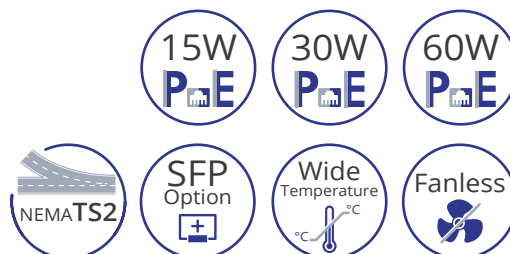
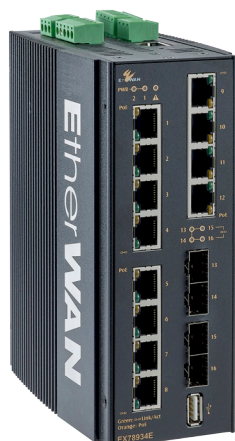


# EX78900E Series

Hardened Managed 10 to 16-Port Gigabit PoE Ethernet Switch



## Product Highlights

### High Bandwidth and Versatility

- 8 or 12 10/100/1000BASE-T(X) ports for High bandwidth connections
- Up to 4 Dual-rate 100/1000BASE SFP uplink ports for 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

- IEEE 802.3bt with 60W; 240W Power budget
- 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 and notifications
- Limited Lifetime Warranty

## Overview

EtherWAN's EX78900E series is a hardened DIN-rail mounted managed PoE Ethernet switch platform. Equipped with up to 12 gigabit PoE ports along with 60W power and IEEE 802.3bt protocol support and 4 dual-rate gigabit SFP ports, the EX78900E series provides flexibility, speed, and reliability for networks in urban infrastructure, transportation, security, and other areas where connectivity is crucial.

## Ordering Information

### Model

EX78934E-0VB	12-port 10/100/1000BASE-T(X) PoE + 4-port 100/1000BASE SFP
EX78924E-0VB	8-port 10/100/1000BASE-T(X) PoE + 4-port 100/1000BASE SFP
EX78922E-0VB	8-port 10/100/1000BASE-T(X) PoE + 2-port 100/1000BASE SFP

# Software Features

<b>Interface</b>	+
CLI, Telnet, Web GUI	
<b>Management</b>	+
Firmware upgrade	
Configuration backup	
DHCP Server/Client	
RMON (Remote Monitoring)	
Port Mirroring	
NTP (Network Time Protocol) synchronization	
LLDP (Link Layer Discovery Protocol)	
IPv4/IPv6	
SNMP v1/v2c/v3	
<b>Security</b>	+
MAC Address filtering	
Enable/Disable port	
Storm control	
System logging	
IEEE 802.1x LAN Access control	
Remote authentication through RADIUS and TACACS+	
Complex password support	
Multi-user login and privileged access management	
SSH for CLI and Telnet security	
SSL and HTTPS for web security	
ACL (Access Control List, up to 4096 entries)	
<b>Quality of Service (QoS)</b>	+
Priority Queues: 8 queues per port	
Traffic classification based on IEEE 802.1p CoS (Cost of Service), DSCP (Differentiated Services Code Point), WRR (Weighted Round Robin), and strict mode	
Rate Limiting (Ingress/Egress)	

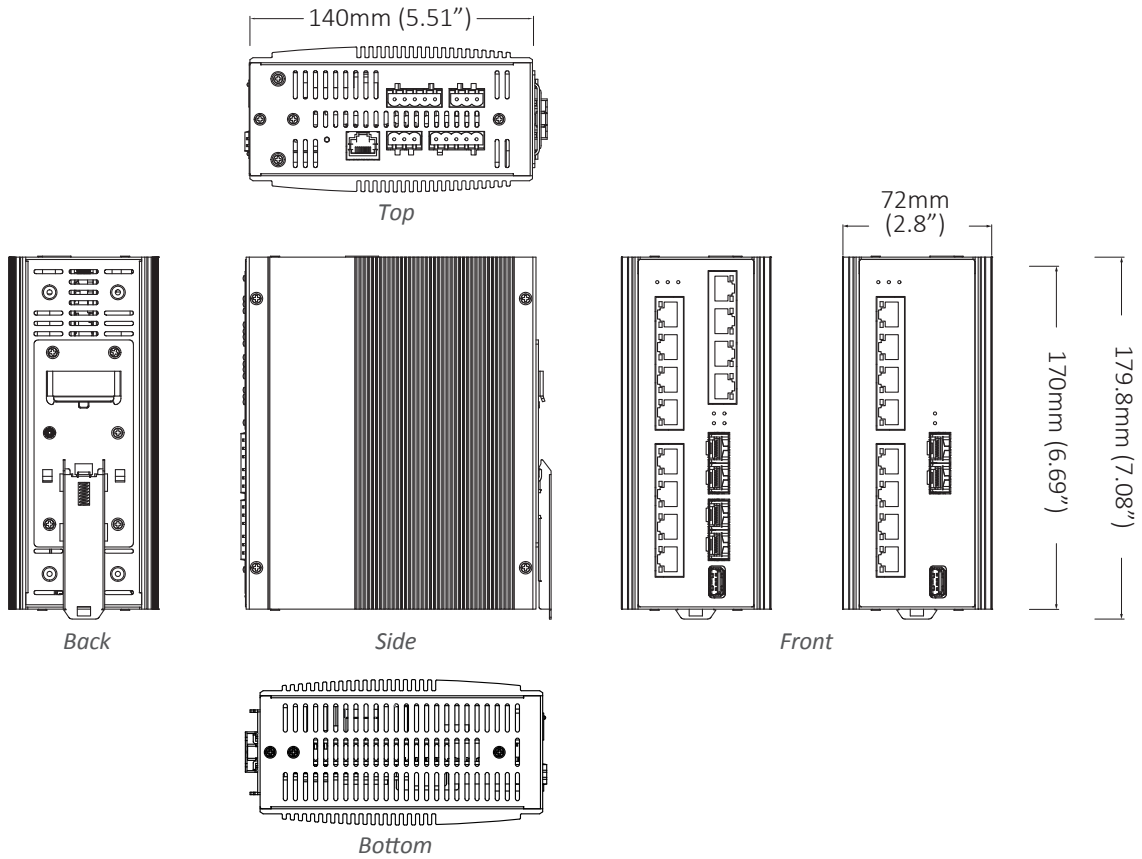
<b>Layer 2 Features</b>	+
<b>Auto-negotiation for port speed and duplex</b>	Flow Control IEEE 802.3x full duplex mode Back-pressure half duplex mode
<b>Redundant Protocols</b>	IEEE 802.1D STP IEEE 802.1w RSTP IEEE 802.1s MSTP EtherWAN's Alpha-Ring network fault recovery
<b>VLANs</b>	IEEE 802.1Q Tag VLANs GVRP GMRP
<b>Link Aggregation</b>	Static Trunk (4 groups) IEEE 802.3ad LACP
<b>IGMP Snooping v1/v2/v3</b>	
<b>Layer 3 Features</b>	+
<b>IP Packet Routing</b>	Maximum number of routes in hardware: 64 entries Static routing RIP v1/v2 OSPF v2
<b>Routing Redundancy</b>	VRRP
<b>Software Properties and Performance</b>	
<b>Switching Fabric</b>	32Gbps
<b>Forwarding Rate</b>	23.5Mpps
<b>Max VLANs</b>	256 (4096 VID)
<b>Jumbo Frame Size</b>	9KB
<b>MAC Table Size</b>	16K
<b>Packet Buffer Memory</b>	12M bits

# Hardware Specifications

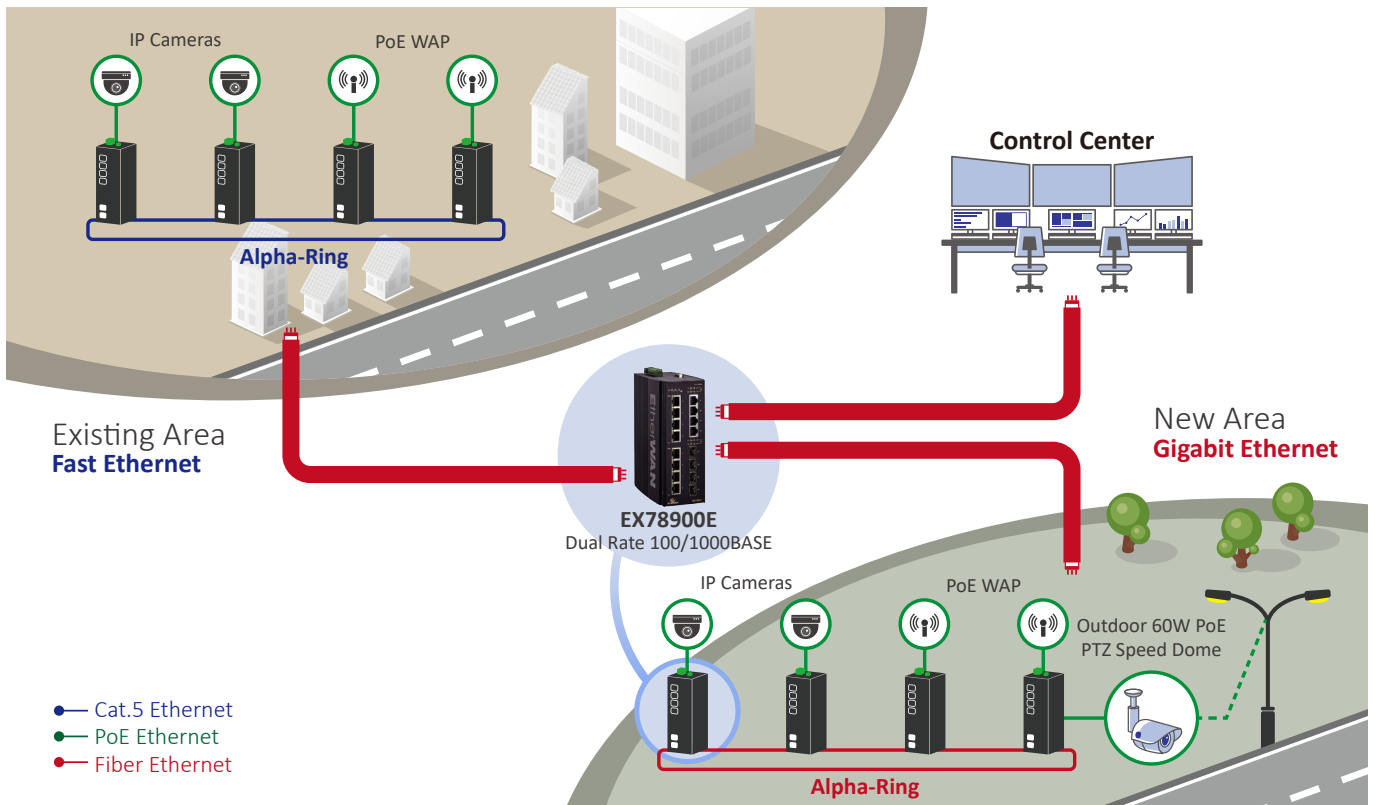
Interface		+
Ethernet	8 or 12 x 10/100/1000BASE-T(X) 2 or 4 x 100/1000BASE SFP	
Console	1 x RJ45	
Config Backup	1 x USB (Type A Connector)	
Digital Input	2 x Digital Input Wet Contact: 0-3V for State 0 13-30V for State 1 max input current: 8mA Dry Contact: Logic Level 1-Close to GND; Logic Level 0-Open	
Alarm Contact	2 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 802.3ad link aggregation control IEEE 802.3z 1000BASE-SX/1000BASE-LX IEEE 802.3x full duplex and flow control IEEE 802.1D STP IEEE 802.1p QoS IEEE 802.1Q Tag VLANs IEEE 802.1s MSTP IEEE 802.1w RSTP IEEE 802.1x PNAC IEEE 802.1ab LLDP IEEE 802.3az EEE IEEE 802.3af/at/bt Power over Ethernet* *IEEE 802.3bt will be available in Q4, 2020	
Forward/Filtering Rate	14,880pps for 10Mbps 148,810pps for 100Mbps 1,488,100pps for 1000Mbps	
Processing Type	Store-and-forward Auto-negotiation Half-duplex back-pressure and full-duplex flow control Auto MDI/MDIX	
System Memory	2Gb DDR3 SDRAM	
Flash Storage	1Gb	
Power		+
Input	52-57VDC Redundant (Terminal block)	
Power Consumption	20W Max (without PoE)	
PoE Modes	802.3af/at Mode A: Pins 1/2(-), 3/6(+) 802.3bt (60W): Mode A & B, Pins 1/2(-), 3/6(+), 4/5(+), 7/8(-)	
PoE Power Output	Ports 1-4, 9-12: Up to 30W/port Ports 5-8: Up to 60W/port 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)	
Storage Temp.	-45 to 85°C (-49 to 185°F)	
Relative Humidity	5% to 95% (non-condensing)	
MTBF	1,108,382 hours	
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 61000-4-2 (ESD) EN 61000-4-3 (Radiated RFI) EN 61000-4-4 (Burst) EN 61000-4-5 (Surge) PoE Ports: line to earth 6kV Surge EN 61000-4-6 (Induced RFI) EN 61000-4-8 (Magnetic field)	
Safety	UL 61010	
Traffic	NEMA TS2	
Vibration	IEC 60068-2-6	
Shock	IEC 60068-2-27	
Free Fall	FED STD 101C Method 5007.1	
Industrial	EN 50121-4	
Warranty		+
Length	Limited Lifetime	
Details	<a href="http://www.etherwan.com/support/warranty-policy">www.etherwan.com/support/warranty-policy</a>	
What's Included		+
Device	Ethernet Switch	
Cables	1 Console Cable	
Installation	Mounting brackets, screws	
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**

**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

## Accessories

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Hardened 100BASE SFP Modules	+
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[www.etherwan.com/products/sfp-fiber-transceiver](http://www.etherwan.com/products/sfp-fiber-transceiver)

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Hardened Gigabit SFP Modules	+
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[www.etherwan.com/products/sfp-fiber-transceiver](http://www.etherwan.com/products/sfp-fiber-transceiver)

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DIN-Rail Power Supplies	+
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[www.etherwan.com/products/din-rail-power-supply \(\\*\)](http://www.etherwan.com/products/din-rail-power-supply)

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*Recommended Power Supply	+
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[NDR-480-48 480W 48VDC DIN-Rail Power Supply](#)

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