

# 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."

## Highlights

### + 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

### + 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)

### + 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)

### + 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

### + Power

#### Input

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

#### Power Consumption

7.5W Max. 0.31A@24VDC

#### Protection

Reverse polarity protection

### + 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

## + 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

## + 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)

## + 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)

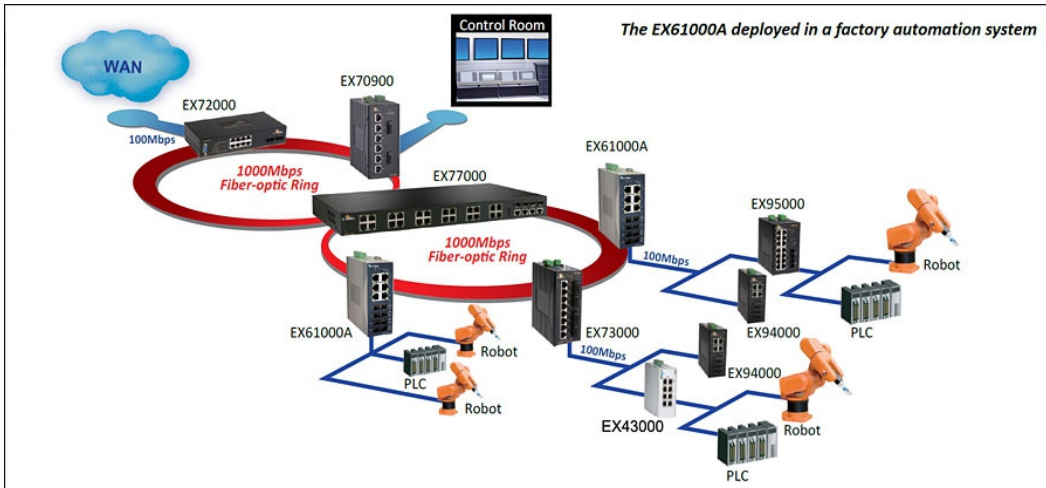
EN 61000-4-6 (Induced RFI Standards)

EN 61000-4-8 (Magnetic Field Standards)

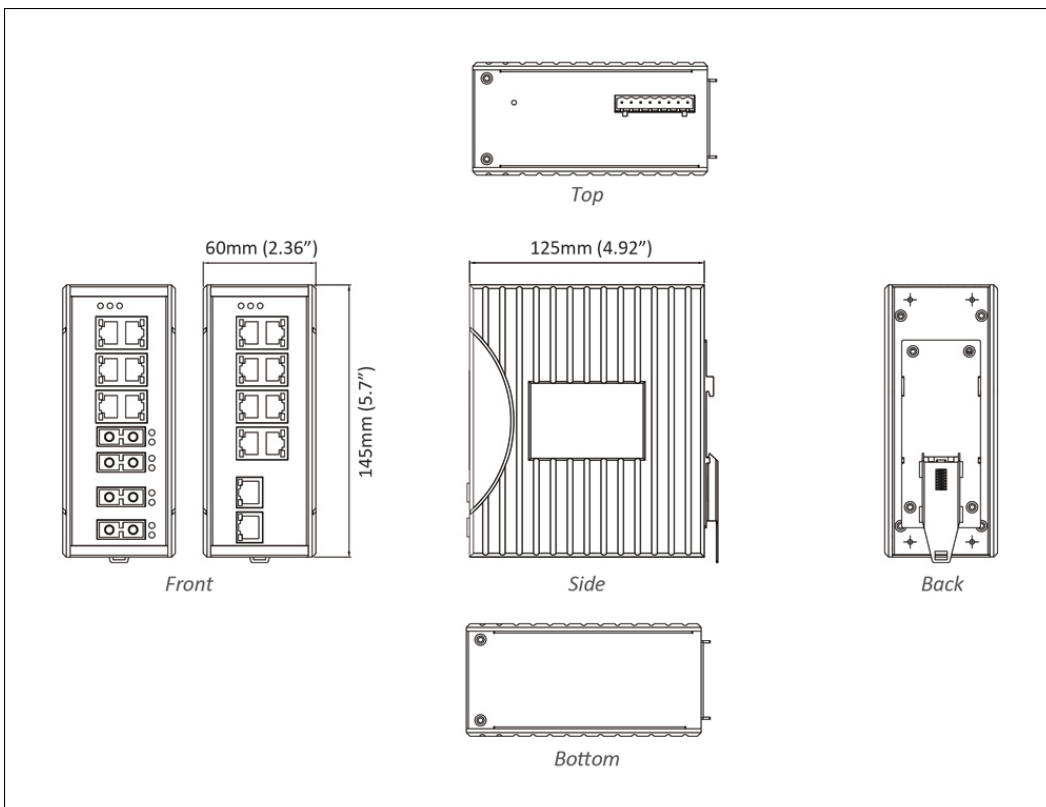
### Environmental Test Compliances

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

## 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

