EX73900 Series

Hardened Managed 16-port Gigabit Ethernet Switch

Overview

EtherWAN's EX73900 Series is a hardened DIN-rail mounted 16-port Gigabit 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.

The EX73900 Series is equipped with 12 x 10/100/1000BASE-TX, in combination with 4 Gigabit SFP ports. The EX73900 Series is equipped with EtherWAN's Alpha-Ring self-healing technology, providing less than 15ms fault recovery time, making it ideal for applications intolerant to interruption. Users are able to access management features such as port security, IGMP snooping, port-based VLAN, GARP protocols, link aggregation and ACL, via web browser, telnet, SSH, SNMP, RMON, TFTP, and RS-232 console interfaces.

With the hardened specifications, the EX73900 Series is designed to operate at -40°C to 75°C in harsh environments, and is IEC61850 & IEEE1613 certified, capable of operating under high EMI environments, making it an ideal choice for harsh applications.

EtherWAN — "When Connectivity is Crucial."

Spotlight

- **Versatile Connectivity**
  - Provides flexibility 12 or 8 10/100/1000BaseT(X) ports and 4 1000BaseSX/LX/BX/SFP ports

- **Intelligent Management**
  - Optimize network performance with QoS, VLAN, ACL and RADIUS support
  - Unique Dying Gasp feature provides immediate notification of switch power off with SNMP

- **Layer 3 Routing**
  - Static IP routing
  - Routing Information Protocol (RIP) v1/v2

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
- 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
- System log (remote/local)
- ACL

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 (4 groups, support MAC base)
  - IEEE802.3ad Link Aggregation Control Protocol
- IGMP Snooping
  - IGMP snooping v1/v2/v3

Performance

- Switching Capability: 32Gbps
- Packet Buffer Size: 12M bits
- MAC Address Table: 16K
- Jumbo Frame: 9216 bytes

Layer 3 Features

- Routing Protocols
  - Maximum number of routes in hardware:64 entries
  - Static routing
  - RIP v1/v2

Hardware Specifications

Technology

Standards
- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/100BASE-FX
- IEEE802.3ab 1000BASE-T
- 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
- 12M bits

Processing Type
- Store-and-Forward
- Auto Negotiation
- Half-duplex back-pressure and IEEE802.3x full-duplex flow control
- Auto MDI/MDIX

Address Table Size
- 16K MAC addresses

Power

Input
- Redundant power inputs:
  Terminal Block: 12 - 48VDC

Power Consumption
- 17.28W Max. 1.44A@12VDC, 0.67 A@24VDC

Protection
- Reverse polarity protection

Mechanical

Casing
- Aluminum Case
- IP30

Dimensions
- 72mm (W) x 140mm (D) x 170mm (H)
  (2.8"(W) x 5.5"(D)x 6.7"(H))

Weight
- 1.1Kg (2.42lbs.)

Installation
- DIN-Rail, rack or wall mounting

Interface

Ethernet Port
- 10/100/1000BASE-TX: 8 or 12 ports
- 1000BASE-SX/LX/SFP: 4 ports

Console Port
- Port: One DB9 RS-232 port

Alarm Contact
- One relay output with current 1A @ 24VDC

LED Indicators
- Per Unit: Power 1, Power 2
- Per Port: Link/Activity (Green)

Environment

Operating Temperature
- -40°C to 75°C (-40°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

EMI

FCC Part 15B, Class A

EN61000-6-4

EN55022

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

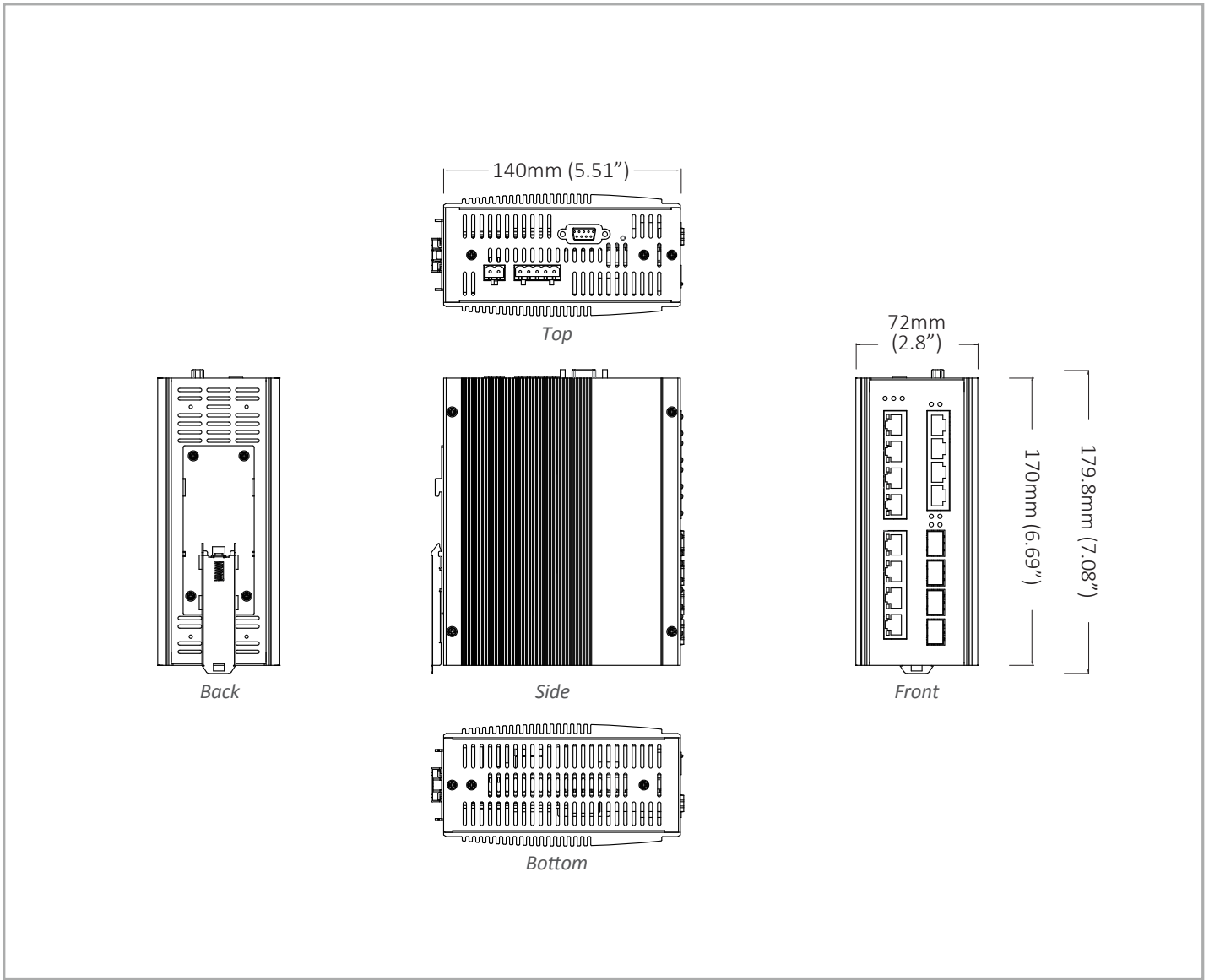**IEC60068-2-6 Fc (Vibration)**

IEC60068-2-27 Ea (Shock)

IEC60068-2-32 Ed (Free fall)

Industrial Compliance

IEC61850-3 / IEEE1613

NEMA TS2

Dimensions

140mm (5.51")

Top

Back

Side

72mm (2.8")

179.8mm (7.08")

170mm (6.69")

Front

Bottom

Ordering Information

Models

EX73931-0VB	12-Port 10/100/1000BASE-TX + 4-port Gigabit SFP Hardened Managed Ethernet Switch
EX73921-0VB	8-Port 10/100/1000BASE-TX + 4-Port Gigabit SFP Hardened Managed Ethernet Switch
EX73921-0XB	8-Port 10/100/1000BASE-TX + 4-Port Gigabit Fiber Hardened Managed Ethernet Switch

* DIN-Rail mounting kit included

Ordering Information - continued

Gigabit Fiber 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

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)