# EX78900XR Series

Hardened Managed 12-Port Gigabit PoE and 4-Port 10G SFP+ Ethernet Switch





# Overview & Highlights

EtherWAN's EX78900XR series is a hardened managed PoE Ethernet switch platform. Equipped with 12 gigabit PoE ports along with 90W power and IEEE 802.3.bt protocol support and 4 dual-rate 1/10G SFP+ ports, the EX78900XR series provides flexibility, speed, and reliability for networks in urban infrastructure, transportation, security, and other areas where connectivity is crucial.

## High Bandwidth and Versatility

12 10/100/1000BASE-T(X) ports for high bandwidth connections
Up to 4 Dual-rate 1/10G 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 70°C (-40 to 158°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 up to 90W per port; 360W total power budget
PoE watchdog monitors status of connected PoE devices

## Management/Security Features

Port control, SFTP
802.1x port-based network access control and remote authentication through RADIUS

## Support

Complimentary technical support
Free firmware upgrades and notifications
Limited lifetime warranty

# Software Features

## Interface

CLI, Telnet, Web GUI, SSH

## Management

SFTP (Secured FTP) support

Configuration backup

DHCP Server/Client

RMON (Remote Monitoring)

Port Mirroring

NTP (Network Time Protocol) synchronization

PoE Watchdog

LLDP (Link Layer Discovery Protocol)

IPv4/IPv6

SNMP v1/v2c/v3

Modbus TCP

## Security

MAC Address filtering

Enable/Disable port

Storm Control and Detection

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

TLS 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**

104Gbps

**Forwarding Rate**

75.29Mpps

**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 802.3az EEE

IEEE 802.3af/at/bt Power over Ethernet*

IEEE 1588v2 PTP

**Forward/Filtering Rate**

14,880pps for 10Mbps

148,810pps for 100Mbps

1,488,100pps for 1000Mbps

14,881,000pps for 10Gbps

**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**

46-57VDC (Terminal block)

**Power Consumption**

20W Max (without PoE)

**PoE Power Output**

Ports 1-12: Up to 90W/port

Power Budget: 360W

**Protection**

Reverse Polarity Protection

## Interface

**Ethernet**

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

4 x 1/10G SFP+

**Console**

1 x RS232

**Config Backup**

1 x USB (Type A Connector)

**LED Indicators**

Per Unit: Power, Alarm

Per Port: Link/Activity (Green)

Per PoE Port: PoE Status (Orange)

## Regulatory

**ISO**

Manufactured in ISO-9001 facility

**EMI**

FCC Part 15B Class A

**Vibration**

IEC 60068-2-6

**Shock**

IEC 60068-2-27

**Free Fall**

IEC 60068-2-31

## 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.m/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**

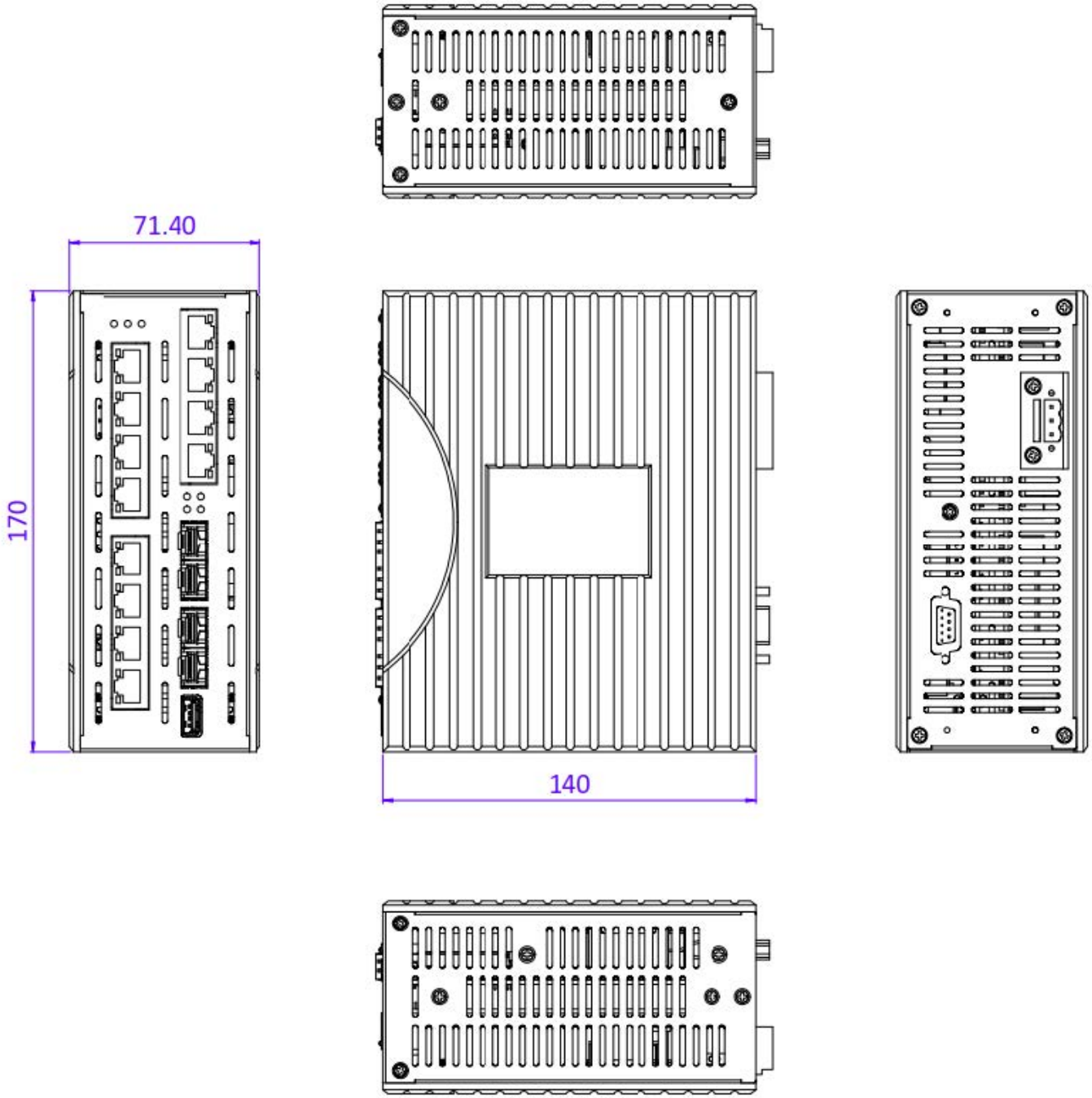
1 Console cable

## MPN

**EX78934XR-0VB**

1718534

# Dimensions



# Ordering Info

## Model

| | |
|---|---|
| **EX78934XR-0VB** | 12-port 10/100/1000BASE-T(X) PoE + 4-port 1/10G SFP+ |

## Accessories

### SFP Modules

| | |
|---|---|
| **Hardened 1G & 10G SFP Modules** | www.etherwan.com/products/sfp-fiber-transceiver |

### Power Supplies

| | |
|---|---|
| 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-48-480 | 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 |

© EtherWAN Systems, Inc. All rights reserved. 20261114
EtherWAN is constantly developing and improving products. Specifications are subject to change without notice and without incurring any obligation.