EX70900 Series *new!*

Hardened Managed 8-port Gigabit Ethernet Switch

EtherWAN

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 in featured with 6 ports of 10/100/1000BASE-TX, in combination with up to two SFP Combo 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 IEC61850 certifications, the EX70900 Series is capable of operating under high EMI environments at the temperatures ranging from -40°C 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 IEC61850-3**
  ◦ For installations with high EMS requirements

- **Energy Efficient Ethernet (EEE)**
  ◦ Supports IEEE802.3az 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
- IEEE802.1ab LLDP (Link Layer Discovery Protocol)

Security

- MAC address filtering
  - Enable/disable port
- Storm control (broadcast and multicast types)
- IEEE802.1x 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 IEEE802.1p 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
  - IEEE802.3x full duplex mode
  - Back-Pressure half duplex mode
- Redundant Protocol
  - IEEE802.1D Spanning Tree Protocol (STP)
  - IEEE802.1w Rapid Spanning Tree Protocol (RSTP)
  - IEEE802.1s Multiple Spanning Tree Protocol (MSTP)
- VLANs
  - Port-based VLANs
  - IEEE802.1Q 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)
  - IEEE802.3ad Link Aggregation Control Protocol
- IGMP Snooping
  - IGMP snooping v1/v2/v3

Performance

- Switching Capability: 16Gbps
- Packet Buffer Size: 192KB
- MAC Address Table: 4K

Hardware Specifications

Technology

Standards
- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/100BASE-FX
- IEEE802.3ab 1000BASE-T
- IEEE802.3az EEE
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x Full duplex and flow control
- IEEE802.1p QoS
- IEEE802.1Q Tag VLANs
- IEEE802.1w RSTP
- IEEE802.1x 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
- 192KB

Processing Type
- Store-and-Forward
- Half-duplex back-pressure and IEEE802.3x full-duplex flow control

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
- Overload current protection
- Reverse polarity protection

Mechanical

Casing
- Aluminum Case
- IP30

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

Weight
- 1.1Kg (2.42lbs.)

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

Interface

Ethernet Port
- 10/100/1000BASE-TX: 8, 7, or 6 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°C to 75°C (14°F to 167°F)
  Tested @ -40°C to 85°C(-40°F to 185°F)

Storage Temperature
- -40°C to 85°C (-40°F to 185°F)

Ambient Relative Humidity
- 5% to 95% (non-condensing)

Regulatory Approvals

ISO
- Manufactured in an ISO9001 facility

Safety

UL508

EMI

FCC Part 15B, Class A

EN61000-6-4

EN61000-3-2

EN61000-3-3

EMS

EN61000-6-2
- EN61000-4-2 (ESD Standards)
- EN61000-4-3 (Radiated RFI Standards)
- EN61000-4-4 (Burst Standards)
- EN61000-4-5 (Surge Standards)
- EN61000-4-6 (Induced RFI Standards)
- EN61000-4-8 (Magnetic Field Standards)

Environmental Test Compliance

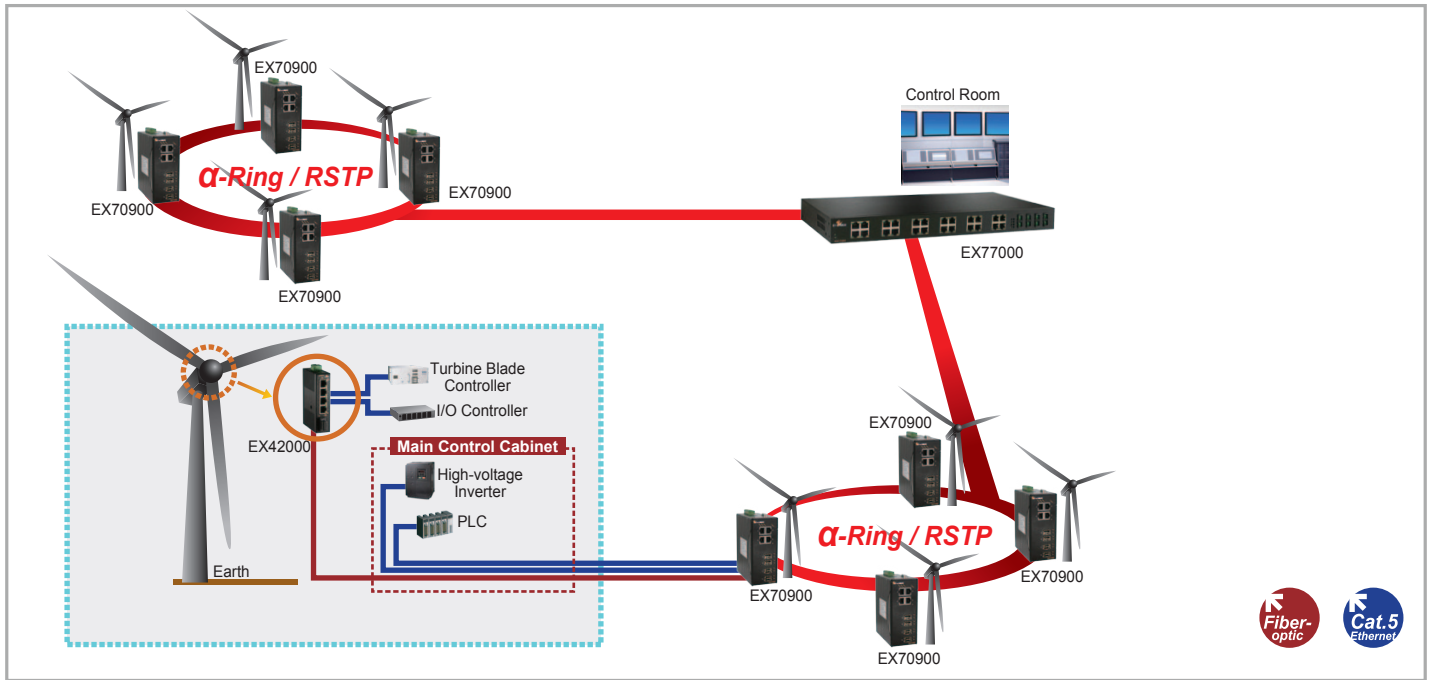IEC60068-2-6 Fc (Vibration Resistance)

IEC60068-2-27 Ea (Shock)

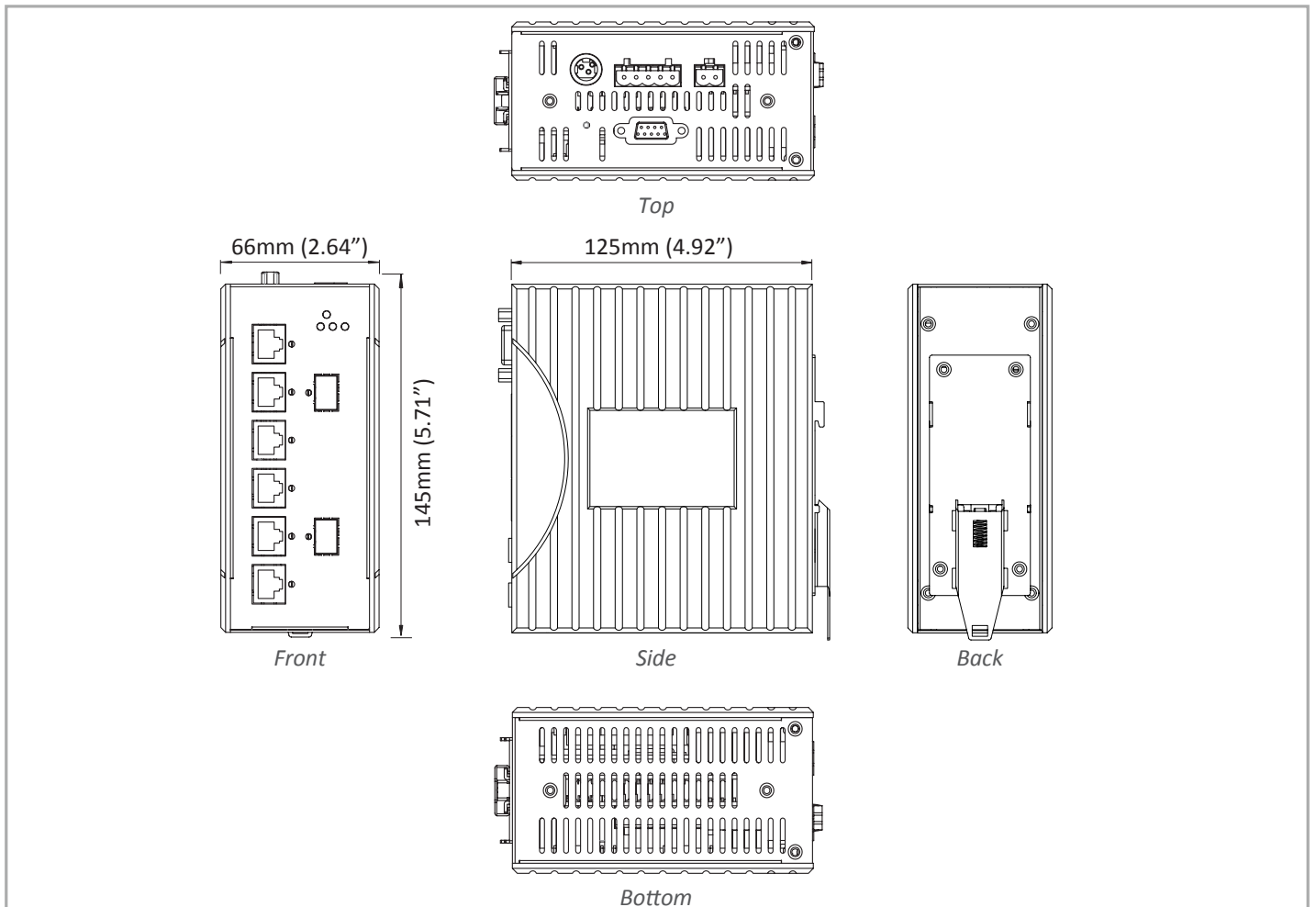FED STD 101C Method 5007.1 (Free fall w/ package)

Industrial Compliance

IEC61850-3

Application Diagram

Dimensions

Top

66mm (2.64")

125mm (4.92")

145mm (5.71")

Front

Side

Back

Bottom

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

DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-60-24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
41-136046-X	36W/3A 12VDC hardened power adapter with open wire in aluminum housing (for Terminal Block) (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA
41-136044-X	36W/3A 12VDC hardened power adapter with latched DC Jack in aluminum housing (for DC Jack) (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA