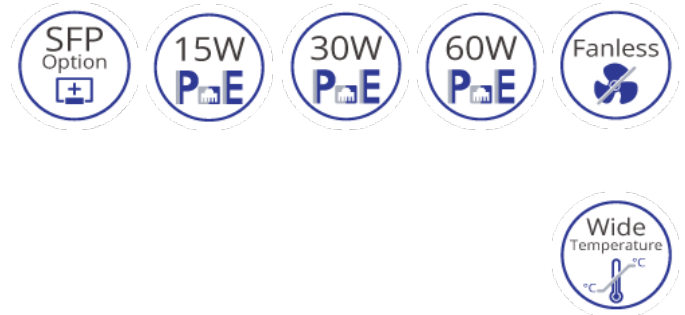


EX78900R Series

Hardened Managed 16-Port Gigabit PoE Ethernet Switch



Overview

EtherWAN's EX78900R series is a hardened managed PoE Ethernet switch platform. Equipped with 12 gigabit PoE ports along with 60W power and IEEE 802.3bt protocol support and 4 dual-rate gigabit SFP ports, the EX78900R 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

- 12 10/100/1000BASE-T(X) ports for high bandwidth connections
- 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
- 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 and notifications
- Limited Lifetime Warranty

Features

+ Interface

CLI, Telnet, Web GUI

+ Management

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

+ Security

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)

+ Quality of Service (QoS)

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)

+ Layer 2 Features

Auto-negotiation for port speed and duplex
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

VLANs
IEEE 802.1Q Tag VLANs
GVRP
GMRP

Link Aggregation
Static Trunk (4 groups)
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

+ Software Properties and Performance

Switching Fabric
32Gbps

Forwarding Rate
23.5Mpps

Max VLANs
256 (4096 VID)

Jumbo Frame Size
9KB

MAC Table Size
16K

Packet Buffer Memory
12M bits

Specifications

+ 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 802.3af/at/bt Power over Ethernet*

Forward/Filtering Rate

14,800pps 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(-)
802.3af/at Mode B: Pins 4/5(+), 7/8(-)
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

+ Interface

Ethernet

12 x 10/100/1000BASE-T(X)
4 x 100/1000BASE SFP

Console

1 x RS232

Config Backup

1 x USB (Type A Connector)

LED Indicators

Per Unit: Power 1, Power 2
Per Port: Link/Activity (Green)
Per PoE Port: PoE Status (Orange)

+ 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)

EN 61000-4-6 (Induced RFI)

EN 61000-4-8 (Magnetic field)

Vibration

IEC 60068-2-6

Shock

IEC 60068-2-27

Free Fall

FED STD 101C Method 5007.1

+ 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)

+ Warranty

Length

Limited Lifetime

Details

www.etherwan.com/support/warranty-policy

+ Environmental

Operating Temp.

-40 to 70°C (-40 to 158°F)

Storage Temp.

-45 to 85°C (-49 to 185°F)

Relative Humidity

5% to 95% (non-condensing)

+ What's Included

Device

Ethernet Switch

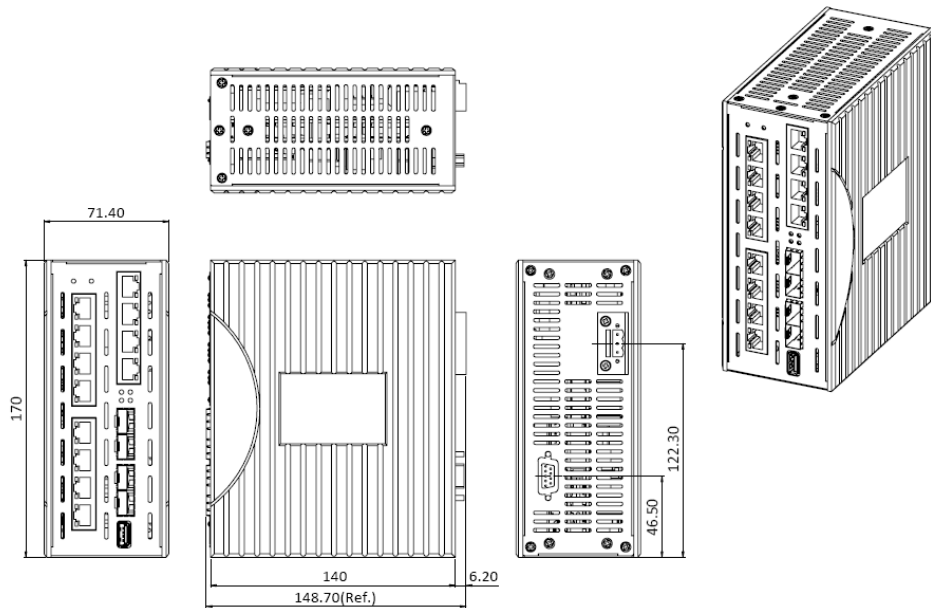
Cables

1 Console Cable

Documentation

Quick install guide

Dimensions



Ordering Info

+ Model

EX78934R-0VB	12-port 10/100/1000BASE-T(X) PoE + 4-port 100/1000BASE SFP
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+ Accessories

Hardened 100BASE SFP Modules	www.etherwan.com/products/sfp-fiber-transceiver
Hardened Gigabit SFP Modules	www.etherwan.com/products/sfp-fiber-transceiver
DIN-Rail Power Supplies	www.etherwan.com/products/din-rail-power-supply

