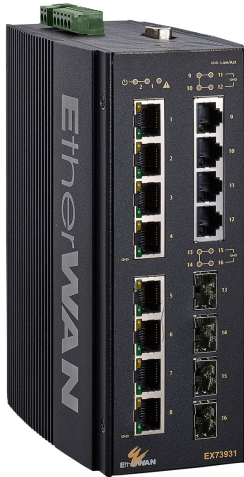


EX73900 Series

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
 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

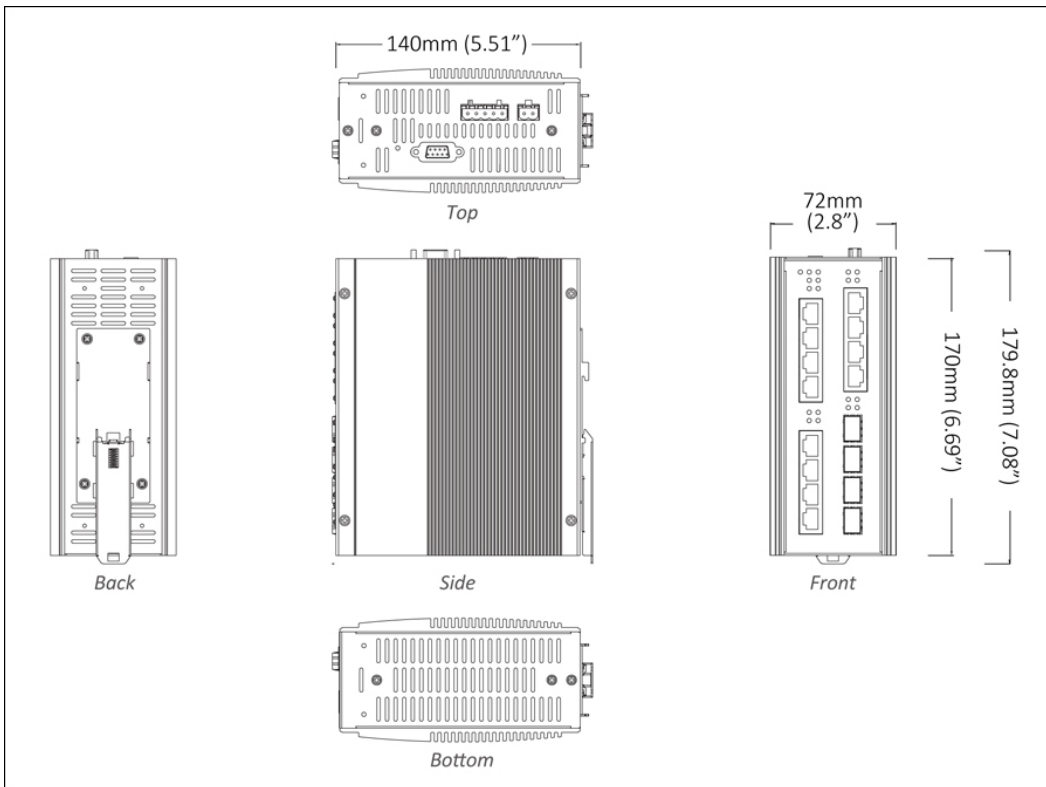
Details
www.etherwan.com/support/warranty-policy

+ What's Included

Device
Ethernet Switch

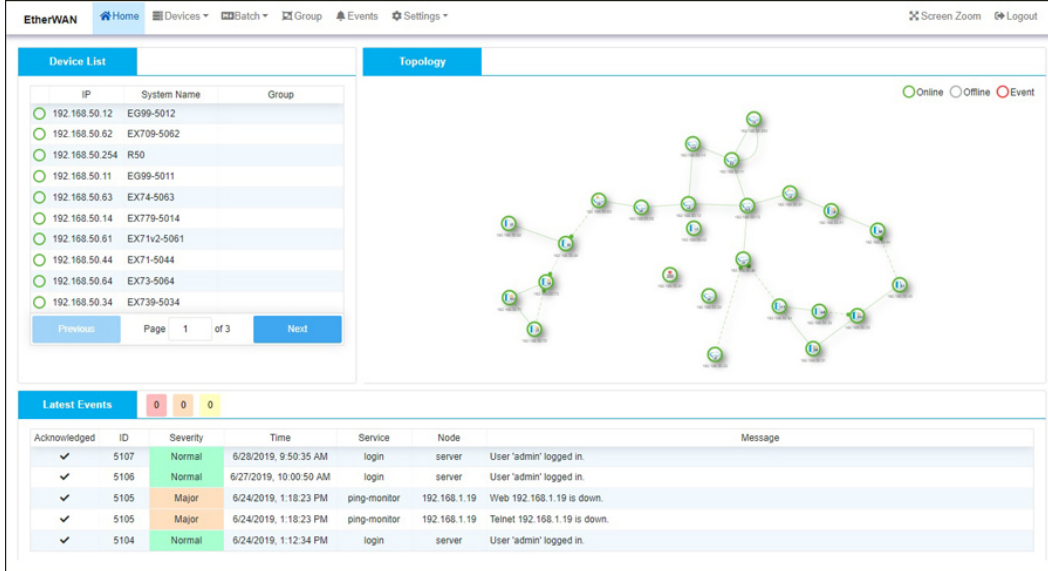
Cables

Dimensions



Software

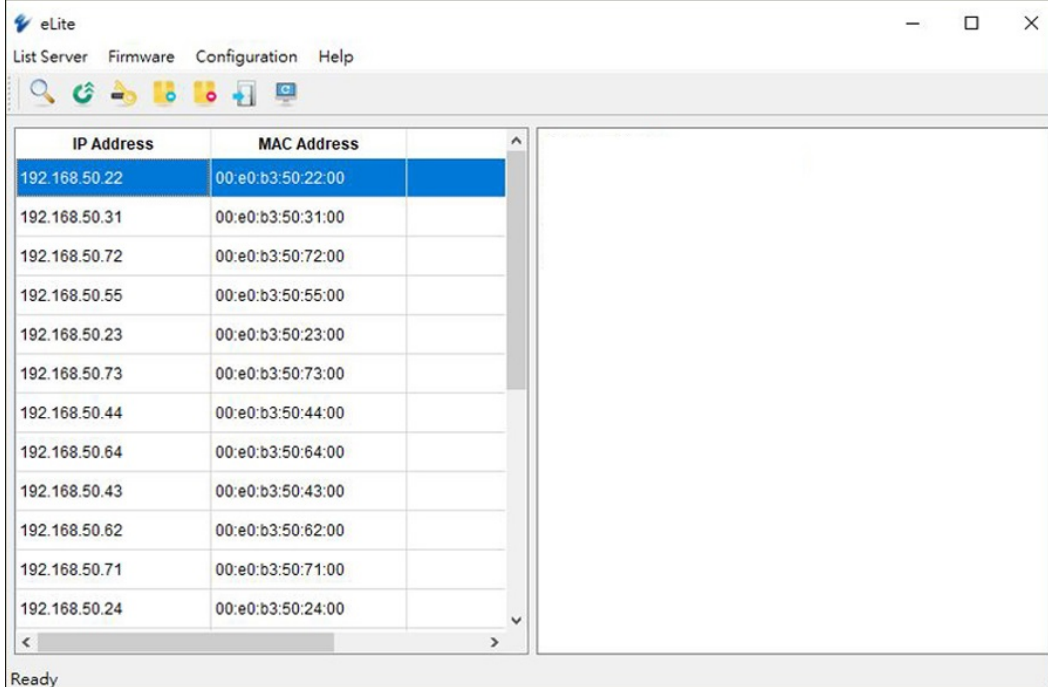
[Network Management eVue™ Network Configuration and Monitoring Tool](#)
[Network Discovery eLite™ Network Discovery and IP Configuration Tool](#)



The screenshot shows the EtherWAN web interface. On the left, there is a 'Device List' table with columns for IP, System Name, and Group. On the right, there is a 'Topology' diagram showing a network of interconnected devices. Below these, there is a 'Latest Events' section with a table of system events.

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	

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.



The screenshot shows the eLite software interface. It features a menu bar with 'List Server', 'Firmware', 'Configuration', and 'Help'. Below the menu is a toolbar with various icons. The main area contains a table with two columns: 'IP Address' and 'MAC Address'.

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

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

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

