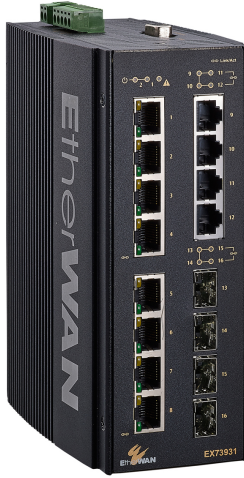


# EX73900 Series

IEC 61850-3/IEEE 1613 Lite L3 Hardened Managed 16-port Gigabit Ethernet Switch



## Highlights

### + High Bandwidth and Versatility

8 or 12 10/100/1000BASE-T(X) ports for high bandwidth connections  
Up to 4 gigabit 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 support  
Redundancy with VRRP  
Reduces amount of broadcast traffic

### + Compliance

IEC 61850-3/IEEE 1613 certified for power substations  
NEMA TS2 rated  
UL certified for safety

### + Management/Security Features

Port control  
RADIUS remote authentication  
Configure and monitor with eVue™ and eLite™

### + Support

Complimentary Technical Support  
Free Firmware Upgrades  
Limited Lifetime Warranty

## Overview

### [When should you use an Industrial Layer 3 switch?](#)

EtherWAN's EX73900 Series is a hardened DIN-rail mounted managed Ethernet switch platform. Equipped with up to 12 gigabit Ethernet and 4 gigabit fiber ports, the EX73900 Series provides flexibility, speed, and reliability to support networks for urban infrastructure, transportation, security, power substations, and other areas where connectivity is crucial.

EtherWAN — "When Connectivity is Crucial."

## Features

### + Interface

CLI, Telnet, Web Browser  
SNMP v1/v2c/v3

### + Management

Firmware upgrade  
Configuration backup via TFTP  
DHCP Server/Client  
RMON (Remote Monitoring): group 1, 2, 3, 9  
Port Mirroring: TX/RX and both  
NTP (Network Time Protocol) synchronization  
IEEE 802.1ab LLDP (Link Layer Discovery Protocol)  
IPv4/IPv6

### + Security

MAC Address Filtering  
Enable/Disable port  
Storm control (Broadcast and multicast types)  
IEEE 802.1x LAN Access Control  
Remote authentication through RADIUS and TACACS+  
SSH for CLI and Telnet security  
SSL for web security  
System log (Remote/Local)  
ACL (Access Control List, up to 4096 entries)

### + Quality of Service (QoS)

Priority Queues: 4 queues per port  
Traffic classification based on IEEE 802.1p CoS, DSCP, WRR and strict mode  
Rate Limiting (Ingress/Egress)

### + Layer 2 Features

**Auto-negotiation for port speed and duplex mode**  
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

#### VLANs

IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)  
GVRP  
GMRP

#### Link Aggregation

Static Trunk (4 groups, support MAC base)  
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

## Specifications

### + Interface

#### Ethernet

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

4 x 1000BASE SX/LX/SFP

#### Console

1 x DB9 RS-232

#### Alarm Contact

1 x Relay output, current capacity 0.6A/30VDC

#### LED Indicators

Per Unit: Power 1, Power 2

Per Port: Link/Activity (Green)

### + Technology

#### Standards

IEEE 802.3 10BASE-T

IEEE 802.3u 100BASE-TX/100BASE-FX

IEEE 802.3ab 1000BASE-T

IEEE 802.3z 1000BASE-SX/1000BASE-LX

IEEE 802.3x Full duplex and flow control

IEEE 802.1p QoS

IEEE 802.1Q Tag VLANs

IEEE 802.1w RSTP

IEEE 802.1x PNAC

#### Forward/Filtering Rate

14,880pps for 10Mbps

148,810pps for 100Mbps

1,488,100pps for 1000Mbps

#### Packet Buffer Memory

12M bits

#### Processing Type

Store-and-Forward

Auto-negotiation

Half-duplex back-pressure and IEEE 802.3x Full-duplex flow control

Auto MDI/MDIX

#### Address Table Size

16K MAC Addresses

### + Power

#### Input

12-48VDC Redundant (Terminal block)

#### Power Consumption

17.28W Max. 1.44A@12VDC, 0.72A@24VDC

#### 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  
1.4kg (3.09lbs)

Installation Type  
DIN-rail mounting

## + Environmental

**Operating Temp.**  
-40 to 75°C (-40 to 167°F)  
Tested @ -40 to 85°C (-40 to 185°F)

**Storage Temp.**  
-45 to 85°C (-49 to 185°F)

**Relative Humidity**  
5% to 95% (non-condensing)

## + 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 61000-6-2  
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

**Vibration**  
IEC 60068-2-6 Fc

**Shock**  
IEC 60068-2-27 Ea

**Free Fall**  
FED STD 101C Method 5007.1

**Industrial Compliance**  
IEC 61850-3/IEEE 1613  
NEMA TS2

## + Warranty

**Length**  
Limited Lifetime

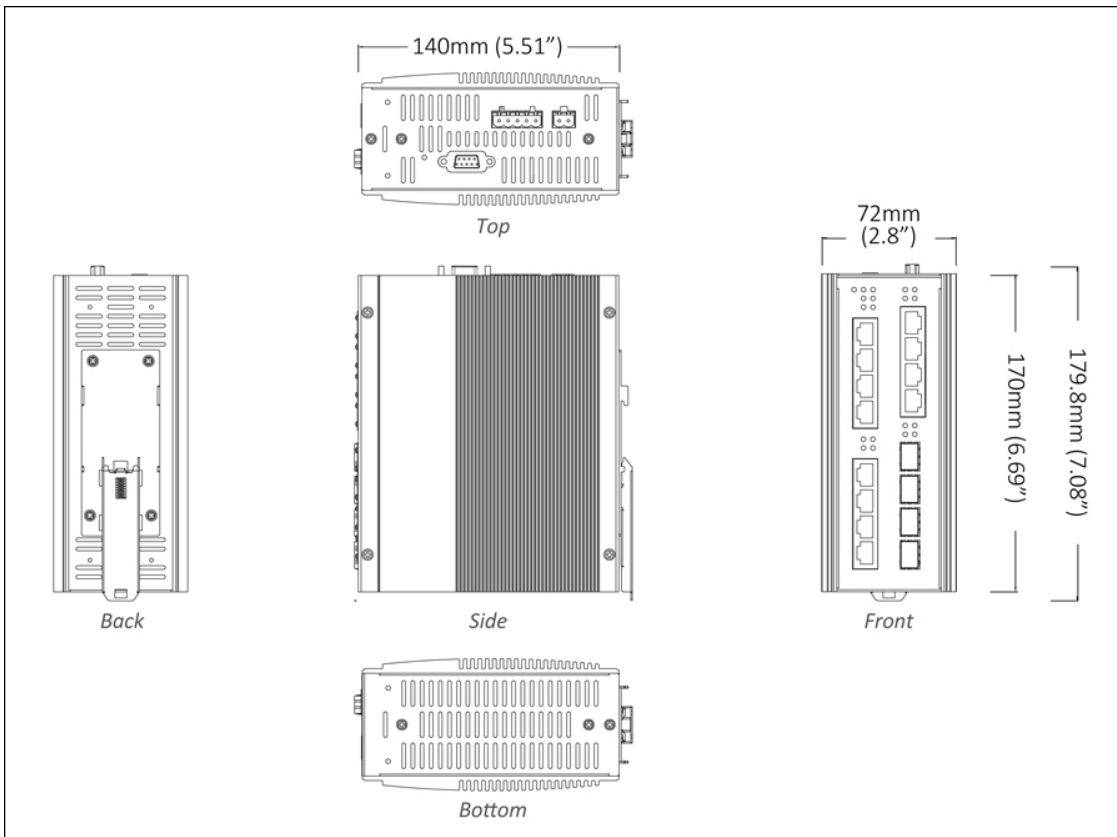
**Details**  
[www.etherwan.com/support/warranty-policy](http://www.etherwan.com/support/warranty-policy)

## + What's Included

**Device**  
Ethernet Switch

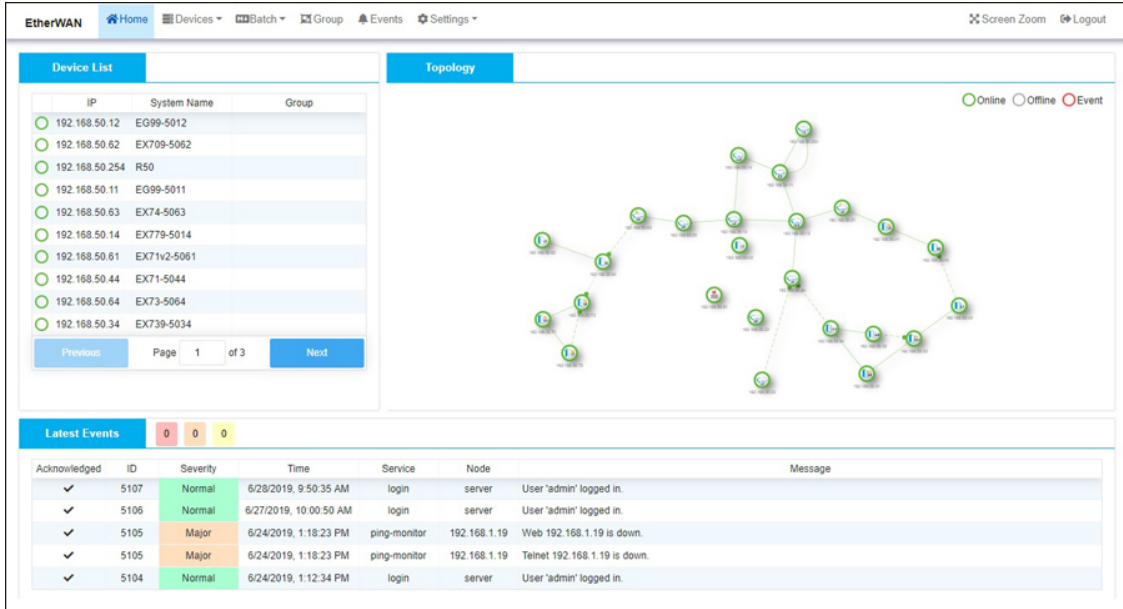
**Cables**

## Dimensions



# Software

Network Management [eVue™ Network Configuration and Monitoring Tool](#)  
 Network Discovery [eLite™ Network Discovery and IP Configuration Tool](#)



**Device List**

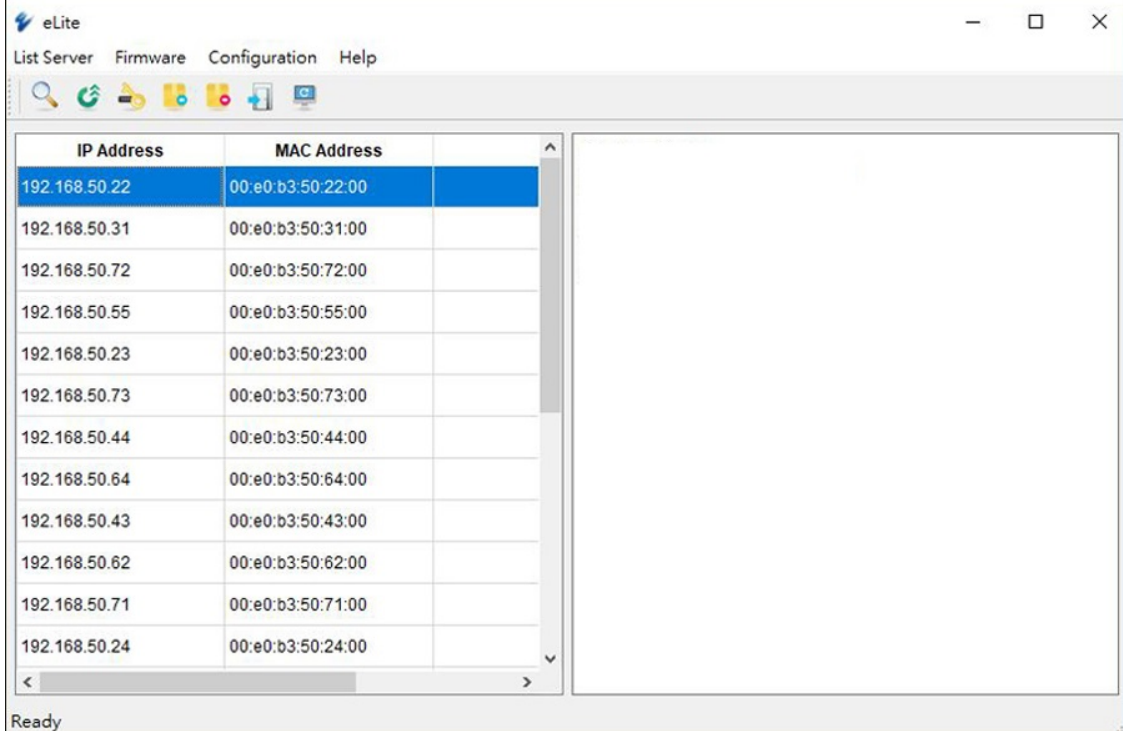
IP	System Name	Group
192.168.50.12	EG99-5012	
192.168.50.62	EX709-5062	
192.168.50.254	R50	
192.168.50.11	EG99-5011	
192.168.50.63	EX74-5063	
192.168.50.14	EX779-5014	
192.168.50.61	EX71v2-5061	
192.168.50.44	EX71-5044	
192.168.50.64	EX73-5064	
192.168.50.34	EX739-5034	

**Topology**

Legend: ● Online ○ Offline ○ Event

**Latest Events**

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

Ready

## Ordering Info

### + Model

**EX73931-0VB** 12-Port 10/100/1000BASE-TX + 4-port Gigabit SFP  
**EX73921-0VB** 8-Port 10/100/1000BASE-TX + 4-Port Gigabit SFP  
**EX73921-0XB** 8-Port 10/100/1000BASE-TX + 4-Port Gigabit Fiber

\* DIN-Rail mounting kit included.

### + Gigabit Fiber Options (X)

**3** 1000BASE-SX (SC) - 550m  
**4** 1000BASE-SX (SC) - 2Km  
**5** 1000BASE-SX (ST) - 550m  
**A** 1000BASE-LX (SC) - 10Km  
**B** 1000BASE-LX (SC) - 20Km  
**R** 1000BASE-BX (SC) WDM-TX: 1310nm/RX: 1550nm-20Km  
**S** 1000BASE-BX (SC) WDM-TX: 1550nm/RX: 1310nm-20Km

\* More Gigabit options are also available upon request.

### + Accessories

<b>Hardened Gigabit SFP Modules</b>	<a href="http://www.etherwan.com/products/sfp-fiber-transceiver">www.etherwan.com/products/sfp-fiber-transceiver</a>
<b>DIN-Rail Power Supplies</b>	<a href="http://www.etherwan.com/products/din-rail-power-supply">www.etherwan.com/products/din-rail-power-supply</a> (*)
<b>*Recommended Power Supply</b>	HDR-30-24 30W 24VDC DIN-Rail Power Supply
<b>EB-232</b>	Configuration Backup and Restoration Tool

