



**EtherWAN**

[migrate-ed9.hellosanta.tw/products/ex73900-series](http://migrate-ed9.hellosanta.tw/products/ex73900-series) EX73900 Series

EX73900 Series

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

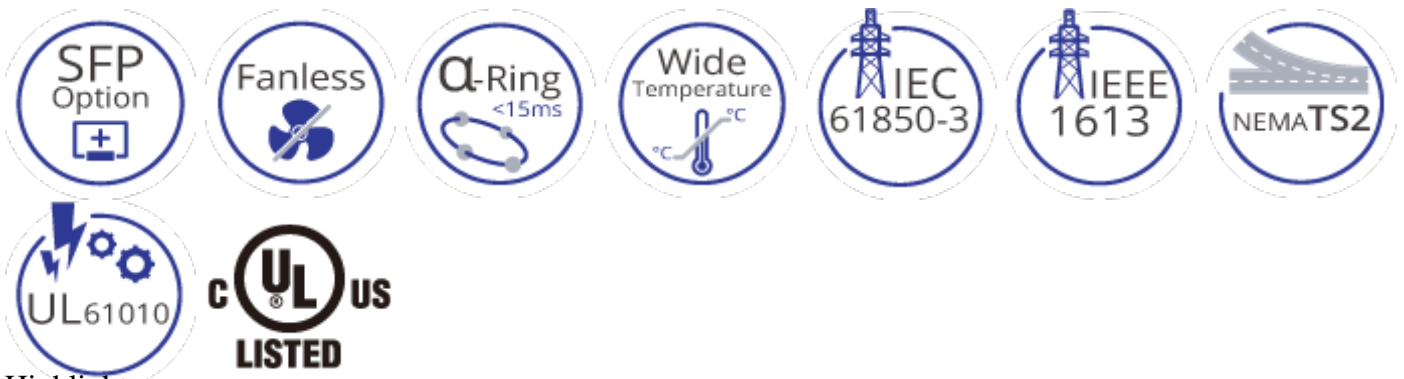


ETHERMAN

Power button and status LEDs (2, 1, and warning symbol)

1  
2  
3  
4

5  
6  
7  
8



## 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

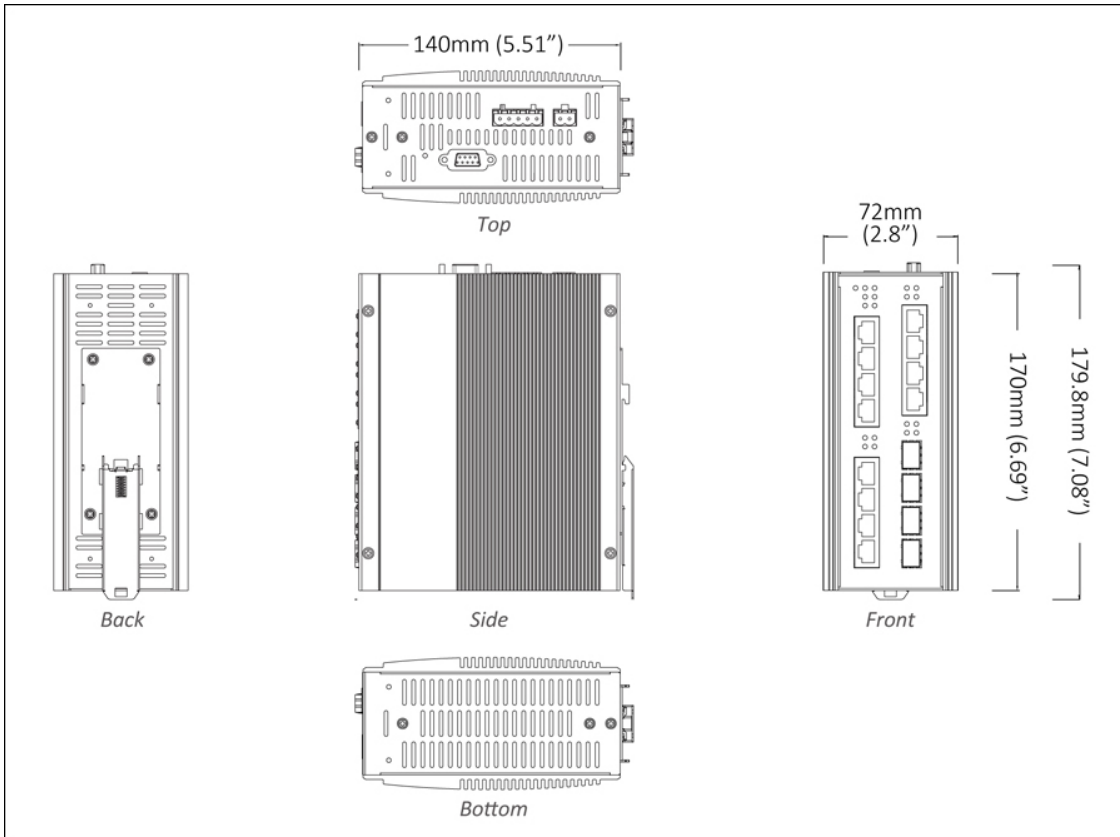
## Warranty

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

# What's Included

- Device
  - Ethernet Switch
- Cables
  - 1 Console Cable
- Documentation
  - Quick Install Guide

## Dimensions



## Software

### Network Management

[eVue™ Network Configuration and Monitoring Tool](#)

[Network Discovery](#)

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

Screenshot of the EtherWAN network management interface. The interface includes a navigation bar at the top with options like Home, Devices, Batch, Group, Events, and Settings. Below the navigation bar, there are three main sections:

- Device List:** A table listing network devices with columns for IP, System Name, and Group. The table shows 10 devices, all with green status indicators.
- Topology:** A network topology diagram showing interconnected devices represented by icons with status indicators (Online, Offline, Event).
- Latest Events:** A table showing recent system events with columns for Acknowledged, ID, Severity, Time, Service, Node, and Message.

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 management interface with a table of IP and MAC addresses. The table has three columns: IP Address, MAC Address, and an empty column. The first row is highlighted in blue.

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)

	<b>3</b>
1000BASE-SX (SC) - 550m	
	<b>4</b>
1000BASE-SX (SC) - 2Km	
	<b>5</b>
1000BASE-SX (ST) - 550m	
	<b>A</b>
1000BASE-LX (SC) - 10Km	
	<b>B</b>
1000BASE-LX (SC) - 20Km	
	<b>R</b>
1000BASE-BX (SC) WDM-TX: 1310nm/RX: 1550nm-20Km	
	<b>S</b>
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](http://www.etherwan.com/products/sfp-fiber-transceiver)

### DIN-Rail Power Supplies

[www.etherwan.com/products/din-rail-power-supply](http://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



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