	18/10 port Entry-Level Managed Switch Supporting PROFINET	18/10 port Entry-Level Managed Switch Supporting Modbus
Interface	Ports Number	8	8	16/8	16/8	16/8	16/8	16/8	16/8
	10/100Base-T (X)	-	8	16/8	16/8	16/8	16/8	16/8	16/8
	100BaseFX	-	-	-	-	-	-	-	-
	10/100/1000Base-T (X)	4/6	-	-	-	-	2/2	2/2	2/2
	1000Base-SX/LX/LHX/XD/ZX/EZX	4/2	-	-	-	-	2/2	2/2	2/2
	PoE (10/100 Mbps)	-	-	-	-	-	-	-	-
	PoE (10/100/1000 Mbps)	-	-	-	-	-	-	-	-
	DI/DO	-	-	-	-	-	-	-	-
	Console	✓	-	-	-	-	-	-	-
Network Management	Redundancy	✓	✓	✓	✓	✓	✓	✓	✓
	Diagnostics	✓	✓	✓	✓	✓	✓	✓	✓
	VLAN	✓	✓	✓	✓	✓	✓	✓	✓
	Configuration	✓	✓	✓	✓	✓	✓	✓	✓
	SNMP	✓	✓	✓	✓	✓	✓	✓	✓
	Security	✓	✓	✓	✓	✓	✓	✓	✓
	Traffic Control	✓	✓	✓	✓	✓	✓	✓	✓
Power	2 x Unregulated 12 ~ 48 VDC	✓	✓	✓	✓	✓	✓	✓	✓
	2 x Unregulated 100 ~ 240 VDC	-	-	-	-	-	-	-	-
	2 x Unregulated 100 ~ 240 VAC	-	-	-	-	-	-	-	-
	Relay Output	✓	✓	✓	✓	✓	✓	✓	✓
Mechanism	DIN-rail Mount	✓	✓	✓	✓	✓	✓	✓	✓
	Wall Mount	✓	✓	✓	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	-	-	✓	✓	✓	✓	✓	✓
	-40 ~ 75°C (-40 ~ 167°F)	✓	✓	✓	✓	✓	✓	✓	✓
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	-	-	-	-	-	-	-	-
	Class 1, Division 2	✓	✓	✓	✓	✓	✓	✓	✓
	UL 508	✓	✓	✓	✓	✓	✓	✓	✓
	Others	-	-	-	-	-	-	-	-

Viewable Unmanaged ProView Industrial Ethernet Switches

Model Name		EKI-5726F EKI-5726FI	EKI-5729F EKI-5729FI	EKI-5726 EKI-5726I	EKI-5725/I EKI-5728/I	EKI-5626CI EKI-5626C	EKI-5629CI EKI-5629C	EKI-5528/I EKI-5525/I
Description		16-port+2 SFP Gigabit Ethernet ProView Switch	8-Port+2 SFP Gigabit Ethernet ProView Switch	16-port Gigabit Ethernet ProView Switch	5/8-port Gigabit Ethernet ProView Switch	16FE + 2GE Combo Ethernet ProView Switch	8FE + 2GE Combo Ethernet ProView Switch	8/5-port Fast Ethernet ProView Switch
Interface	Ports Number	16	8	16	5/8	18	10	8/5
	10/100Base-T (X)	-	-	-	-	16	8	8/5
	100BaseFX	✓	✓	-	-	-	-	-
	10/100/1000Base-T (X)	16	8	16	5/8	-	-	-
	1000Base-SX/LX/LHX/XD/ZX/EZX	✓	✓	-	-	2	2	-
	PoE (10/100 Mbps)	-	-	-	-	-	-	-
	PoE (10/100/1000 Mbps)	-	-	-	-	-	-	-
	DI/DO	-	-	-	-	-	-	-
	Console	✓	✓	-	-	-	-	-
Network Management	Redundancy	-	-	-	-	-	-	-
	Diagnostics	-	-	-	-	-	-	-
	VLAN	-	-	-	-	-	-	-
	Configuration	✓	✓	✓	-	-	-	-
	SNMP	✓	✓	✓	✓	-	-	-
	Security	-	-	-	-	-	-	-
	Traffic Control	-	-	-	-	-	-	-
Power	2 x Unregulated 12 ~ 48 V_{DC}	✓	✓	✓	✓	✓	✓	✓
	2 x Unregulated 100 ~ 240 V_{DC}	-	-	-	-	-	-	-
	2 x Unregulated 100 ~ 240 V_{AC}	-	-	-	-	-	-	-
	Relay Output	✓	✓	✓	✓	✓	✓	✓
Mechanism	DIN-rail Mount	✓	✓	✓	✓	✓	✓	✓
	Wall Mount	✓	✓	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	-	-	EKI-5726	-	EKI-5626C	EKI-5629C	EKI-5525/5528
	-40 ~ 75°C (-40 ~ 167°F)	-	-	EKI-5726I	-	EKI-5626CI	EKI-5629CI	EKI-5525I/5528I
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	-	-	-	-	-	-	-
	Class 1, Division 2	✓	✓	✓	✓	✓	✓	✓
	UL 508	✓	✓	✓	✓	✓	✓	✓
	Others	-	-	-	-	-	-	-

Viewable Unmanaged ProView Switches

Unmanaged Industrial Ethernet Switches

Model Name		EKI-5525S/M Series	EKI-5524SS/ MM Series	EKI-7626C EKI-7626CI	EKI-7629C EKI-7629CI	EKI-7526I	EKI-7529MI EKI-7529ST	EKI-4524I EKI-4524RI
Description		4-port +1x100FX port (Single/Multi-mode, SC/ST type), Fast Ethernet ProView Switch	4-port + 2x100FX port (Single/ Multimode, SC/ST type), Fast Ethernet ProView Switch	16+2G Combo Port Gigabit Unmanaged Industrial Ethernet Switch	8+2G Combo Port Gigabit Unmanaged Industrial Ethernet Switch	16-port Unmanaged Industrial Ethernet Switch with Wide Temperature Range	8+2 Multi-Mode Fiber Optic Industrial Unmanaged Ethernet Switch with Wide Temperature	24+2 SPF Port Unmanaged Industrial Ethernet Switch with Wide Temperature
Interface	Ports Number	4	6	18	10	16	10	24/26
	10/100Base-T (X)	4	4	16	8	16	8	24
	100BaseFX	1	2	-	-	-	2	0/2
	10/100/1000Base-T (X)	-	-	2	2	-	-	-
	1000Base-SX/LX/LHX/ XD/ZX/EZX	-	-	2	2	-	-	-
	PoE (10/100 Mbps)	-	-	-	-	-	-	-
	PoE (10/100/1000 Mbps)	-	-	-	-	-	-	-
	DI/DO	-	-	-	-	-	-	-
	Console	-	-	-	-	-	-	-
Network Management	Redundancy	-	-	-	-	-	-	-
	Diagnostics	-	-	-	-	-	-	-
	VLAN	-	-	-	-	-	-	-
	Configuration	-	-	-	-	-	-	-
	SNMP	-	-	-	-	-	-	-
	Security	-	-	-	-	-	-	-
	Traffic Control	-	-	-	-	-	-	-
Power	2 x Unregulated 12 ~ 48 V_{DC}	✓	✓	✓	✓	✓	✓	-
	2 x Unregulated 100 ~ 240 V_{DC}	-	-	-	-	-	-	✓
	2 x Unregulated 100 ~ 240 V_{AC}	-	-	-	-	-	-	✓
	Relay Output	✓	✓	✓	✓	✓	✓	✓
Mechanism	DIN-rail Mount	✓	✓	✓	✓	✓	✓	✓
	Wall Mount	✓	✓	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	EKI-5525S/M Series	EKI-5524SS/ MM Series	EKI-7626C	EKI-7629C	-	-	-
	-40 ~ 75°C (-40 ~ 167°F)	EKI-5525SI/MI Series	EKI-5524SSI/ MMI Series	EKI-7626CI	EKI-7629CI	✓	✓	✓
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	-	-	✓	✓	-	-	-
	Class 1, Division 2	✓	✓	-	-	-	-	-
	UL 508	✓	✓	-	-	✓	✓	-
	Others	-	-	-	-	-	-	-

Unmanaged Industrial Ethernet Switches

Model Name		EKI-2728MI	EKI-2725/I	EKI-2728/I	EKI-2525/I EKI-2528/I	EKI-2525M/S	EKI-2526M/S
Description		6G+2G Multi-Mode Unmanaged Ethernet Switch with Wide Temperature	8-port Gigabit Unmanaged Industrial Ethernet Switch	8-port Gigabit Unmanaged Industrial Ethernet Switch	5/8-port Unmanaged Industrial Ethernet Switch	4+1 100FX Port Multi-mode/ Single-mode Unmanaged Industrial Ethernet Switch	4+2 100FX Port Multi-mode/ Single-mode Industrial Ethernet Switch
Interface	Ports Number	8	5	8	5/8	5	6
	10/100Base-T (X)	-	-	-	5/8	4	4
	100BaseFX	-	-	-	-	1	2
	10/100/1000Base-T (X)	6	5	8	-	-	-
	1000Base-SX/LX/LHX/ XD/ZX/EZX	2	-	-	-	-	-
	PoE (10/100 Mbps)	-	-	-	-	-	-
	PoE (10/100/1000 Mbps)	-	-	-	-	-	-
	DI/DO	-	-	-	-	-	-
	Console	-	-	-	-	-	-
Network Management	Redundancy	-	-	-	-	-	-
	Diagnostics	-	-	-	-	-	-
	VLAN	-	-	-	-	-	-
	Configuration	-	-	-	-	-	-
	SNMP	-	-	-	-	-	-
	Security	-	-	-	-	-	-
	Traffic Control	-	-	-	-	-	-
Power	2 x Unregulated 12 ~ 48 V_{DC}	✓	✓	✓	✓	✓	✓
	2 x Unregulated 100 ~ 240 V_{DC}	-	-	-	-	-	-
	2 x Unregulated 100 ~ 240 V_{AC}	-	-	-	-	-	-
	Relay Output	✓	✓	✓	✓	✓	✓
Mechanism	DIN-rail Mount	✓	✓	✓	✓	✓	✓
	Wall Mount	✓	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	-	EKI-2725	EKI-2728	EKI-2525/2528	✓	✓
	-40 ~ 75°C (-40 ~ 167°F)	✓	EKI-2725I	EKI-2728I	EKI-2525I/2528I	-	-
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	-	✓	✓	✓	✓	✓
	Class 1, Division 2	✓	-	-	-	-	-
	UL 508	✓	-	-	-	-	-
	Others	-	-	-	-	-	-

Power Over Ethernet (PoE) Switches

Model Name		EKI-9316P	EKI-9312P	EKI-7710G-2CPI EKI-7710G-2CP	EKI-7710E-2CP EKI-7710E-2CPI	EKI-7712G-4FP EKI-7712G-4FPI	EKI-7659CPI	EKI-2726FHPI	EKI-2701PSI
Description		16 Port Industrial-Class Managed DIN Rail Switch Full Gigabit Switch with PoE/PoE+	12 Port Industrial-Class Managed DIN Rail Switch Full Gigabit Switch with PoE/PoE+	8G+2G Port Gigabit Managed Redundant Industrial PoE Switch	8FE+2G Port Gigabit Managed Redundant Industrial PoE Switch	8G+4G Port Gigabit Managed Redundant Industrial PoE Switch	8+2G Port Gigabit Managed Redundant Industrial PoE Switch with Wide Temperature	4G+2 SFP W/ 4 IEEE 802.3 High Power PoE Industrial Wide Temperature Switch	Industrial PoE Splitter with Wide Temperature
Interface	Ports Number	16	12	10	10	12	10	6	2
	10/100Base-T (X)	-	-	-	-	-	-	-	-
	100BaseFX	-	-	-	-	-	-	-	-
	10/100/1000Base-T (X)	12	8	8	8	8	-	4	1
	1000Base-SX/LX/LHX/XD/ZX/EZX	4	4	2	2	4	2	2	-
	PoE (10/100 Mbps)	12	8	-	8	-	8	4 (PoE+, 30W)	-
	PoE (10/100/1000 Mbps)	-	-	8	-	8	-	-	1
	DI/DO	-	-	-	-	-	-	-	-
	Console	✓	✓	✓	✓	✓	✓	-	-
Network Management	Redundancy	✓	✓	✓	✓	✓	✓	-	-
	Diagnostics	✓	✓	✓	✓	✓	✓	-	-
	VLAN	✓	✓	✓	✓	✓	✓	-	-
	Configuration	✓	✓	✓	✓	✓	✓	-	-
	SNMP	✓	✓	✓	✓	✓	✓	-	-
	Security	✓	✓	✓	✓	✓	✓	-	-
	Traffic Control	✓	✓	✓	✓	✓	✓	-	-
Power	2 x Unregulated 12 ~ 48 V_{DC}	✓	✓	✓	✓	48 V_{DC}	48 V_{DC}	48 V_{DC}	44-57 V_{DC}
	2 x Unregulated 100 ~ 240 V_{DC}	-	-	-	-	-	-	-	-
	2 x Unregulated 100 ~ 240 V_{AC}	-	-	-	-	-	-	-	-
	Relay Output	-	-	-	-	✓	✓	✓	-
Mechanism	DIN-rail Mount	✓	✓	✓	✓	✓	✓	✓	✓
	Wall Mount	✓	✓	✓	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	-	-	7710G-2CP	7710E-2CP	7712G-4F	-	-	-
	-40 ~ 75°C (-40 ~ 167°F)	✓	✓	7710G-2CPI	7710E-2CPI	7712G-4FI	✓	✓	✓
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	✓	✓	-	-	-	✓	-	✓
	Class 1, Division 2	✓	✓	-	-	-	-	-	-
	UL 508	-	-	✓	✓	✓	-	✓	-
	Others	-	-	-	-	-	-	-	-

Power Over Ethernet (PoE) Switches

Industrial Media Converters

Model Name		EKI-2701HPI	EKI-2528PAI	EKI-2525P	EKI-2526PI	EKI-2525PA	EKI-2741F/FI/SX/SXI/LX/LXI	EKI-2541M/MI/S/SI
Description		Industrial PoE+ Injector with Wide Temperature	8-port Industrial PoE Switch with 24/48 V DC Power Input and Wide Temperature	5-port Industrial PoE Switch	6-port Industrial PoE Switch with Wide Temperature	5-port Industrial PoE Switch with 24/48 V DC Power Input	10/100/1000TX to Fiber Optic Gigabit Industrial Media Converters	10/100TX to Multi-mode / Single-mode SC Type Fiber Optic Industrial Media Converters
Interface	Ports Number	2	8	5	6	5	2	2
	10/100Base-T (X)	-	4	1	2	1	-	1
	100BaseFX	-	-	-	-	-	-	1
	10/100/1000Base-T (X)	1	-	-	-	-	1	-
	1000Base-SX/LX/LHX/XD/ZX/EZX	-	-	-	-	-	1	-
	PoE (10/100 Mbps)	-	4	4	4	4	-	-
	PoE (10/100/1000 Mbps)	1	-	-	-	-	-	-
	DI/DO	-	-	-	-	-	-	-
	Console	-	-	-	-	-	-	-
Network Management	Redundancy	-	-	-	-	-	-	-
	Diagnostics	-	-	-	-	-	-	-
	VLAN	-	-	-	-	-	-	-
	Configuration	-	-	-	-	-	-	-
	SNMP	-	-	-	-	-	-	-
	Security	-	-	-	-	-	-	-
	Traffic Control	-	-	-	-	-	-	-
Power	2 x Unregulated 12 ~ 48 VDC	24/48 VDC	24/48 VDC	48 VDC	48 VDC	24/48 VDC	✓	✓
	2 x Unregulated 100 ~ 240 VDC	-	-	-	-	-	-	-
	2 x Unregulated 100 ~ 240 VAC	-	-	-	-	-	-	-
	Relay Output	✓	✓	✓	✓	✓	✓	✓
Mechanism	DIN-rail Mount	✓	✓	✓	✓	✓	✓	✓
	Wall Mount	✓	✓	✓	✓	✓	✓	✓
	Rack Mount	-	-	-	-	-	-	-
	IP Level	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Protection	ESD (Ethernet)	✓	✓	✓	✓	✓	✓	✓
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓
	Power Reverse	✓	✓	✓	✓	✓	✓	✓
Operating Temperature	-10 ~ 60°C (14 ~ 140°F)	-	-	✓	-	✓	EKI-2741F/SX/LX	EKI-2541M
	-40 ~ 75°C (-40 ~ 167°F)	✓	✓	-	✓	-	EKI-2741FI/SXI/LXI	EKI-2541MI/SI
	-40 ~ 85°C (-40 ~ 185°F)	-	-	-	-	-	-	-
Certifications	CE	✓	✓	✓	✓	✓	✓	✓
	FCC	✓	✓	✓	✓	✓	✓	✓
	UL/cUL 60950-1	-	-	✓	✓	-	✓	✓
	Class 1, Division 2	-	-	-	-	-	✓	✓
	UL 508	✓	✓	-	-	✓	✓	✓
	Others	-	-	-	-	-	-	-

Wireless Devices

Modbus Gateways

Model Name		EKI-1331	EKI-1334	EKI-1321 EKI-1322	EKI-1361 EKI-1362	EKI-1361-MB EKI-1362-MB	EKI-1221/CI/I EKI-1222/CI/I EKI-1224/CI/I
Description		1-port RS-232/485 to HSPA+ IP Gateway	Industrial Ethernet/Serial Router	1/2-port RS-232/422/485 to GPRS IP Gateway	1/2-port RS-232/422/485 to 802.11b/g/n WLAN Serial Device Server	1/2-port RS-232/422/485 to 802.11b/g/n WLAN Modbus Gateway	1/2/4-Port Modbus Gateway
Connectivity	10/100Base-TX, Fixed	1	5	1	1/2	1/2	2
	10/100/1000Based-T, Fixed	-	-	-	-	-	-
	RS-232 only	-	1	-	-	-	-
	RS-232/422/485	1 (RS-232/485)	-	1/2	1/2	1/2	1/2/4 (CI version: RS-422/485)
	Serial connector type	Terminal block	DB9 Male	DB9 Male	DB9 Male	DB9 Male	DB9 Male
Operating Mode	Mobility/Roaming	✓	✓	-	✓	✓	-
	Multi-Hopping	-	-	-	-	-	-
	AP/CPE	-	-	-	-	-	-
Enclusure & Mount kit	Enclusure	IP30	IP30	IP30	IP40	IP40	IP30
	DIN-rail	✓	✓	✓	✓	✓	✓
	Wall	✓	✓	✓	✓	✓	✓
	VESA Mount	-	-	-	-	-	-
	Pole Mount	-	-	-	-	-	-
Power	Power Input (VDC)	(12~24V)	(9~26V)	2* (12~48V)	2* (12~48V)	2* (12~48V)	2* (12~48V)
	Power input (PoE)	-	-	-	-	-	-
	Power connector	Terminal block	Terminal block	Terminal block	Terminal block	Terminal block	Terminal block
	Power Consumption (12/24/48V$_{DC}$) Watts			8W (EKI-1321) 8.5W (EKI-1322)	8W (EKI-1361) 9W (EKI-1362)	8W (EKI-1361-MB) 9W (EKI-1362-MB)	5.2W (EKI-1221/1222) 6.3W (EKI-1224)
Environment	Operating Temp.	-20 ~ 70°C	-20 ~ 70°C	-30 ~ 65°C	-30 ~ 65°C	-30 ~ 65°C	EKI-1221/EKI-1222/ EKI-1224: -10 ~ 60°C 'CI & I' models: -40 ~ 70°C
	Operating Humidity	5 ~ 95%	5 ~ 95%	5 ~ 95%	5 ~ 95%	5 ~ 95%	5 ~ 95%
	Input Reverse Protection	✓	✓	-	✓	✓	-
Software	Netwrok Protocol	NAT	NAT	ARP, ICMP, IPv4, IPv6, TCP, UDP, BOOTP, DHCP Client, Auto IP, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNTP, SSL	-	Modbus TCP, Modbus RTU/ASCII	Modbus RTU, Modbus TCP, Modbus ASCII
	Firewall	-	-	NAT, port forwarding	-	-	-
	Router	Username/Password	Username/Password	NAT, port forwarding	-	-	
	configuration option	Telnet console, Web-base	Telnet console, Web-base	Windows utility, Telnet console, Web Browser	Web-base, windows utility	Web-base, windows utility	Windows Utility, Web Browser
	Authentication	-	-	-	Username/Password	Username/Password	-
	Standard operation mode	Modbus RTU & TCP, USDG mode (TCP/UDP server mode, TCP/UDP client mode), IP Router w/ VPN	USDG mode (TCP/UDP server mode, TCP/UDP client mode), IP Router w/ VPN	Virtual COM, Reverse Virtual COM, TCP/UDP server mode, TCP/UDP client mode, Pair connection mode (Serial Tunnel), RFC2217, SMS Tunnel, IP Gateway w/ VPN	VCOM, USDG mode (TCP/UDP server, TCP/UDP client), Pair connection/Access Point Mode	Pair connection/Access Point Mode/ Modbus RTU Master/ Slave, Modbus ASCII Master/ Slave	Modbus RTU Master/Slave mode Modbus ASCII Master/Slave mode
WLAN	IEEE Standard	-	-	-	b/g/n	b/g/n	-
	Radio Number	1	1	-	1	1	-
	Security	-	-	-	WEP, WPA/WPA2-Personal, WPA/ WPA2-Enterprise	WEP, WPA/WPA2-Personal, WPA/ WPA2-Enterprise	-
RF	MIMO	-	-	-	2T2R	2T2R	-
	Maximum Transmit Output Power	HSDPA Cat. 10 / HSUPA Cat.6 data rates DGE class 12 data rates: GPRS class 12 data rates	HSDPA Cat. 10 / HSUPA Cat.6 data rates DGE class 12 data rates: GPRS class 12 data rates	-	19dBm (11n)	19dBm (11n)	-
	Rcecive Sensitivity	-102dBm	-102dBm	-	-93dBm (11g Rx0+Rx1)	-93dBm (11g Rx0+Rx1)	-
	Antenna Connector	SMA	SMA	-	R-SMA	R-SMA	-
Cellular	Standard	HSUPA Cat.6	HSUPA Cat.6	GSM/GPRS	-	-	-
	Five-band option in UMTS	✓	✓	-	-	-	-
	Quad-band optin in EDGE/GSM	✓	✓	-	-	-	-
	Certification (GCF, PTCRB)	✓	✓	-	-	-	-
Certification	UL60950-1	-	-	-	-	-	✓
	EN60950-1	-	-	-	-	-	-
	CE (EN55022 class A, EN55024)	✓	✓	✓	✓	✓	✓
	FCC (part 15 subpart B class A)	✓	✓	✓	✓	✓	✓
	Hazardous Location (Class I, Division 2)	-	-	-	-	-	✓
	Radio (EN 301 489-1/-4, EN 301 511)	✓	✓	✓	-	-	-
	Radio (FCC part 22H, part 24E)	-	-	-	-	-	-
	EN 50155	-	-	-	-	-	-

Serial Device Servers

Model Name		EKI-1521/CI/I EKI-1522/CI/I EKI-1524/CI/I	EKI-1528I-DR EKI-1528CI-DR	EKI-1528/T EKI-1526/T	ADAM-4571/L ADAM-4570/L
Description		1/2/4-port RS-232/422/485 Serial Device Server	8-port RS-232/422/485 Device Server 8-port RS-422/485 Device Server	8/16-port RS-232/422/485 Serial Device Server	1/2-port RS-232/422/485 Serial Device Server
Connectivity	10/100Base-TX, Fixed	2	2	2	1
	10/100/1000Based-T,Fixed	-	-	-	-
	RS-232 only	-	-	-	ADAM-4571L/4570L: 1/2
	RS-232/422/485	1/2/4 (CI version: RS-422/485)	8	8/16	ADAM-4571/4570: 1/2
	Serial connector type	DB9 Male	DB9 Male	8-pin RJ45	ADAM-4571/L: DB9 Male ADAM-4570/L: 10-pin RJ48
Enclusure & Mount kit	Enclosure	IP30	IP30	SECC chassis	ABS+PC with solid mounting hardware
	DIN-rail	✓	✓	Rackmount	✓
	Wall	✓	✓	✓	✓
	VESA Mount	-	-	-	-
	Pole Mount	-	-	-	-
Power	Power Input (V_{DC})	2* (12~48V)	2* (12~48V)	EKI-1528/EKI-1526: 100 ~ 240 V_{AC} EKI-1528T/EKI-156T: 48 V_{DC}	(10~30V)
	Power input (PoE)	-	-	-	-
	Power connector	Terminal block	Terminal block	EKI-1528/EKI-1526: Toggle Switch EKI-1528T/EKI-156T: Terminal Block	Terminal block
	Power Consumption (12/24/48VDC) Watts	5.2 W (EKI-1521/EKI-1522) 6.3 W (EKI-1524)	5 W (EKI-1528I) 6 W (EKI-1528CI)	10 W (EKI-1528/EKI-1528T) 12 W (EKI-1526/EKI-1526T)	2.5 W
Environment	Operating Temp.	EKI-1521/EKI-1522/EKI-1524: -10 ~ 60°C 'CI & I' models: -40 ~ 70°C	-40 ~ 70°C	-10 ~ 60°C	-10 ~ 60°C
	Operating Humidity	5 ~ 95%	10 ~ 95%	5 ~ 95%	5 ~ 95%
	Input Reverse Protection	-	-	-	-
Software	Netwrok Protocol	ARP, ICMP, IPv4, TCP, UDP, BOOTP, DHCP Client, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, NTP	ARP, ICMP, IPv4, TCP, UDP, BOOTP, DHCP Client, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, NTP	ARP, ICMP, IPv4, TCP, UDP, BOOTP, DHCP Client, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, NTP	ARP, ICMP, IPv4, TCP, UDP, BOOTP, DHCP Client, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP
	Firewall	-	-	-	-
	Router	-	-	-	-
	configuration option	Windows utility, Telnet console, Web Browser	Windows utility, Telnet console, Web Browser	Windows utility, Telnet console, Web Browser, serial console	Windows utility, Telnet console, Web Browser
	Authentication	-	-	-	-
	Standard operation mode	COM Port redirection (Virtual COM) TCP/UDP Server (Polling) Mode TCP/UDP Client (event handling) Mode Pair Connection (P2P) Mode RFC-2217 Mode	COM Port redirection (Virtual COM) TCP/UDP Server (Polling) Mode TCP/UDP Client (event handling) Mode Pair Connection (P2P) Mode RFC-2217 Mode	COM Port redirection (Virtual COM) TCP/UDP Server (Polling) Mode TCP/UDP Client (event handling) Mode Pair Connection (P2P) Mode RFC-2217 Mode	COM Port redirection (Virtual COM) TCP/UDP Server (Polling) Mode TCP/UDP Client (event handling) Mode Pair Connection (P2P) Mode
Certification	UL60950-1	✓	✓	-	-
	EN60950-1	-	-	-	-
	CE(EN55022 class A, EN55024)	✓	✓	✓	✓
	FCC (part 15 subpart B class A)	✓	✓	✓	✓
	Hazardous Location (Class I, Division 2)	✓	-	-	-
	Radio (EN 301 489-1/-4, EN 301 511)	-	-	-	-
	Radio (FCC part 22H, part 24E)	-	-	-	-
	EN 50155	-	-	-	-

Compact Ethernet Media Converters

Compact Ethernet Gigabit Media Converters

PoE, PoE+ Gigabit Media Converters

Gigabit Ehternet Media Converter, Multiport

Model Name		MiniMc with LFPT	IE-MiniMc with LFPT	Giga-MiniMc with LFPT	IE-Giga-MiniMc with LFPT	PoE Giga-MiniMc w/LFPT	PoE+ Giga-MiniMc w/LFPT	IE-MultiWay	IE-SFP Fiber Modules
Part Numbers		855-11621, 855-11623, 855-11619	855-19822	856-11700,856-11701, 856-11703	856-18930,856-18931	PoE:857-11811,857-11812,857-11814	857-11911, 857-11912	858-11121	808-38101, 808-38102, 808-38103, 80838121,808,-38122 (Dual Strand, Single Strand Fiber)
Description		Two Port Copper to Fiber compact 10/100 Media Converter with Link Fault Pass Through, unmanaged	Industrial Two Port Copper to Fiber compact 10/100Media Converter with Link Fault Pass Through, unmanaged	Two Port Copper to Fiber 10/100/1000 Media Converter with Link Fault Pass Through, Unmanaged	Industrial Two Port Copper to Fiber 10/100/1000 Media Converter with Link Fault Pass Through, unmanaged	PoE capable Unmanaged 10/100/1000 Media Converters	PoE+ capable Unmanaged 10/100/1000 Media Converters	Four Port Managed 10/100/1000 switch, with SFP capability, compact form factor	Dual Strand, Single Strand Fiber, Multi Mode and Single Mode
Interface	Ports Number	2	2	2	2	3	3	4	1
	10/100Base-T (X)	✓	✓	-	-	-	-	-	✓
	100BaseFX	✓	✓	✓	✓	✓	-	✓	-
	10/100/1000Base-T (X)	-	-	✓	✓	2	2	✓	-
	1000Base-SX/LX	✓	✓	✓	✓	1	1	✓	-
	PoE (10/100/1000 Mbps)	-	-	-	-	1	-	-	-
	PoE+ (10/100/1000 Mbps)	-	-	-	-	✓	2	-	-
	PoE Reset DSW	-	-	-	-	✓	✓	-	-
	SFP port model option	✓	-	✓	-	✓	✓	✓	-
	LFPT	✓	✓	✓	✓	✓	✓	✓	-
Network Management	Redundancy	-	-	-	-	-	-	✓	-
	Diagnostics	-	-	-	-	-	-	✓	-
	VLAN	-	-	-	-	-	-	✓	-
	Configuration	-	-	-	-	-	-	✓	-
	SNMP	-	-	-	-	-	-	✓	-
	Security	-	-	-	-	-	-	✓	-
	Jumbo Frames	1916	1916	10240	10240	10240	-	10240	-
Power	100-240VAC	✓	✓	✓	✓	✓	-	✓	-
	DC voltage	-	7-50 VDC	-	7-50 VDC	-	-	480 VDC	-
Hardware Mtg.	DIN-rail Mount	✓	✓	✓	✓	✓	-	✓	-
	Wall Mount	✓	✓	✓	✓	✓	-	✓	-
	Rack Mount	✓	✓	✓	✓	✓	-	✓	-
	IP Level	-	-	-	-	-	-	-	-
Protection	ESD (Ethernet)	✓	✓	✓	-	-	-		-
	Surge (EFT for power)	✓	✓	✓	✓	✓	✓	✓	-
	Reverse Polarity	✓	✓	✓	✓	✓	-	✓	-
Operating Temp	0 ~50°C	✓	-	✓	-	✓	-	-	-
	-25 ~ 85°C (-13 ~ +185°F)	-	-	-	✓	-	-	-	-
	-40 ~ 85°C (-40 ~ 185°F)	-	✓	-	-	-	-	✓	✓
Certifications	CE	✓	✓	✓	✓	✓	-	✓	✓
	FCC	✓	✓	✓	✓	✓	-	✓	✓
	UL/cUL 60950-1	✓	✓	✓	✓	✓	-	✓	✓
	Class 1, Division 2	-	-	-	-	-	-	-	✓
	UL 508	-	-	-	-	-	-	-	-
	MSA compliant	-	-	-	-	-	-	-	✓
	Class 1,Eye-safe Lasers	✓	✓	✓	✓	✓	-	✓	✓

Serial Converters, Isolators and Surge Protectors

Model Name		485DRCI	485SD9R, 485SD9TB	FOSTCDRI	232OPDRI	485OPDRI	HESP4DR
Description		Triple Isolated RS-232 to RS-422/485 Converter	Port Powered RS-232 to RS-485 Converter	Triple Isolated RS-232/422/485 toFiber Converter	Triple Isolated RS-232 DIN Rail Repeater	Triple Isolated RS-485/422 DIN Rail Repeater	Three-stage DIN Rail RS422/485 Surge Protector
Function		Serial Converter			Isolator / Repeater		Surge Protector
Key Features		Class 1 Division 2/ Tripple Isolation, Oil and Gas Applications	Small Form Factor, Port Powered	Fiber to Serial	Class 1 Division 2/ Tripple Isolation, Oil and Gas Applications	Class 1 Division 2/ Tripple Isolation, Oil and Gas Applications	High Energy Surge Protector
Specifications	Temp	-40 to 80°C	0 to 70 C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
	Isolation	✓	–	✓	✓	✓	–
	Input Power	10 to 48 VDC	Port Powered from RS-232 Ports	10 to 48 VDC	10 to 48 VDC	10 to 48 VDC	–
	Dataline Surge Protection	✓	–	✓	✓	✓	v (5 lines)
	RS-232 Connector	DB9 female	DB9 female	Removable Terminal Blocks	DB9 female & DB9 male	-	–
	RS-422/485 Connector and Power	Remmovable Terminal Blocks	DB9 female or Terminal Block	Remmovable Terminal Blocks	-	Remmovable Terminal Blocks	Terminal Block
	Maximum Buad Rate	115.2 kbps	115.2 kbps	115.2 kbps	115.2 kbps	115.2 kbps	–
	Mounting	DIN Rail	In-line	DIN Rail	DIN Rail	DIN Rail	DIN Rail
	Industrial Rating	Light	–	Light	Light	Light	Light
	UL Rating	UL 508	–	UL 508	UL 508	UL 508	–
	Class 1 Division 2	✓	–	✓	✓	✓	–

Ethernet to Serial Converters

Model Name		VESP211, VESP211-232, VESP211-485	VESR901	VESR921-MC	MESR901	MESR921-MC
Description		Compact Ethernet to Serial Converter	DIN Rail Mount Ethernet to Serial Converter	DIN Rail Mount Ethernet to Serial Converter with Fiber Port	Modbus Ethernet to Modbus Serial Converter	Modbus Ethernet to Modbus Serial Converter with Fiber Port
Function		VCOM, Socket Connection, Paired Mode			Modbus	
Ethernet	Copper Ports	1	1	1	1	1
	Fiber Ports	–	–	1 Multi-mode (SC)	–	1 Multi-mode (SC)
Serial	Port Count	1	1	1	1	1
	DB9	232	232	232	232	232
	Terminal Block	422/485	422/485	422/485	422/485	422/485
Specifications	Temp Spec	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
	Power DC	10 to 30VDC	10 to 48VDC	10 to 48VDC	10 to 48VDC	10 to 48VDC
	Mounting	Panel	DIN	DIN	DIN	DIN
	Class 1 Division 2	–	yes	yes	yes	yes

USB to Serial, USB Hubs and Isolators

Model Name		USOPTL4, USPTL4	485USB9F-2W	485USBTB-2W	UHR204, UHR304	UH104	UH401
Description		USB to RS-422/485 Converter	Mini USB to RS-485 2-wire Converter	Mini USB to RS-485 2-wire Converter	Industrial DIN Rail Mount USB 4 Port Hub	Panel Mount USB 4 Port Hub	USB to USB Isolator
Function			USB to Serial Converter		USB Hub		USB Isolator
USB Ports	High Retention USB Connectors	✓	-	✓	✓	✓	✓
	Number of USB Upstream Ports	1	1	1	1	1	1
	Number of USB Downstream ports	-	-	-	4	4	1
	Isolation	-	-	-	4kV (UHR304)	-	4kV
Serial Ports	Number of Serial Ports	1	1	1	-	-	-
	Serial Interface	RS-422/485	RS-485	RS-485	-	-	-
	Serial Connector	Terminal Block	DB9 Female	Terminal Block	-	-	-
	Isolation	2kV (USOPTL4 only)	-	-	-	-	-
Specifications	Temperature	0 to 70°C	0 to 70°C	0 to 70°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
	Power Input	USB Bus	USB Bus	USB Bus	10 to 30V$_{DC}$ (USB Bus, UHR204 only)	USB Bus	USB Bus
	DIN Mount	-	-	-	✓	-	-
	Panel Mount	-	-	-	✓	✓	-
	Inline	✓	✓	✓	-	-	✓
	UL	-	-	-	✓	-	-
	Class 1 Division 2	-	-	-	✓	-	-

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