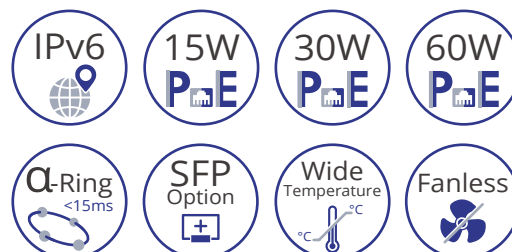


EX78900 Series

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



Product 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

➔ 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

➔ Lite Layer 3 Functionality

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

➔ 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

➔ Management/Security Features

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

➔ Support

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

Overview

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.

Ordering Information

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.

Ordering Information

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.

Software Features

Interface	+
CLI, Telnet, Web GUI	
SNMP v1/v2c/v3	
Management	+
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	
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	

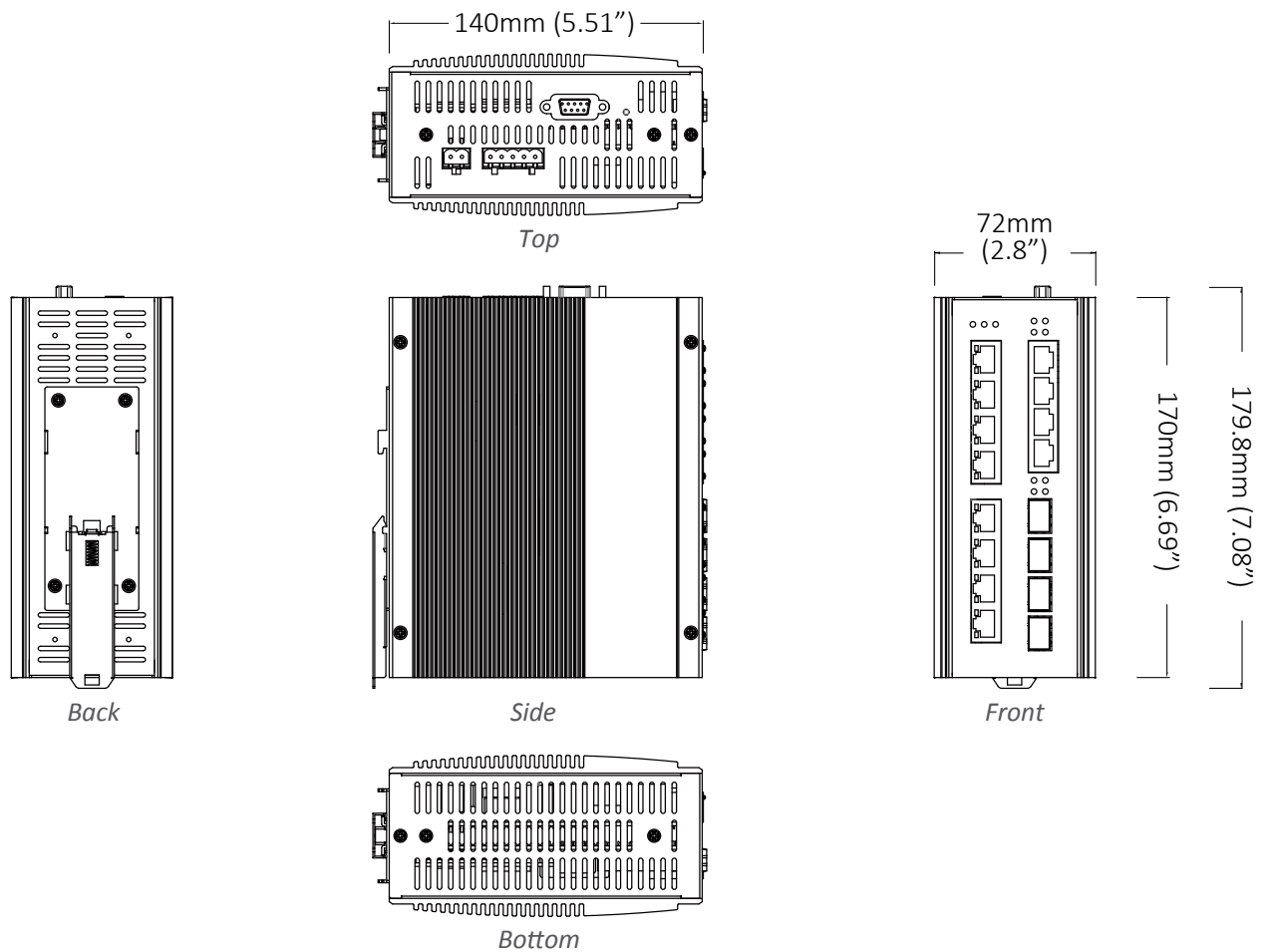
Quality of Service (QoS)	+
Priority Queues: 4 queues per port	
Traffic classification based on IEEE 802.1p CoS, DSCP, WRR and strict mode	
Rate Limiting (Ingress/Egress)	
Layer 2 Features	+
Auto-negotiation for port speed and duplex mode	Flow Control IEEE 802.3x Full duplex mode Back-Pressure half duplex 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	Static Trunk (4 groups, support MAC base) IEEE 802.3ad LACP
IGMP Snooping v1/v2/v3	
Layer 3 Features	+
IP Packet Routing	Maximum number of routes in hardware: 64 entries Static routing RIP v1/v2 OSPF v2
Routing Redundancy	VRRP

Hardware Specifications

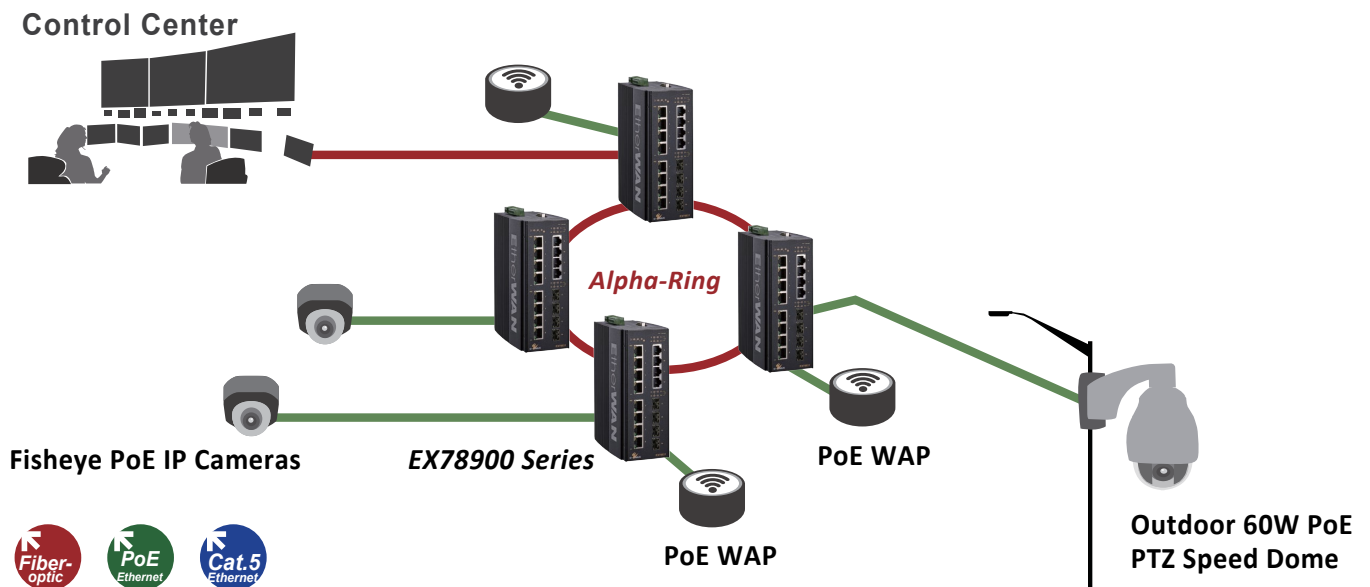
Interface +	
Ethernet	8 or 12 (8 PoE) x 10/100/1000BASE-T(X) 4 x 1000BASE SX/LX/SFP
Console	1 x DB9 RS-232
Alarm Contact	1 x Relay output, current capacity 0.5A/48VDC
LED Indicators	Per Unit: Power 1, Power 2 Per Port: Link/Activity (Green) Per PoE Port: PoE Status (Orange)
Technology +	
Standards	IEEE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

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
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 EN 61000-3-3
EMS	EN 61000-6-2 EN 61000-4-2 (ESD) EN 61000-4-3 (Radiated RFI) EN 61000-4-4 (Burst) EN 61000-4-5 (Surge) EN 61000-4-6 (Induced RFI) EN 61000-4-8 (Magnetic Field)
Vibration	IEC 60068-2-6 Fc
Shock	IEC 60068-2-27 Ea
Free Fall	FED STD 101C Method 5007.1
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

Online Offline Event

Latest Events

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

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	+
NDR-480-48 480W 48VDC DIN-Rail Power Supply	
EB-232	+
Configuration Backup and Restoration Tool	