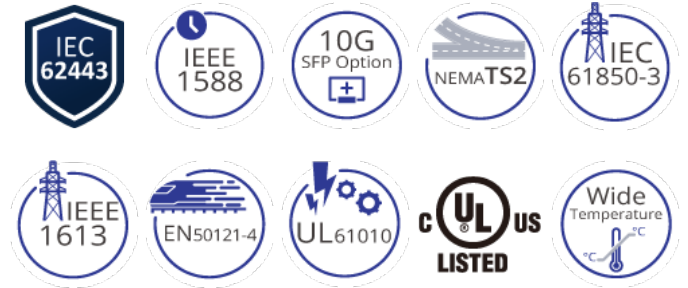


## EX73900X シリーズ

広範囲動作温度対応産業用/管理型 12ポートギガビット +4ポート10G SFP+ イーサネットスイッチ



### 概要

EtherWANのEX73900Xシリーズは、堅牢なDINレールマウント型のマネージドイーサネットスイッチプラットフォームです。EX73900Xシリーズは、最大12ギガビットイーサネットと4デュアルレート10ギガビットSFP+ポートを備えており、都市インフラストラクチャ、輸送、セキュリティ、変電所など、接続性が重要な分野のネットワークをサポートする柔軟性、速度、と信頼性を提供します。

IEC 62443-4-2認証 — 重要な産業及びインフラ用途におけるサイバーレジリエンスと運用信頼性を向上させます。

EtherWAN — "When Connectivity is Crucial."

## 特長

### + High Bandwidth and Versatility

8 or 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

### + 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™

## 機能

### + 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**

75.29Mpps

**Max VLANs**

256 (4096 VID)

**Jumbo Frame Size**

9KB

**MAC Table Size**

16K

**Packet Buffer Memory**

12M bits

## 仕様

### + Interface

**Ethernet**

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

2 or 4 x 1/10G 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](http://www.etherwan.com/support/warranty-policy)

## + What's Included

### Device

Ethernet switch

### Cables

1 Console cable

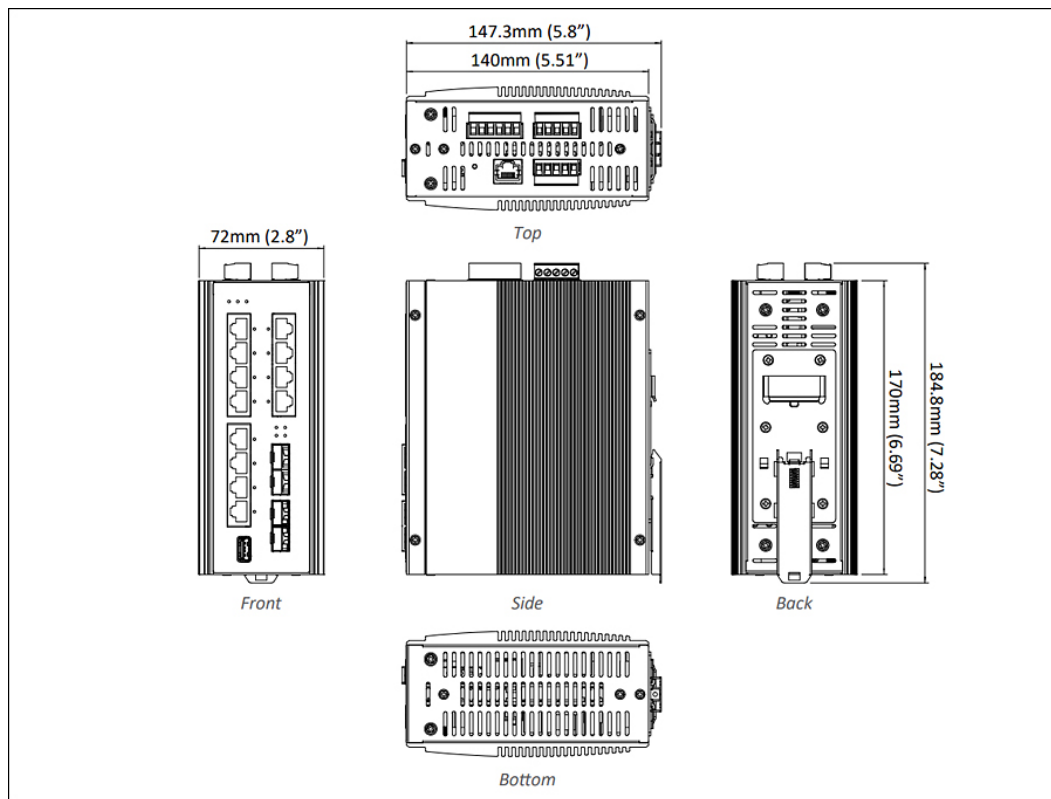
### Installation

Mounting brackets, screws

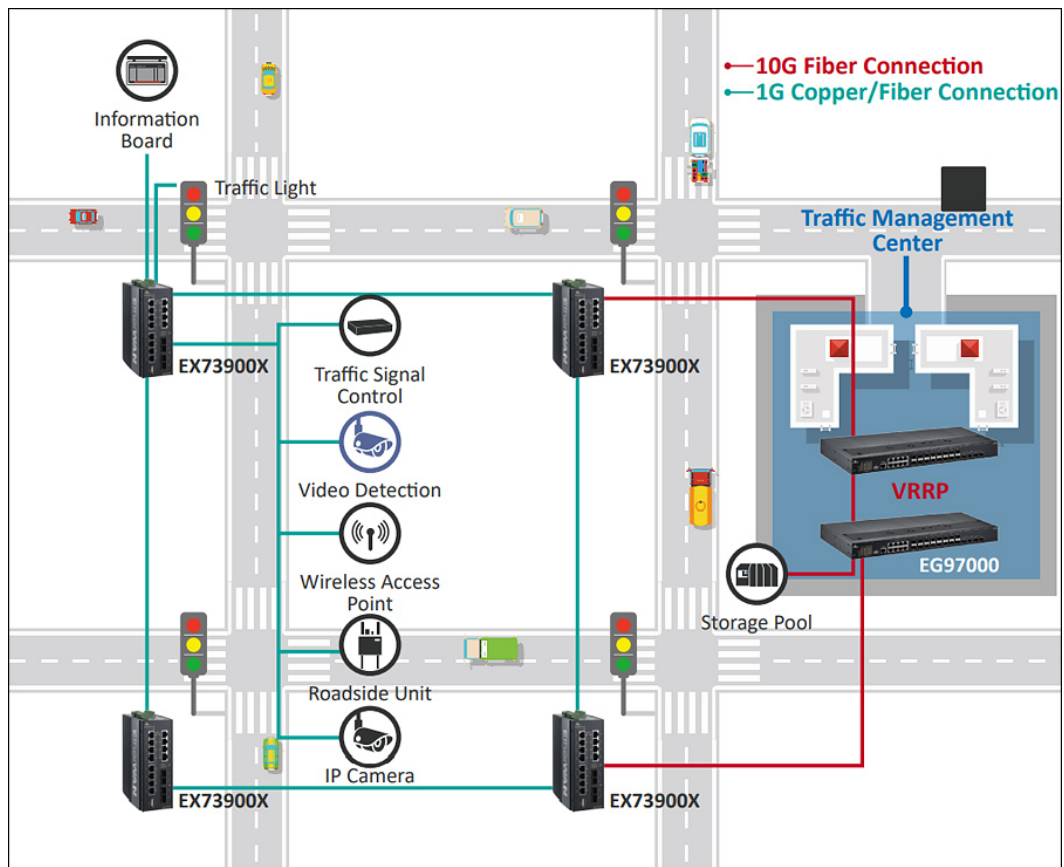
### Documentation

Quick install guide

## 寸法図



## 応用例



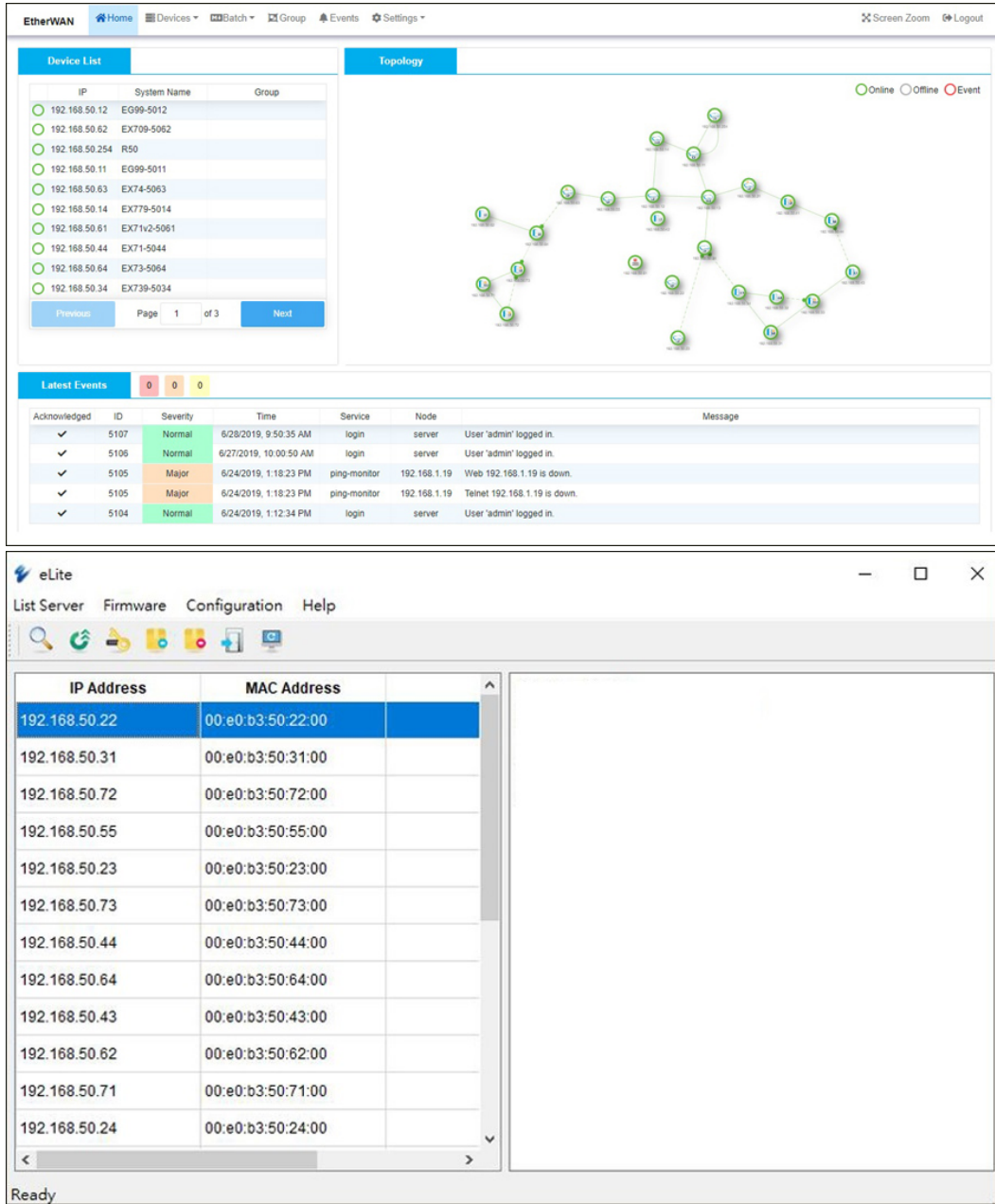
## ソフトウェア

Network Management

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

Network Discovery

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



The image displays two screenshots of network management software. The top screenshot shows the EtherWAN eVue interface, which includes a 'Device List' table, a 'Topology' diagram, and a 'Latest Events' log. The bottom screenshot shows the eLite interface, which features a table of IP and MAC addresses.

**Device List (from eVue):**

| 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  |       |

**Latest Events (from eVue):**

| Acknowledged | ID   | Severity | Time                   | Service      | Node         | Message                      |
|--------------|------|----------|------------------------|--------------|--------------|------------------------------|
| ✓            | 5107 | Normal   | 6/29/2019, 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 Interface (IP and MAC Address Table):**

| 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 |

製品型番

+ Model

|                    |                                                                                   |                                                                                   |                                                                                    |
|--------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|                    |  |  |  |
|                    | EX73934X-0VB                                                                      | EX73924X-0VBB                                                                     | EX73922X-0VB                                                                       |
| 10/100/1000BASE TX | 12                                                                                | 8                                                                                 | 8                                                                                  |
| 1G/10G SFP+        | 4                                                                                 | 4                                                                                 | 2                                                                                  |
|                    | <a href="#">お問い合わせ</a>                                                            | <a href="#">お問い合わせ</a>                                                            | <a href="#">お問い合わせ</a>                                                             |

+ Accessories

|                                           |                                                                                                                          |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Hardened Gigabit & 10 Gigabit SFP Modules | <a href="http://www.etherwan.com/products/sfp-fiber-transceiver">www.etherwan.com/products/sfp-fiber-transceiver</a>     |
| DIN-Rail Power Supplies                   | <a href="http://www.etherwan.com/products/din-rail-power-supply">www.etherwan.com/products/din-rail-power-supply</a> (*) |
| *Recommended Power Supply                 | EX41-145046 Power Supply 45W 12VDC with Open Wire                                                                        |

