

EX78900 Series

Hardened Managed 16-port (8 x PoE) Gigabit Ethernet Switch



- 8 X PoE — provides 60 watt Ultra PoE ports
- Power Budget: 240W



Overview

EtherWAN's EX78900 Series is a hardened DIN-rail mounted 16-port Gigabit switching platform. It features with 60W and IEEE802.3at/af Power over Ethernet combining with robust management features required for mission-critical and harsh environments where sustained connectivity is crucial.

The EX78900 Series is equipped with 12 x 10/100/1000 BASE-TX (8 x PoE port), in combination with 4 Gigabit SFP ports. The Ultra PoE ports provide up to 60W/port with a total power budget of 240W, making the switch truly versatile to connect with PoE Powered Devices (PD) with different bandwidth and power consumption requirements such as; outdoor PTZ dome cameras, wireless access points, and way-side communication devices. 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 EX78900 Series is designed to operate at -40°C to 75°C in harsh environments, where high ESD, shock, and vibration may be present.

EtherWAN — "When Connectivity is Crucial."

Spotlight

• Ultra PoE Switch

- Up to 12 ports with 8 Ports PoE, support 60W/ IEEE802.3af/at, and 4 Gigabit SFP ports for high-bandwidth communication

• Intelligent Management

- Optimize network performance with QoS, VLAN, and PoE scheduling, etc.

• Remote Secure Access

- IEEE802.1x, ACL and RADIUS support

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 (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: 12M bits
- MAC Address Table: 16K

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
- IEEE802.3af/at Power over Ethernet

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: 52 - 57VDC

Power Consumption

- Device: Max. 20W (without PoE)

PoE Power Output

- PoE can be configured as:
 1. 6-port 15.4 W PoE and 2- port 60 watt PoE
 2. 8-port 30W PoE
 3. 4-port 10/100/1000 TX and 4-port 60 watt PoE
 4. Other PoE power level configuration can be done through firmware
- PoE power budget: 240W

Protection

- Overload current 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 (Top hat type35mm), Rack, or Wall mounting

Interface

Ethernet Port

- 10/100/1000BASE-TX (PoE): 12 ports
- 1000BASE-SFP: 4 ports

Console Port

- Port: One DB9 RS-232 port

LED Indicators

- Per Unit: Power 1, Power 2
- Per PoE Port: PoE Status (Orange)
- 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)

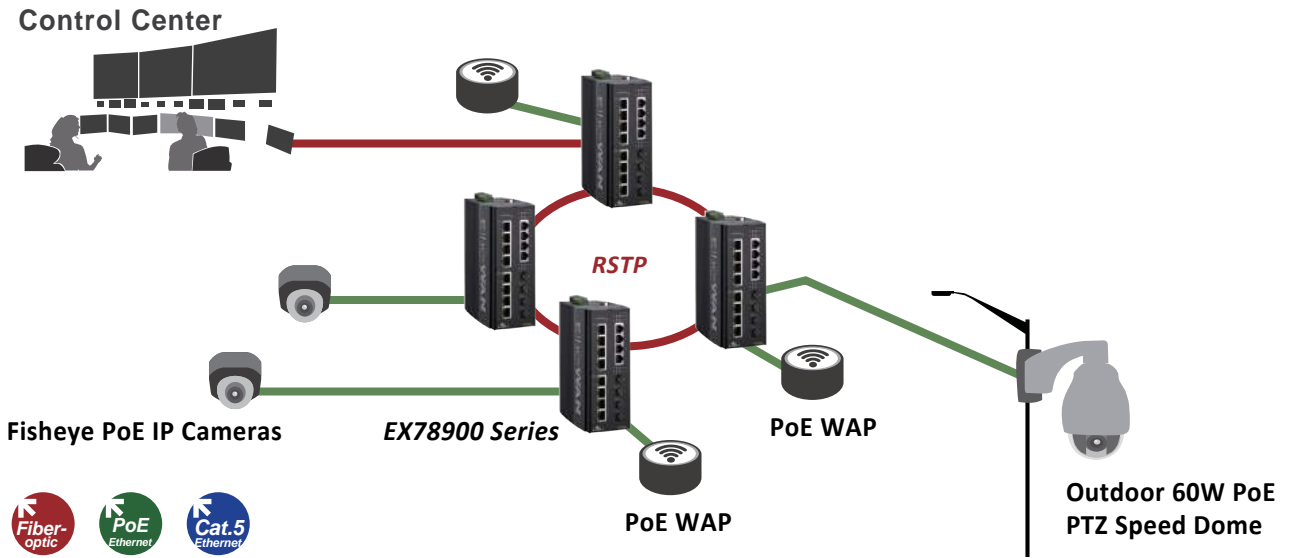
Environmental Test Compliances

IEC60068-2-6 Fc (Vibration)

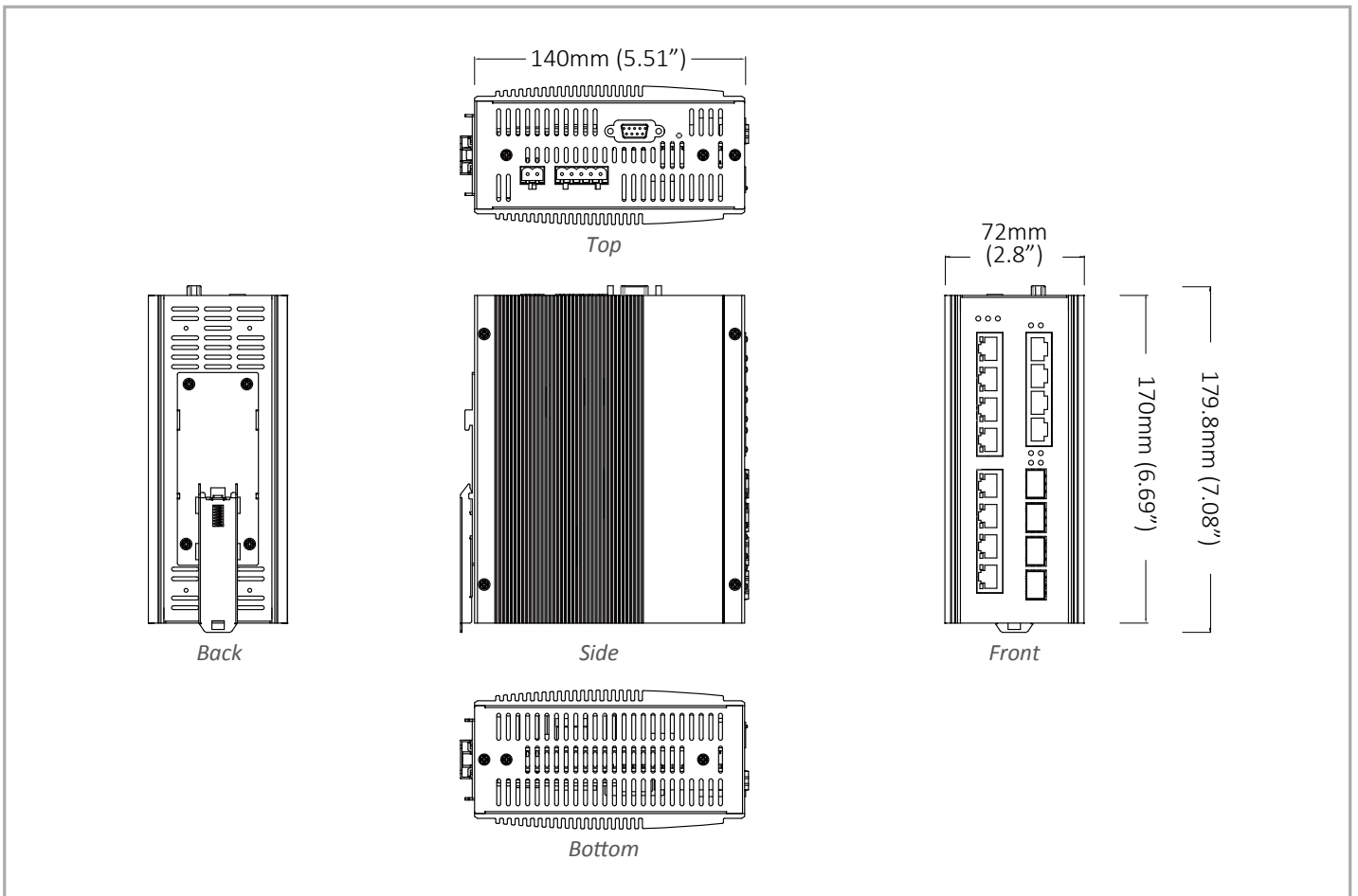
IEC60068-2-27 Ea (Shock)

IEC60068-2-32 Ed (Free fall)

Application Diagram



Dimensions



Ordering Information



Models

EX78931-0VZ	12-Port 10/100/1000BASE-TX with 8-port PoE + 4-port Gigabit SFP Hardened Managed Ethernet Switch
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* DIN-Rail mounting kit included

Optional Accessories

SDR-480-48	480W/10A DIN-Rail 48VDC Industrial Power Supply (for terminal block)
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