EX73900X Series

IEC 61850-3/IEEE 1588 Hardened Managed 12-port Gigabit and 4x 1G/2.5G/10G SFP+ Ethernet Switch



Overview

When should you use an Industrial Layer 3 switch?

EtherWAN's EX73900X series is a hardened DIN-rail mounted managed Ethernet switch platform. Equipped with up to 12 gigabit Ethernet and 4 tri-speed 1G/2.5G/10G SFP+ ports, and the IEEE1588v2 Precision Time Protocol (PTP) that uses network packets and time stamps for network time synchronization. The EX73900X series provides flexibility, speed, and reliability to support networks for urban infrastructure, transportation, security, power substations, and other areas where connectivity is crucial.

IEC 62443-4-2 Certified – Strengthening cyber resilience for critical industrial and infrastructure applications.

EtherWAN — "**When Connectivity is Crucial.**"

Highlights

High Bandwidth and Versatility

8 or 12 10/100/1000BASE-T(X) ports for high bandwidth connections

4 tri-speed 1G/2.5G/10G SFP+ uplink ports for fiber connections

Full capacity switching running at full duplex

Support

Complimentary Technical Support

Free Firmware Upgrades

Limited Lifetime Warranty

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

Compliance

IEC 61850-3/IEEE 1613 certified for power substation

NEMA TS2 rated

UL certified for safety

L2/L3 Functionality

Static routing, RIP v1/v2, and OSPF support

Redundancy with VRRP

Reduces amount of broadcast traffic

Management/Security Features

Port control, SFTP

Dying gasp feature provides SNMP trap upon power off

Configure and monitor with eVue™ and eLite™

Features

Interface

CLI, Telnet, Web GUI, SSH

Management

Firmware upgrade
SFTP (Secured FTP) support
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
Modbus TCP

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
TLS and HTTPS for Web security
ACL (Access Control List, up to 4096 entries)
Storm Detection Support
IPSG (IP Source guard)
DAI (Dynamic ARP Inspection)
DHCP Snooping

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

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)

Software Properties and Performance

Switching Fabric

104Gbps

Forwarding Rate

77.38Mpps

Max VLANs

256 (4096 VID)

Jumbo Frame Size

9KB

MAC Table Size

16K

Packet Buffer Memory

12M bits

Specifications

Interface

Ethernet

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

2 or 4 x 1G/2.5G/10G 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; 0.6A/30VDC

LED Indicators

Per Unit: Power 1, Power 2, Alarm

Per Port: Link/Activity

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

1.4kg (3.08lbs)

Installation Type

DIN-rail mounting

Environmental

Operating Temp.

-40 to 75°C (-40 to 167°F)
(-40°C to 85°C for IEC 60068-2-2 Environmental 16 hours)

Storage Temp.

-45 to 85°C (-49 to 185°F)

Relative Humidity

5% to 95% (non-condensing)

MTBF

2,027,629 hours

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 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 fullduplex flow control

Auto MDI/MDIX

System Memory

2Gb DDR3 SDRAM

Flash Storage

1Gb

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

BSMI

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)

Safety

UL 61010

Cybersecurity

IEC 62443-4-1

IEC 62443-4-2

Traffic

NEMA TS2

Railway

EN 50121-4

Power Substation

IEC 61850-3/IEEE 1613/IEC 60255-27

Vibration

IEC 60068-2-6

Shock

IEC 60068-2-27

Free Fall

FED STD 101C Method 5007.1

Power

Input

12-48VDC Redundant (Terminal block)

Power Consumption

20W Max

Protection

Reverse Polarity Protection

Warranty

Length

Limited Lifetime

Details

www.etherwan.com/support/warranty-policy

What's Included

Device

Ethernet switch

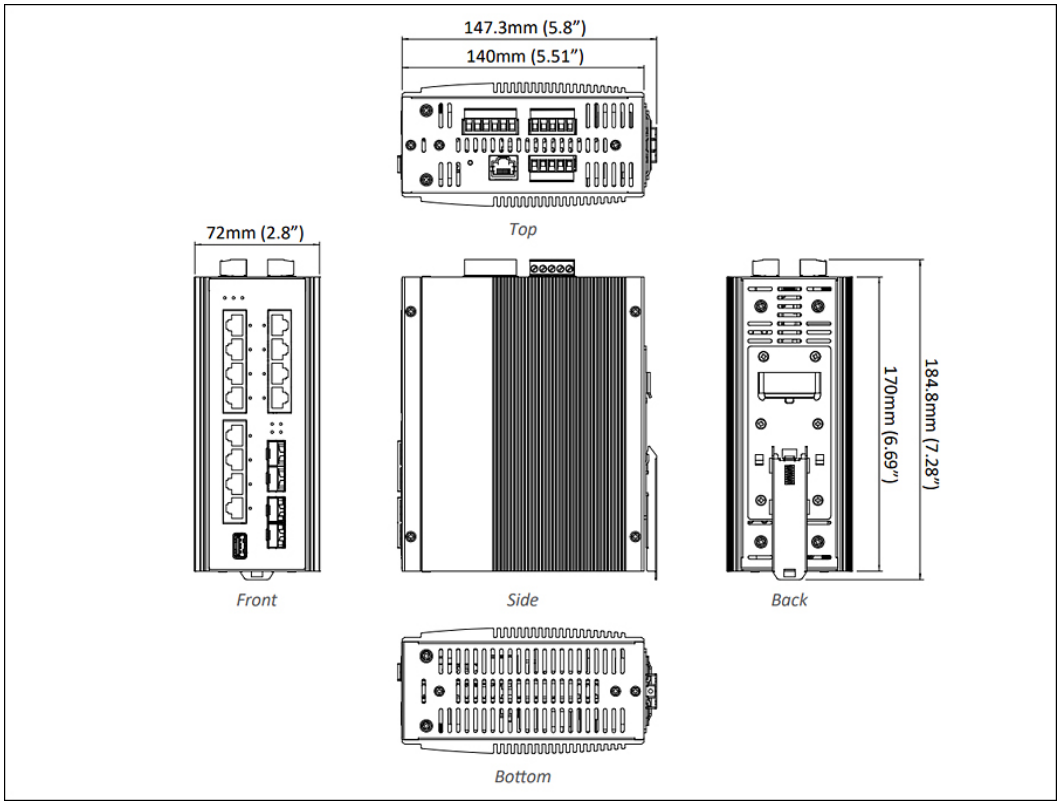
Cables

1 Console cable

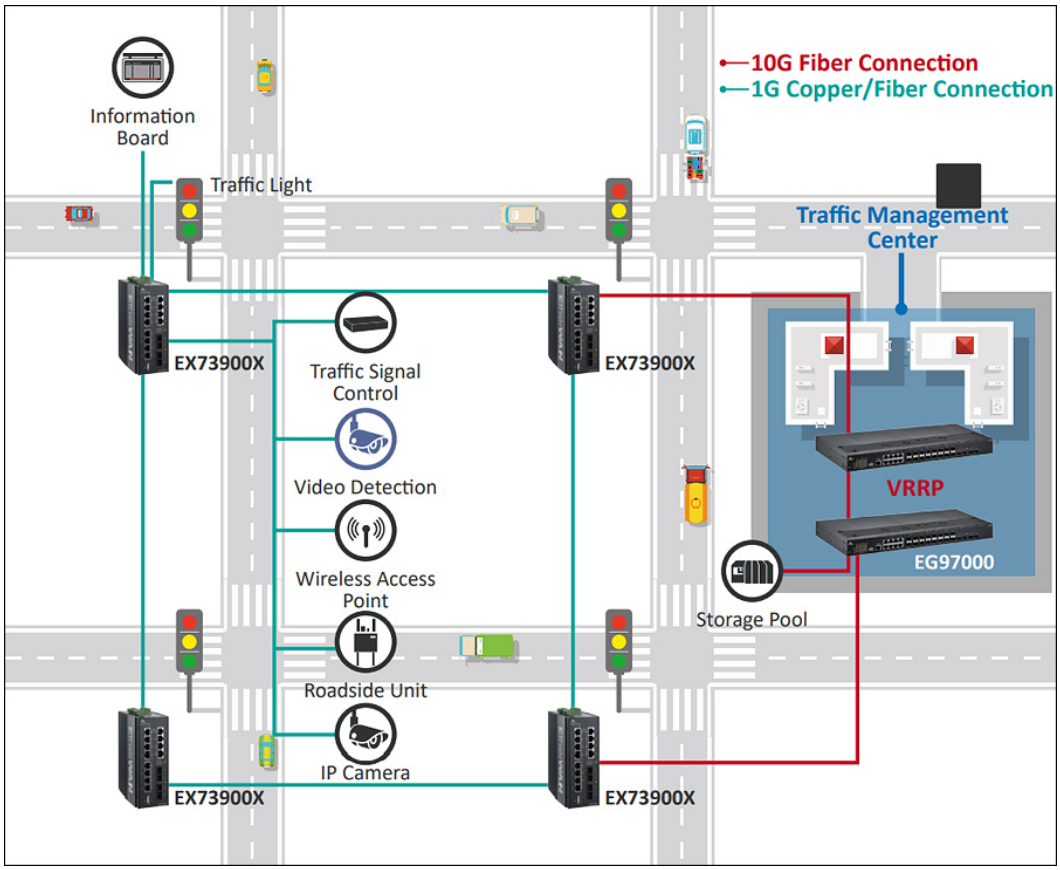
Installation

Mounting brackets, screws

Dimensions

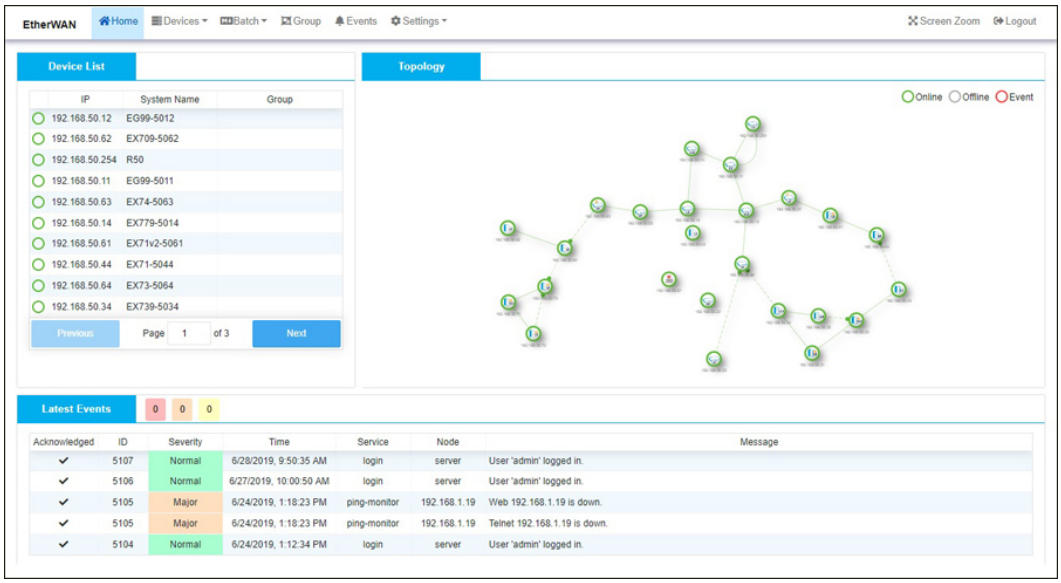


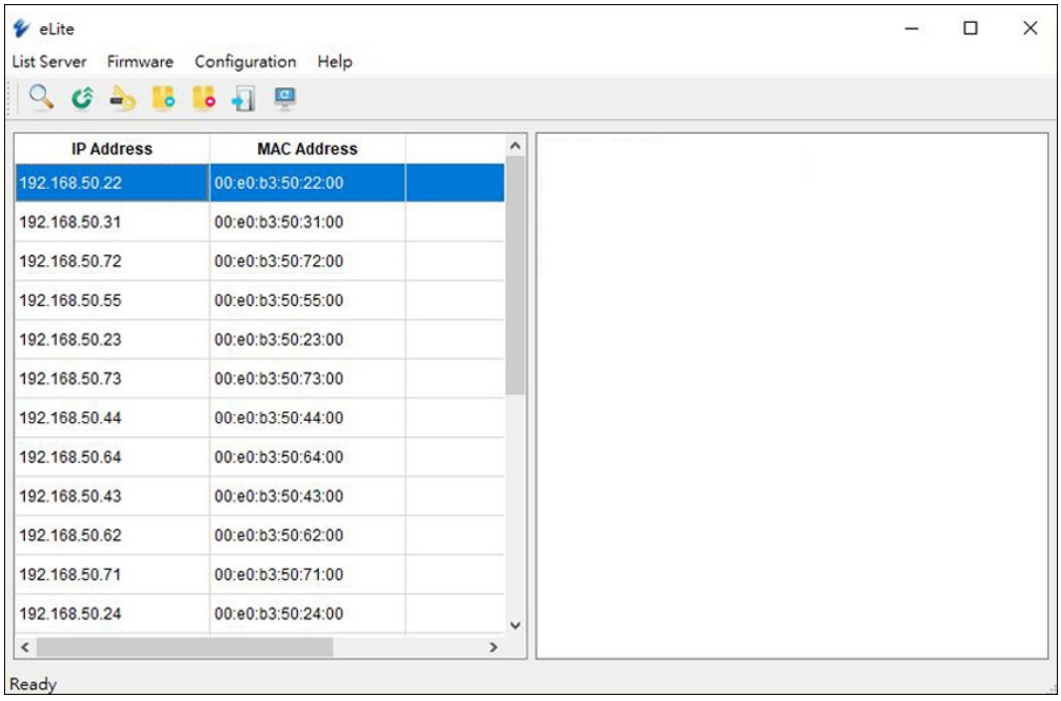
Application



Software

Network Management	eVue™ Network Configuration and Monitoring Tool
Network Discovery	eLite™ Network Discovery and IP Configuration Tool





Ordering Info

Model

EX73934X-0VB	12-port 10/100/1000BASE-T(X) + 4-port 1G/2.5G/10G SFP+
EX73924X-0VB	8-port 10/100/1000BASE-T(X) + 4-port 1G/2.5G/10G SFP+
EX73922X-0VB	8-port 10/100/1000BASE-T(X) + 2-port 1G/2.5G/10G SFP+

Accessories

SFP Modules

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

Power Supplies

EPOW-24-60	Power Supply, Hardened (-40°C - +75°C) External 100-277 VAC Input; NEMA-TS2 rated; 60W, 24VDC, 0-11.1A with Open Wire (US Plug) - No Deration at High Temps
EPHX-24-60	60W/2.5A DIN-Rail 24VDC Industrial Power Supply - 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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