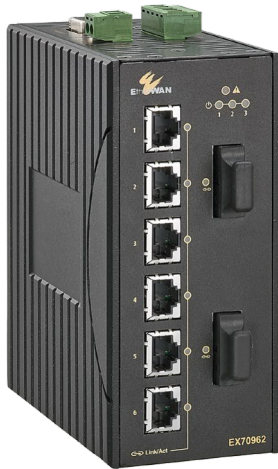


EX70900 Series

IEC 61850-3/IEEE 1613 Hardened Managed 8-port Gigabit Ethernet Switch



Overview

EtherWAN's EX70900 Series provides a Hardened Fully Managed 8-port switching platform combining high performance switching backbone with robust and secure management features required for mission critical and harsh environments where sustained connectivity is crucial.

Mountable on a DIN-Rail, the EX70900 Series is a full Gigabit hardened managed switch, featured with 6 ports of 10/100/1000BASE-TX, in combination with up to two SFP port options.

Users are able to access management features such as; port security, IGMP snooping, VLANs, GARP protocols, LACP to name a few, via web browser, Telnet, SNMP, RMON, TFTP, and RS-232 console interfaces. With its hardened-grade specifications and IEC 61850 certifications, the EX70900 Series is capable of operating under high EMI environments at the temperatures ranging from -40 to 75°C, making it an ideal choice for harsh applications.

EtherWAN – "When Connectivity is Crucial."

Spotlight

• Full Gigabit Connectivity

- Managed Hardened 8-port Gigabit Ethernet switch with either copper, SC, ST or LC connectors available

• Intelligent Data Management

- Optimize network performance with QoS, VLAN etc.

• Compliance with IEC 61850-3/IEEE 1613

- For installations with high EMS requirements

• Energy Efficient Ethernet (EEE)

- Supports IEEE 802.3az standard

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
- SFP transceivers support Digital Diagnostics Monitoring (DDM)
- NTP (Network Time Protocol) time synchronization
- IEEE 802.1ab LLDP (Link Layer Discovery Protocol)

Security

- MAC address filtering
 - Enable/Disable port
- Storm control (Broadcast and multicast types)
- IEEE 802.1x LAN Access control
- Remote authentication through RADIUS
- 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)
- 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

Performance

- Switching Capability: 16Gbps
- Packet Buffer Size: 1.5M bits
- MAC Address Table: 4K

Hardware Specifications

Technology

Standards

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX/100BASE-FX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3az EEE
- 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

- 1.5M bits

Processing Type

- Store-and-Forward
- Half-duplex back-pressure and IEEE 802.3x full-duplex flow control

Jumbo Frame

- 9720 bytes

Address Table Size

- 4096 MAC addresses

Power

Input

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

Power Consumption

- 10.2W Max., 0.85A@12VDC

Protection

- Reverse polarity protection

Mechanical

Casing

- Aluminum Case
- IP30

Dimensions

- 66 x 125 x 145mm (W x D x H)
(2.64" x 4.92" x 5.7")

Weight

- 1.1Kg (2.42lbs.)

Installation

- DIN-Rail (Top hat type35mm) or Wall mounting

Interface

Ethernet Port

- 10/100/1000BASE-TX: 6, 7, or 8 ports
- 1000BASE-SX/LX/SFP: 0, 1, or 2 ports

Console Port

- Port: One DB9 RS-232 port

LED Indicators

- Per Unit: Power Status (Power 1, Power 2, Power 3), Alarm
- Per Port: Link/Activity

Alarm Contact

- One relay output with current 1A/24VDC

Environment

Operating Temperature

- -40 to 75°C (14 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 508

EMI

FCC Part 15B Class A

EN 61000-6-4

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

IEC 60068-2-6 Fc (Vibration Resistance)

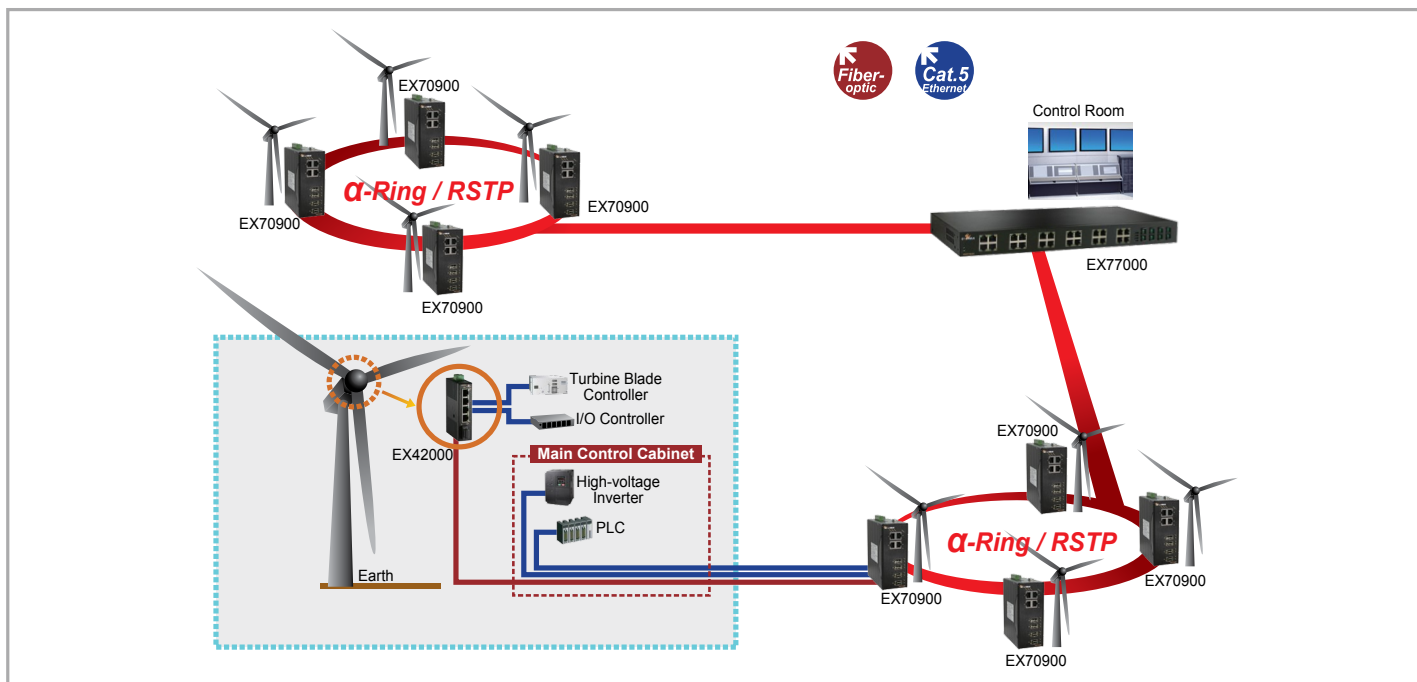
FED STD 101C Method 5007.1 (Free fall w/package)

Industrial Compliance

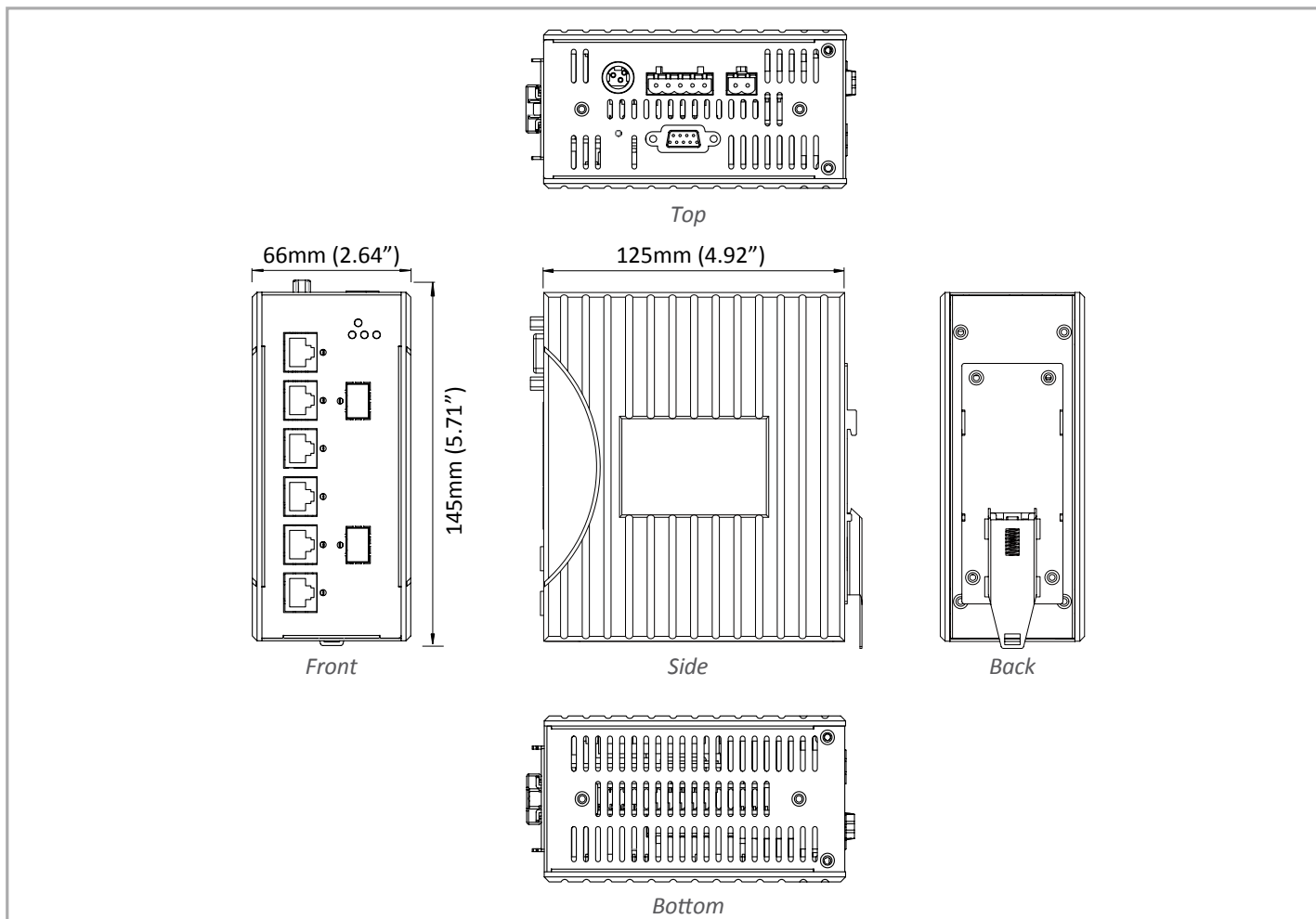
IEC 61850-3/IEEE 1613

EN 50121-4

Application Diagram



Dimensions



Ordering Information

Model

EX70980-00B	8-Port 10/100/1000BASE-TX Managed Hardened Ethernet Switch
EX70971-0VB	7-Port 10/100/1000BASE-TX +1-Port Gigabit SFP Hardened Managed Ethernet Switch
EX70962-0VB	6-Port 10/100/1000BASE-TX +2-Port Gigabit SFP Hardened Managed Ethernet Switch
EX70962-0XB	6-Port 10/100/1000BASE-TX +2-Port Gigabit Fiber Hardened Managed Ethernet Switch

* DIN-Rail mounting kit included.

Gigabit Port Options (X)

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

* More Gigabit options are also available upon request.

Optional Accessories

HDR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply
HDR-60-24	60W/2.5A 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
EX41-145044-X	Power Supply 45W 12VDC with Latch (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA