

# Industrial Communication Solutions

Connect Devices Anywhere



- Industrial Ethernet Switches
- Media Converters
- Serial Device Servers
- Multiport Serial I/O Cards



# Advantech's Industrial Communication Solutions - Open eAutomation Boundless Integration

As the leading supplier of industrial computers worldwide, Advantech has the experience and know-how to offer world-class industrial communication products for PC-based automation. Advantech's products not only have the ability to connect sensors and I/O devices from field sites and factories, but also provide an Ethernet backbone to integrate these products with enterprise systems in real time.

## Advantech's Exclusive Product Line

Advantech provides highly rugged and reliable industrial networking products, including:

### • Industrial Ethernet Switches & Media Converters

Advantech's EKI series of Industrial Ethernet solutions offer a wide range of connectivity options, including: copper, fiber-optic and wireless. In response to continuous Industrial Networking demands, Advantech's EKI series now provides the X-Ring technology, which offers the fastest redundant ring recovery time on the market today (< 10ms), securing data communication and increasing reliability.

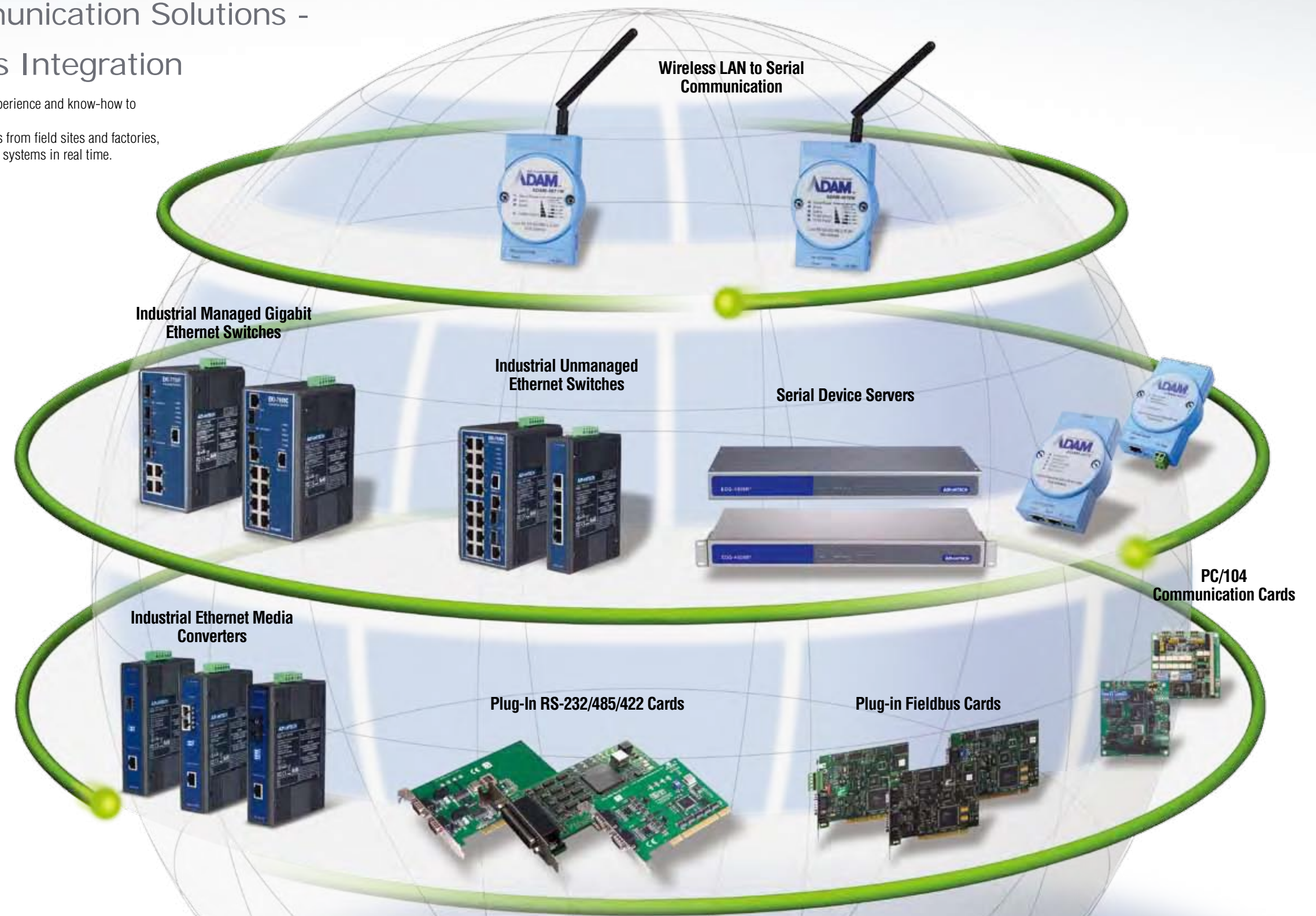
### • Serial Device Servers

Advantech provides comprehensive communication Device Servers to satisfy enterprise networking needs, including Serial to Serial Device Servers, RS-232/422/485 to Serial Device Servers, Serial to Device Servers, Universal Device Gateways, Modbus to Serial Device Servers, and RS-232/422/485 to WLAN Serial Device Servers.

### • Multiport Serial I/O Cards

Advantech's Industrial Multiport Serial I/O cards are designed to accommodate multiple high performance peripherals for field devices that use the RS-232/422/485 serial communication protocols. With industrial-grade protection, Advantech's Industrial Multiport Serial I/O cards avoid system damage in harsh environments.

Advantech's industrial communication solutions offer the most complete selection for any wired or wireless connectivity needs.



# Gigabit Redundant X-Ring

- Fast recovery time (< 10 ms) is superior to RSTP (Rapid Spanning Tree) during link up and link down
- Dual Ring and Couple Ring are advanced technologies that offer double security
- Up to 30 switches can be setup in a ring so both large and small networks can be implemented
- Reduced cabling offers distinct cost advantages
- Clear and straightforward cabling



**EKI-7656C**  
16 + 2G Combo Ports  
Industrial Managed  
Gigabit Ethernet Switch



**EKI-7758F**  
8G Ports  
Industrial Managed  
Gigabit Ethernet Switch  
4GT + 4G SFP



**EKI-7758F**  
8G Ports  
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4GT + 4G SFP



**EKI-7758F**  
8G Ports  
Industrial Managed  
Gigabit Ethernet Switch  
4GT + 4G SFP



**EKI-7659C**  
8 + 2G Combo Ports  
Industrial Managed  
Gigabit Ethernet Switch



**EKI-7656C**  
16 + 2G Combo Ports  
Industrial Managed  
Gigabit Ethernet Switch



**EKI-7659C**  
8 + 2G Combo Ports  
Industrial Managed  
Gigabit Ethernet Switch

*Recovery Time < 10ms*

*Recovery Time < 10ms*

## Media Converters



**EKI-2741F**  
Gigabit Ethernet to  
1000Base-SFP  
Media Converter



**EKI-2741LX/SX**  
Gigabit Ethernet to  
1000Base-LX/SX  
Fiber Optic  
Media Converter



**EKI-2541S/M**  
Ethernet to  
100Base-FX  
Fiber Optic  
Media Converter



**EKI-2526M/S**  
5-port Industrial  
Unmanaged Ethernet switch,  
1-port 100Base-FX  
Multi-Mode/ Single-Mode



**EKI-2526M**  
6-port Industrial Unmanaged  
Ethernet switch,  
2-port 100Base-FX  
Multi-Mode



**EKI-2725**  
5-port Industrial  
Unmanaged Gigabit  
Ethernet Switch



**EKI-2525/2528**  
5/8-port Industrial  
Unmanaged Ethernet  
Switch



**EKI-7629C/7626C**  
8/16 + 2G  
Combo Ports  
Industrial Unmanaged  
Gigabit Ethernet Switch

## Unmanaged Ethernet Switches with Fiber-Optics

## Unmanaged Ethernet Switches

## Industrial Ethernet Switches & Media Converters

Advantech's EKI series Industrial Ethernet solutions offer a wide range of transmission media options, including: copper, glass fiber and "wireless." Data transmission rates can range from 10 Mbps, 100 Mbps to 1000Mbps(Gigabit/s), making the process of manufacturing data not just available at the field level, but also seamlessly integrated into higher-level data acquisition systems. Advantech's EKI series X-Ring technology offers the fastest redundant ring recovery time (< 10ms) to secure data communication and reliability. Further, the robust design together with DIN-rail mounting and +12~48 Vdc redundant power input make EKI suitable for rugged industrial applications.

### Managed, Industrial Gigabit Ethernet Switches

Thanks to Advantech's "X-Ring" technology, the EKI-7000 Industrial Managed Ethernet switch offers the fastest Ethernet Redundant Ring (recovery time < 10 ms) to increase the reliability and speed of network infrastructures. Additionally, EKI-7000 features advanced, intelligent network management functions, including Management (Web, Telnet, Serial Console, Windows Utility, SNMP), Control (VLAN/GVRP, QoS, IGMP Snooping, LACP, Rate Limit), Security (IP/MAC & port binding, DHCP Server, IP access list, 802.1X,SNMPv3) and Diagnostics (Port Statistic, Port Mirroring, RMON, Trap, E-Mail Alert, Syslog).



### Unmanaged, Industrial Gigabit Ethernet Switches

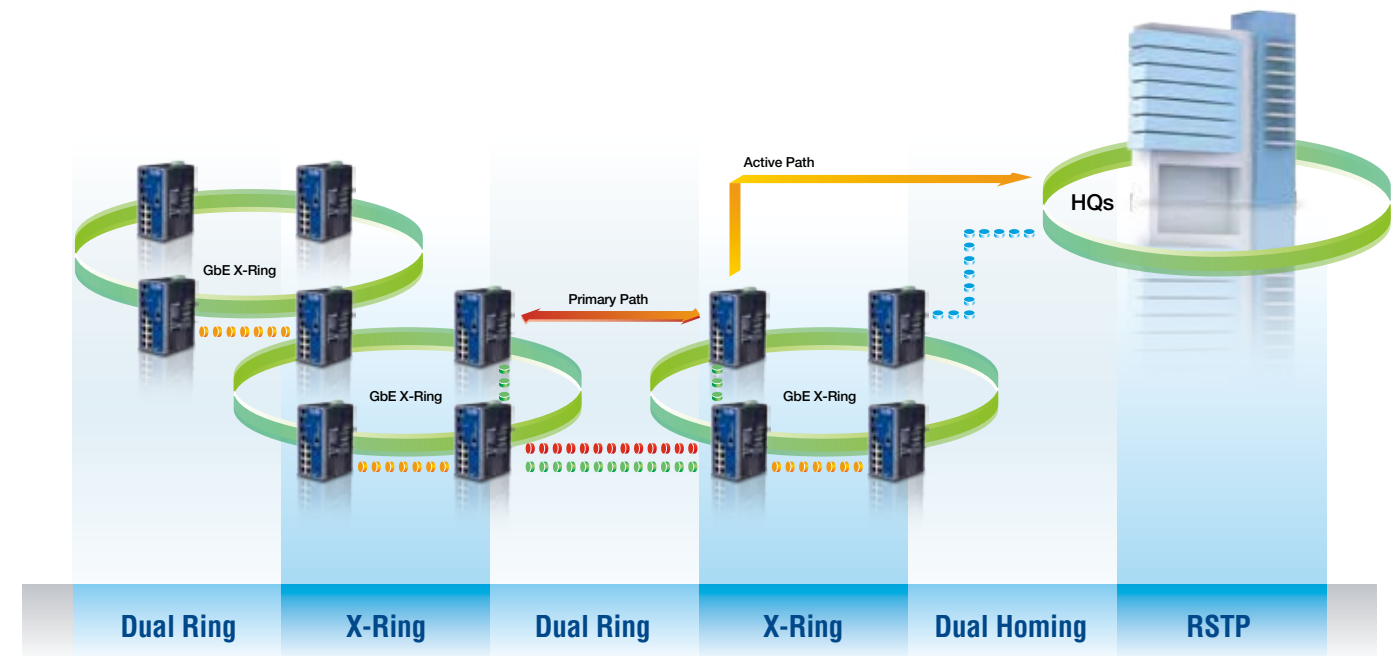
Advantech's entry-level industrial unmanaged Ethernet switches provide low-cost and reliable solutions for industrial Ethernet connections. They support the IEEE802.3/802.3u/802.3x standard that offers 10/100 Mbps Fast Ethernet ports and 10/100/1000 Mbps Gigabit Ethernet ports. They provide multi-mode fiber optic ports, single-mode fiber optic ports and SFP combo ports to transmit data at high-speed (1000 Mbps) over long distances (up to 30 km) without interference. And they all feature +12 ~ 48 V<sub>DC</sub> redundant power inputs and IP30 compliant compact metal housings that can operate in demanding industrial environments.

### Industrial Ethernet Media Converters

Advantech's Industrial Ethernet Media Converters are extremely compact and robust devices. Basically, they are designed to convert and transmit Gigabit Ethernet or Fast Ethernet networks into Gigabit or Ethernet fiber networks by transparently converting digital electric Ethernet signals to optical signals. They can be mounted on a DIN-rail and wallmounted, they can work normally from -10 ~ 60° C and accepts a wide voltage range +12 ~ 48V<sub>DC</sub> power input. Finally, they also provide the Link Fault Pass-Through (LFP) detection, which forces the link to shut down instantly if another link fails; this rapid response gives the application software time to adapt to events in real-time.



## Non-Stop Communication with X-Ring



### Overview:

In an Industrial Ethernet environment, redundancy is always the primary consideration. To ensure the environment is reliable and always running, fast network recovery time is essential. Advantech's EKI switches support standard and proprietary redundancy protocols, guaranteeing a stable and reliable industrial environment.

### Couple Ring/Dual Ring

In some industrial environments, it may not be convenient to connect all devices within a single collision domain. Advantech's Couple Ring and Dual Ring are flexible topologies which can connect several distributed rings together and provide multiple paths. Communication between the rings can still operate even if one path fails.

### X-Ring

The X-Ring redundant architecture allows one switch in the ring to be the Primary Ring Master. One path of the Ring Master is the forwarding path, the other is the backup path. If one of the links fails, the Primary Ring Master automatically activates the backup path within 10ms. With the redundant ring mechanism, EKI managed switches provide highly solid and reliable communication for your system.

### RSTP

The Rapid Spanning Tree Protocol (RSTP) is an evolution of the Spanning Tree Protocol (STP) and provides for faster spanning tree convergence after a topology change. The system also supports STP and the system will auto detect the connected device that is running STP or RSTP protocols.

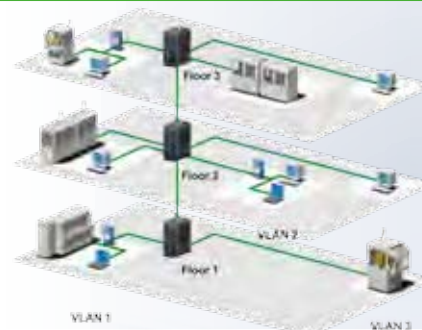
### Dual Homing

EKI managed switches support Dual Homing for connecting with another network which runs RSTP or other ring protocols. Users can connect 2 paths to the same switches, or switches on different levels of the network architecture. This is a convenient way for the network planner to expand the network without replacing existed devices.

## Advanced Network Management

### Segmenting Network Devices with Security - Virtual Local Area Network (VLAN)

Virtual Local Area Network (VLAN) improves the security by grouping Ethernet devices logically and confining traffic between these groups even if the devices all share the same physical switch.



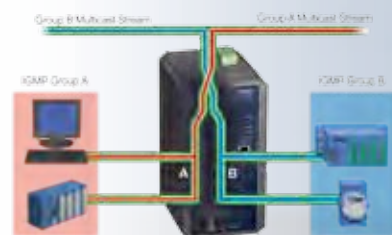
### Traffic Prioritization for Deterministic Communication

Quality of Service (QoS) ensures critical data is delivered consistently and predictably. Advantech's EKI series supports Layer 2 802.1p priority queue control to prioritize network packets.



### Advanced Traffic Control for Network Optimization

Network broadcast storms or malfunctioning network devices will generate unexpected, large packets which can block network traffic. Advantech's EKI series is able to configure the ingress/egress rate of unicast/multicast/broadcast packets in parts and limit the bandwidth of each individual port to regulate the information flow without choking off individual data streams.



### Configurable Input/Output Message Response

By simply setting up a web-based configuration, you can manage the connection between two digital inputs and two digital outputs that are built into EKI. These are invaluable when integrating field indicators or alarm devices that will respond to messages according to individual user's configured settings.



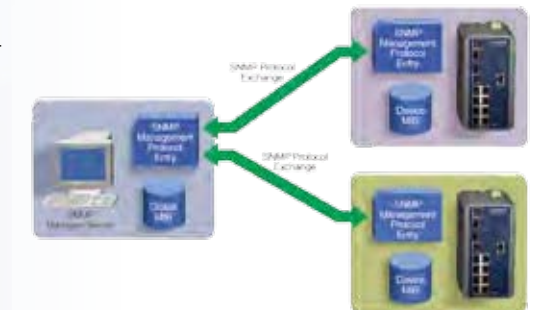
### Flexible Configuration Modes for Different Applications

Advantech's EKI series supports web and console-based configurations for different applications. You can configure EKI through a web browser remotely without extra utilities or by using a direct connection to the console port of EKI through a single serial cable. Furthermore, with the X-View function you can log in to multiple switches simultaneously.



### Efficient Device Management - Simple Network Management Protocol (SNMP)

The Simple Network Management Protocol (SNMP), is an application-layer protocol designed to facilitate the exchange of management and performance information between networked devices. Using SNMP facilitates monitoring of device and network performance, and easier diagnosis and problem-solving.



### Grouped Bandwidths for Flexible Networking Arrangements - Port Trunking

Port trunking is grouping two or more ports together and working as a logical path. This can be used to increase the bandwidth up to 800 Mbps between two cascaded switches.



### Security Gate Control for Preventing Unauthorized Access - MAC Filtering

Advantech's EKI series provides specific gate controls for each individual port to improve network security. Only the packets from authorized MAC addresses are allowed to pass through the switch. Through the use of this defense mechanism, it is possible to limit access to authorized devices only.



Front Viewable LEDs for Diagnosis

Dual Redundant Power Inputs / Power Fault Output

Supports DIN-rail/Wallmounting

System Grounding

Gigabit Combo Port (Copper & SFP)

8 x 10/100 Ethernet Ports (Fiber Optional)

Serial Console Port for Field Configuration

## EKI-7758F

8G port Industrial Managed Redundant Gigabit Ethernet Switch



### Features

- All Gigabit Ethernet ports for 4 Copper and 4 SFP
- SFP sockets for easy and flexible fiber expansion
- Redundancy: Gigabit X-Ring (ultra high-speed recovery time<10ms), RSTP/STP (802.1w/1D)
- Management: Web, Telnet, Serial Console, Windows Utility, SNMP
- Control: VLAN/GVRP, QoS, IGMP Snooping/Query, LACP, Rate Limit
- Security: IP/MAC and port binding, DHCP Server, IP access list, 802.1X
- Diagnostic: Port statistic, Port Mirroring, RMON, Trap, E-Mail Alert, Syslog
- Dual 12 ~ 48 Vdc power input and 1 Relay Output
- Robust mechanism and special heat spreader design

### Introduction

For many industrial automation applications, redundancy helps increase the reliability of your system. To create reliability in your network, the EKI-7758F comes equipped with a proprietary redundant network protocol -- X-Ring that was developed by Advantech, which provides users with an easy way to establish a redundant Ethernet network with ultra high-speed recovery time less than 10 ms. Furthermore, EKI-7758F also supports many advanced network standards to optimize network performance, ease maintenance issues, and secure network safety.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x, 802.3z, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X, 802.3ad, 802.3ab
- LAN** 10/100/1000Base-TX, Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX
- Transmission Distance** Ethernet : Up to 100m (4-wire Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port)  
SFP: Up to 110 km (depends on SFP)
- Transmission Speed** Gigabit Copper:10/100/1000 Mbps, Auto-Negotiation  
SFP : Up to 1000 Mbps

#### Interface

- Connectors** 4 x RJ-45 (Ethernet)  
4 x SFP (mini-GBIC) ports  
6-pin removable screw terminal(Power&Relay)
- LED Indicators** System: PWR, R.M., PWR1, PWR2, P-Fail  
Gigabit Copper: Link/Activity, Speed  
SFP: Link/Activity
- Console** RS-232 (RJ-45)

#### Network Management

- Configuration** Web browser, Telnet, Serial console, Windows Utility, TFTP, SNMPv1/v2c/v3, Port Speed/Duplex Configuration
- VLAN** IEEE 802.1Q, GVRP, Port-based VLAN
- Redundancy** ADVANTECH X-Ring (Recovery time< 10ms at 30pcs full loading ring structure), Dual Homing, Couple Ring, 802.1w/D RSTP/STP
- Security** IP Access security, port security, DHCP Server, Port and IP Binding, 802.1X Port Access Control
- Traffic Control** IGMP Snooping/Query for multicast group management Port Trunking, Static/802.3ad LACP Rate limit and storm control  
IEEE 802.1p QoS CoS/TOS/DSCP priority queuing  
IEEE 802.3x flow control

#### Diagnostics

Port Mirroring, Real-time traffic statistic, MAC Address Table, SNTP, Syslog, E-Mail Alert, SNMP Trap, RMON

#### Mechanism

- Enclosure** IP30, metal shell with solid mounting kits
- Dimensions (W x H x D)** 72 x 152 x 105 mm
- Mounting** DIN-rail, wall

#### Power

- Power Consumption** Max. 17 W
- Power Input** 2 x Unregulated 12~ 48 Vdc
- Fault Output** 1 Relay Output

#### Protection

- ESD (Ethernet)** 4,000 V<sub>DC</sub>
- Surge (EFT for power)** 3,000 V<sub>DC</sub>
- Power Reverse** Present
- Overload** 3.2A / 60V Replaceable Fuse

#### Environment

- Operating Temperature** -10~60° C (14~140° F)  
Wide temp. model -40~75° C (-40~167° F)
- Storage Temperature** -40~85° C (-40~185° F)
- Operating Humidity** 5 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 289,777 hours

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2  
IEC60068-2-27  
**Shock** IEC60068-2-32  
**Freefall** IEC60068-2-6  
**Vibration** IEC60068-2-6

### Ordering Information

- EKI-7758F** 8G port Industrial Managed Redundant Gigabit Ethernet Switch

## EKI-7656C

16+2G Combo Ports Industrial Managed Redundant Gigabit Ethernet Switch



### Features

- 2 Gigabit Copper/SFP combo ports, plus 16 Fast Ethernet ports
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: Gigabit X-Ring (ultra high-speed recovery time<10ms), RSTP/STP(802.1w/1D)
- Management: Web, Telnet, Serial Console, Windows Utility, SNMP
- Control: VLAN/GVRP, QoS, IGMP Snooping, LACP, Rate Limit
- Security: IP/MAC and port binding, DHCP Server, IP access list, 802.1X, SNMPv3
- Diagnostic: Port Statistic, Port Mirroring, RMON, Trap, E-Mail Alert, Syslog
- Dual 12 ~ 48 Vdc power input and 1 Relay Output
- Robust mechanism and special heat spreader design

### Introduction

For many industrial automation applications, redundancy helps increase the reliability of your system. To create reliability in your network, the EKI-7656C comes equipped with a proprietary redundant network protocol -- X-Ring that was developed by Advantech, which provides users with an easy way to establish a redundant Ethernet network with ultra high-speed recovery time less than 10 ms. Furthermore, EKI-7656C also supports many advanced network standards to optimize network performance, ease maintenance issues, and secure network safety.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x, 802.3z, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X, 802.3ad
- LAN** 10/100/1000Base-TX, Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX
- Transmission Distance** Ethernet : Up to 100m (4-wire Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port)
- Transmission Speed** Ethernet : 10/100Mbps Auto-Negotiation  
Gigabit Copper:10/100/1000 Mbps, Auto-Negotiation,  
SFP : Up to 1000 Mbps

#### Interface

- Connectors** 16 x RJ-45 (Ethernet)  
2 x RJ-45/SFP (mini-GBIC) combo ports  
6-pin removable screw terminal (power & relay)
- LED Indicators** System: PWR, R.M., PWR1, PWR2, P-Fail  
Ethernet: Link/Activity, Duplex/Collision  
Gigabit Copper: Link/Activity, Speed (1000Mbps)  
SFP: Link/Activity  
RS-232 (RJ-45)
- Console** RS-232 (RJ-45)

#### Network Management

- Diagnostics** Port Mirroring, Real-time traffic statistic, MAC Address Table, SNTP, Syslog, E-Mail Alert, SNMP Trap, RMON
- VLAN** IEEE 802.1Q, GVRP, Port-based VLAN
- Configuration** Web browser, Telnet, Serial console, Windows Utility, TFTP, SNMPv1/v2c/v3, Port Speed/Duplex Configuration
- Redundancy** ADVANTECH X-Ring (Recovery time< 10ms at 30pcs full loading ring structure), Dual Homing, Couple Ring, 802.1w/D RSTP/STP
- Security** IP Access security, port security, DHCP Server, Port and IP Binding, 802.1X Port Access Control
- Traffic Control** IGMP Snooping/Query for multicast group management Port Trunking, Static/802.3ad LACP Rate limit and storm control  
IEEE 802.1p QoS CoS/TOS/DSCP priority queuing  
IEEE 802.3x flow control

#### Mechanism

- Enclosure** IP30, metal shell with solid mounting kits
- Dimensions (W x H x D)** 72 x 152 x 105 mm
- Mounting** DIN-rail, wall

#### Power

- Power Consumption** Max. 10.7 W
- Power Input** 2 x Unregulated 12~ 48 Vdc
- Fault Output** 1 Relay Output

#### Protection

- ESD (Ethernet)** 4,000 V<sub>DC</sub>
- Surge (EFT for power)** 3,000 V<sub>DC</sub>
- Power Reverse** Present
- Overload** 3.2A / 60V Replaceable Fuse

#### Environment

- Operating Temperature** -10~60° C (14~140° F)  
Wide temp. model -40~75° C (-40~167° F)
- Storage Temperature** -40~85° C (-40~185° F)
- Operating Humidity** 5 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 295,000 hours

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2  
IEC60068-2-27  
**Shock** IEC60068-2-32  
**Freefall** IEC60068-2-6  
**Vibration** IEC60068-2-6

### Ordering Information

- EKI-7656C** 16+2G Combo Ports Industrial Managed Redundant Gigabit Ethernet Switch

## EKI-7659C

8+2G Combo Ports Industrial Managed Redundant Gigabit Ethernet Switch



### Features

- 2 Gigabit Copper/SFP combo ports, plus 8 Fast Ethernet ports
- SFP socket for Easy and Flexible Fiber Expansion
- Redundancy: Gigabit X-Ring (ultra high-speed recovery time<10ms), RSTP/STP(802.1w/1D)
- Management: Web, Telnet, Serial Console, Windows Utility, SNMP
- Control: VLAN/GVRP, QoS, IGMP Snooping/Query, LACP, Rate Limit
- Security: IP/MAC and port binding, DHCP Server, IP access list, 802.1X, SNMPv3
- Diagnostic: Port Statistic, Port Mirroring, RMON, Trap, E-Mail Alert, Syslog
- Dual 12 ~ 48 VDC power input and 1 Relay Output
- Robust mechanism and special heat spreader design

### Introduction

For many industrial automation applications, redundancy helps increase the reliability of your system. To create reliability in your network, the EKI-7659C comes equipped with a proprietary redundant network protocol -- X-Ring that was developed by Advantech, which provides users with an easy way to establish a redundant Ethernet network with ultra high-speed recovery time less than 10 ms. Furthermore, EKI-7659C also supports many advanced network standards to optimize network performance, ease maintenance issues, and secure network safety.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x, 802.3z, 802.1D, 802.1w, 802.1p, 802.1Q, 802.1X, 802.3ad, 802.3ab
- LAN** 10/100/1000Base-TX, Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX
- Transmission Distance** Ethernet : Up to 100m (4- wire Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port)  
SFP: Up to 110km (depends on SFP)
- Transmission Speed** Ethernet : 10/100Mbps Auto-Negotiation  
Gigabit Copper:10/100/1000 Mbps, Auto-Negotiation  
Gigabit Fiber : Up to 1000 Mbps

#### Interface

- Connectors** 8 x RJ-45 (Ethernet)  
2 x RJ-45/SFP combo ports  
6-pin removable screw terminal (power & relay)
- LED Indicators** System: PWR, R.M., PWR1, PWR2, P-Fail  
Ethernet: Link/Activity, Duplex/Collision  
Gigabit Copper: Link/Activity, Speed (1000Mbps)  
SFP: Link/Activity
- Console** RS-232 (RJ-45)

#### Network Management

- Configuration** Web browser, Telnet, Serial console, Windows Utility, TFTP, SNMPv1/v2c/v3, Port Speed/Duplex Configuration
- VLAN** IEEE 802.1Q, GVRP, Port-based VLAN
- Redundancy** ADVANTECH X-Ring (Recovery time< 10ms at 30pcs full loading ring structure), Dual Homing, Couple Ring, 802.1w/D RSTP/STP
- Security** IP Access security, port security, DHCP Server, Port and IP Binding, 802.1X Port Access Control
- Traffic Control** IGMP Snooping/Query for multicast group management Port Trunking, Static/802.3ad LACP Rate limit and storm control  
IEEE 802.1p QoS CoS/TOS/DSCP priority queuing  
IEEE 802.3x flow control
- Diagnostics** Port Mirroring, Real-time traffic statistic, MAC Address Table, SNTP, Syslog, E-Mail Alert, SNMP Trap, RMON

#### Mechanism

- Enclosure** IP30, metal shell with solid mounting kits
- Dimensions (W x H x D)** 72 x 152 x 105 mm
- Mounting** DIN-rail, wall

#### Power

- Power Consumption** Max. 10.7 W
- Power Input** 2 x Unregulated 12~ 48 Vdc
- Fault Output** 1 Relay Output

#### Protection

- ESD (Ethernet)** 4,000 Vdc
- Surge (EFT for power)** 3,000 Vdc
- Power Reverse** Present
- Overload** 3.2A / 60V Replaceable Fuse

#### Environment

- Operating Temperature** -10~60° C (14 ~ 140° F)  
Wide temp. model -40~75° C (-40 ~ 167° F)
- Storage Temperature** -40~85° C (-40 ~ 185° F)
- Operating Humidity** 5 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 284,409 hours

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2  
IEC60068-2-27
- Shock** IEC60068-2-32
- Freefall** IEC60068-2-32
- Vibration** IEC60068-2-6

### Ordering Information

- EKI-7659C** 8+2G port Industrial Managed Redundant Gigabit Ethernet Switch

## EKI-7626C

16+2G Combo Ports Industrial Unmanaged Gigabit Ethernet Switch



### Features

- Provides 2 Gigabit Copper/SFP combo port plus 16 Fast Ethernet ports
- SFP socket for Easy and Flexible Fiber Expansion
- Supports Auto Negotiation and Auto MDI/MDI-X
- Supports 4,000 Vdc Ethernet ESD protection
- Supports 3,000 Vdc surge (EFT) protection for power line
- Provides flexible mounting: DIN-rail, Wall Mounting
- Supports Dual 12 ~ 48 Vdc power input and 1 Relay Output
- Supports operating temperatures from -10 ~ 60° C

### Introduction

Aside from 16 x 10/100Base-TX fast Ethernet ports, the EKI-7626C comes equipped with 2 combo 10/100/1000 Mbps RJ-45 copper ports or mini-GBIC expansion ports. Traditional RJ-45 ports can be used for uplinking wide-band paths in short distance (< 100 m), or the appropriate replaceable SFP module can be used for the application of wideband uploading and long distance transmissions to fit the field request flexibly. Also, the long MTBF (Mean Time Between Failures) ensures that the EKI-7626C will continue to operate until a Gigabit network infrastructure has been established, without requiring any extra upgrade costs. EKI-7626C includes a switch controller that can automatically sense transmission speeds (10/100 Mbps) The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a cross-over cable is not required. All Ethernet ports have memory buffers that support the store-and-forward mechanism, which assures that data can be transmitted properly. Furthermore, the power line of EKI-7626C supports up to 3,000 VDC surge (EFT) protection, which secure equipment against unregulated voltage and make systems safer and more reliable.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3ab, 802.3u, 802.3x, 802.3z
- LAN** 10/100/1000Base-TX, Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX
- Transmission Distance** Ethernet : Up to 100 m (4- wire Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port)  
Gigabit Fiber : Up to 110 km (depending on SFP)
- Transmission Speed** Ethernet : 10/100Mbps Auto-Negotiation  
Gigabit Copper:10/100/1000Mbps, Auto-Negotiation  
SFP : Up to 1000Mbps

#### Interface

- Connectors** 16 x RJ-45 (Ethernet)  
2 x RJ-45/SFP combo ports  
6-pin removable screw terminal(Power & Relay)
- LED Indicators** System: PWR1, PWR2, P-Fail  
Gigabit Copper: Link/Activity, Speed(1000Mbps)  
Gigabit SFP: Link/Activity

#### Power

- Power Consumption** Max. 6.5W
- Power Input** 2 x Unregulated 12 ~ 48 Vdc
- Fault Output** 1 Relay Output

#### Mechanism

- Dimensions (W x H x D)** 72 x 152 x 105 mm
- Enclosure** IP30, Metal shell with solid mounting kits
- Mounting** DIN-rail, Wall

#### Protection

- ESD (Ethernet)** 4,000 Vdc
- Surge (EFT for power)** 3,000 Vdc
- Reverse Polarity** Present
- Overload** 3.2A/60V Resettable Fuse

#### Environment

- Operating Temperature** -10 ~ 60° C (14 ~ 140° F)  
Wide temp. model -40~75° C (-40 ~ 167° F)
- Storage Temperature** -40~85° C (-40~185° F)
- Operating Humidity** 5 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 295,000 hrs

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2  
IEC60068-2-27
- Shock** IEC60068-2-32
- Freefall** IEC60068-2-32
- Vibration** IEC60068-2-6

### Ordering Information

- EKI-7626C** 16+2G port Industrial Unmanaged Gigabit Ethernet Switch

## EKI-7629C

8+2G Combo Ports Industrial Unmanaged Gigabit Ethernet Switch



### Features

- 2 Gigabit Copper/SFP combo port plus 8 Fast Ethernet ports
- SFP socket for Easy and Flexible Fiber Expansion
- Supports Auto Negotiation and Auto MDI/MDI-X
- Provides 4,000 V<sub>dc</sub> Ethernet ESD protection
- Provides 3,000 V<sub>dc</sub> surge (EFT) protection for power line
- Provides flexible mounting: DIN-rail & Wallmounting
- Supports Redundant 12 ~ 48 V<sub>dc</sub> power input and P-Fail Relay
- Supports operating temperatures from -10 ~ 60° C

### Introduction

Aside from 8 x 10/100Base-TX fast Ethernet ports, the EKI-7629C comes equipped with 2 combo 10/100/1000 Mbps RJ-45 copper ports or mini-GBIC expansion ports. Traditional RJ-45 ports can be used for uplinking wide-band paths in short distance (< 100 m), or the appropriate replaceable SFP module can be used for the application of wideband uploading and long distance transmissions to fit the field request flexibly. Also, the long MTBF (Mean Time Between Failures) ensures that the EKI-7629C will continue to operate until a Gigabit network infrastructure has been established, without requiring any extra upgrade costs.

EKI-7629C includes a switch controller that can automatically sense transmission speeds (10/100 Mbps). The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a cross-over cable is not required. All Ethernet ports have memory buffers that support the store-and-forward mechanism, which assures that data can be transmitted properly. Furthermore, the power line of EKI-7629C supports up to 3,000 VDC surge (EFT) protection, which secure equipment against unregulated voltage and make systems safer and more reliable.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3ab, 802.3u, 802.3x, 802.3z
- **LAN** 10/100/1000Base-TX, Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX

**Transmission Distance** Ethernet : Up to 100 m (4-wire Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port)

- **Transmission Speed** SFP : Up to 110 km (depends on SFP)  
Ethernet : 10/100Mbps Auto-Negotiation  
Gigabit Copper: 10/100/1000Mbps, Auto-Negotiation  
SFP: Up to 1000Mbps

#### Interface

- **Connectors** 8 x RJ-45 (Ethernet)  
2 x RJ-45/SFP (mini-GBIC) combo ports  
6-pin removable screw terminal (power & relay)
- **LED Indicators** System: PWR1, PWR2, P-Fail  
10/100TX: Link/Activity, Duplex/Collision  
Gigabit Copper: Link/Activity, Speed(1000Mbps)  
SFP: Link/Activity

#### Power

- **Power Consumption** Max. 6.5W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>dc</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 72 x 152 x 105 mm
- **Enclosure** IP30, Metal shell with solid mounting kits
- **Mounting** DIN-rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>dc</sub>
- **Surge (EFT for power)** 3,000 V<sub>dc</sub>
- **Reverse Polarity** Present
- **Overload** 3.2A/60V Resettable Fuse

#### Environment

- **Operating Temperature** -10 ~ 60° C (14 ~ 140° F)  
Wide temp. model -40~75° C (-40 ~ 167° F)
- **Storage Temperature** -40~85° C (-40 ~ 185° F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 295,662 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2
- **Shock** IEC60068-2-27
- **Freefall** IEC60068-2-32
- **Vibration** IEC60068-2-6

### Ordering Information

- **EKI-7629C** 8+2G port Industrial Unmanaged Gigabit Ethernet Switch

## EKI-2725

5-port Industrial Unmanaged Gigabit Ethernet Switch



### Features

- Provides 5 Gigabit Ethernet ports with Auto MDI/MDI-X
- Supports 10/100/1000Mbps Auto Negotiation
- Supports jumbo frame transmission up to 9kbytes
- Supports 4,000 V<sub>dc</sub> Ethernet ESD protection
- Provides surge (EFT) protection 3,000 V<sub>dc</sub> for power line
- Supports Redundant 12 ~ 48 V<sub>dc</sub> power input and P-Fail Relay
- Supports operating temperatures from -10 ~ 60° C
- Provides broadcast storm protection

### Introduction

The EKI-2725 comes equipped with all the standard features of the EKI family. Furthermore, it offers a +12 ~48 VDC redundant power input design, and is secured with a double protection mechanism; Power Polarity Reverse Protect and an Overload Current Reset-able Fuse. The former tolerates reverse power wiring (devices will not be damaged if the plus and minus power cables are mixed, even continuing to operate normally. The latter secures the system from overload currents; when the power supply turns normal, EKI-2725 will automatically get back to work. Each port of EKI-2725 has 2 LED's to show the link status transmission speed and collision status. It also provides a relay output for an event alarm. In the event of a power failure, the built-in LED will activate the alarm to notify administrators. Engineers can simply verify the hardware status by checking the LED, and have troubleshooting easy and quick. EKI-2725 comes with compact metal housing that rates IP30 to help against from dusty industrial environments.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x, 802.3ab
- **LAN** 10/100/1000Base-TX
- **Transmission Distance** Up to 100m (4-wire Cat.5e, Cat.6 RJ-45 cable)
- **Transmission Speed** Up to 1000 Mbps

#### Interface

- **Connectors** 5 x RJ-45  
6-pin removable screw terminal (power & relay)
- **LED Indicators** System: P1,P2,P-Fail  
Ethernet: Link/Activity, Duplex/Collision

#### Power

- **Power Consumption** Max. 4.6W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>dc</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 37 x 140 x 95 mm
- **Enclosure** IP30, Metal shell with solid mounting kits
- **Mounting** DIN-rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>dc</sub>
- **Surge (EFT for power)** 3,000 V<sub>dc</sub>
- **Power Reverse** Present
- **Overload** 1.8A/60V Resettable Fuse

#### Environment

- **Operating Temperature** -10 ~ 60° C (14 ~ 140° F)  
Wide Temp Model -40 ~ 75° C (-40~167° F)
- **Storage Temperature** -40~85° C (-40~185° F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 627,958 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2
- **Shock** IEC60068-2-27
- **Freefall** IEC60068-2-32
- **Vibration** IEC60068-2-6

### Ordering Information

- **EKI-2725** 5-port Industrial Unmanaged Gigabit Ethernet Switch



## EKI-2525/2528

5/8-port Industrial Unmanaged Ethernet Switch



CE FCC cULus  
LISTED  
EUR0081  
LTE

### Features

- Provides 5/8 Fast Ethernet ports with Auto MDI/MDI-X
- Supports 10/100Mbps Auto Negotiation
- Provides broadcast storm protection
- Supports 4,000 VDC Ethernet ESD protection
- Provides surge (EFT) protection 3,000 VDC for power line
- Provides Slim size, DIN Rail/Wall Mount with IP30 metal mechanism
- Supports Redundant 12 ~ 48 VDC power input and P-Fail Relay
- Supports operating temperatures from -10 ~ 60° C

### Introduction

The EKI-2525/2528 comes equipped with all the standard features of the EKI family. Furthermore, it offers a +12 ~48 VDC redundant power input design, and is secured with a double protection mechanism; Power Polarity Reverse Protect and an Overload Current Reset-able Fuse. The former tolerates reverse power wiring (devices will not be damaged if the plus and minus power cables are mixed, even continuing to operate normally. The latter secures the system from overload currents; when the power supply turns normal, EKI-2525/2528 will automatically get back to work. Each port of EKI-2525/2528 has 2 LED's to show the link status transmission speed and collision status. It also provides a relay output for an event alarm. In the event of a power failure, the built-in LED will activate the alarm to notify administrators. Engineers can simply verify the hardware status by checking the LED, and have troubleshooting easy and quick. EKI-2525/2528 comes with compact metal housing that rates IP30 to help against from dusty industrial environments.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX
- **Transmission Distance** Up to 100 m
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors** 8 x RJ-45 (EKI-2528) or 5 x RJ-45 (EKI-2525)  
6-pin removable screw terminal (power & relay)
- **LED Indicators** P1, P2, P-Fail  
10/100TX: Link/Activity, Duplex/Collision

#### Power

- **Power Consumption** EKI-2528: Max. 5 W  
EKI-2525: Max. 3 W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 37 x 140 x 95 mm
- **Enclosure** IP30, Metal shell with solid mounting kits
- **Mounting** DIN-rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Reverse Polarity** Present
- **Overload** 1.8A/60V Resetable Fuse

#### Environment

- **Operating Temperature** -10~60° C (14~140° F)  
Wide temp. model -40~75° C (-40~167° F)
- **Storage Temperature** -40~85° C (-40~185° F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 689,000 hrs (EKI-2528)  
1,260,000 hrs (EKI-2525)

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950  
U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2
- **EMC** IEC60068-2-27  
IEC60068-2-32  
IEC60068-2-6
- **Shock**
- **Freefall**
- **Vibration**

### Ordering Information

- **EKI-2525** 5-port Industrial Unmanaged Ethernet Switch
- **EKI-2528** 8-port Industrial Unmanaged Ethernet Switch

## EKI-2525M

5-port Industrial Unmanaged Ethernet Switch with 1-port 100FX



CE FCC cULus  
LISTED  
EUR0081  
LTE

### Features

- Provides 4 x 10/100 Mbps Ethernet ports with RJ45 connector
- Provides 1 x 100 Mbps multi-mode SC type fiber port
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Provides surge (EFT) protection (3,000 V<sub>DC</sub>)
- Provides 4,000 V<sub>DC</sub> Ethernet ESD protection
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with a memory buffer, supports store-and-forward transmission
- Supports redundant +12 ~ 48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail, panel mount
- Supports operating temperatures from -10 ~ 60° C

### Introduction

The EKI-2525M is an industrial-grade Ethernet switch that enables the expansion of networks fast and cost-effectively. The EKI-2525M has 4 x 10/100 Mbps Ethernet ports, and additionally provides one multi-mode fiber-optic port. Using fiber-optics, noise can be prevented from interfering with systems, and high-speed (100 Mbps) & long distance (up to 2 km) transmissions are supported. EKI-2525M have industrial-grade designs that assure high-reliability and stability in harsh environments, making it a robust bridge between enterprise fiber backbones and Ethernet devices.

EKI-2525M includes a switch controller that can automatically sense transmission speeds. The RJ45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a crossover cable is not required. All the Ethernet ports have memory buffers that support the store-and-forward mechanism, assuring that all data can be transmitted properly.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX, 100Base-FX
- **Transmission Distance** Ethernet: Up to 100 m  
Multi-mode Fiber: Up to 2 km
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors** 4 x RJ-45  
1 x SC type fiber connector  
6-pin removable screw terminal (power & relay)
- **LED Indicators** P1, P2, P-Fail  
10/100TX: Link/Activity, Duplex/Collision

#### Power

- **Power Consumption** Max. 5 W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 37 x 140 x 95 mm
- **Enclosure** IP30, Metal shell with solid mounting kits
- **Mounting** DIN-rail, Panel

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Reverse Polarity** Present
- **Overload** 1.8A/60V Resetable Fuse

#### Environment

- **Operating Temperature** -10~60° C (14~140° F)  
Wide temp. model -40~75° C (-40~167° F)
- **Storage Temperature** -40~85° C (-40~185° F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 676,489 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950  
U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2
- **EMC** IEC60068-2-27  
IEC60068-2-32  
IEC60068-2-6
- **Shock**
- **Freefall**
- **Vibration**

### Ordering Information

- **EKI-2525M** 5-port Industrial Unmanaged Ethernet Switch with 1 x Multi-mode SC Type Fiber Optic Port

## EKI-2526M/S

6-port Industrial Unmanaged Ethernet Switch with 2-port 100FX



### Features

- Provides 4 x 10/100 Mbps Ethernet ports with RJ-45 connector
- Provides 2 x 100 Mbps multi-mode SC type fiber-optic port (EKI-2526M)
- Provides 2 x 100 Mbps single-mode SC type fiber-optic port (EKI-2526S)
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Provides surge (EFT) protection (3,000 V<sub>dc</sub>)
- Provides 4,000 V<sub>dc</sub> Ethernet ESD protection
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with a memory buffer, supports store and forward transmission
- Provides Redundant 12 ~ 48 V<sub>dc</sub> power input
- Provides flexible mounting: DIN-rail, Panel mounting
- Supports operating temperatures from -10 ~ 60° C

### Introduction

EKI-2526M/S are industrial-grade Ethernet switches that enable you to expand your industrial network fast and cost-effectively. The EKI-2526M/S have four 10/100 Mbps Ethernet ports, and additionally the EKI-2526M provides two multi-mode fiber-optic ports, while the EKI-2526S provides two single-mode fiber-optic ports. Using fiber-optics, you can prevent noise from interfering with your system and supports high-speed (100 Mbps) and high-distance (up to 30 km) transmissions.

EKI-2526M/S have industrial-grade designs, assuring high reliability and stability in harsh environments, making it a robust bridge between enterprise fiber-optic backbones and Ethernet devices. EKI-2526M/S includes a switch controller that can automatically sense transmission speeds. The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a crossover cable is not required. All the Ethernet ports have memory buffers that support the store and forward mechanism, assuring all data is transmitted properly.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x
- LAN** 10/100Base-TX, 100Base-FX
- Transmission Distance** Ethernet: Up to 100 m  
Multi-mode Fiber: Up to 2 km  
Single-mode Fiber: Up to 30 km
- Transmission Speed** Up to 100 Mbps

#### Interface

- Connectors** 4 x RJ-45 ports  
2 x SC type fiber connector  
6-pin removeable screw terminal (Power & Relay)
- LED Indicators** P1, P2, P-Fail  
10/100TX: Link/Activity, Duplex/Collision

#### Power

- Power Consumption** Max. 3 W
- Power Input** 2 x Unregulated 12 ~ 48 V<sub>dc</sub>
- Fault Output** 1 Relay Output

#### Mechanism

- Dimensions (W x H x D)** 37 x 140 x 95 mm
- Enclosure** IP30, Metal shell with solid mounting kits
- Mounting** DIN-rail, Wall

#### Protection

- ESD (Ethernet)** 4,000 V<sub>dc</sub>
- Surge (EFT for power)** 3,000 V<sub>dc</sub>
- Reverse Polarity** Present
- Overload** 1.8A/60V Resetable Fuse

#### Environment

- Operating Temperature** -10~60° C (14~140° F)  
Wide temp. model -40~75° C (-40~167° F)
- Storage Temperature** -40~85° C (-40~185° F)
- Operating Humidity** 5 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 610,453 hrs

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2
- Shock** IEC60068-2-27
- Freefall** IEC60068-2-32
- Vibration** IEC60068-2-6

### Ordering Information

- EKI-2526M** 6-port Industrial Unmanaged Ethernet Switch with 2 x Multi-mode SC Type Fiber Optic Port
- EKI-2526S** 6-port Industrial Unmanaged Ethernet Switch with 2 x Single-mode SC Type Fiber Optic Port

## EKI-2741 Series

Industrial Gigabit Ethernet to Fiber Optic Converters



### Features

- Provides 1 x 1000 Mbps Ethernet port with RJ45 connector
- Provides 1 x 1000 Mbps fiber port with SC or SFP (mini-GBIC) type connector for 1000Base-SX/LX device
- Provides DIP switch for full/half duplex setting
- Supports MDI/MDI-X auto crossover
- Supports auto-negotiation
- Supports surge (EFT) protection 3,000 V<sub>dc</sub> for power line
- Supports 4,000 V<sub>dc</sub> Ethernet ESD protection
- Supports +12~48 V<sub>dc</sub> power input
- Provides flexible mounting: DIN-rail & Wallmounting
- Supports operating temperatures from -10 ~ 60° C
- Provides Link Fault Pass-through (LFP)

### Introduction

EKI-2741 is designed to convert Gigabit Ethernet networks to Gigabit fiber networks by transparently converting Ethernet signals to optic signals. Therefore, EKI-2741 is an ideal solution for "fiber to building" applications at central offices or local sites. EKI-2741 supports MDI/MDIX auto detection, so you don't need to use crossover wires. Furthermore, the EKI-2741 accepts a wide voltage range from +12 ~ 48 VDC. Besides, it also provides 3,000 VDC surge (EFT) protection against over-voltage, so it is suitable for harsh operating environments.

EKI-2741 is an enhanced gigabit Ethernet to fiber-optic converter. Aside from its standard features, the versatile EKI-2741 also has the LFP (Link Fault Pass-through) feature. When one side of the link fails, the other side continues transmitting packets, and waiting for a response that never arrives from the disconnected side. EKI-2741 will force the link to shut down as soon as noticed that the other link has failed, giving the application software a chance to react to the situation.

### Specifications

#### Communications

- Standard** IEEE802.3, 802.3u, 802.3ab, 802.3x, IEEE 802.3z
- LAN** 10/100/1000Base-TX, 1000Base-SX or 1000Base-LX
- Transmission Distance** Ethernet : Up to 100m  
Fiber :  
Multi-mode : Up to 550 m  
Single-mode : Up to 10km (2741LX) or 110km (2741F)  
SFP: Up to 110km (2741F)
- Transmission Speed** Up to 1000 Mbps

#### Interface

- Connectors** 1 x RJ-45  
1 x SC type fiber connector(EKI-2741SX/LX) or 1 x SFP type fiber connector (EKI-2741F)  
6-pin removable screw terminal (power & relay)
- LED Indicators** P1, P2, P-Fail  
Fiber: LNK/ACT  
Ethernet: 1000M, LNK/ACT  
Port Alarm, LFP

#### Power

- Power Consumption** 5.28 W (EKI-2741F)  
5.18 W (EKI-2741SX)  
5.30 W (EKI-2741LX)
- Power Input** 2 x Unregulated 12 ~ 48 V<sub>dc</sub>

#### Mechanism

- Dimensions (W x H x D)** 37 x 140 x 95 mm
- Enclosure** IP30, Metal shell with solid mounting kits
- Mounting** DIN-rail, Wall

#### Protection

- ESD (Ethernet)** 4,000 V<sub>dc</sub>
- Surge (EFT for power)** 3,000 V<sub>dc</sub>
- Power Reverse** Present
- Overload** YES

#### Environment

- Operating Temperature** -10 ~ 60° C (14 ~ 140° F)  
Wide Temp Model -40 ~ 75° C (-40~167° F)
- Storage Temperature** -40~85° C (-40~185° F)
- Operating Humidity** 5 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 515,600 hrs (EKI-2741F) 525,300 hrs(EKI-2741SX/LX)

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A, EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2
- Shock** IEC60068-2-27
- Freefall** IEC60068-2-32
- Vibration** IEC60068-2-6

### Ordering Information

- EKI-2741F** Industrial Gigabit Ethernet to SFP Type Fiber Optic Converter
- EKI-2741SX** Industrial Gigabit Ethernet to 1000Base-SX SC Type Fiber Optic Converter
- EKI-2741LX** Industrial Gigabit Ethernet to 1000Base-LX SC Type Fiber Optic Converter

## EKI-2541M

Industrial Ethernet to Fiber Optic Converters



### Features

- Provides 1 x 10/100 Mbps Ethernet port with RJ45 connector
- Provides 1 x 100 Mbps multi-mode SC type fiber port
- Provides internal jumper for Link Fault Pass-through (LFP) setting
- Supports full/half duplex flow control
- Supports store and forward transmission
- Supports auto-negotiation
- Supports MDI/MDI-X auto crossover
- Provides surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection
- Supports +12-48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail & Panel Mounting
- Supports operating temperatures from -10 ~ 60° C

### Introduction

EKI-2541M is designed to convert Ethernet networks to fiber networks by transparently converting Ethernet signals to optic signals. The advantages of fiber optics are wide bandwidth, EMI immunity and long-distance transmission capability. Therefore, EKI-2541M is an ideal solution for "fiber to building" applications at central offices or local sites. EKI-2541M supports MDI/MDIX auto detection, so you don't need to use crossover wires. Furthermore, the EKI-2541M can work normally from -10 ~ 60° C and accepts a wide voltage range from +12 ~ 48 VDC. Besides, it also provides 3,000 VDC surge (EFT) protection against over-voltage, so it is suitable for harsh operating environments.

#### Link Fault Pass-Through (LFP)

EKI-2541M is an enhanced Ethernet to fiber-optic converter. Aside from its standard features, the versatile EKI-2541M also has the LFP (Link Fault Pass-through) feature. When one side of the link fails, the other side continues transmitting packets, and waiting for a response that never arrives from the disconnected side. Use the internal jumper to enable the LFP function, then EKI-2541S will force the link to shut down as soon as noticed that the other link has failed, giving the application software a chance to react to the situation.

### Specifications

#### Communications

- **Standard** IEEE802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX, 100Base-FX
- **Transmission Distance** Ethernet : Up to 100m  
Fiber : Multi-mode : up to 2 km
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors** 1 x RJ-45  
1 x SC type fiber connector  
6-pin removable screw terminal (power)
- **LED Indicators** P1, P2, P-Fail  
Ethernet: 10/100M, LNK/ACT  
Fiber: HDX/FDX, LNK/ACT
- **DIP Switch** Port/Power Alarm, LFP  
Fiber: HDX/FDX, Converter/Switch

#### Power

- **Power Consumption** Max. 5W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>DC</sub>

#### Mechanism

- **Dimensions (W x H x D)** 37 x 140 x 95 mm
- **Mounting** DIN-rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** Present
- **Overload** 1A/125V Replaceable Fuse

#### Environment

- **Operating Temperature** -10 ~ 60° C  
Wide Temp Model -40 ~ 75° C
- **Storage Temperature** -10~85° C
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 577,175 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2  
IEC60068-2-27
- **Shock** IEC60068-2-32
- **Freefall** IEC60068-2-6
- **Vibration** IEC60068-2-6

### Ordering Information

- **EKI-2541M** Industrial Ethernet to Multi-mode SC Type Fiber Optic Converter

## EKI-2541S

Industrial Ethernet to Fiber Optic Converters



### Features

- Provides 1 x 10/100 Mbps Ethernet port with RJ45 connector
- Provides 1 x 100 Mbps single-mode SC type fiber port
- Provides internal jumper for Link Fault Pass-through (LFP) setting
- Supports full/half duplex flow control
- Supports store and forward transmission
- Supports auto-negotiation
- Supports MDI/MDI-X auto crossover
- Provides surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 VDC Ethernet ESD protection
- Supports +12-48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail & Panel Mounting
- Supports operating temperatures from -10 ~ 60° C

### Introduction

EKI-2541S is designed to convert Ethernet networks to fiber networks by transparently converting Ethernet signals to optic signals. The advantages of fiber optics are wide bandwidth, EMI immunity and long-distance transmission capability. Therefore, EKI-2541S is an ideal solution for "fiber to building" applications at central offices or local sites. EKI-2541S supports MDI/MDIX auto detection, so you don't need to use crossover wires. Furthermore, the EKI-2541S can work normally from -10 ~ 60° C and accepts a wide voltage range from +12 ~ 48 VDC. Besides, it also provides 3,000 VDC surge (EFT) protection against over-voltage, so it is suitable for harsh operating environments.

#### Link Fault Pass-Through (LFP)

EKI-2541S is an enhanced Ethernet to fiber-optic converter. Aside from its standard features, the versatile EKI-2541S also has the LFP (Link Fault Pass-through) feature. When one side of the link fails, the other side continues transmitting packets, and waiting for a response that never arrives from the disconnected side. Use the internal jumper to enable the LFP function, then EKI-2541S will force the link to shut down as soon as noticed that the other link has failed, giving the application software a chance to react to the situation.

### Specifications

#### Communications

- **Standard** IEEE802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX, 100Base-FX
- **Transmission Distance** Ethernet : Up to 100m  
Fiber : Single-mode : up to 2 km
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors** 1 x RJ-45  
1 x SC type fiber connector  
6-pin removable screw terminal (power)
- **LED Indicators** P1, P2, P-Fail  
Ethernet: 10/100M, LNK/ACT  
Fiber: HDX/FDX, LNK/ACT
- **DIP Switch** Port/Power Alarm, LFP  
Fiber: HDX/FDX, Converter/Switch

#### Power

- **Power Consumption** Max. 5W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>DC</sub>

- **Mechanism**
- **Dimensions (W x H x D)** 37 x 140 x 95 mm
- **Mounting** DIN-rail, Panel

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** Present
- **Overload** 1A/125V Replaceable Fuse

#### Environment

- **Operating Temperature** -10 ~ 60° C (14 ~ 140° F)  
Wide Temp Model -40 ~ 75° C (-40 ~ 167° F)
- **Storage Temperature** -10 ~ 85° C (14 ~ 185° F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 550,000 hrs

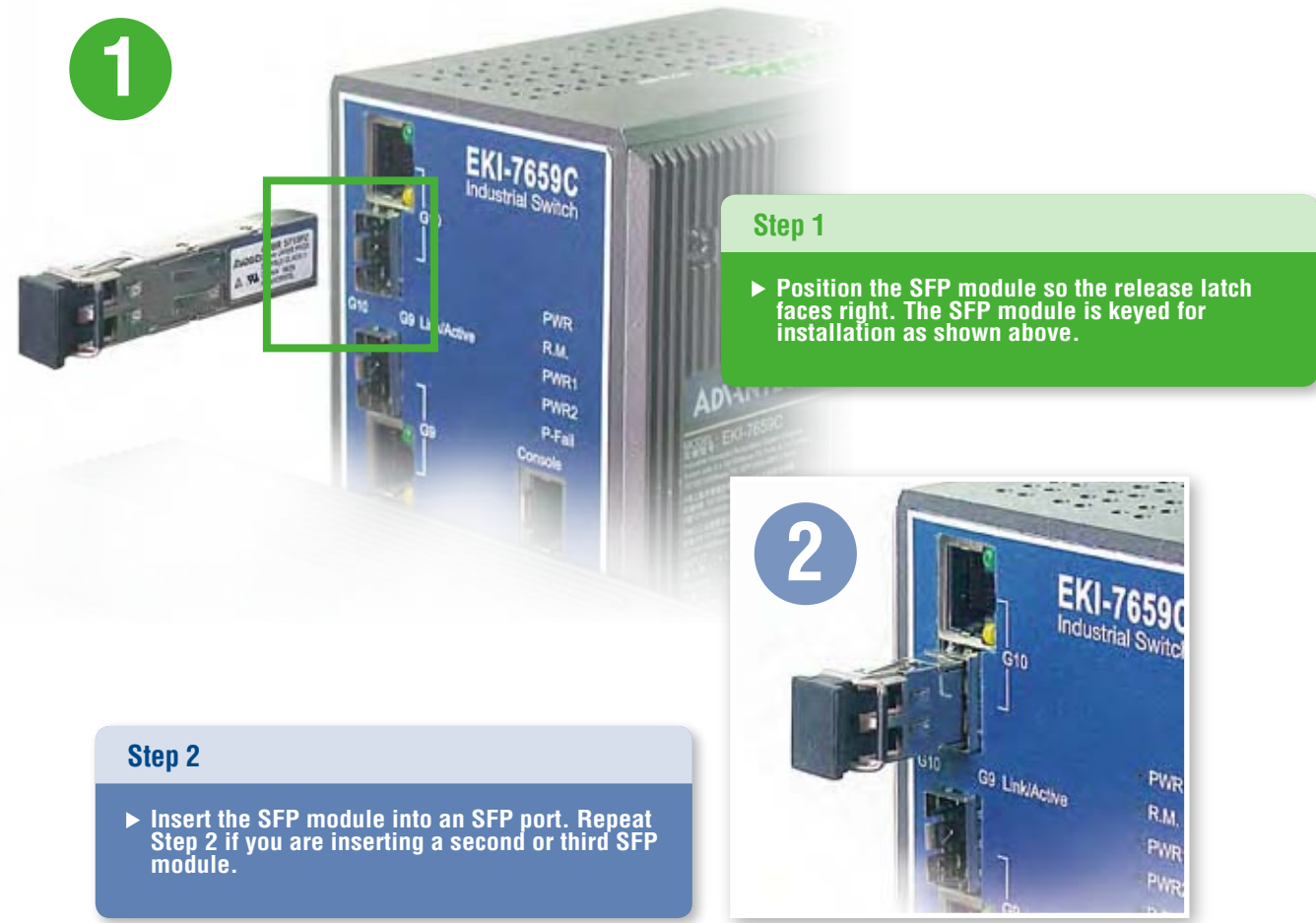
#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11/12  
EN61000-6-2  
IEC60068-2-27
- **Shock** IEC60068-2-32
- **Freefall** IEC60068-2-6
- **Vibration** IEC60068-2-6

### Ordering Information

- **EKI-2541S** Industrial Ethernet to Single-mode SC Type Fiber Optic Converter

## Small Form-factor Pluggable (SFP) Transceiver Modules



**Note:** Do not remove the SFP module plugs until you are ready to install the cables.

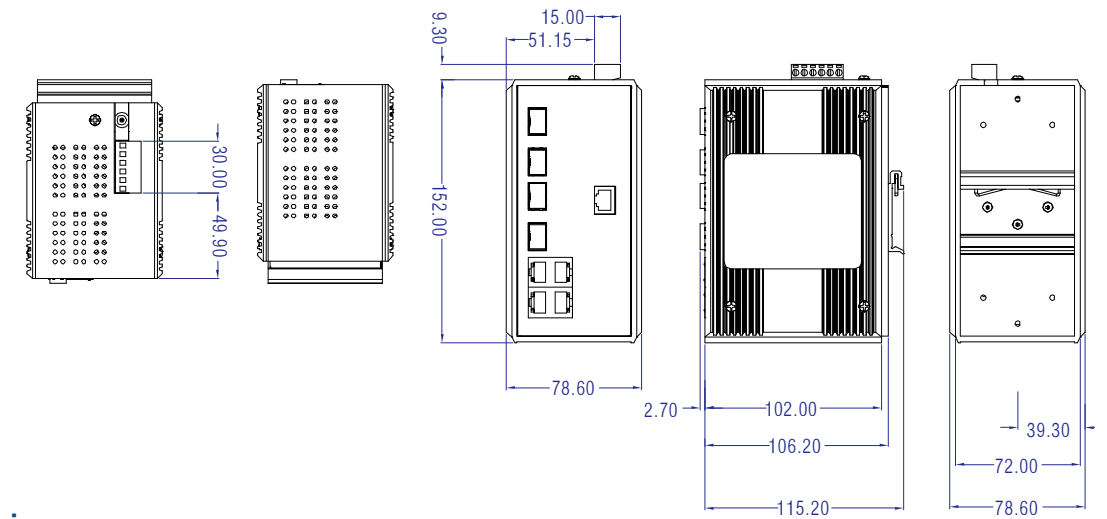
Category	Distance	Advantech	Wave-length	Tx Power	Rx sensitivity	Link Budget
100Base-FX	M.M. (2km)	SFP-FXM/LC	1310nm	-14dBm(min)--20dBm(Max)	-31dBm(Max)	11dBm
	S.M. (30km)	SFP-FXS/LC-30	1310nm	-8dBm(min)--15dBm(Max)	-34dBm(Max)	11dBm
	SX (550m)	SFP-GSX/LC	850nm	-4dBm(min)--9.5dBm(Max)	-18dBm(Max)	19dBm
1000Base	LX (10 km)	SFP-GLX/LC-10	1310nm	-3dBm(min)--9.5dBm(Max)	-20dBm(Max)	19dBm
	LX (20 km)	SFP-GLX/LC-20	1310nm	-2dBm(min)--8dBm(Max)	-23dBm(Max)	19dBm
	LX (40 km)	SFP-GLX/LC-40	1310nm	+1dBm(min)--4dBm(Max)	-24dBm(Max)	20dBm
	XD (50 km)	SFP-GXD/LC-50	1550nm	+1dBm(min)--4dBm(Max)	-24dBm(Max)	20dBm
	ZX (70km)	SFP-GZX/LC-70	1550nm	+5dBm(min)-0dBm(Max)	-24dBm(Max)	24dBm
	EZX (110km)	SFP-GEZX/LC-110	1550nm	+5dBm(min)-0dBm(Max)	-30dBm(Max)	30dBm

### General Environmental Specifications

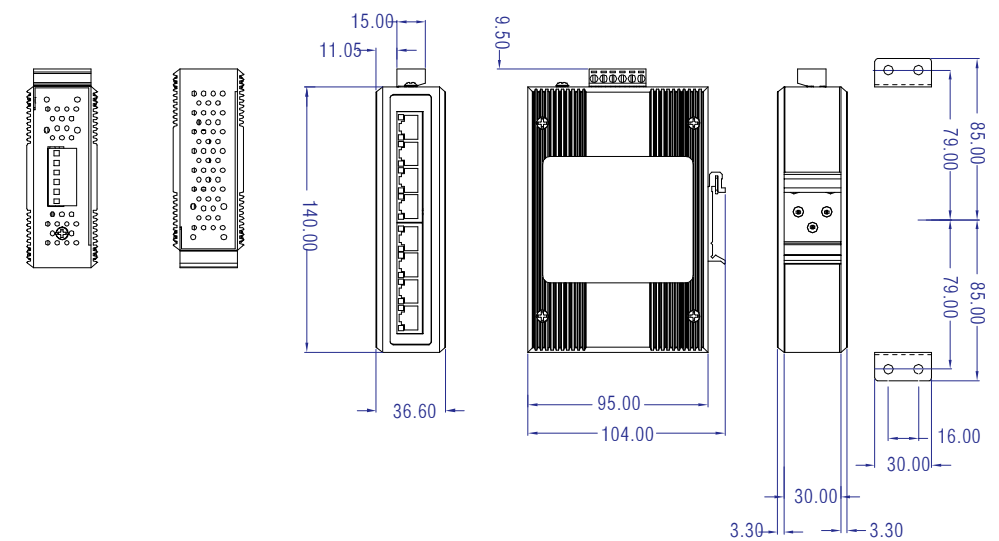
- Operating Temperature: -10 ~ 70° C  
wide temp. model: -40 ~ 85° C
- Storage Temperature: -40 ~ 85° C
- Operating Humidity: 5~95% (non-condensing)

## Dimensions & Mounting

### EKI-7000 Series

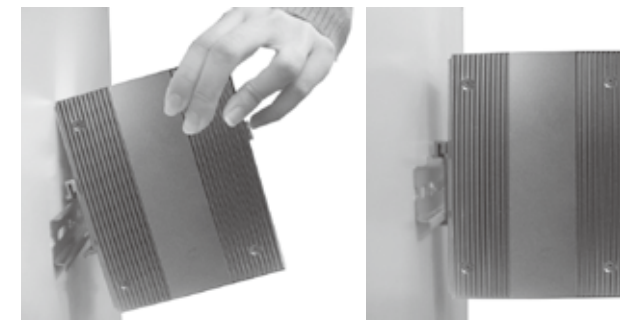


### EKI-2000 Series



### Mounting

#### DIN-rail Mounting



#### Wallmounting



## Connect Your Devices to the eWorld

### Serial Device Servers

#### Introduction

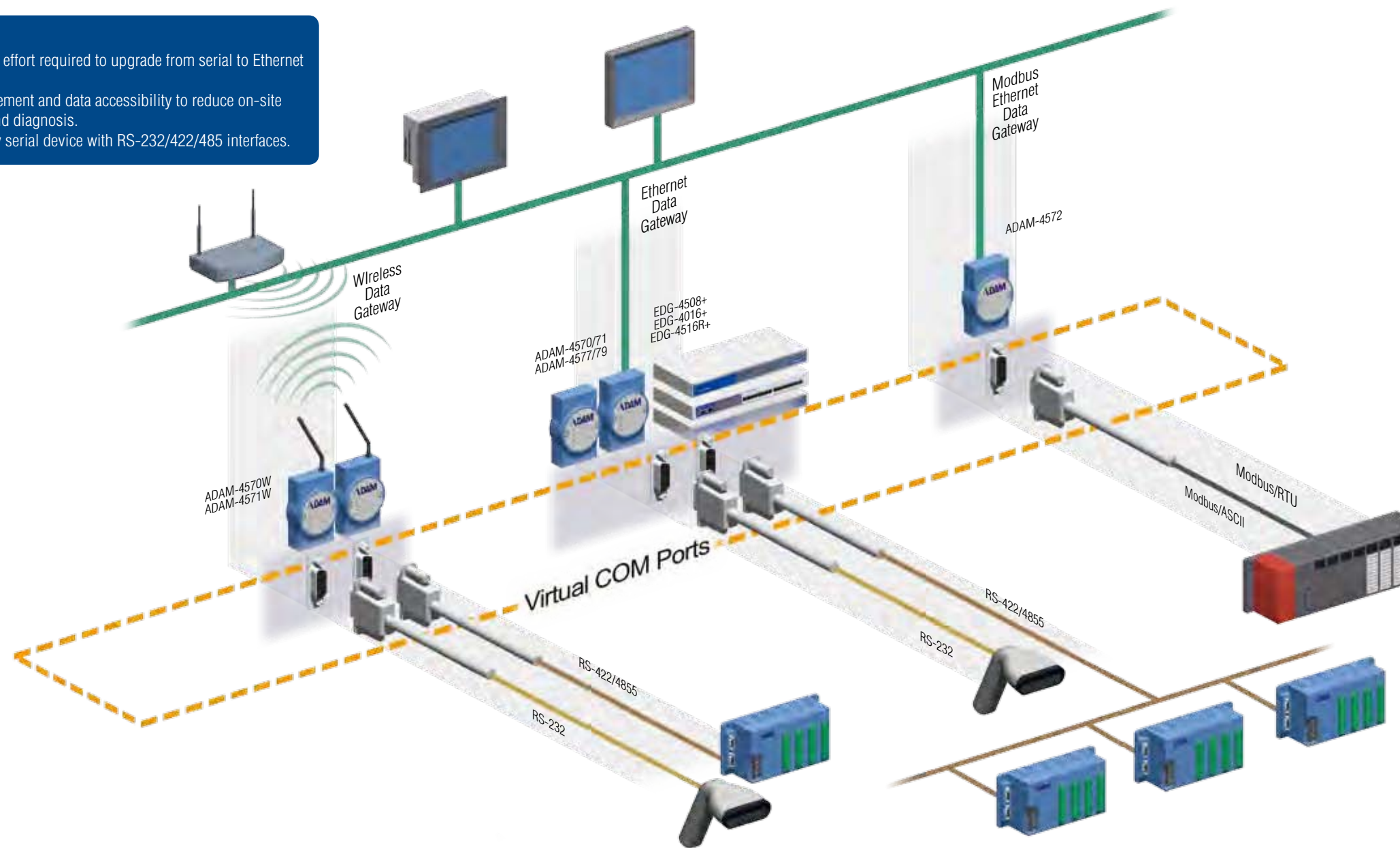
As the world becomes more and more network enabled, it becomes more critical to have the ability to remotely manage and connect devices. Advantech's Serial Device Servers make it possible to quickly connect RS-232/422/485 serial devices with PC hosts over Ethernet networks or 802.11b wireless LAN networks. No extra programming effort is required on the host computer.

#### Easy and Convenient Virtual COM Port

Virtual COM port allows serial ports on the Ethernet Data Gateway to be mapped on the host and provides a seamless connection between host and the Ethernet Data Gateway.

#### Benefits:

- No engineering effort required to upgrade from serial to Ethernet networking.
- Remote management and data accessibility to reduce on-site maintenance and diagnosis.
- Suitable for any serial device with RS-232/422/485 interfaces.

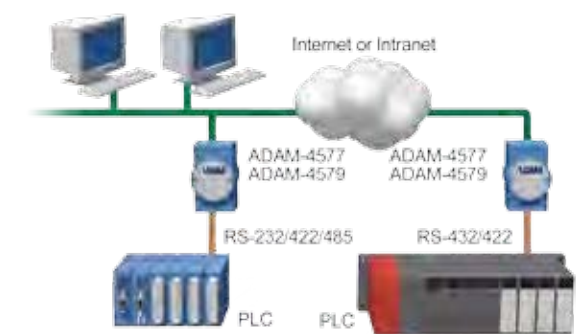


### Serial to Ethernet Communications in Socket Mode

Universal Serial Device Servers permit RS-232/422/485 serial devices to connect to Ethernet networks in socket mode. Through TCP, UDP, socket or winsock, Host applications can actively access any network devices and exchange information anytime, anywhere. It is permissible for serial devices to communicate with other serial devices directly by peer-to-peer communications. No intermediate host PC or software programming is needed.

#### Benefits

- Flexible network architectures, polling/event handling/peer-to-peer.
- Operating system independent: Windows98/NT/2000/XP, Linux.
- Complete utility tool for system configuration and download.

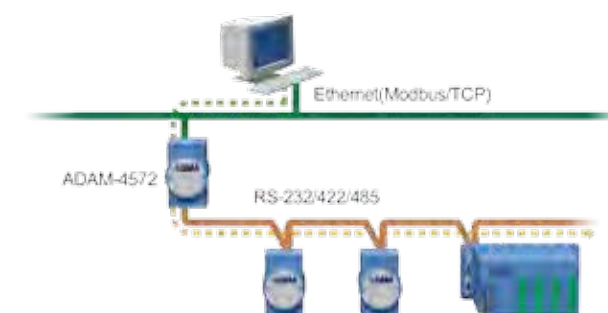


### Transparent Modbus to Ethernet Connection

The Modbus Gateway is an interface between serial Modbus devices and Ethernet-based Modbus/TCP hosts. compliant with Modbus/TCP, it is ideal for customers who are looking for an easy way to connect existing devices running Modbus serial protocol (Modbus/ASCII or Modbus/RTU) to the Ethernet network.

#### Benefits:

- Easy integration of Ethernet and Modbus networks on the factory floor.
- Allows users to access and remotely manage their Modbus monitoring and control devices.



## Multiport Rackmount Serial Device Servers

### Introduction

EDG-4508+ and EDG-4516+ are industrial-grade network-based serial device servers for connecting from 8 to 16 serial RS-232/422/485 devices, such as CNC, PLC, scales and scanners, directly to TCP/IP network (Ethernet or Internet). The EDG-4508+ and EDG-4516+ supports 10/100 Mbps Ethernet connection for higher bandwidth, lower traffic impact and more layout flexibility.

EDG-4508+/4516+ comes with superior performance, allowing 230.4 kbps high-throughput transmissions for 8/16 serial device communications simultaneously. To enhance its flexibility for various applications, the EDG-4508+/4516+ supports multiple power options. Meanwhile, EDG-4508+/4516+ has a robust cabin design, making it suitable for rack-mounting.

### 19-inch 1U Chassis with Rack Mountable Design

Serial Console port for field configuration

4-ch digital input  
4-ch digital output (rear side)



10/100 Base-TX Ethernet port

Front viewable LEDs for status diagnosis

8/16-port RS-232/422/485 serial ports (Rear access option)



### EDG-4508+/4516+ Benefits

- ▶ High communication capability for 8/16 RS-232/422/485 serial devices with Ethernet networking.
- ▶ 10/100 Mbps Ethernet connections provide high bandwidth and more layout flexibility.
- ▶ Supports virtual COM port, no engineering effort required to upgrade from serial to Ethernet networking.
- ▶ Supports socket communications (TCP, UDP, socket or winsock).
- ▶ Provides web-based and serial console-based modes for remote or local configuration.
- ▶ Robust 19-inch 1U cabin design suitable for multitasking environment.



		Product	EDG-4508(R)+/ EDG-4516(R)+	EDG-4504	
		Description	8/16 port RS-232/422/485 Multiport Serial Device Server	4-port RS-232/422/485 Multiport Serial Device Server	
Ethernet Communication	Compatibility	IEEE802.3, IEEE802.3u	IEEE802.3, IEEE802.3u	IEEE802.3, IEEE802.3u	
	Speed	10/100Mbps	10/100Mbps	10/100Mbps	
	Connectors	RJ-45	RJ-45	RJ-45	
Serial Communication	Type	RS-232/422/485	RS-232/422/485	RS-232/422/485	
	Connectors	8/16 x RJ-48	4 x Male DB9	4 x Male DB9	
	Ports	8/16	4	4	
	Data Bits	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8	
	Stop Bits	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2	
	Parity Bits	Odd, even, none, space, mark	Odd, even, none, space, mark	Odd, even, none, space, mark	
	Baudrate	50bps ~ 230Kbps	50bps ~ 230Kbps	50bps ~ 230Kbps	
Data Signals		TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	
	Channels	4 x DI, 4 x DO	-	-	
Digital I/O	Digital Input	Logic level 0: 0~4.2V, close to GND Logic level 1: 4.4~5V, open	-	-	
	Digital Output	Open collector up to 30V, 200mA Max load	-	-	
Protection	Serial Protection	15KVESD for serial signal	15KVESD for serial signal	15KVESD for serial signal	
	Drivers Supported	Windows® 98/NT/2000/XP	Windows® 98/NT/2000/XP	Windows® 98/NT/2000/XP	
Software & Functions	Utility Software	Auto-detecting configuration utility (up to 128 devices)	Auto-detecting configuration utility (up to 128 devices)	Auto-detecting configuration utility (up to 128 devices)	
		Port mapping utility	Port mapping utility	Port mapping utility	
	Operation Mode	Virtual COMport	-	-	Virtual COMport
		TCP Server (Polling)	-	-	-
		TCP Client (event handling)	-	-	-
	Configuration	Pair Connection (Peer to Peer)	-	-	-
		UDP	-	-	-
Mechanics	Dimensions	Ethernet Modem	-	-	
		Configuration utility	-	-	
	Port mapping utility	-	-		
	Web interface configuration	-	-		
	Telnet command line interface configuration	-	-		
Console serial command line interface configuration	-	-			
Enclosure	Dimensions	44 x 442 x 190 mm (H x W x D)	36 x 188 x 120 mm (H x W x D)	36 x 188 x 120 mm (H x W x D)	
	Enclosure	SECC Chassis	Aluminum chassis	Aluminum chassis	
Mounting	Mounting	Rack	DIN-Rail, wall	DIN-Rail, wall	
	Certifications	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A	
General	LED	System: Power, Status	System: Status	System: Status	
		Network: Speed, Link	Network: Speed, Link, Tx/Rx	Network: Speed, Link, Tx/Rx	
Power	Power Consumption	Serial: Tx/Rx	Serial: Tx/Rx	Serial: Tx/Rx	
		Power Requirements	90 ~ 260 VAC, 47 ~ 63 Hz	Unregulated 10~30 Vdc	Unregulated 10~30 Vdc
		Power Consumption	8W (EDG-4508+) 10W (EDG-4516+)	4.5W	

### Ordering Information

Model Name	Description
EDG-4504	4-port RS-232/422/485 Multiport Serial Device Server
EDG-4508R+	8-port RS-232/422/485 Multiport Serial Device Server with front wiring
EDG-4508	8-port RS-232/422/485 Multiport Serial Device Server with rear wiring
EDG-4516	16-port RS-232/422/485 Multiport Serial Device Server with front wiring
EDG-4516R+	16-port RS-232/422/485 Multiport Serial Device Server with rear wiring
OPT1A	1m RJ-48 to Male DB9 RS-232/422/485 Cable
OPT1D	30cm RJ-48 to Male DB9 RS-232/422/485 Cable



Product		ADAM-4570/4571
Description		2-port RS-232/422/485 Serial Device Server 1-port RS-232/422/485 Serial Device Server
Ethernet Communication	Compatibility	IEEE802.3, IEEE802.3u
	Speed	10/100Mbps
	Connectors	RJ-45
Serial Communication	Type	RS-232/422/485
	Connectors	2 x RJ-48 (ADAM-4570) 1 x RJ-48 (ADAM-4571)
	Ports	2 for ADAM-4570 1 for ADAM-4571
	Data Bits	5, 6, 7, 8
	Stop Bits	1, 1.5, 2
	Parity Bits	Odd, even, none, space, mark
	Baudrate	50bps ~ 230Kbps
Data Signals	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232)	TxD+, TxD-, RxD+, RxD-, GND (RS-422)
	Data+, Data-, GND (RS-485)	Data+, Data-, GND (RS-485)
Protection	Serial Protection	15KVESD for serial signal
Software & Functions	Drivers Supported	Windows® 98/NT/2000/XP
	Utility Software	Auto-detecting configuration utility (up to 128 devices) Port mapping utility
	Operation Mode	Virtual COMport
Mechanics	Configuration	Configuration utility Port mapping utility
	Dimensions	70 x 130 x 30 mm ( H x W x D)
	Enclosure	ABS/PC with solid mounting hardware
	Mounting	DIN-rail, stack, wall
General	Certifications	CE, FCC Class A
	LED	System: Power,Status Network: Speed, Link, Tx/Rx Serial: Tx/Rx
Power	Power Requirements	Unregulated 10~30 V <sub>DC</sub>
	Power Consumption	4W
Environment	Operating Temp.	0 ~ 60°C (32 ~ 140°F)
	Storage Temp.	-20 ~ 80°C (-4 ~ 176°F)
	Operating Humidity	20% ~ 95% (non-condensing)
	Storage Humidity	0% ~ 95% (non-condensing)

Product		ADAM-4577/4579
Description		1-port Universal Serial Device Server 2-port Universal Serial Device Server
Ethernet Communication	Compatibility	IEEE802.3, IEEE802.3u
	Speed	10/100Mbps (ADAM-4579) 10Mbps (ADAM-4577)
	Connectors	RJ-45
Serial Communication	Type	RS-232/422/485
	Connectors	2 x RJ-48 (ADAM-4579) 1 x Male (ADAM-4577)
	Ports	1 for ADAM-4577 2 for ADAM-4579
	Data Bits	5, 6, 7, 8
	Stop Bits	1, 1.5, 2
	Parity Bits	Odd, even, none, space, mark
	Baudrate	30bps ~ 230Kbps
Data Signals	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232)	TxD+, TxD-, RxD+, RxD-, GND (RS-422)
	Data+, Data-, GND (RS-485)	Data+, Data-, GND (RS-485)
Protection	Serial Protection	-
Software & Functions	Drivers Supported	Windows® 98/NT/2000/XP
	Utility Software	Auto-detecting configuration utility (up to 128 devices) Easy to diagnose download & testing utility UDP testing utility (ADAM-4577) TCP Server (Polling) TCP Client (event handling) Pair Connection (Peer to Peer) UDP command response mode (multi-host, ADAM-4577) Ethernet Modem (controlling, ADAM-4579)
	Operation Mode	Virtual COMport
Mechanics	Configuration	Configuration utility
	Dimensions	70 x 130 x 30 mm ( H x W x D)
	Enclosure	ABS/PC with solid mounting hardware
	Mounting	DIN-Rail, stack, wall
General	Certifications	CE, FCC Class A
	LED	System: Power,Status Network: Speed, Link, Tx/Rx Serial: Tx/Rx
Power	Power Requirements	Unregulated 10~30 V <sub>DC</sub>
	Power Consumption	4W (ADAM-4579) 2W (ADAM-4577)
Environment	Operating Temp.	0 ~ 60°C (32 ~ 140°F)
	Storage Temp.	-20 ~ 80°C (-4 ~ 176°F)
	Operating Humidity	20% ~ 95% (non-condensing)
	Storage Humidity	0% ~ 95% (non-condensing)

## Ordering Information

Model Name	Description
ADAM-4570	2-port RS-232/422/485 Serial Device Server (2PC of 1m RJ-48 to male DB9 RS-232/422/485 Cable Included)
ADAM-4571	1-port RS-232/422/485 Serial Device Server (1PC of 1m RJ-48 to Male DB9 RS-232/422/485 Cable Included)
ADAM-4577	1-port Universal Serial Device Server
ADAM-4579	2-port Universal Serial Device Server (2PC of 1m RJ-48 to Male DB9 RS-232/422/485 Cable Included)
OPT1A	1m RJ-48 to Male DB9 RS-232/422/485 Cable
OPT1D	30cm RJ-48 to Male DB9 RS-232/422/485 Cable

Product		ADAM-4572
Description		1-port Modbus® Serial Device Server
Ethernet Communication	Compatibility	IEEE802.3, IEEE802.3u
	Speed	10/100Mbps
	Connectors	RJ-45
Serial Communication	Type	RS-232/422/485
	Connectors	Screw terminal
	Ports	1
	Data Bits	7, 8
	Stop Bits	1, 2
	Parity Bits	odd, even, none
	Baudrate	300bps ~ 115.2Kbps
Data Signals	TxD, RxD, GND (RS-232)	TxD+, TxD-, RxD+, RxD-, GND (RS-422)
	Data+, Data-, GND (RS-485)	Data+, Data-, GND (RS-485)
Protection	Serial Protection	15KVESD for serial signal
Software & Functions	Drivers Supported	Windows® 98/NT/2000/XP
	Utility Software	Auto-detecting configuration utility (up to 128 devices) Device Setting : name, description, serial port Modbus/TCP, Modbus/RTU, Modbus/ASCII
	Operation Mode	Configuration utility
Mechanics	Dimensions	70 x 130 x 30 mm ( H x W x D)
	Enclosure	ABS/PC with solid mounting hardware
	Mounting	DIN-rail, stack, wall
General	Certifications	CE, FCC Class A
	LED	System: Power,Status Network: Speed,Link,Tx/Rx Serial: Tx/Rx
Power	Power Requirements	Unregulated 10~30 V <sub>DC</sub>
	Power Consumption	3W
Environment	Operating Temp.	0 ~ 60° C (32 ~ 140° F)
	Storage Temp.	-20 ~ 80° C (-4 ~ 176° F)
	Operating Humidity	20% ~ 95% (non-condensing)
	Storage Humidity	0% ~ 95% (non-condensing)

Product		ADAM-4570W/4571W
Description		2-port RS-232/422/485 WLAN Serial Device Server 1-port RS-232/422/485 WLAN Serial Device Server
Ethernet Communication	Compatibility	IEEE 802.11b
	Speed	11Mbps
	Connectors	Wireless
Serial Communication	Type	RS-232/422/485
	Connectors	2 x RJ-48 (ADAM-4570W) 1 x RJ-48 (ADAM-4571W)
	Ports	2 for ADAM-4570W 1 for ADAM-4571W
	Data Bits	5, 6, 7, 8
	Stop Bits	1, 1.5, 2
	Parity Bits	Odd, even, none, space, mark
	Baudrate	50bps ~ 230Kbps
Data Signals	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232)	TxD+, TxD-, RxD+, RxD-, GND (RS-422)
	Data+, Data-, GND (RS-485)	Data+, Data-, GND (RS-485)
Protection	Serial Protection	15KVESD for serial signal
Software & Functions	Drivers Supported	Windows® 98/NT/2000/XP
	Utility Software	Auto-detecting configuration utility (up to 128 devices) Port mapping utility Virtual COMport Configuration utility Port mapping utility
	Operation Mode	Virtual COMport
Mechanics	Configuration	Configuration utility Port mapping utility
	Dimensions	70 x 130 x 30 mm ( H x W x D)
	Enclosure	ABS/PC with solid mounting hardware
	Mounting	DIN-Rail, stack, wall
General	Certifications	CE, FCC Class B
	LED	System: Power,Status WLAN: Active,Quality Serial: Tx, Rx
Power	Power Requirements	Unregulated 10~30 V <sub>DC</sub>
	Power Consumption	4W
Environment	Operating Temp.	0 ~ 55° C (32 ~ 131° F)
	Storage Temp.	-20 ~ 80° C (-4 ~ 176° F)
	Operating Humidity	20% ~ 95% (non-condensing)
	Storage Humidity	0% ~ 95% (non-condensing)

## Ordering Information

Model Name	Description
ADAM-4572	1-port Modbus® Serial Device Server
ADAM-4570W	2-port RS-232/422/485 WLAN Serial Device Server (2PC of 1m RJ-48 to Male DB9 RS-232/422/485 Cable Included)
ADAM-4571W	1-port RS-232/422/485 WLAN Serial Device Server (1PC of 1m RJ-48 to Male DB9 RS-232/422/485 Cable Included)
OPT1A	1m RJ-48 to Male DB9 RS-232/422/485 Cable
OPT1D	30cm RJ-48 to Male DB9 RS-232/422/485 Cable

## Complete Serial Communication Solutions

### Industrial Multiport Serial I/O and CAN Cards

#### Introduction

Advantech's serial communication cards are designed to accommodate multiple high performance peripherals for field devices that use the RS-232/422/485 serial communication protocols. Each card requires only one PCI or ISA slot to provide independent serial channels. With industrial-grade protection, Advantech industrial communication cards help to avoid system damage in harsh environments.

#### What is an "Industrial-grade" Card?

- ▶ Complete solutions for multiple industrial communication interfaces (RS-232/422/485, CAN, current loop) with different buses (PCI, Universal PCI, Low-profile PCI, ISA, PC/104).
- ▶ Wide tolerance of voltage surge, ESD and isolation protection avoids device damage from irregular voltages.
- ▶ Extra high-speed serial transmission rate (up to 921.6Kbps) to fulfill critical application requirements.
- ▶ Built-in 128-byte FIFO to reduce CPU load.
- ▶ Automatic RS-485 flow control to simplify programming effort.

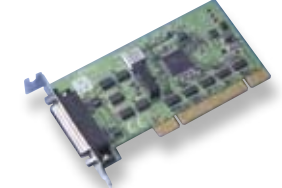
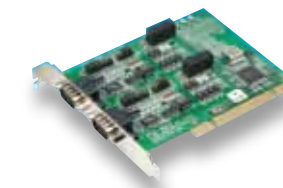
#### Serial Communication Cards

Serial	Interface	Ports	Model
Universal Low profile PCI	RS-232	2	PCI-1604UP
		4	PCI-1610UP
	RS-422/485	2	PCI-1602UP
Universal PCI & PCI	RS-232	2	PCI-1603
		4	PCI-1610
		8	PCI-1620
	RS-422/485	2	PCI-1601/1602
		4	PCI-1611U
		8	PCI-1622CU
		4	PCI-1612

ISA	RS-232	2	PCL-741
		4	PCL-849
		8	PCL-858
	RS-422/485	2	PCL-743/745
		4	PCL-846
		4	PCL-746+
RS-232/422/485	1	PCL-740	
	4	PCL-746+	
PC/104	RS-232	4	PCM-3640/3641
		2	PCM-3612
	RS-422/485	2	PCM-3614
		4	PCM-3618
		8	PCM-3618
RS-232/422/485	2	PCM-3610	

#### CAN Communication Cards

BUS	Interface	Ports	Model
UPCI	CAN	2	PCI-1680U
ISA	CAN	2	PCL-841
PC/104	CAN	2	PCM-3680



	Product	PCI-1601/1602	PCI-1603	PCI-1602UP/1604UP/1610UP/1610AUP
General	Description	2-port RS-422/485 PCI Comm. Card w/ Surge Protection 2-port RS-422/485 PCI Comm. Card w/ Isolation & Surge Protection 2-port RS-422/485 PCI Comm. Card 2-port RS-422/485 PCI Comm. Card w/Isolation	2-port RS-232/Current-loop PCI Comm. Card	2-port RS-422/485 Low-profile PCI Comm. Card, w/Isolation and Surge Protection 2-port RS-232 Low-profile PCI Comm. Card, w/Surge Protection 4-port RS-232 Low-profile PCI Comm. Card, w/Surge Protection
	Bus Type	PCI V 2.1	Universal PCI V2.2	Universal PCI V2.2
	Certification	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
	Connectors	2 x DB9-M	2 x DB9-M	1 x DB25-F (PCI-1602UP, PCI-1604UP) 1 x DB44-F (PCI-1610UP, PCI-1610AUP)
Power Consumption	Dimensions	123 x 92mm (4.8" x 3.6")	123 x 92mm (4.8" x 3.6")	119.91 x 64.41mm (4.7" x 2.5") (Low Profile MD1)
	Power Consumption	PCI-1601 220mA (+5V, Typical) 270mA (+5V, Max) PCI-1602 250mA (+5V, Typical) 300mA (+5V, Max)	250mA (+5V, typical) 300mA (+5V, Max)	400mA (+5V, Max)
	Communication Controller	16PCI952	16PCI952	16PCI952 (PCI-1602UP, PCI-1604UP) 16PCI954 (PCI-1610UP, PCI-1610AUP)
Communication	FIFO	128 bytes	128 bytes	128 bytes
	Serial Type	RS-422/485	RS-232/Current-loop	RS-232 (PCI-1604UP, PCI-1610UP, PCI-1610AUP) RS-422/485 (PCI-1602UP)
	Ports	2	2	2 (PCI-1602UP, PCI-1604UP) 4 (PCI-1610UP, PCI-1610AUP)
	Data Bits	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8
	Stop Bits	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2
	Parity Bits	Odd, even, none	Odd, even, none	Odd, even, none
	Baudrate	50bps ~ 921.6Kbps	50bps ~ 230.4Kbps (RS-232) 50bps ~ 57.6Kbps (Current-loop)	50bps ~ 921.6Kbps
	Data Signals	TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (Current-loop)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)
	Flow Control	RTS/CTS, Xon/Xoff	RTS/CTS, Xon/Xoff	RTS/CTS, Xon/Xoff
	IRQ	Assigned by Plug and Play	Assigned by Plug and Play	Assigned by Plug and Play
Protection	ESD Protection	16 KV	16 KV	16 KV
	Isolation Protection	3,000 V <sub>DC</sub> (PCI-1602A/1602B)	3,000 V <sub>DC</sub>	2,500 V <sub>DC</sub> (PCI-1602UP)
	Surge Protection	2,500 V <sub>DC</sub> (PCI-1601B/1602B)	-	2,500 V <sub>DC</sub> (PCI-1602UP, PCI-1604UP, PCI-1610UP)
Software	Bundle Software	ICOM Tools	ICOM Tools	ICOM Tools
	Driver Support	Windows® 98/ME/2000/XP/XP Embedded, Linux	Windows® 98/ME/2000/XP/XP Embedded, Linux	Windows® 98/ME/2000/XP/XP Embedded, Linux
Environment	Operating Humidity	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)
	Operating Temp.	0 ~ 65° C (32 ~ 149° F) (refer to IEC 68-2-1, 2)	0 ~ 65° C (32 ~ 149° F) (refer to IEC 68-2-1, 2)	0 ~ 65° C (32 ~ 149° F) (refer to IEC 68-2-1, 2)
	Storage Temp.	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)

#### Ordering Information

Category	Model Name	Description
2-port RS-422/485	PCI-1601A	2-port RS-422/485 PCI Comm. Card
	PCI-1601B	2-port RS-422/485 PCI Comm. Card w/Surge Protection
	PCI-1602A	2-port RS-422/485 PCI Comm. Card w/Isolation Protection
	PCI-1602B	2-port RS-422/485 PCI Comm. Card w/Isolation & Surge Protection
2-port RS-232	PCI-1603	2-port RS-232/Current-loop Universal PCI Comm. Card
	PCI-1602UP	2-port RS-422/485 Low-profile Universal PCI Comm. Card, w/Isolation and Surge Protection (30cm DB25 to 2 x Male DB9 Cable Included)
LOW Profile Card	PCI-1604UP	2-port RS-232 Low-profile Universal PCI Comm. Card, w/Surge Protection (30cm DB25 to 2 x Male DB9 Cable Included)
	PCI-1610UP	4-port RS-232 Low-profile Universal PCI Comm. Card, w/Surge Protection (30cm DB44 to 4 x Male DB9 Cable Included)
	PCI-1610AUP	4-port RS-232 Low-profile Universal PCI Comm. Card (30cm DB44 to 4 x Male DB9 Cable Included)



# Multiport Serial I/O Cards



Product		PCI-1610	PCI-1611U	PCI-1612
Description		4-port RS-232 PCI Comm. Card	4-port RS-422/485 Universal PCI Comm. Card w/Isolation & Surge Protection	4-port RS-232/422/485 PCI Comm. Card
General	Bus Type	PCI V 2.1 (PCI-1610A/1610B) Universal PCI V2.2 (PCI-1610CU)	Universal PCI V2.2	PCI V 2.1 (PCI-1612A/1612B) Universal PCI V2.2 (PCI-1612AU/1612CU)
	Certification	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
	Connectors	1 x DB37-F	1 x DB37-F	1 x DB37-F
	Dimensions	123 x 92mm (4.8" x 3.6") (PCI-1610A/1610B) 185 x 100mm (7.3" x 3.9") (PCI-1610CU)	185 x 100mm (7.3" x 3.9")	185 x 100mm (7.3" x 3.9")
Power Consumption		60mA (+12V, Typical) 80mA (+12V, Max) 150mA (+5V, Typical) 180mA (+5V, Max)	600mA (+5V, Max)	60mA (+12V, Typical) 80mA (+12V, Max) 270mA (+5V, Typical) 338mA (+5V, Max)
	Communication Controller	16PCI954	16PCI954	16PCI954
Communication	FIFO	128 bytes	128 bytes	128 bytes
	Serial Type	RS-232	RS-422/485	RS-232/422/485
	Ports	4	4	4
	Data Bits	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8
	Stop Bits	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2
	Parity Bits	Odd, even, none	Odd, even, none	Odd, even, none
	Baudrate	50bps ~ 921.6Kbps	50bps ~ 921.6Kbps	50bps ~ 921.6Kbps
	Data Signals	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232)	TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)
	Flow Control	RTS/CTS, Xon/Xoff	RTS/CTS, Xon/Xoff	RTS/CTS, Xon/Xoff
	IRQ	Assigned by Plug and Play	Assigned by Plug and Play	Assigned by Plug and Play
Protection	ESD Protection	16 KV	16 KV	16 KV
	Isolation Protection	2,500 V <sub>DC</sub> (PCI-1610CU)	2,000 V <sub>DC</sub>	2,500 V <sub>DC</sub> (PCI-1612CU)
	Surge Protection	2,500 V <sub>DC</sub> (PCI-1610B/1610CU)	2,500 V <sub>DC</sub>	2,500 V <sub>DC</sub> (PCI-1612B/1612CU)
Software	Bundle Software	ICOM Tools	ICOM Tools	ICOM Tools
	Driver Support	Windows® 98/ME/2000/XP/XP Embedded, Linux	Windows® 98/ME/2000/XP/XP Embedded, Linux	Windows® 98/ME/2000/XP/XP Embedded, Linux
Environment	Operating Humidity	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)
	Operating Temp.	0 ~ 65°C (32 ~ 149° F) (refer to IEC 68-2-1, 2)	0 ~ 65°C (32 ~ 149° F) (refer to IEC 68-2-1, 2)	0 ~ 65°C (32 ~ 149° F) (refer to IEC 68-2-1, 2)
	Storage Temp.	-25 ~ 85°C (-13 ~ 185° F)	-25 ~ 85°C (-13 ~ 185° F)	-25 ~ 85°C (-13 ~ 185° F)

## Ordering Information

Category	Model Name	Description
4-port RS-232	PCI-1610A	4-port RS-232 PCI Comm. Card (30cm DB37 to 4 x Male DB25 Cable Included)
	PCI-1610A/9	4-port RS-232 PCI Comm. Card (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1610B	4-port RS-232 PCI Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
	PCI-1610B/9	4-port RS-232 PCI Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1610CU	4-port RS-232 Universal PCI Comm. Card, w/Isolation & Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
4-port RS-422/485	PCI-1610CU/9	4-port RS-232 Universal PCI Comm. Card, w/Isolation & Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1611U	4-port RS-422/485 Universal PCI Comm. Card, w/Isolation & Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
4-port RS-232/422/485	PCI-1611U/9	4-port RS-422/485 Universal PCI Comm. Card, w/Isolation & Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1612A	4-port RS-232/422/485 PCI Comm. Card (30cm DB37 to 4 x Male DB25 Cable Included)
	PCI-1612A/9	4-port RS-232/422/485 PCI Comm. Card (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1612B	4-port RS-232/422/485 PCI Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
	PCI-1612B/9	4-port RS-232/422/485 PCI Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1612AU	4-port RS-232/422/485 Universal PCI Comm. Card (30cm DB37 to 4 x Male DB25 Cable Included)
	PCI-1612AU/9	4-port RS-232/422/485 Universal PCI Comm. Card (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1612U	4-port RS-232/422/485 Universal PCI Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
	PCI-1612U/9	4-port RS-232/422/485 Universal PCI Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCI-1612CU	4-port RS-232/422/485 Universal PCI Comm. Card, w/Isolation & Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
PCI-1612CU/9	4-port RS-232/422/485 Universal PCI Comm. Card, w/Isolation & Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)	



Product		PCI-1620	PCI-1622CU	PCI-1625U
Description		8-port RS-232 PCI Comm. Card	8-port RS-422/485 Universal PCI Comm. Card w/Isolation & Surge Protection	8-port Intelligent RS-232 Universal PCI Comm. Card
General	Bus Type	PCI V 2.1 (PCI-1620A/1620B) Universal PCI V2.2 (PCI-1620AU/1620U)	Universal PCI V2.2	Universal PCI V2.2
	Certification	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
	Connectors	1 x DB62-F	1 x DB78-F	1 x DB62-F
	Dimensions	185 x 100mm (7.3" x 3.9")	185 x 100mm (7.3" x 3.9")	185 x 100mm (7.3" x 3.9")
Power Consumption		120mA (+12V, Typical) 150mA (+12V, Max) 180mA (+5V, Typical) 220mA (+5V, Max)	600mA (+5V, Max)	504mA (+5V, Typical) 558mA (+5V, Max)
	Communication Controller	16PCI954+16C954	16PCI954+16C954	8 x 16C550
Communication	Processor	-	-	TMS320c5402
	Memory	-	-	1 MB
	FIFO	128 bytes	128 bytes	-
	Serial Type	RS-232	RS-422/485	RS-232
	Ports	8	8	8
	Data Bits	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8
	Stop Bits	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2
	Parity Bits	Odd, even, none	Odd, even, none	Odd, even, none
	Baudrate	50bps ~ 921.6Kbps	50bps ~ 921.6Kbps	50bps ~ 921.6Kbps
	Data Signals	TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND (RS-232)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND (RS-232) Data+, Data-, GND (RS-485)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND (RS-232)
Protection	Flow Control	RTS/CTS, Xon/Xoff	RTS/CTS, Xon/Xoff	RTS/CTS, Xon/Xoff
	IRQ	Assigned by Plug and Play	Assigned by Plug and Play	Assigned by Plug and Play
	ESD Protection	16 KV	16 KV	16 KV
Software	Isolation Protection	-	2,500 V <sub>DC</sub>	-
	Surge Protection	3,000 V <sub>DC</sub> (PCI-1620B) 2,500 V <sub>DC</sub> (PCI-1620U)	2,500 V <sub>DC</sub>	-
Environment	Bundle Software	ICOM Tools	ICOM Tools	ICOM Tools
	Driver Support	Windows® 98/ME/2000/XP/XP Embedded, Linux	Windows® 98/ME/2000/XP/XP Embedded, Linux	Windows® 98/ME/2000/XP/XP Embedded, Linux
Environment	Operating Humidity	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)
	Operating Temp.	0 ~ 65° C (32 ~ 149° F) (refer to IEC 68-2-1,2)	0 ~ 65° C (32 ~ 149° F) (refer to IEC 68-2-1, 2)	0 ~ 65° C (32 ~ 149° F) (refer to IEC 68-2-1, 2)
	Storage Temp.	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)

## Ordering Information

Category	Model Name	Description
8-port RS-232	PCI-1620A	8-port RS-232 PCI Comm. Card
	PCI-1620B	8-port RS-232 PCI Comm. Card, w/Surge Protection
	PCI-1620AU	8-port RS-232 Universal PCI Comm. Card
	PCI-1620U	8-port RS-232 Universal PCI Comm. Card, w/Surge Protection
8-port Intelligent RS-232	PCI-1625U	8-port Intelligent RS-232 Universal PCI Comm. Card
	OPT8AP	8-port RS-232(DCE) Connection Box with Female DB25 Connectors
	OPT8BP	8-port RS-232(DTE) Connection Box with Male DB25 Connectors
	OPT8FP	8-port RS-422 to RS-232 Converter Connection Box with Isolation Protection
	OPT8C	1m DB62 to 8 x Male DB25 Cable
8-port RS-422/485	OPT8H	1m DB62 to 8 x Male DB9 Cable
	PCI-1622CU	8-port RS-422/485 Universal PCI Comm. Card, w/Isolation & Surge Protection
	OPT8I	1m DB78 to 8 x Male DB25 Cable
Accessory	OPT8J	1m DB78 to 8 x Male DB9 Cable

\* All 8-port Card doesn't include cable



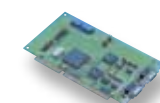
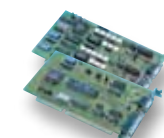
Product		PCI-1680U	PCL-841	PCM-3680
Description		2-port CAN Interface Universal PCI Comm. Card, w/Isolation	Dual-port isolated CAN-bus Interface ISA Card	Dual-port isolated CAN-bus Interface PC/104 Card
General	Bus Type	Universal PCI V2.2	ISA	PC/104
	Certification	CE, FCC Class A	CE, FCC Class A	CE, FCC Class A
	Connectors	2 x DB9-M	2 x DB9-M	2 x DB9-M
	Dimensions	185 x 100mm (7.3" x 3.9")	185 x 100mm (7.3" x 3.9")	90 x 96mm (3.6" x 3.8")
Power Consumption		400mA (+5V, Typical)	400mA (+5V, Typical) 950mA (+5V, Max)	400mA (+5V, Typical)
Communication	CAN Controller	SJA-1000	SJA-1000	SJA-1000
	CAN Transceiver	82C250	82C250	82C250
	Protocol	CAN 2.0 A/B	CAN 2.0 A/B	CAN 2.0 A/B
	Baudrate	1 Mbps	500 Kbps	500 Kbps
	Data Signals	CAN_H,CAN_L	CAN_H_H,CAN_L	CAN_H,CAN_L
	Memory Segment Base Address	-	C800H to EF00H	C800H to EF00I
	IRQ	Assigned by Plug and Play	3, 4, 5, 6, 7, 9, 10, 11, 12 or 15	3, 4, 5, 6, 7, 9, 10, 11, 12 or 15
Protection		Isolation Protection	1,000 VDC	1,000 VDC
Software		Driver Support	Windows® 95/98/2000/XP, Linux	Windows® 95/98/2000/XP, Windows® CE4.2, Linux
Environment	Operating Humidity		5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)
	Operating Temp.		0 ~ 65° C (32 ~ 149° F)	0 ~ 65° C (32 ~ 149° F)
	Storage Temp.		-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)

## Ordering Information

Model Name	Description
PCI-1680U	2-port CAN Interface Universal PCI Comm. Card, w/Isolation Protection
PCL-841	Dual-port isolated CAN-bus Interface ISA Card
PCM-3680	Dual-port isolated CAN-bus Interface PC/104 Card

## ISA Card

Category	Model Name	Description
1-port RS-232/422/485/Current loop	PCL-740	1-port RS-232/422/485/Current-loop ISA Comm. Card
2-port RS-232/Current loop	PCL-741	2-port RS-232/Current-loop ISA Comm. Card, w/Isolation Protection
2-port RS-422/485	PCL-743B	2-port RS-422/485 ISA Comm. Card
	PCL-743S	2-port RS-422/485 ISA Comm. Card, w/Surge Protection
	PCL-745B	2-port RS-422/485 ISA Comm. Card, w/Isolation Protection
	PCL-745S	2-port RS-422/485 ISA Comm. Card, w/Isolation & Surge Protection
4-port RS-232/422/485	PCL-746+	4-port RS-232/422/485 ISA Comm. card (30cm DB37 to 4 x Male DB25 Cable Included)
	PCL-746+/9	4-port RS-232/422/485 ISA Comm. card (30cm DB37 to 4 x Male DB9 Cable Included)
4-port RS-422/485	PCL-846A	4-port RS-422/485 ISA Comm. Card, w/Isolation Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCL-846B	4-port RS-422/485 ISA Comm. Card w/Isolation & Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCL-849A	4-port RS-232 ISA Comm. Card (30cm DB37 to 4 x Male DB25 Cable Included)
	PCL-849A/9	4-port RS-232 ISA Comm. Card (30cm DB37 to 4 x Male DB9 Cable Included)
4-port RS-232	PCL-849B	4-port RS-232 ISA Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
	PCL-849B/9	4-port RS-232 ISA Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCL-849+	4-port High Speed RS-232 ISA Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB25 Cable Included)
	PCL-849+/9	4-port High Speed RS-232 ISA Comm. Card, w/Surge Protection (30cm DB37 to 4 x Male DB9 Cable Included)
	PCL-849L	4-port RS-232 ISA Comm. Card (30cm DB37 to 4 x Male DB25 Cable Included)
	PCL-849L/9	4-port RS-232 ISA Comm. Card (30cm DB37 to 4 x Male DB9 Cable Included)



Product		PCL-740/741	PCL-743/745	PCL-746+	PCL-846	PCL-849	PCL-858
Description		RS-232/422/485/Current-loop Comm. Card	2-port RS-422/485 Comm. Card	4-port RS-232/422/485 Comm. Card	4-port High Speed RS-422/485 Comm. Card	4-port RS-232 Comm. Card	8-port High Speed RS-232 Comm. Card
General	Bus Type	ISA	ISA	ISA	ISA	ISA	ISA
	Certification	CE	CE	CE	CE	CE	CE
	Connectors	1 x DB9-M, 1 x DB25-M (PCL-740) 2 x DB9-M (PCL-741)	2 x DB9-M	1 x DB37-F	1 x DB37-F	1 x DB37-F	1 x DB62-F
	Dimensions	185 x 100mm (7.3" x 3.9") PCL-740 180mA (+5V, Max) PCL-741 300mA (+5V, Typical)	185 x 100mm (7.3" x 3.9") 400mA (+5V, typical) 950mA (+5V, Max)	185 x 100mm (7.3" x 3.9") 800mA (+5V, Typical) 1.5A (+5V, Max) 60mA (+12V, Typical) 120mA (+12V, Max)	185 x 100mm (7.3" x 3.9") 970mA (+5V, Typical) 1.2A (+5V, Max)	185 x 100mm (7.3" x 3.9") 250mA (+5V, Typical) 500mA (+5V, Max) 70mA (+12V, Typical) 120mA (+12V, Max)	185 x 100mm (7.3" x 3.9") 450mA (+5V, Typical) 950mA (+5V, Max) 140mA (+12V, Typical) 240mA (+12V, Max)
	Power Consumption	20mA (+12V, Max) 1.1A (+5V, Max)					
	Communication Controller	16C550 (PCL-740) 2 x 16C550 (PCL-741)	2 x 16C550	4 x 16C550	4 x 16C550	1 x 16C554 (PCL-849A/849b/849L) 1 x 16C554 (PCL-849+)	2 x 16C554
	FIFO	16 bytes	16 bytes	16 bytes	16 bytes	16 bytes (PCL-849A/849b/849L) 64 bytes (PCL-849+)	16 bytes
Serial Type		RS-232/422/485/Current-loop (PCL-740) RS-232/Current-loop (PCL-741)	RS-422/485	RS-232/422/485	RS-422/485	RS-232	RS-232
Ports		1 (PCL-740) 2 (PCL-741)	2	4	4	4	8
Data Bits		5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8
Stop Bits		1, 1.5, 2	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2
Parity Bits		Odd, even, none	Odd, even, none	Odd, even, none	Odd, even, none	Odd, even, none	Odd, even, none
Baudrate		50bps ~ 115.2Kbps (RS-232/422/485) 50bps ~ 57.6Kbps (Current-loop)	50bps ~ 921.6Kbps	50bps ~ 115.2Kbps	50bps ~ 921.6Kbps	50bps ~ 921.6Kbps (PCL-849A) 50bps ~ 307.2Kbps (PCL-849B/849+) 50bps ~ 115.2Kbps (PCL-849L)	50bps ~ 921.6Kbps
Data Signals		TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485) TxD+, TxD-, RxD+, RxD-, GND (Current-loop)	TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232) TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	TxD+, TxD-, RxD+, RxD-, GND (RS-422) Data+, Data-, GND (RS-485)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND (RS-232)	TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND (RS-232)
Flow Control I/O Address		RTS/CTS, Xon/Xoff 200H to 3F8H	RTS/CTS, Xon/Xoff 200H to 3F8H	RTS/CTS, Xon/Xoff 000H to 3F8H	RTS/CTS, Xon/Xoff 200H to 3F8H	RTS/CTS, Xon/Xoff 200H to 3F8H	RTS/CTS, Xon/Xoff 000H to 3F8H
IRQ		3, 4, 5, 6, 7, 9, 10, 11, 12 or 15	3, 4, 5, 6, 7, 9, 10, 11, 12 or 15	3, 4, 5, 6, 7, 9, 10, 11, 12 or 15	3, 4, 5, 6, 7, 9, 10, 11, 12 or 15	3, 4, 5, 6, 7, 9, 10, 11, 12 or 15	3, 4, 5, 6, 7, 9, 10, 11, 12 or 15
Isolation Protection		2,500 V <sub>DC</sub> (PCL-741)	3,000 V <sub>DC</sub> (PCL-743B/745S)	-	2,000 V <sub>DC</sub> (PCL-846B)	3,000 V <sub>DC</sub> (PCL-849B/849+)	3,000 V <sub>DC</sub> (PCL-858B)
Surge Protection		-	2,500 V <sub>DC</sub> (PCL-743B/745S)	-	2,000 V <sub>DC</sub> (PCL-846B)	3,000 V <sub>DC</sub> (PCL-849B/849+)	3,000 V <sub>DC</sub> (PCL-858B)
Bundle Software		ICOM Tools	ICOM Tools	ICOM Tools	ICOM Tools	ICOM Tools	ICOM Tools
Driver Support		Windows® 98/ME/2000/XP, Linux	Windows® 98/ME/2000/XP, Linux	Windows® 98/ME/2000/XP, Linux	Windows® 98/ME/2000/XP, Linux	Windows® 98/ME/2000/XP, Linux	Windows® 98/ME/2000/XP, Linux
Operating Humidity		5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)	5% ~ 95% RH, non-condensing (refer to IEC 68-2-3)
Operating Temp.		0 ~ 50° C (32 ~ 122° F)	0 ~ 65° C (32 ~ 149° F) (refer to IEC 68-2-1, 2)	0 ~ 50° C (32 ~ 122° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)	0 ~ 60° C (32 ~ 140° F)
Storage Temp.		-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)	-25 ~ 85° C (-13 ~ 185° F)

## ISA Card

Category	Model Name	Description
8-port RS-232	PCL-858A	8-port RS-232 ISA COMM Card
	PCL-858B	8-port RS-232 ISA COMM Card w/S
Accessory	OPT8AP	8-port RS-232(DCE) Connection Box with Female DB25 Connectors
	OPT8BP	8-port RS-232(DTE) Connection Box with Male DB25 Connectors
	OPT8FP	8-port RS-422 to RS-232 Converter Connection Box with Isolation Protection
	OPT8C	1m DB62 to 8 x Male DB25 Cable
	OPT8H	1m DB62 to 8 x Male DB9 Cable

\* All 8-port Card doesn't include cable

## Regional Service & Customization Centers

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