



# Ethernet Connectivity for Field Automation

Technology

Application

Product

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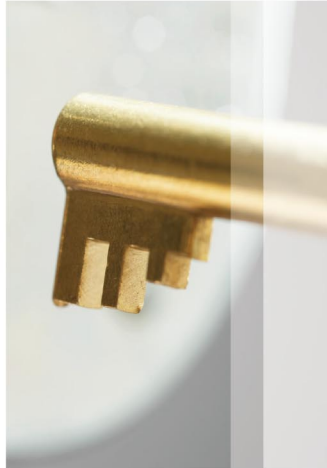


# About EtherWAN

EtherWAN Systems, founded in 1996 in Irvine CA, has become a leader in Ethernet connectivity for applications in various markets including intersection traffic monitoring & surveillance, building automation & surveillance, transportation, utility, oil & mining, field automation, etc.

EtherWAN specializes in designing and manufacturing fiber optic Ethernet products and Ethernet equipments for harsh environments and pampered rooms. The available products are Ethernet over telephone line/coaxial equipments, media converters from serial/Ethernet to fiber or wireless, high-power PoE switches, IEC61850 / IEEE1613 Ethernet Products for grid and power substations, EN50155 Ethernet products for railway and train networking applications, and ISA 12.12.01 (UL1604) network equipments for hazardous locations.

EtherWAN's US headquarters is located in California USA with a Pacific Rim headquarters and manufacturing facility in Taipei, Taiwan. With engineering expertise at both sides of the Pacific Ocean and its own production lines in Taiwan, EtherWAN continues to provide professional support with the most advanced Ethernet gears at very affordable prices.



## Your single source for

## Ethernet connectivity products



### Managed / Unmanaged Layer 2 Ethernet Switches

- Hardened Ethernet switches
- Fiber intelligent Ethernet switches
- Fiber optic modularized Ethernet switches
- Gigabit Ethernet switches
- Ethernet switches with SFP
- PoE Ethernet switches



### Managed / Unmanaged Media Converters

- Hardened media converters
- WDM media converters
- PoE media converters
- OAM media converters
- Media converters with SFP
- Gigabit media converters
- Serial to Fast Ethernet media converters
- Media converter chassis



### Ethernet Extenders

- Ethernet Extenders over copper pair
- Ethernet Extenders over coaxial cable
- Ethernet Extenders with management features
- Ethernet Extenders with PoE
- Ethernet Extenders with  $\alpha$ -ring



### Serial Servers

- Serial to Ethernet
- Serial to Wireless
- Fiber Modem

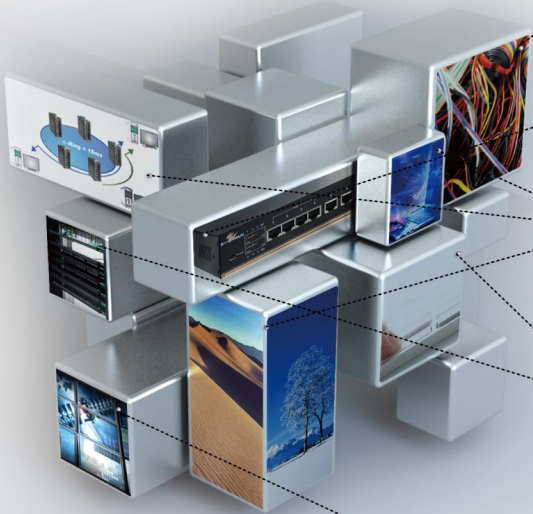


### Others

- Ethernet adapter cards
- Industrial power supplies
- Hardened power supplies
- Hardened SFP fiber transceivers
- TransRack (DIN-mount on Rack)



## Make us different for Field Automation



### **E**xtended Ethernet Distance

Long distance Ethernet over copper pair or coaxial up to 2.6km without pulling fiber cables

### **T**echnology to Industry

Dedication in industry-certified product development such as IEC61850/IEEE1613 for power grid and substations, EN50155/EN50121-4 for rolling-stock and railway management, E-Mark for in-vehicle communications, etc.

### **H**ardened Design Know-how

Design to well survive in extended temperature range; Protection to shock and vibration, power surge and high ESD, etc.

### **E**fficient Bandwidth Control

Port-based VLAN, IEEE802.3Q VLAN Tagging and GVRP, IEEE802.1p QoS with priority queues, MAC-base trunking support

### **R**edundancy Management

Unique  $\alpha$ -Ring topology guarantees recovery time < 15ms, multiple power inputs design, relay contact design for alarm connections

### **W**ise Mounting Design

Rack mount, Din Rail mount, Wall mount, Panel mount and Desktop

### **A**ccess Control

MAC address filter, IEEE802.1x PNAAC, VLAN, Port mirror

### **N**etwork Management

Fully managed, console, web, SNMP, Telnet

## SOLUTIONS FOR Renewable Energy

Electric power, water and gas distribution systems all require communication systems. Ethernet connectivity devices that distribute communications to the various end points that perform the measuring, monitoring and control functions.



### EX87000

IEC61850/IEEE1613 Managed Hardened 24-port 10/100BASE and 4 Gigabit ports Ethernet Switch with SFP

- Complies with IEC61850-3 & IEEE1613 Environmental requirements for power substation automation systems
- Complies with EN50121-4 environmental requirement for Railway application
- 40°C to 75°C operating temperature range



### SE6300

Hardened 2/4 ports Serial Device Server (DNP3.0 transparency)

- Dual LAN ports design for redundant Ethernet connection
- Support 2 or 4 ports of RS-232/422/485 serial communication
- Supports Virtual COM, TCP server, TCP client, UDP, Pair Connection operation mode



### EL1141

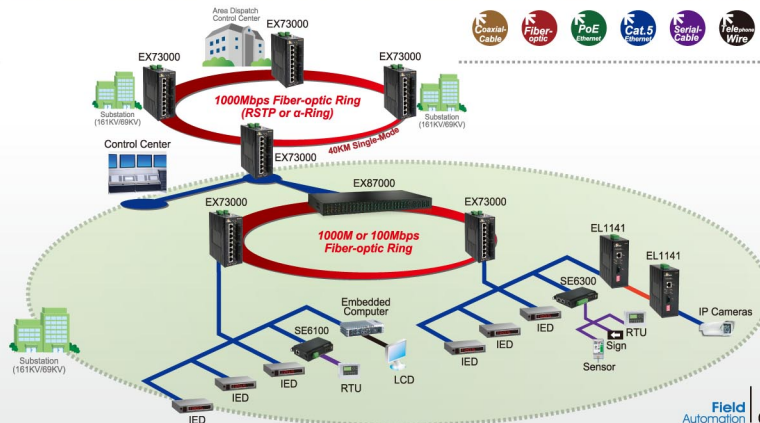
IEC61850/IEEE1613 Hardened 10/100BASE-TX to 100BASE-FX Media Converter

- Complies with IEC61850 EMC and Environment requirement, and IEEE1613 standard for substation and power automation
- DIP switch configuration for "Link-Fault-Pass-Through", link down alarm, speed, duplex mode
- Complies with EN50121-4 environmental requirement for Railway applications



Renewable energies are energies that come from sources such as sunshine, wind, water, vegetation, and the heat of the earth. These sources have been successfully harnessed and used to provide energy. Today's technological advancements have developed more efficient means of harnessing and using renewable energy sources, and these sources are gaining increasing popularity. Existing renewable energy installations are making significant contributions to the energy supply, and research activities are demonstrating the far-reaching impact that a greater reliance on renewable energy sources.

Supervision control and data acquisition (SCADA) systems utilize IP communications that require Ethernet connectivity. For this case, the systems are large and consist of various Ethernet switches to construct a fiber-optic backbone network, using EtherWAN's EX87000 and EX73000 hardened grade switches, a fiber-optic backbone network can be established in a ring topology that can provide network redundancy. While EtherWAN SE6300 and SE6100 series of serial device servers can connect with sensors and transfer their signal to IP format for data transmission.



## SOLUTIONS FOR Water Treatment

Water treatment plants were actively built around urban environments to manage and reduce the extra pollution. Regards to fine operating of the water automation system, the smooth data transition is critical from one to the other.



### EX73000

Managed Hardened 16-port 10/100BASE with 2 Gigabit combo ports Ethernet Switch

- IEEE802.1w RSTP, IEEE802.1S MSTP and IEEE802.1D STP compatible
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- EtherWAN proprietary "q-ring" support for network redundancy; recovery time <15ms
- RS-232 console, Telnet, SSH/SSL, SNMP V1, V2c and V3, RMON, Web Browser and TFTP management



### EX77000

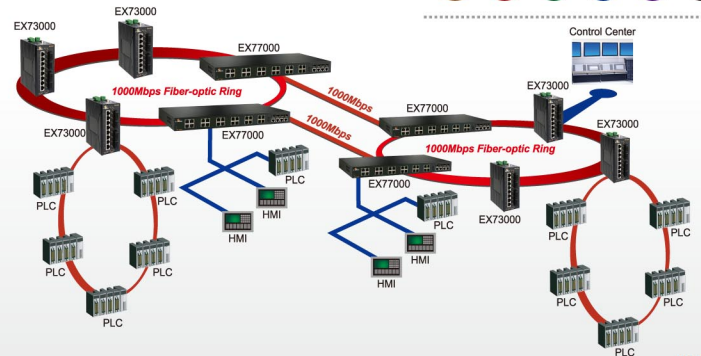
Managed Hardened 24-port 10/100BASE and 4 Gigabit ports Ethernet Switch with SFP

- EtherWAN proprietary "q-ring" support for network redundancy; recovery time <15ms
- RS-232 console, Telnet, SSH/SSL, SNMP V1, V2c and V3, RMON, Web Browser and TFTP management
- -40°C to 75°C operating temperature range
- IP Multicast Filtering through IGMP snooping V1, V2 and V3

To continuously improve people's living standards and provide adequate and quality water to citizens, centralizing the measurement of water consumption and remotely control the water flow level in each node, as well as collecting all the information on the status of the water must be achieved.

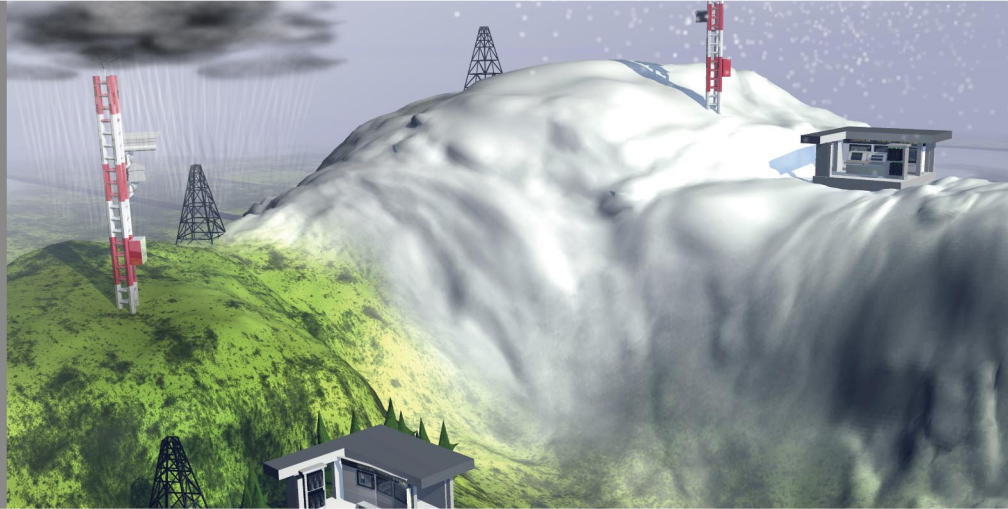
The water treatment plants use mass amount of sensors to detect the water quality and a variety of machines to collect and monitor information. Normally, water treatment plants are located in large areas, therefore, gigabit data transmit speed must be used to provide great performance when transmitting water information back to control centers.

Remote centralized control and monitoring system is most crucial aspect for control supervisors, and must be established with great performance in order to provide the same levels of water to users at all times. In addition, waste water treatment is also critical to the end treatment plants before it can be released back into the environment.



## SOLUTIONS FOR Weather Observation

A network environment is required to attach with the meteorological equipment reporting the data from remote to a centralized workstation. The new system will be integrated with existing weather data collection systems to implement fiber based Ethernet equipment for long distance data transmission.



### EX71000

Managed Hardened 8-port 10/100BASE and 2 Gigabit port Ethernet Switch with SFP

- Supports port-based VLAN, IEEE802.1Q VLAN Tagging and GVRP
- EtherWAN proprietary "o-ring" support for network redundancy; recovery time <15ms
- -40°C to 75°C operating temperature range
- RS-232 console, Telnet, SSH/SSH, SNMP V1, V2c and V3, RMON, Web Browser and TFTP management



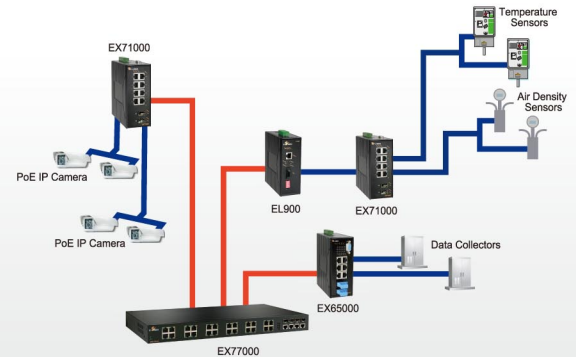
### EL900

Hardened 10/100BASE-TX to 100BASE-FX Media Converter

- DIP switch configuration for "Link-Fault-Pass-Through", link down alarm, speed, duplex mode
- UL 1604 Class I Division 2 classified for use in hazardous locations (Applicable to versions with Terminal Block power option)
- Supports DIN-Rail, Panel or Rack Mounting Installation
- -40°C to 75°C operating temperature range

Weather observation is a facility with instruments and equipments for observing atmospheric conditions to provide information for weather forecasts, as well as a means to study the earth's weather and climate. The measurements taken include temperature, barometric pressure, humidity, wind speed, wind direction, and precipitation amounts. Wind measurements are taken free of other obstructions or obstacles as much as possible, while temperature and humidity measurements are kept free from direct solar radiation, or insulation.

Most weather observation stations are located on high elevation, low temperature areas that are not suitable for fiber cable installation. Therefore, a reliable, hardened grade network equipment with remote management interface must be used to ensure the critical functions of these stations are operating smoothly. Using EtherWAN's EX71000 hardened grade Ethernet switch, data from IP cameras, temperature and air density sensors located in high elevated structures such as power tower can be transmitted back to a centralized workstation.



## SOLUTIONS FOR Building Automation

It is based on TCP/IP technology to form a variety of functions to ensure comfortable and secure living or working environment. Building automation is the way of the future and may involve in access control from one to many doors to a fully integrated system. All include door access, security alarm system, VoIP and full automation for any electrical device such as air conditioning, lighting, signs, lift control, irrigation, temperature control, for the home or commercial applications.



### EX65000

Managed Industrial 8-port Gigabit Ethernet Switch

- IEEE802.1w RSTP, IEEE802.1S MSTP and IEEE802.1D STP compatible
- EtherWAN proprietary "o-ring" support for network redundancy; recovery time <15ms
- IEEE802.3ad Link Aggregation and MAC-based trunking with automatic link fail-over
- -20°C to 60°C operating temperature range



### ED3331

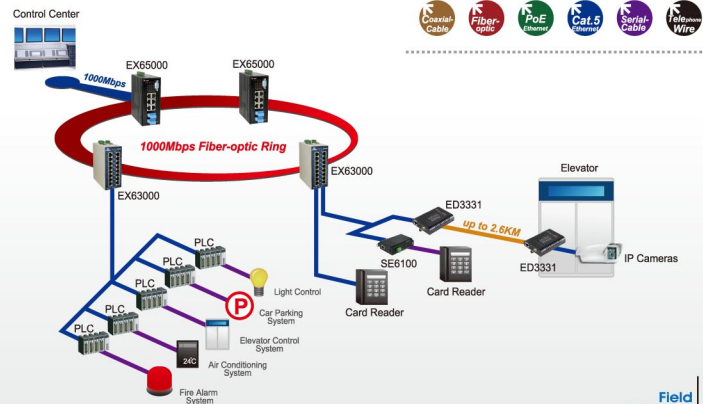
Industrial 10/100BASE-TX Ethernet Extender over Coaxial Cable

- Supports DIP switch to select Local or Remote side
- Ethernet Extender Port: Symmetrical on VDSL, High-speed full-duplex up to 65Mbps communications link over existing coaxial cable
- Ten reference speeds supports up to 85Mbps@200 meters, down to 1Mbps@200 meters
- -10°C to 60°C operating temperature range



Building automation system (BAS) aims at improving the control, monitoring and administration of technical building subsystems and device interactions that are typically found in buildings. The control system is a computerized, intelligent network of electronic devices, designed to monitor and control the mechanical and lighting systems in a building. Video surveillance in elevators will be monitored and captured in real-time, card access readers will record the access information of personnel, light control, car parking system, air conditioning system and fire alarm system will be collected by the PLC and transmitted to EtherWAN's managed switch. The information will then be transmitted gigabit fiber-optic line along with EtherWAN's o-ring technology to provide network redundancy on the fiber-optic data path.

EtherWAN offers web-based user interfaces, remote access and management capabilities in control center. The BAS functionality reduces building energy and maintenance costs when compared to a non-controlled building. A building controlled by a BAS is often referred to as an intelligent building system



## SOLUTIONS FOR Factory Automation

New generation equipment in factory automation utilizes new IP protocols devices. Ethernet-based networking structure provides real-time data accessibility to keep the non-stop operation 7/24/365.



### EX43000

Unmanaged Industrial 8-port 10/100BASE-TX Ethernet Switch

- Alarms for power failure by relay output
- Redundant power input with Terminal Block and DC Jack
- -20°C to 60°C operating temperature range
- Full wire-speed forwarding rate



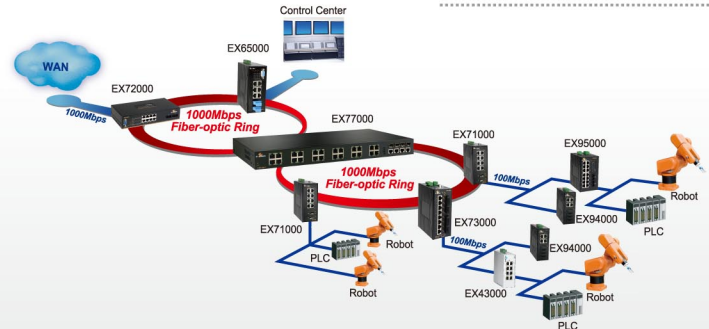
### EX71000

Managed Hardened 8-port 10/100BASE and 2 Gigabit ports Ethernet Switch with SFP

- Supports port-based VLAN, IEEE802.1Q VLAN Tagging and GVRP
- EtherWAN proprietary "o-ring" support for network redundancy; recovery time <15ms
- -40°C to 75°C operating temperature range
- RS-232 console, Telnet, SSH/SSL, SNMP V1, V2c and V3, RMON, Web Browser and TFTP management

Factory automation uses a large number of sensors and actuators observing and controlling the production. Sensors and actuators are located at robots, suspension tracks and portable tools in the automotive industry, collecting data on machine tools, such as milling or turning machines and control revolving robots. The main goal of factory automation is to reduce human intervention by the using control systems and information technologies. The main advantage of using automation is to increase productivity of the factory's function, and reduce labor cost. However, failure of any device or link down will jeopardize the system and cause data loss.

Therefore, reliability and redundancy are most important factors in factory automation environment. EtherWAN's α-ring technology provides an extremely fast recovery time of 15ms in the event of network link down, and provides connectivity to connect legacy equipment to modern control systems, offering the ability to monitor harsh environmental conditions.





## SOLUTIONS FOR Robust PoE Networking

Industrial managed PoE switch over industrial Ethernet lines creates new opportunities to directly power industrial equipment, significantly reduces overall installation and maintenance costs, improves overall reliability, and increases configuration flexibility. Combining power and data over the same cable connection allows Industrial Ethernet to compete with legacy dominated in Factory Automation industry.



### EX74000

Managed Hardened 6-port 10/100BASE (4 x High Power PoE) with 2 Gigabit SFP (DDM) combo ports Ethernet Switch

- Supports PoE Power Sourcing Equipment (PSE), IEEE802.3af High Power over Ethernet (PoE) support for 4 10/100BASE-TX ports
- EtherWAN proprietary "a-ring" support for network redundancy; recovery time <15ms
- Supports SFP DDM (Digital Diagnostics Monitoring)
- Built in RTC (Real Time Clock)



### EX76000

Managed Hardened 16-port 10/100BASE PoE with 2 Gigabit combo ports Ethernet Switch

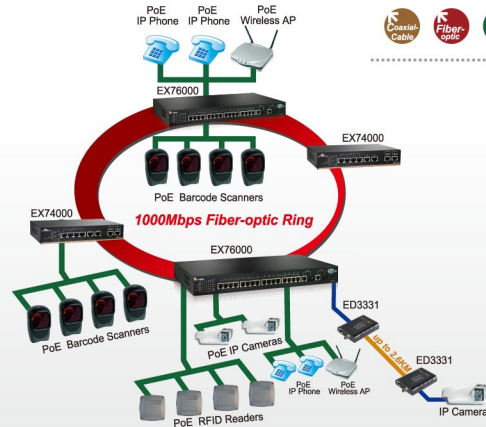
- Supports PoE Power Sourcing Equipment (PSE), IEEE802.3af High Power over Ethernet(PoE) support for 8, 12, or 16 10/100BASE-TX ports
- Redundant power input with Terminal Block and DC-Jack
- EtherWAN proprietary "b-ring" support for network redundancy; recovery time <15ms
- Built in RTC(Real Time Clock)



Typically, device power is derived from an AC-DC adapter or at board level inside the device. This adds cost and requires installing the device near an AC power source. Device installation is further complicated by different safety codes, AC voltages and wall plugs around the world. PoE avoids these problems by supplying low-voltage DC power directly to the Powered Device (PD) from the Power Sourcing Equipment (PSE) that is located in the Ethernet Switch or mid-span Hub and eliminates the complexity of AC power sources.

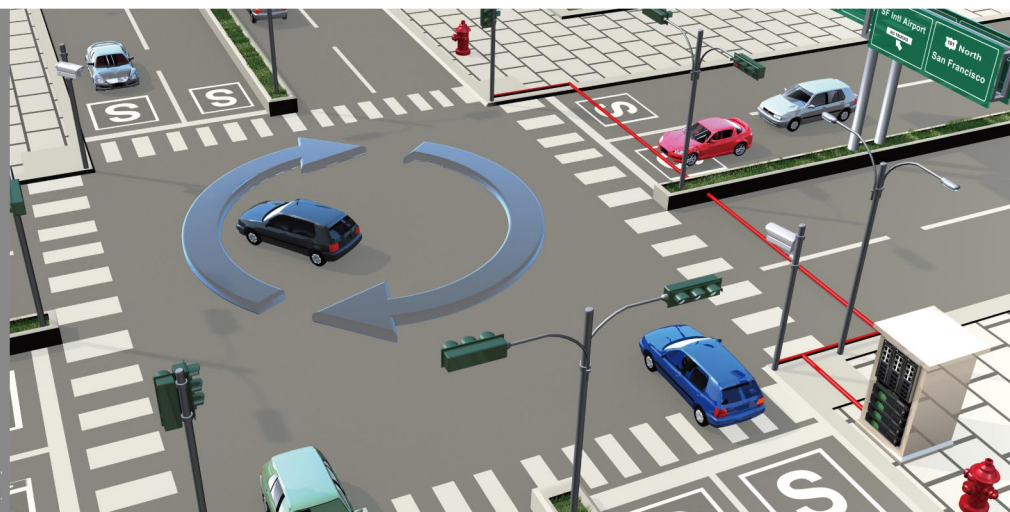
Power over Ethernet or PoE technology describes a system to safely pass electrical power along with data on Ethernet cabling. To ensure that all equipments are protected and devices are

operating properly when connected, the IEEE established a universal standard (IEEE802.3af). This specifies the power requirements for the PSE and the PD, and the communication protocol between the two regardless of manufacturer or configuration. The IEEE 802.3af PoE standard (ratified June, 2003) provides up to 15.4 W of DC power (minimum 44 V DC and 350 mA) to each device. Only 12.95 W is assured to be available at the powered device as some power is dissipated in the cable. The IEEE 802.3at PoE standard, also known as PoE+ or PoE plus (ratified September 11, 2009), provides up to 25.5 W of power. A powered device (PD) is a device powered by a PSE and thus consumes energy. Examples include wireless access points, IP Phones, IP cameras and other PoE enabled devices in outdoor and remote areas.



## SOLUTIONS FOR Intersection surveillances

In the event of crimes, police agencies can examine the recorded videos in the surveillance monitoring system and identify the source of criminal activity, and proceed with safety measures and services. This will improve safety and security, increasing criminal deterrence and anti-terrorism.



### SE6100

Hardened 1-port Serial Device Server

- Supports Virtual COM, TCP server, TCP client, UDP, Pair Connection operation mode
- Supports RS-232/422/485 serial communication
- Multiple configuration interfaces of Web, Telnet console, SNMP and windows-based utility



### EX46000

Web-Smart Hardened 8-port 10/100BASE-TX PoE Ethernet Switch

- Supports IEEE802.3af Power over Ethernet (PoE) Power Sourcing Equipment (PSE)
- PoE (Power budget Control, PoE status, Port status) through the Web browser Interface
- System, IP Configuration, Port-based VLAN, QoS Mode, QoS Priority, and Load Default setting through the Web browser Interface
- -40 C to 75 C operating temperature range



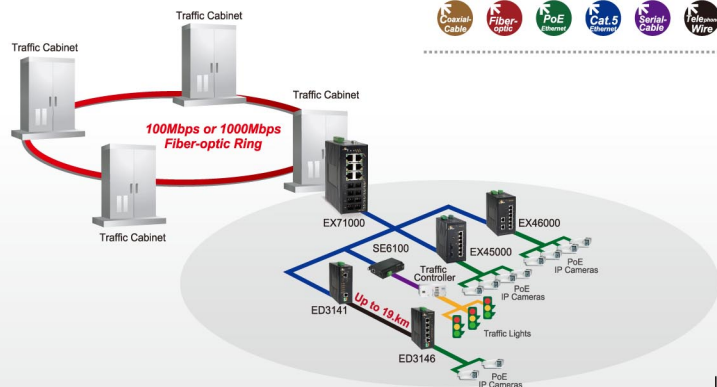
### ED3146

Hardened 4-port 10/100BASE-TX IEEE802.3at PoE Ethernet Extender

- Complies with IEEE802.3at standard for high power input required device and also compatible with IEEE802.3af powered devices
- Ethernet Extender (RJ-11 and Terminal Block) Port: Symmetrical on the VDSL, High-speed, Full-duplex 50Mbps communications link over existing copper Telephone line
- Ten speeds with speed indicator LEDs on front panel of unit, Up to 50Mbps@300meters, Down to 1Mbps@1,900meters

In recent years, surveillance monitoring systems are widely used in traffic monitoring, they are also extensively used in police agencies to solve many criminal cases. To capture the video by PoE IP Cameras from each intersection then transmit those data to a central control room, all traffic cabinets along the path will be connected to each other via fiber optics, forming a ring topology and becoming a redundant system. Supervisors of the control center will then be able to control and manage the traffic lights remotely via traffic controller. In the event of crimes, police agencies can examine the recorded videos in the surveillance monitoring system and identify the source of criminal activity, and proceed with safety measures and services. This will improve safety and security, increasing criminal deterrence and anti-terrorism.

EtherWAN can offer customers networking products that uses traditional Ethernet cabling for data transmission, but also products that utilize fiber-optics and telephone wiring, as well as a user friendly web management interface to monitor and collect information in remote areas. Along with g-ring redundancy technology that provides faster recovery time than RSTP in redundant network systems.



# Best-selling Managed Switches



Model Name	EX77000	EX89000	EX71000	EX73000
<b>Interface</b>				
Max. 100Base Ports	24	24	8	16
Max. 1000Base Ports	4	4	2	2
PoE Ports	-	-	-	-
RS-232 Console Port	✓	✓	✓	✓
Alarm Contact	-	✓	✓	✓
<b>Performance</b>				
MAC Address Table Size	8192	8192	8192	8192
Packet Buffer Memory (bits)	3M	3M	2M	2M
<b>Casing</b>				
	metal	metal	aluminum	aluminum
Dimensions (W x D x H mm)	(Single Port) 442x250x44 (Dual Port) 442x375x44	442x343x44	60x120x145	65x120x145
Installation	R	R	D, R	D
<b>Power Input</b>				
No. of Input	1 or 2	1	3	3
110 - 240VAC	✓	✓	-	-
Terminal Block	±480VDC, 88 - 370VDC	±480VDC, 88 - 370VDC	12 - 48VDC	12 - 48VDC
DC Jack	-	-	12VDC	12VDC
<b>Operating Temperature</b>				
-10°C ~ 60°C	EX27000	-	EX8100A	EX83000
-40°C ~ 75°C	✓	✓	✓	✓
<b>Network Redundancy</b>				
o-Ring / o-Chain	✓	✓	✓	✓
STP / RSTP / MSTP	✓	✓	✓	✓
<b>Network Management &amp; Control</b>				
	VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1x Security, SNMP (v1, v2c, v3), RMON, Web Management, Teinet Management, RS-232 Console Management			
<b>Regulatory Approvals</b>				
CE / FCC	✓	✓	✓	✓
UL508	-	✓	✓	✓
ISA12.12.01 / UL1604	-	✓	✓	✓
IEC61850-3 / IEEE1613	EX87000	✓	-	-
EN50121-4	EX87000	✓	✓	-
UL60950	✓	-	-	-

\* D: DIN Rail Mounting, R: Rack Mounting, P: Panel Mounting

# Best-selling Managed Switches



Model Name	EX72000	EX65000	EX78000	EX74000
<b>Interface</b>				
Max. 100Base Ports	14	-	10	6
Max. 1000Base Ports	2	8	2	2
PoE Ports	-	-	4 (15.4W) or 6 (30W)	4 (30W)
RS-232 Console Port	✓	✓	✓	✓
Alarm Contact	-	✓	✓	-
<b>Performance</b>				
MAC Address Table Size	8192	4096	8192	8192
Packet Buffer Memory (bits)	2M	1M	2M	2M
<b>Casing</b>				
	metal	aluminum	aluminum	aluminum
Dimensions (W x D x H mm)	235x125x50	60x120x145	65x120x145	200x134x50
Installation	D, R, P	D	D	R, P
<b>Power Input</b>				
No. of Input	3	3	3	2
110-240VAC	-	-	-	-
Terminal Block	12 - 48VDC	12 - 32VDC	48VDC	48VDC
DC Jack	12VDC	12VDC	48VDC	-
<b>Operating Temperature</b>				
-10°C ~ 60°C	EX62000	-20°C ~ 60°C	-	-
-40°C ~ 75°C	✓	-	✓	✓
<b>Network Redundancy</b>				
o-Ring / o-Chain	✓	✓	✓	✓
STP / RSTP / MSTP	✓	✓	✓	✓
<b>Network Management &amp; Control</b>				
	VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1x Security, SNMP (v1, v2c, v3), RMON, Web Management, Teinet Management, RS-232 Console Management			
<b>Regulatory Approvals</b>				
CE / FCC	✓	✓	✓	✓
UL508	✓	✓	✓	-
ISA12.12.01 / UL1604	-	-	-	-
IEC61850-3 / IEEE1613	-	-	-	-
EN50121-4	-	-	-	-
UL60950	-	-	-	-

\* D: DIN Rail Mounting, R: Rack Mounting, P: Panel Mounting

# Best-selling Unmanaged Switches



	EX95000	EX94000	EX47000	EX45000	EX42000
<b>Interface</b>					
Max. 100Base Ports	16	8	8	8	5
Max. PoE Ports	-	-	-	4 (15.4W)	-
10/100Base-TX	16, 15 or 14	8, 6 or 4	8, 6 or 4	8, 7 or 6	5, 4 or 1
100Base-TX	0, 1 or 2	0, 1 or 4	0, 1 or 2	0, 1 or 2	0 or 1
Alarm Contact	✓	✓	✓	✓	-
<b>Performance</b>					
MAC Address Table Size	4096	2048	2048	1024	2048
Packet Buffer Memory (bits)	1.625M	768K	448K	1M	384K
<b>Casing</b>					
	aluminum	aluminum	aluminum	aluminum	plastic
Dimensions (W x D x H mm)	75.5x110x135	50x110x145	60x250x135	68x110x135	26x70x110
<b>Installation</b>					
	D, R, P	D, P	D, P	D, R, P	D
<b>Power Input</b>					
No. of Input	3	3	3	3	1
Terminal Block	12 - 48VDC	12 - 48VDC	12 - 48VDC	48VDC	12 - 48VDC
DC Jack	12VDC	12VDC	12VDC	48VDC	-
<b>Operating Temperature</b>					
-10°C ~ 60°C	EX33000	EX43000	-	EX34000	✓
-40°C ~ 75°C	✓	✓	✓	✓	✓
<b>Regulatory Approvals</b>					
CE / FCC	✓	✓	✓	✓	✓
UL / cUL 60950-1	✓	✓	✓	✓	✓
UL508	✓	✓	✓	✓	✓
ISA12.12.01 / UL1604	-	✓	✓	-	-
IEC61850-3 / IEC61813	-	-	✓	-	-
EN50121-4	-	-	✓	-	-
E-Mark	-	-	✓	-	-
GL	-	-	✓	-	-

\* D: DIN Rail Mounting, R: Rack Mounting, P: Panel Mounting

# Best-selling Media Converters



Model Name	EL9100	EL9020	EL1141	EL900
<b>Interface</b>				
10/100Base-TX	-	-	1	1
100Base-FX/BX WDM	-	-	1	1
10/100/1000Base-TX	1	1	-	-
1000Base-SX/LX/BX WDM	1	-	-	-
1000Base SFP	-	1	-	-
Alarm Contact	✓	✓	✓	✓
<b>Mode of Operation</b>				
Auto-negotiation, Auto-MDI/MDIX	✓	✓	✓	✓
Flow Control	✓	✓	✓	✓
Store & Forward	✓	✓	✓	✓
Link Fault Pass Through	✓	✓	✓	✓
<b>Casing</b>				
	aluminum	aluminum	aluminum	aluminum
Dimensions (W x D x H mm)	50x110x135	50x110x135	50x110x135	50x110x135
<b>Installation</b>				
	D, R, P	D, R, P	D, R, P	D, R, P
<b>Power Input</b>				
No. of Input	3	3	3	3
Terminal Block	12 - 48VDC	12 - 48VDC	12 - 48VDC	12 - 48VDC
DC Jack	12VDC	12VDC	12VDC	12VDC
<b>Operating Temperature</b>				
-10°C ~ 60°C	-	-	-	EX42011
-40°C ~ 75°C	✓	✓	✓	✓
<b>Regulatory Approvals</b>				
CE / FCC	✓	✓	✓	✓
VCCI	✓	✓	-	-
UL / cUL 60950-1	-	-	-	✓
UL508	✓	✓	✓	-
ISA12.12.01 / UL1604	-	-	-	✓
IEC61850-3 / IEC61813	-	-	✓	-

\* D: DIN Rail Mounting, R: Rack Mounting, P: Panel Mounting

# Best-selling Ethernet Extenders



Model Name	ED3175	ED3145	ED3141	ED3341	ED3331
<b>Ethernet Interface</b>					
10/100Base-TX	8	4	1	(M12) ED3344	1
PoE	-	2 (30W) ED3146	-	-	-
<b>Extension Interface</b>					
RU-11	2	1	1	-	ED3101
Terminal Block	2	1	1	-	-
BNC	-	-	-	1	1
<b>Mode of Operations</b>					
Auto negotiation, Auto-MDI/MDX	✓	✓	✓	✓	✓
Store & Forward	✓	-	-	✓	✓
<b>Casing</b>					
Material	aluminum	aluminum	aluminum	aluminum	aluminum
Dimensions (WxDxH mm)	60x125x145	50x110x135	50x110x135	50x110x135	80.3x109.2x23.8
Installation	D, R	D, P	D, P	D, P	D, W, C
<b>Power Input</b>					
No. of Power Input	3	3	3	3	1
Terminal Block	12 - 48 VDC	24 - 48 VDC	12 - 48 VDC	12 - 48 VDC	-
DC Jack	12VDC	48VDC	12VDC	12VDC	12VDC
<b>Operating Temperature</b>					
-10°C ~ 60°C	-	-	ED3101	-	✓
-40°C ~ 70°C	-	-	-	✓	-
40°C ~ 75°C	✓	✓	✓	-	-
<b>Management Function</b>					
RS-232 Console Port	✓	-	ED3171	-	-
SNMP	✓	-	ED3171	-	-
Web Management	✓	-	ED3171	-	-
<b>Regulatory Approvals</b>					
CE / FCC	✓	✓	✓	✓	✓
VCCI	✓	✓	✓	✓	✓
UL508	-	✓	✓	✓	-
UL60950-1	-	-	-	-	ED3101
ISA12.12.01 / UL1604	-	-	✓	-	-
EN50121-4	-	-	-	✓	-
EN50121-3-2	-	-	-	✓	-

\* D: DIN Rail Mounting, R: Rack Mounting, P: Panel Mounting, C: Chassis

# Best-selling Serial Device Servers



	SE6100	SE6300	FT5702	SW5400
<b>Ethernet Interface</b>				
10/100Base-TX	1 or 0	2, 1 or 0	0	1
100Base-FX	0 or 1	0, 1 or 2	2	-
1.5KV Magnetic Isolation	✓	✓	✓	✓
Wireless	-	-	-	IEEE802.11b/g
Security	-	-	-	WEP, WPA, PSK, WPA2-PSK, TKIP
<b>Serial Interface</b>				
RS-232/422/485	1	2 or 4	2	1
Connector	DB9 or TB5	DB9 or RJ45 or TB5	DB9	TB5, Mini Din to DB9 Cable
2KV Serial Line Isolation	SE6110	SE6320	-	-
ESD Protection	15KV	15KV	15KV	15KV
Speed	50 bps to 460.8 Kbps			110 bps to 921.6 Kbps
Communication Parameters	Parity:None, Even, Odd, Space, Mark; Data Bits: 5, 6, 7, 8; Stop Bit: 1, 1.5, 2			Parity:None, Even, Odd, Space, Mark; Data Bits: 5, 6, 7, 8; Stop Bit: 1, 2
Flow Control	None, ETS/CTS, Xon/Xoff			RTS/CTS, Xon/Xoff
<b>Software</b>				
Network Protocols	ICMP, TCP, IP, UDP, DHCP client, Rtelnet, DNS, SNMPv2, HTTP, SSH, Reverse SSH, smtp, Sntp, ARP, PARP, RFC2217		-	ICMP, IP, TCP, UDP, DHCP client, DNS, Telnet, SNMP, HTTP, SMTP
DNP3.0 Transparency	✓	-	✓	-
Operation Modes	Virtual COM, TCP server, TCP client, UDP Pair Connection		-	Virtual COM, TCP server, TCP client, UDP Pair Connection
COM Driver Supports	Windows 2000/XP/2003		-	Windows 2000/XP/2003
Configuration Options	Web, Telnet Console, SNMP		Serial Console	Web, Telnet Console, Serial Console, Windows Based Utility
<b>Casing</b>				
Material	aluminum	aluminum	aluminum	metal
Dimensions (WxDxH mm)	70x110x30	100x125x30	100x125x30	55x77.2x88
Installation	D, P	D, P	D, P	D, W
<b>Power Input</b>				
No. Power Input	3	3	2	1
Terminal Block	12 - 32VDC	12 - 32VDC	12 - 32VDC	9 - 30VDC
DC Jack	12VDC	12VDC	-	-
<b>Operating Temperature</b>				
-10°C ~ 60°C	SE5100	SE5300	✓	✓
-25°C ~ 70°C	-	✓	-	-
-25°C ~ 75°C	Fiber	-	-	-
-34°C ~ 75°C	Copper	-	-	-
<b>Regulatory Approvals</b>				
CE / FCC	✓	✓	✓	✓
VCCI	✓	✓	✓	-

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# Best-selling Accessories



Model Name	DD-85-48	DR-75-24	DR-75-48	41-136046
<b>Output</b>				
DC Voltage	48VDC or 55VDC (DD-85-55)	24VDC	48VDC	12VDC
Current Range	0-1.77A or 1.55A (DD-85-55)	0-3.0A	0-1.6A	0-3A
Rated Power	85W	78.8W	78.8W	36W
<b>Input</b>				
12-36VDC	✓	-	-	-
85-264VAC (47-63Hz) / 120-370VDC	-	✓	✓	-
88-264VAC (47-63Hz) / 120-370VDC	-	-	-	-
90-284 VAC (47-63Hz)	-	-	-	✓
<b>Protection</b>				
Over Voltage Protection	58V or 60V(DD-85-55)	29-34V	58-65V	-
Overload Protection	110-180%	105-150%	105-150%	-
Constant Current Limiting	-	-	-	-
Recovers Automatically	-	-	-	-
<b>Casing</b>	aluminum	aluminum	aluminum	aluminum
Dimensions (WxDxH mm)	50x148x165	55.5x100x125.2	55.5x100x125.2	50x148x165
Installation	D	D	D	D
<b>Operating Temperature</b>				
-10°C – 60°C	✓	✓	✓	-
-20°C – 70°C	-	-	-	-
-20°C – 75°C	-	-	-	-
-40°C – 75°C	-	-	-	✓
<b>Regulatory Approvals</b>				
CE	✓	✓	✓	-
UL60950-1	-	-	-	-
UL508	-	✓	✓	-
E-Mark	✓	-	-	-
Output Connector	-	-	-	-
Open Wire for Terminal Block	-	-	-	✓

\* D: DIN Rail Mounting

## TransRack



- One clip to convert DIN Rail Mount devices to Rack Mount
- One standard 35mm DIN rail track included
- Adjustable in depth from 50mm to 210mm
- Dimensions (W x H x D) : 464 x 105 x 285mm

Choose the right partner who delivers

## EtherWAN makes the difference

We understand how quality is important to your business. EtherWAN is not only keen on networking design know-how but insists on each control flow to guarantee the best quality assurance. The scope covers from industrial-grade component selection to comprehensive design verifications. The harden products are required to pass real-time data transfer test under -40°C~+85 °C up to 72 hours no compromise. More default reliability tests include vibration, drop, electrostatic discharge immunity, electrical fast transient/burst Immunity, surge immunity, EMI radiation and conduction are all done in EtherWAN labs. When you are working on mission-critical applications, always have EtherWAN on your list.

