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 802.3.bt 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

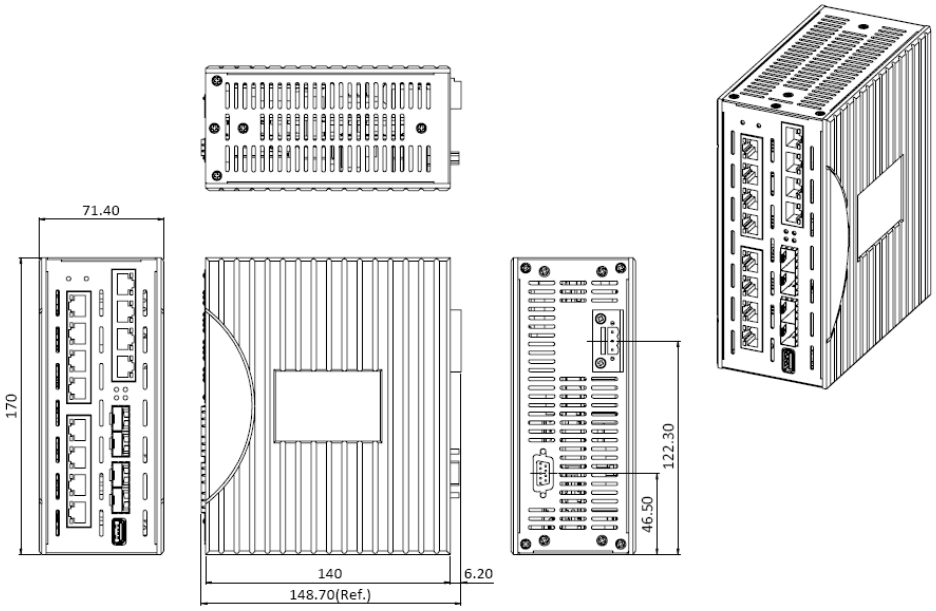
Quick install guide

MPN

EX78934R-0VB

1718534

Dimensions



Ordering Info

Model

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

Accessories

SFP Modules

Hardened SFP Modules	www.etherwan.com/products/sfp-fiber-transceiver

Power Supplies

EPOW-54-240	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 240W, 54VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps
EPOW-54-400	Hardened Power Supply, 100-277 VAC Input; NEMA-TS2 Rated; 54VDC, 400W/7.4A, with Open Wire (US Plug) - No Deration at High Temps
EPOW-54-600	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 600W, 54VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps
EPHX-48-240	240W/5A DIN-Rail 48VDC (42-56VDC Adjustable) Industrial Power Supply - No Deration at High Temps
EPHX-48-480	480W/10A DIN-Rail 48VDC (36-55VDC Adjustable) Industrial Power Supply - No Deration at High Temps

Mounting Brackets

KR-BKZDIN	Z-Shaped Vertical Bracket
KR-BKZDIN-D	Din Rail configuration for Z-Shaped Vertical Bracket
KR-BKZDIN2	Z-Shaped Horizontal Bracket
KR-BKZDIN2-D	Din Rail configuration for Z-Shaped Horizontal Bracket
KR-DINRAILB	TransRack 19 rack mount adjustable DIN rail bracket
KR-BK7800040	19" Rack mounting kit for EX78900/78000/73900 series, black

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