

## EX70900 Series

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



## Overview

**This product is discontinued as of 26th May 2020. [click here](#) for alternative product.**

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

## 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)
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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
  - » 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)
  - » 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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## Performance

- » Switching Capability: 16Gbps
  - » Packet Buffer Size: 1.5M bits
  - » MAC Address Table: 4K
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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 802.3az 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
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## Power

### Input

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

12VDC (DC Jack)

### **Power Consumption**

- 10.2W Max., 0.85A@12VDC

### **Protection**

- Reverse polarity protection
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## 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
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## 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
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## 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)
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## **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)

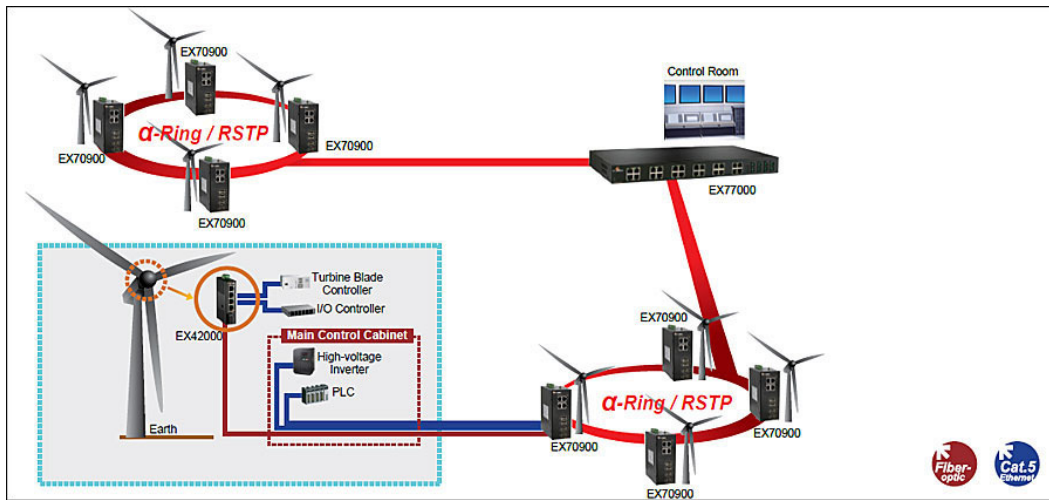
### **Industrial Compliance**

IEC 61850-3/IEEE 1613

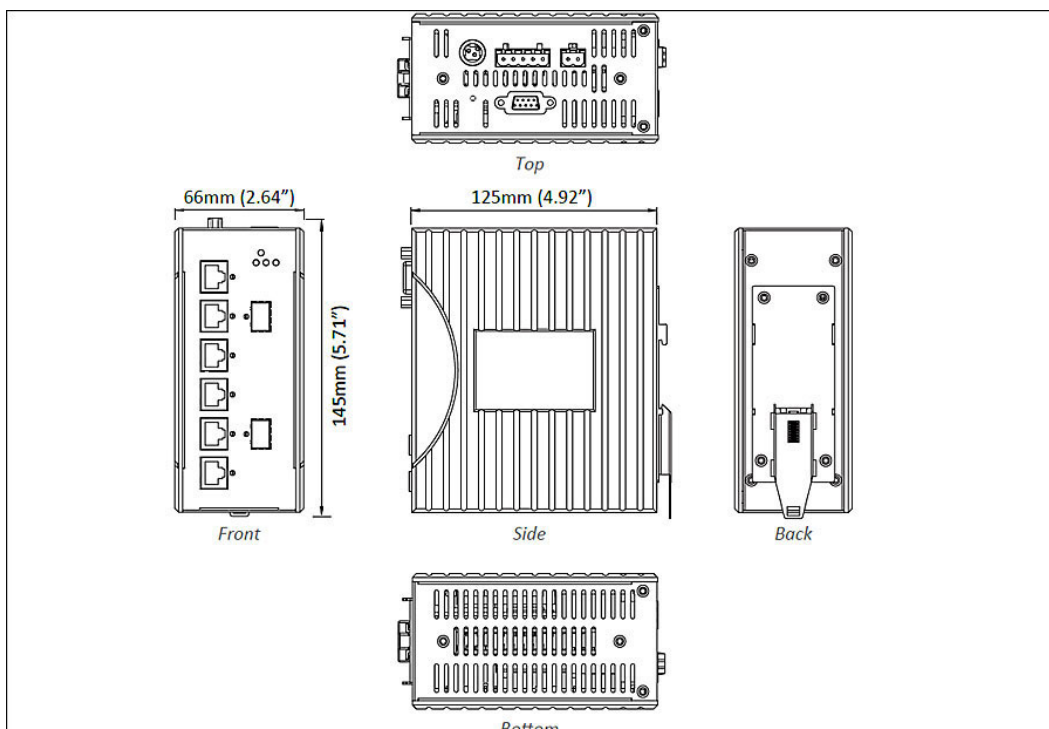
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## Application



## Dimensions





## Ordering Info

### Model

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

\* DIN-Rail mounting kit included.

### Gigabit Port Options (X)

<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

\* More Gigabit options are also available upon request.

### Optional Accessories

<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>EX41-145046-X</b>	Power Supply 45W 12VDC with Open Wire (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA
<b>EX41-145044-X</b>	Power Supply 45W 12VDC with Latch (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA



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