

## EX61000A Series

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



### Overview

EtherWAN's EX61000A Series provides an industrial fully managed 10-port switching platform that combines high performance with robust and secure management features required for mission critical and harsh environments.

The EX61000A Series is equipped with eight 10/100BASE Fast Ethernet ports, in combination with up to two Gigabit, fixed fiber, or SFP port options. Mountable on a DIN-rail, the EX61000A Series is equipped with EtherWAN's Alpha-Ring self-healing redundancy protocol, which provides a fault recovery time of less than 15ms, making it ideal for applications intolerant to interruption.

With support for both IPV4 and IPV6, management features include port security, IGMP snooping, VLANs, GARP protocols, and LACP. Management is via web browser, Telnet, SNMP, RMON, TFTP, and RS-232 console interfaces.

EtherWAN — "When Connectivity is Crucial."

## Spotlight

### Versatile Connectivity

- » Provides 8-port 10/100BASE-TX/FX/BX/SFP plus 2-port Gigabit-SX/LX/BX/SFP

### Industrial Grade

- » Operating temperature range from -10 to 60°C (-14 to 140°F) for extreme environments
- » Fanless and ruggedized housing

### Dual firmware image support

- » Dual flash images provide independent primary and secondary operating system files for backup

## Features

### Management

- » Interface
    - CLI, Telnet and Web Browser
    - SNMP v1/v2c/v3
  - » Firmware and configuration upgrade and backup via TFTP
  - » Supports DHCP Server/Client
  - » RMON (Remote Monitoring): group 1, 2, 3, 9
  - » Port mirroring: TX/RX and both
  - » NTP (Network Time Protocol) time synchronization
  - » IEEE 802.1ab LLDP (Link Layer Discovery Protocol)
  - » IPv4/IPv6
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### Security

- » MAC address filtering
  - » Enable/Disable port
  - » Storm control (broadcast and multicast types)
  - » IEEE 802.1x LAN access control
  - » Remote authentication through RADIUS and TACACS+
  - » SSH for CLI and Telnet security
  - » SSL for web security
  - » Multi-level user account/password against unauthorized configuration
  - » System log (Remote/Local)
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### Quality of Service (QoS)

- » Priority Queues: 4 queues per port
  - » Traffic classification based on IEEE 802.1p CoS, DSCP, WRR (Weighted Round Robin) and strict mode
  - » Rate Limiting (Ingress/Egress)
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### Layer 2 Features

- » Auto-negotiation for port speed and duplex mode
- » Flow Control
  - IEEE 802.3x full duplex mode

- Back-Pressure half duplex mode
  - » Redundant Protocol
    - IEEE 802.1D Spanning Tree Protocol (STP)
    - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
    - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
    - EtherWAN's Alpha-Ring network fault recovery (<15ms)
  - » VLANs
    - Port-based VLANs
    - IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)
    - GVRP (GARP VLAN Registration Protocol)
    - GMRP (GARP Multicast Registration Protocol)
  - » Link Aggregation
    - Static Trunk (2 groups, support MAC base)
    - IEEE 802.3ad Link Aggregation Control Protocol
  - » IGMP Snooping
    - IGMP Snooping v1/v2/v3
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# Specifications

## Technology

### Standards

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX/100BASE-FX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-SX/1000BASE-LX
- IEEE 802.3x Full duplex and flow control
- IEEE 802.1p QoS
- IEEE 802.1Q Tag VLANs
- IEEE 802.1w RSTP
- IEEE 802.1x Port-based Network Access Control

### Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

### Packet Buffer Memory

- 12M bits

### Processing Type

- Store-and-Forward
- Auto Negotiation
- Half-duplex back-pressure and IEEE 802.3x full-duplex flow control
- Auto MDI/MDIX

### Address Table Size

- 16K MAC addresses
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## Power

### Input

- Redundant power inputs: 12-48VDC (Terminal Block)

### Power Consumption

- 7.5W Max. 0.31A@24VDC

## Protection

- Reverse polarity protection
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## Mechanical

### Casing

- Aluminum Case
- IP30

### Dimensions

- 60 x 125 x 145mm (W x D x H)  
(2.36" x 4.92" x 5.7")

### Weight

- 1.03Kg

### Installation

- DIN-Rail
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## Interface

### Ethernet Port

- 10/100BASE-TX: 4, 6 or 8 ports
- 100BASE-FX: 0 to 4 ports
- Gigabit: 0, 1 or 2 ports

### Console Port

- Port: One DB9 RS-232 port

### LED Indicators

- Per Unit: Power 1, Power 2, Alarm
- Per Port: Link/Activity, Speed

### Alarm Contact

- One relay output with current 1A/250VAC
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## Environment

### Operating Temperature

- -10 to 60°C (-14 to 140°F)  
Tested @ -20 to 70°C (-4 to 158°F)

### **Storage Temperature**

- -40 to 85°C (-40 to 185°F)

### **Ambient Relative Humidity**

- 5% to 95% (non-condensing)
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## **Regulatory Approvals**

### **ISO**

- Manufactured in an ISO 9001 facility

### **Safety**

UL 61010

### **EMI**

FCC Part 15B Class A

EN 61000-6-4

EN 55032

EN 61000-3-2

EN 61000-3-3

### **EMS**

EN 61000-6-2

- EN 61000-4-2 (ESD Standards)
- EN 61000-4-3 (Radiated RFI Standards)
- EN 61000-4-4 (Burst Standards)
- EN 61000-4-5 (Surge Standards)
- EN 61000-4-6 (Induced RFI Standards)
- EN 61000-4-8 (Magnetic Field Standards)

### **Environmental Test Compliances**

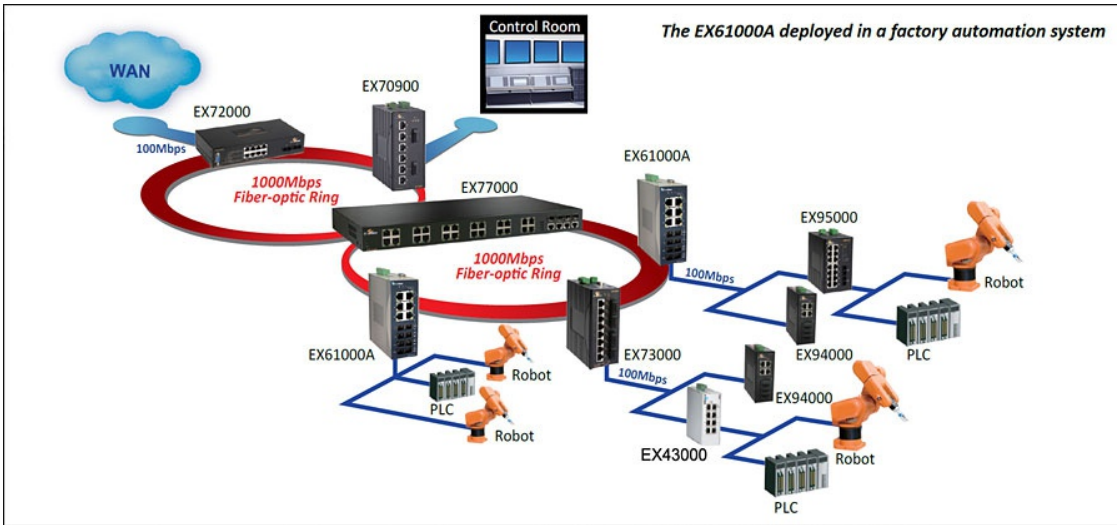
FED STD 101C Method 5007.1 (Free fall w/package)

### **Industrial Compliance**

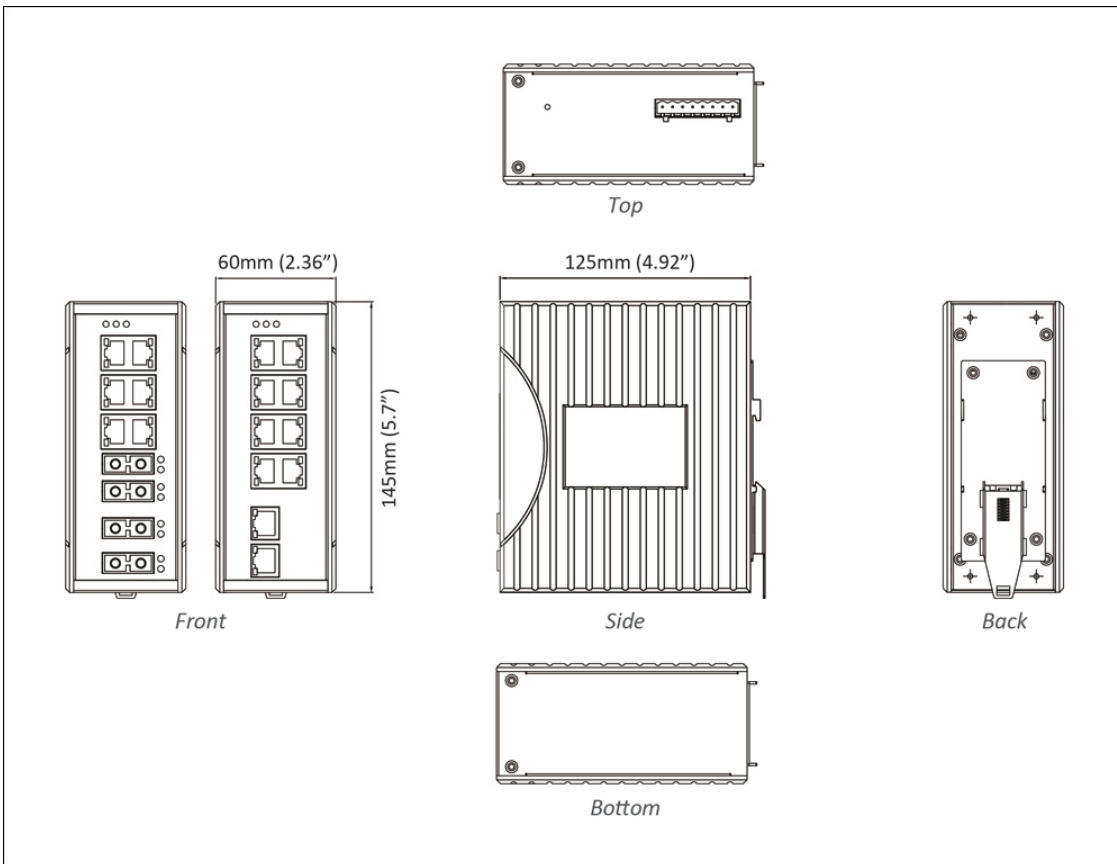
EN 50121-4

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# Application



# Dimensions





## Ordering Info

### Model

<b>EX61802A-0YB</b>	8-port 10/100BASE-TX +2-port Gigabit Industrial Managed Ethernet Switch
<b>EX61620A-X0B</b>	6-port 10/100BASE-TX +2-port 100BASE-FX Industrial Managed Ethernet Switch
<b>EX61622A-XYB</b>	6-port 10/100BASE-TX +2-port 100BASE-FX +2-port Gigabit Industrial Managed Ethernet Switch
<b>EX61440A-X0B</b>	4-port 10/100BASE-TX +4-port 100BASE-FX Industrial Managed Ethernet Switch

\* DIN-Rail mounting kit included.

### 100FX Fiber Options (X)

<b>1</b>	Multi Mode (SC) - 2Km
<b>2</b>	Multi Mode (ST) - 2Km
<b>A</b>	Single Mode (SC) - 20Km
<b>B</b>	Single Mode (SC) - 40Km
<b>V</b>	100BASE SFP (DDM)

\* More 100FX Fiber options also available upon request.

### Gigabit Port Options (Y)

<b>1</b>	10/100/1000BASE-TX
<b>3</b>	1000BASE-SX (SC) - 550m
<b>4</b>	1000BASE-SX (SC) - 2Km
<b>5</b>	1000BASE-SX (ST) - 550m
<b>A</b>	1000BASE-LX (SC) - 10Km
<b>B</b>	1000BASE-LX (SC) - 20Km
<b>R</b>	1000BASE-BX (SC) WDM-TX: 1310nm/RX: 1550nm-20Km
<b>S</b>	1000BASE-BX (SC) WDM-TX: 1550nm/RX: 1310nm-20Km
<b>V</b>	100/1000BASE SFP (DDM)

\*More Gigabit options also available upon request.

## Optional Accessories

<b>KP-AA96-480</b>	Panel mounting kits
<b>KR-BK71000</b>	Rack mounting kits
<b>HDR-30-24</b>	30W/1.5A DIN-Rail 24VDC Industrial Power Supply
<b>HDR-60-24</b>	60W/2.5A DIN-Rail 24VDC Industrial Power Supply
<b>EDR-75-24</b>	75W/3.2A DIN-Rail 24VDC Industrial Power Supply
<b>EX41-145046-X</b>	Power Supply 45W 12VDC with Open Wire (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA

