



EtherWAN

migrate-ed9.hellosanta.tw/products/ex78900-series EX78900 Series

EX78900 Series

Lite L3 Hardened Managed 16-port (8 x PoE) Gigabit Ethernet Switch





Overview

[When should you use an Industrial Layer 3 switch?](#)

EtherWAN's EX78900 Series is a hardened DIN-rail mounted managed PoE Ethernet switch platform. Equipped with up to 12 gigabit ports with 8-port PoE that provides up to 60W/port and 4 fiber ports, the EX78900 Series provides flexibility, speed, and reliability for networks in urban infrastructure, transportation, security, and other areas where connectivity is crucial.

EtherWAN — "When Connectivity is Crucial."

Highlights

High Bandwidth and Versatility

- 8 or 12 10/100/1000BASE-T(X) ports for high bandwidth connections
- Up to 4 gigabit fiber connections
- Full capacity switching running at full duplex

PoE Features

- Up to 60W/port with 240W total power budget
- Long distance PoE up to 250m (820ft)
- PoE watchdog monitors status of connected PoE devices

Hardened-Grade for Non-Ventilated & Harsh Environments

- Wide operating temperature range -40 to 75°C (-40 to 167°F)
- Fanless operation
- High impact, thermal shock, and electrical noise resistance

Management/Security Features

- Port control
- 802.1x port-based network access control and remote authentication through RADIUS
- Configure and monitor with eVue™ and eLite™

L2/L3 Functionality

- Static routing, RIP v1/v2, and OSPF
- Redundancy with VRRP
- Reduces amount of broadcast traffic

Support

- Complimentary Technical Support
- Free Firmware Upgrades
- Limited Lifetime Warranty

Features

Interface

- CLI, Telnet, Web GUI
- SNMP v1/v2c/v3

Management

- Firmware and configuration upgrade and backup via TFTP
- DHCP Server/Client
- RMON (Remote Monitoring): group 1, 2, 3, 9
- Port Mirroring: TX/RX and both
- NTP (Network Time Protocol) synchronization
- IEEE 802.1ab LLDP (Link Layer Discovery Protocol)
- IPv4/IPv6

Security

- MAC Address Filtering
- Enable/Disable port
- Storm control (Broadcast and multicast types)
- IEEE 802.1x LAN Access Control
- Remote authentication through RADIUS and TACACS+
- 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 IEEE 802.1p CoS, DSCP, WRR 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 Protocols**
- IEEE 802.1D STP
- IEEE 802.1w RSTP
- IEEE 802.1s MSTP
- EtherWAN's Alpha-Ring network fault recovery (<15ms)

- **VLANs**
- IEEE 802.1Q Tag VLANs
- GVRP
- GMRP

- **Link Aggregation**

Specifications

Interface

- **Ethernet**
 - 8 or 12 (8 PoE) x 10/100/1000BASE-T(X)
 - 4 x 1000BASE SX/LX/SFP
- **Console**
 - 1 x DB9 RS-232
- **Alarm Contact**
 - 1 x Relay output, current capacity 0.5A/48VDC
- **LED Indicators**
 - Per Unit: Power 1, Power 2
 - Per Port: Link/Activity (Green)
 - Per PoE Port: PoE Status (Orange)

Physical

- **Casing Material**
 - Aluminum
- **IP Rating**
 - IP30
- **Dimensions**
 - 72 x 140 x 170mm (W x D x H)
2.8" x 5.5" x 6.7"
- **Weight**
 - 1.5kg (3.3lbs)
- **Installation Type**
 - DIN-rail mounting

Technology

- **Standards**

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX/100BASE-FX
- IEEE 802.3ab 1000BASE-T
- 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 PNAC
- IEEE 802.3af/at Power over Ethernet

- **Forward/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 IEEE 802.3x Full-duplex flow control
- Auto MDI/MDIX

- **Jumbo Frame**

- 9216 bytes

- **Address Table Size**

- 16K MAC Addresses

Environmental

- **Operating Temp.**

- -40 to 75°C (-40 to 167°F)
Tested @ -40 to 85°C (-40 to 185°F)

- **Storage Temp.**

- -45 to 85°C (-49 to 185°F)

- **Relative Humidity**

- 5% to 95% (non-condensing)

Regulatory

- **ISO**

- Manufactured in ISO-9001 facility

- **EMI**

- FCC Part 15B Class A
- VCCI Class A
- EN 61000-6-4
- EN 61000-3-2

Power

- **Input**

- 52-57VDC Redundant (Terminal block)

- **Power Consumption**

- 20W Max (without PoE)

- **PoE Technology**

- Alternative A & B
- Pins 1/2(+), 3/6(-), Pins 7/8(-), 4/5(+)

- **PoE Power Output**

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

- **Protection**

- Reverse Polarity Protection

Warranty

- **Length**

- Limited Lifetime

- **Details**

- www.etherwan.com/support/warranty-policy

What's Included

- **Device**

- Ethernet Switch

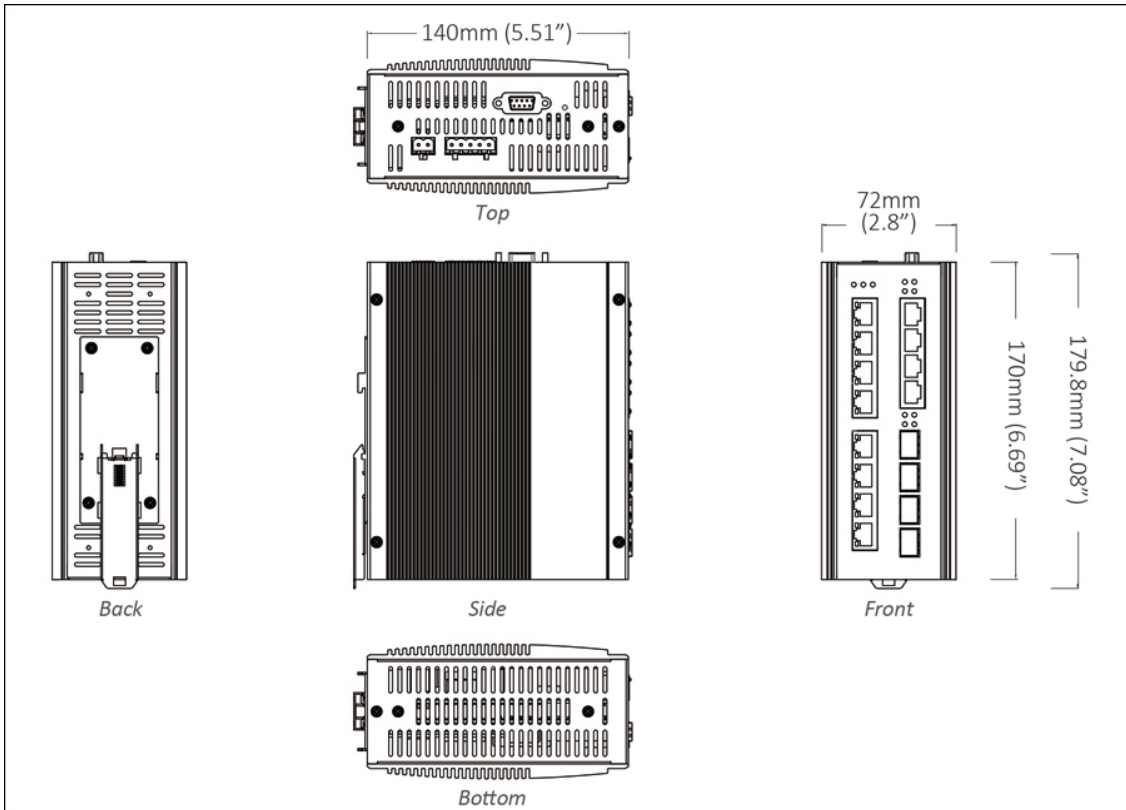
- **Cables**

- 1 Console Cable

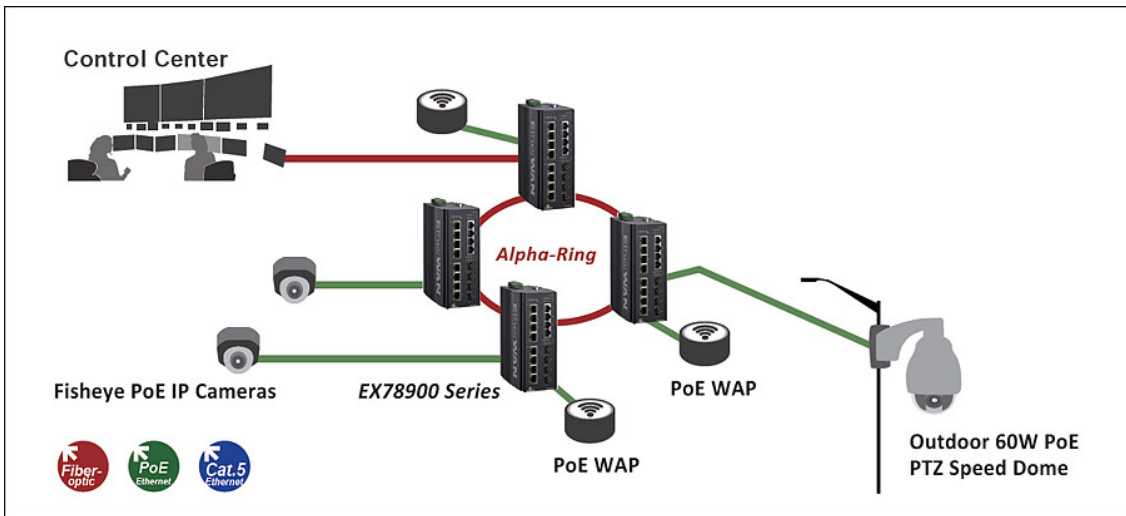
- **Documentation**

- Quick Install Guide

Dimensions



Application



Software

Network Management

[eVue™ Network Configuration and Monitoring Tool](#)

Network Discovery

[eLite™ Network Discovery and IP Configuration Tool](#)

EtherWAN Home Devices Batch Group Events Settings Screen Zoom Logout

Device List

IP	System Name	Group
192.168.50.12	EG99-5012	
192.168.50.62	EX709-5062	
192.168.50.254	R50	
192.168.50.11	EG99-5011	
192.168.50.63	EX74-5063	
192.168.50.14	EX779-5014	
192.168.50.61	EX71v2-5061	
192.168.50.44	EX71-5044	
192.168.50.64	EX73-5064	
192.168.50.34	EX739-5034	

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Topology

Legend: Online (Green), Offline (Grey), Event (Red)

Latest Events 0 0 0

Acknowledged	ID	Severity	Time	Service	Node	Message
✓	5107	Normal	6/28/2019, 9:50:35 AM	login	server	User 'admin' logged in.
✓	5106	Normal	6/27/2019, 10:00:50 AM	login	server	User 'admin' logged in.
✓	5105	Major	6/24/2019, 1:18:23 PM	ping-monitor	192.168.1.19	Web 192.168.1.19 is down.
✓	5105	Major	6/24/2019, 1:18:23 PM	ping-monitor	192.168.1.19	Telnet 192.168.1.19 is down.
✓	5104	Normal	6/24/2019, 1:12:34 PM	login	server	User 'admin' logged in.

eLite List Server Firmware Configuration Help

IP Address	MAC Address
192.168.50.22	00:e0:b3:50:22:00
192.168.50.31	00:e0:b3:50:31:00
192.168.50.72	00:e0:b3:50:72:00
192.168.50.55	00:e0:b3:50:55:00
192.168.50.23	00:e0:b3:50:23:00
192.168.50.73	00:e0:b3:50:73:00
192.168.50.44	00:e0:b3:50:44:00
192.168.50.64	00:e0:b3:50:64:00
192.168.50.43	00:e0:b3:50:43:00
192.168.50.62	00:e0:b3:50:62:00
192.168.50.71	00:e0:b3:50:71:00
192.168.50.24	00:e0:b3:50:24:00

Ready

Ordering Info

Model

EX78931-0VB

12-Port 10/100/1000BASE-TX with 8-port PoE + 4-port Gigabit SFP

EX78921-0VB

8-Port 10/100/1000BASE-TX PoE + 4-Port Gigabit SFP

EX78921-0XB

8-Port 10/100/1000BASE-TX PoE + 4-Port Gigabit Fiber

* 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 also available upon request.

Accessories

Hardened Gigabit SFP Modules

www.etherwan.com/products/sfp-fiber-transceiver

DIN-Rail Power Supplies

www.etherwan.com/products/din-rail-power-supply (*)

***Recommended Power Supply**

[HDR-30-24 30W 24VDC DIN-Rail Power Supply](#)

EB-232

[Configuration Backup and Restoration Tool](#)



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