

EX71000 Series

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



Overview

EtherWAN's EX71000 Series provides a Hardened Fully Managed 10-port switching platform combining high performance switching platform with robust and secure management features required for mission critical and harsh environments. The EX71000 series has an exceptionally wide operating temperature range of -40 to 75°C (-40 to 167°F) for extreme climates.

The EX71000 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 EX71000 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

• Hardened Grade

- Wide operating temperature range from -40 to 75°C (-40 to 167°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

Software 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

Hardware 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

- 1.05Kg

Installation

- DIN-Rail

Interface

Ethernet Port

- 10/100BASE-TX: 8, 6 or 4 port
- 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

- -40 to 75°C (-40 to 167°F)
Tested @ -40 to 85°C (-40 to 185°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 Compliance

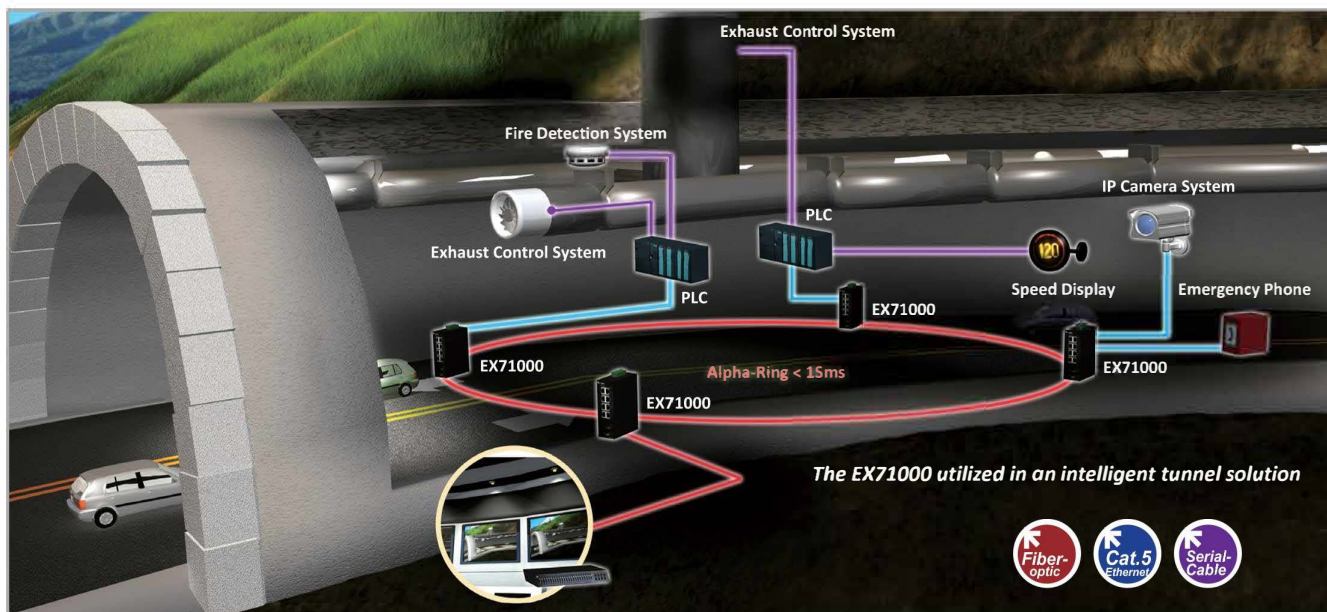
FED STD 101C Method 5007.1 (Free fall w/package)

Industrial Compliance

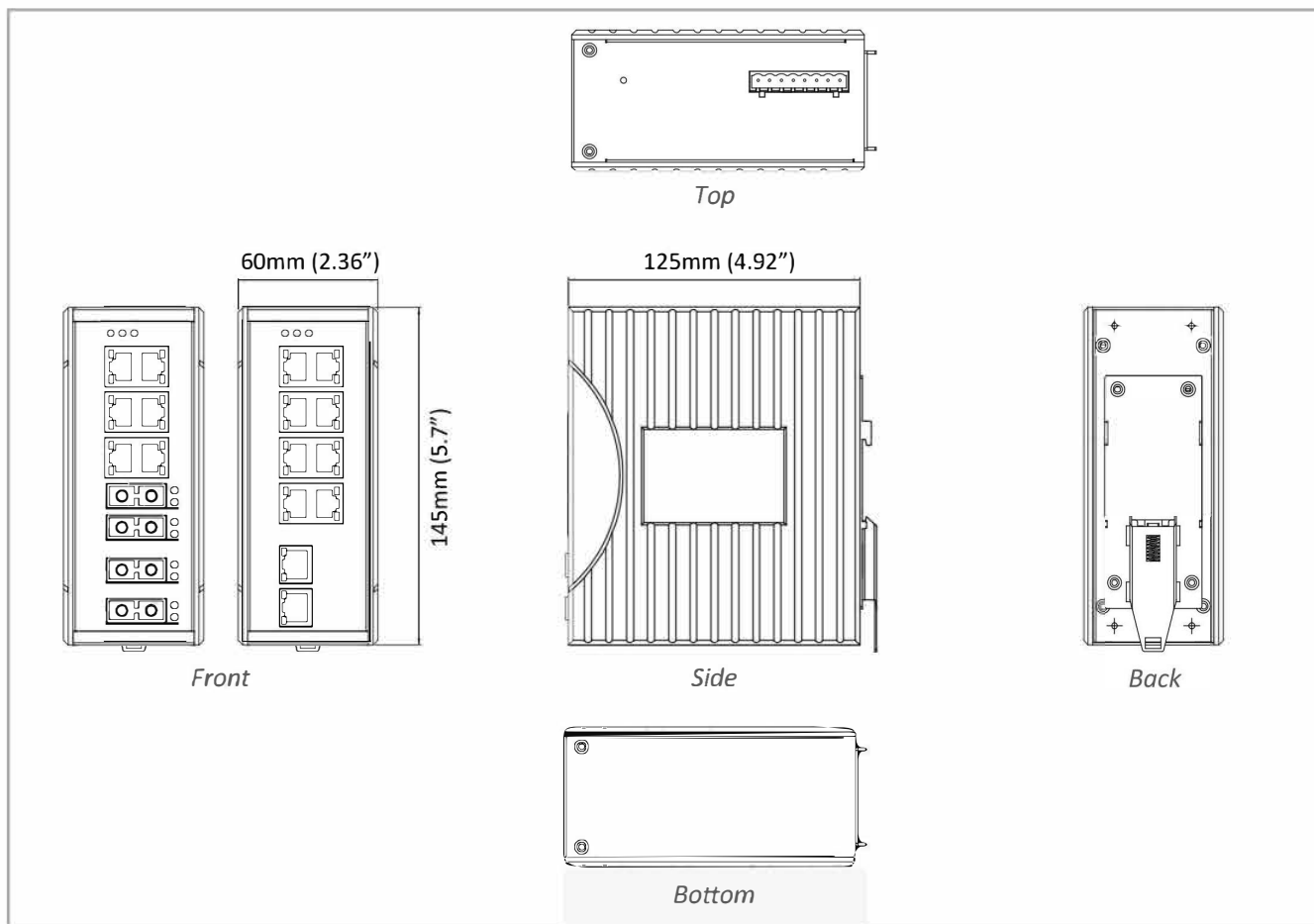
NEMA TS2

EN 50121-4

Application Diagram



Dimensions



Ordering Information

Model

EX71802-0YB	8-port 10/100BASE-TX +2-port Gigabit Hardened Managed Ethernet Switch
EX71620-X0B	6-port 10/100BASE-TX +2-port 100BASE-FX Hardened Managed Ethernet Switch
EX71622-XYB	6-port 10/100BASE-TX +2-port 100BASE-FX +2-port Gigabit Hardened Managed Ethernet Switch
EX71440-X0B	4-port 10/100BASE-TX +4-port 100BASE-FX Hardened Managed Ethernet Switch

* DIN-Rail mounting kit included.

100FX Fiber Options (X)

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

* More 100FX Fiber options also available upon request.

Gigabit Port Options (Y)

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

* More Gigabit options also available upon request.

Optional Accessories

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