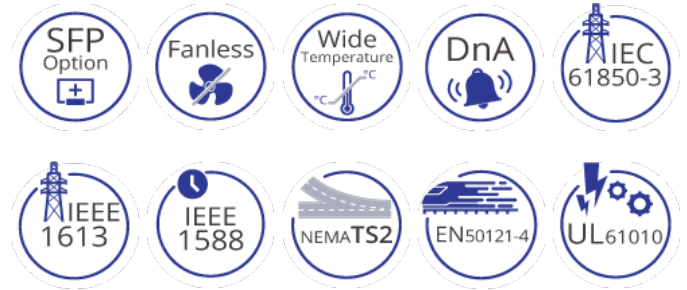


## EX73900E シリーズ

広範囲動作温度対応産業用/管理型 8/12ポート 10/100/1000BASE-T(X) +2/4ポート 100/1000BASE SFP ギガビット イーサネットスイッチ



## 概要

EtherWANのEX73900E シリーズは広範囲動作温度対応、DINレール型、ギガビット12ポートまで装備でき、また4つのデュアルレートSFPポートを備えています。安定した通信が不可欠な過酷環境に堅牢な管理機能を備えたハイパフォーマンスな製品です。都市インフラ、交通、変電所、セキュリティなどのネットワークに柔軟性と信頼性を提供します。

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 100/1000BASE SFP uplink ports for 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  
Dying gasp feature provides SNMP trap upon power off  
Configure and monitor with eVue™ and eLite™

### + Support

Complimentary Technical Support  
Free Firmware Upgrades  
Limited Lifetime Warranty

## 機能

### + Interface

CLI, Telnet, Web GUI

### + Management

Firmware upgrade  
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  
SSL and HTTPS for web security  
ACL (Access Control List, up to 4096 entries)

## + 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)

## 仕様

### + Interface

Ethernet  
8 or 12 x 10/100/1000BASE-T(X)  
2 or 4 x 100/1000BASE 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

### + 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

### + 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

### + Software Properties and Performance

#### Switching Fabric

32Gbps

#### Forwarding Rate

23.5Mpps

#### Total VLAN Entries

256 (4096 VID)

#### Jumbo Frame Size

9KB

#### MAC Table Size

16K

#### Packet Buffer Memory

12M bits

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 1588v2 PTP

Forward/Filtering Rate  
14,880pps for 10Mbps  
148,810pps for 100Mbps  
1,488,100pps for 1000Mbps

Processing Type  
Store-and-forward  
Auto-negotiation  
Half-duplex back-pressure and full-duplex flow control  
Auto MDI/MDIX

System Memory  
2Gb DDR3 SDRAM

Flash Storage  
1Gb

## + Power

Input  
12-48VDC Redundant (Terminal block)

Power Consumption  
20W Max

Protection  
Reverse Polarity Protection  
Overload Current Protection

## + Physical

Casing Material  
Aluminum

IP Rating  
IP40

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)

**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

**Traffic**  
NEMA TS2

**Rail**  
EN 50121-4

**Power Substation**  
IEC 61850-3/IEEE 1613

**Vibration**  
IEC 60068-2-6

**Shock**  
IEC 60068-2-27

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

## + 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

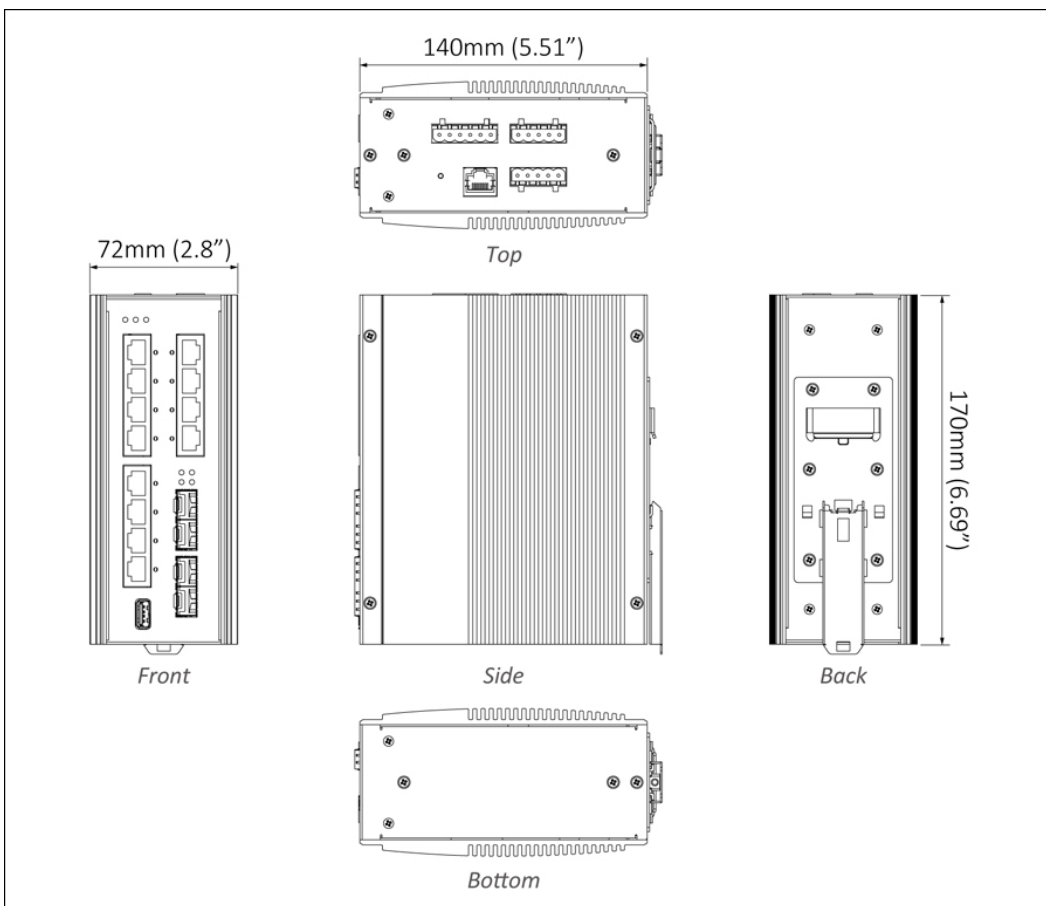
**Installation**

Mounting brackets, screws

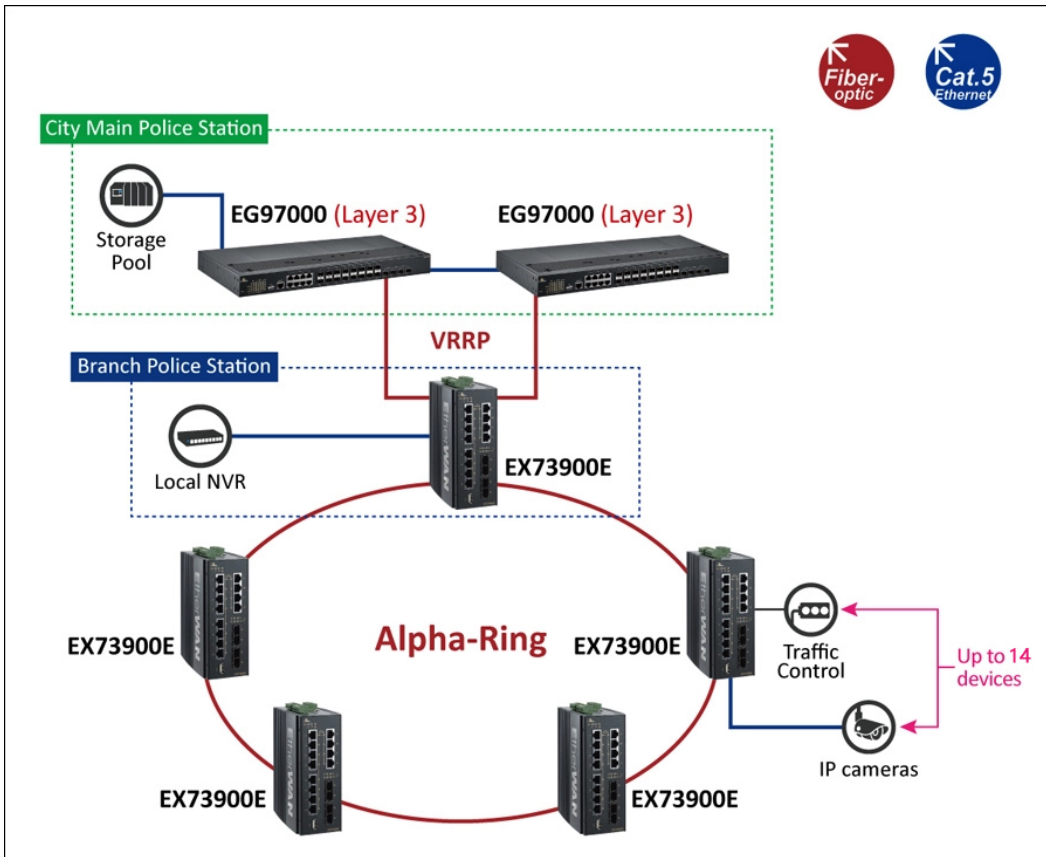
**Documentation**

Quick install guide

## 寸法図

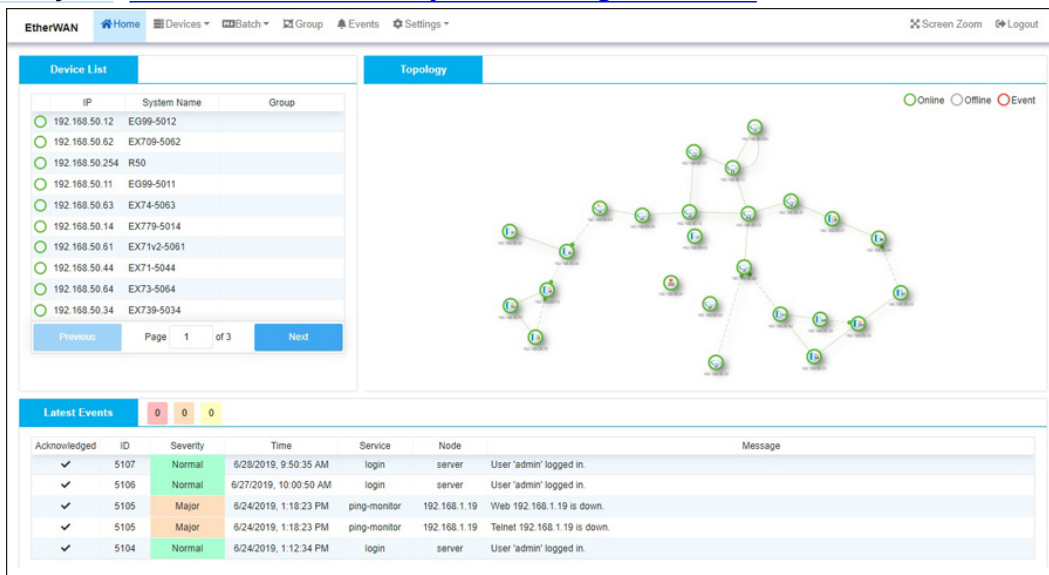


## 応用例

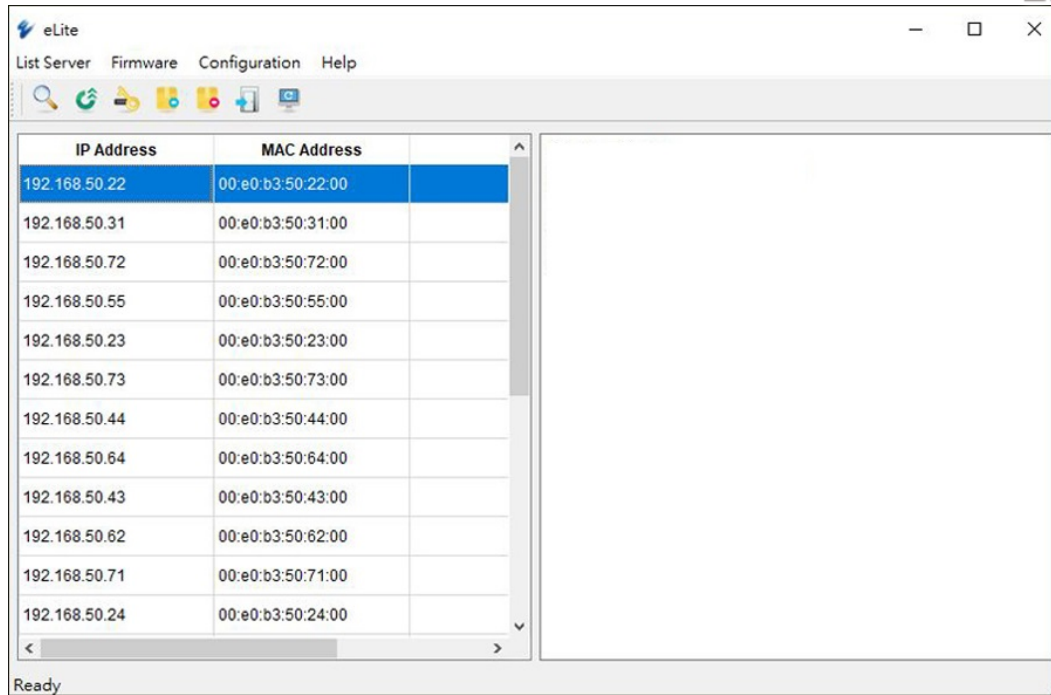


## ソフトウェア

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



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	Teinet 192.168.1.19 is down.
✓	5104	Normal	6/24/2019, 1:12:34 PM	login	server	User 'admin' logged in.



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

- EX73934E-0VB 12-port 10/100/1000BASE-T(X) + 4-port 100/1000BASE SFP
- EX73924E-0VB 8-port 10/100/1000BASE-T(X) + 4-port 100/1000BASE SFP
- EX73922E-0VB 8-port 10/100/1000BASE-T(X) + 2-port 100/1000BASE SFP

### + Accessories

- Hardened 100BASE SFP Modules [www.etherwan.com/products/sfp-fiber-transceiver](http://www.etherwan.com/products/sfp-fiber-transceiver)
- 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 EX41-145046 Power Supply 45W 12VDC with Open Wire

