

## EX73000 系列

強固級網管型 16埠10/100BASE +2埠Gigabit Combo 乙太網路交換器



### 產品亮點

#### + 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

EN 50121-4 certified for railway applications  
NEMA TS2 rated  
UL certified for safety

#### + Management/Security Features

Port control  
802.1x port-based network access control and remote authentication through RADIUS and TACACS+  
Configure and monitor with eVue™ and eLite™

#### + Support

Complimentary Technical Support  
Free Firmware Upgrades  
Limited Lifetime Warranty

## 產品介紹

EX73000系列為強固級網管型乙太網路交換器，鋁軌式安裝機型，具備16個10/100BASE乙太網路連接埠及2個Gigabit combo埠，可搭配固定式光纖，具備完整管理功能，包含port security、IGMP snooping、VLANs、GARP 協定、LACP；使用者可透過網頁瀏覽telnet、SNMP、RMON、TFTP和RS-232 console管理介面，使複雜的專案規劃事半功倍。

EX73000系列符合ISA 12.12.01防爆認證標準，工業等級設計可在高EMI環境及-40 到 75°C 寬溫環境下穩定運作，支援益網獨家技術Alpha-Ring環狀網路備援機制，可在網路發生斷線時迅速啟動備援機制，小於15毫秒內便可快速恢復連線通訊。EX73000系列同時支援Redundant Pair協定，可將不同的備援環狀網路串接在一起，大幅延伸備援機制架構，最高可同時支援235個環狀網路，在50毫秒內回復網路連線，適用於中大型網路架構。

EtherWAN — "When Connectivity is Crucial."

## 產品特色

### + 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  
SSH for CLI and Telnet security  
SSL for web security  
System log (Remote/Local)  
Multi-level user account/password against unauthorized configuration

### + 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**  
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 (<15ms)

#### VLANs

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

#### Link Aggregation

Static Trunk (2 groups, support MAC base)  
IEEE 802.3ad LACP

IGMP Snooping v1/v2/v3

### + Performance

**Switching Capability**  
7.2Gbps

## 產品規格

### + Interface

#### Ethernet

16 x 10/100BASE-T(X)

0, 1 or 2 x Gigabit

#### 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: Copper, Orange: Fiber)

### + 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

8.06W 0.336A@24VDC

Protection  
Reverse Polarity Protection

### + Physical

Casing Material  
Aluminum

IP Rating  
IP30

Dimensions  
60 x 125 x 145mm (W x D x H)  
2.56" x 4.92" x 5.71"

Weight  
1.19kg

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)

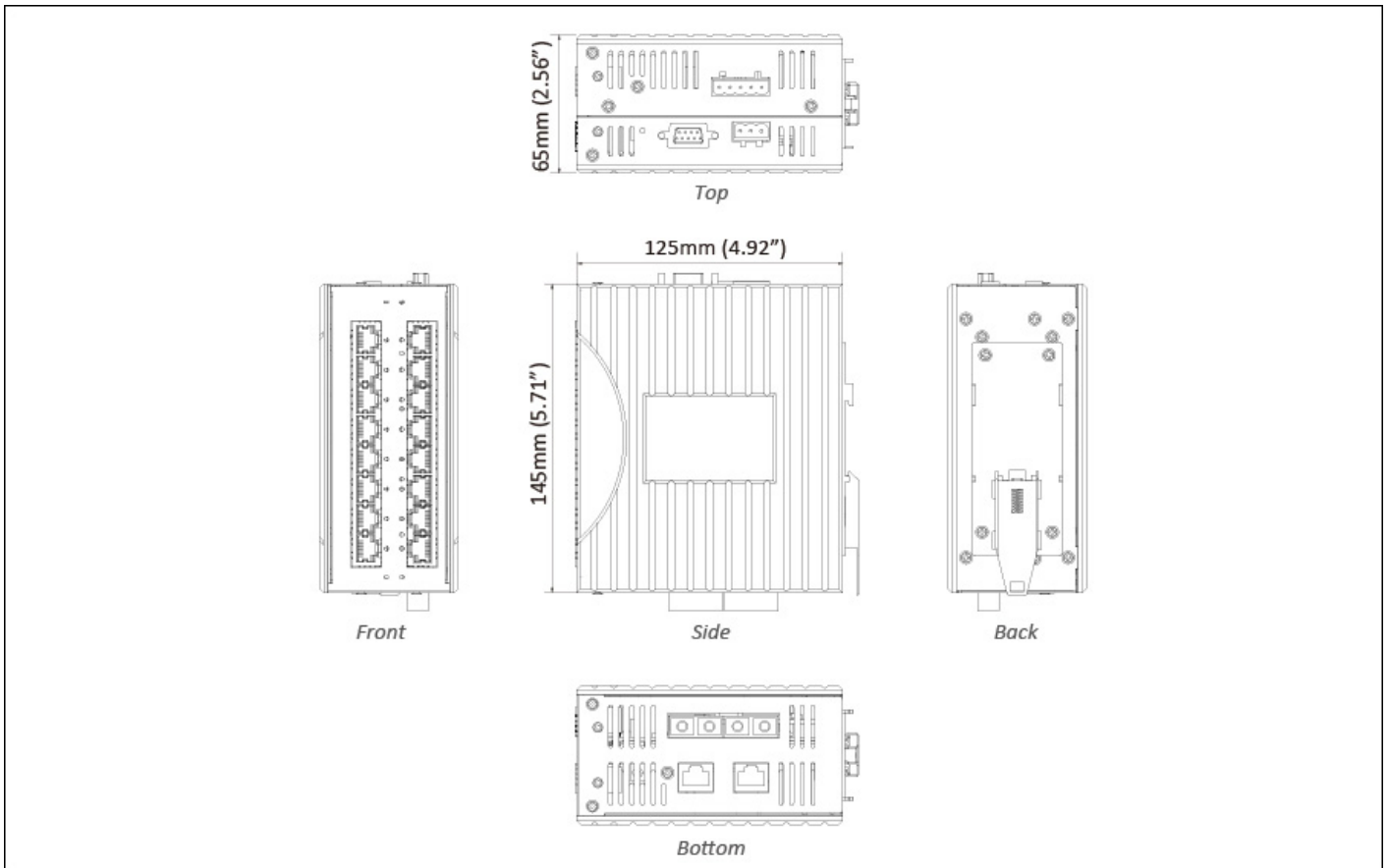
### + Regulatory

**ISO**  
Manufactured in ISO-9001 facility

**EMI**  
FCC Part 15B Class A  
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)

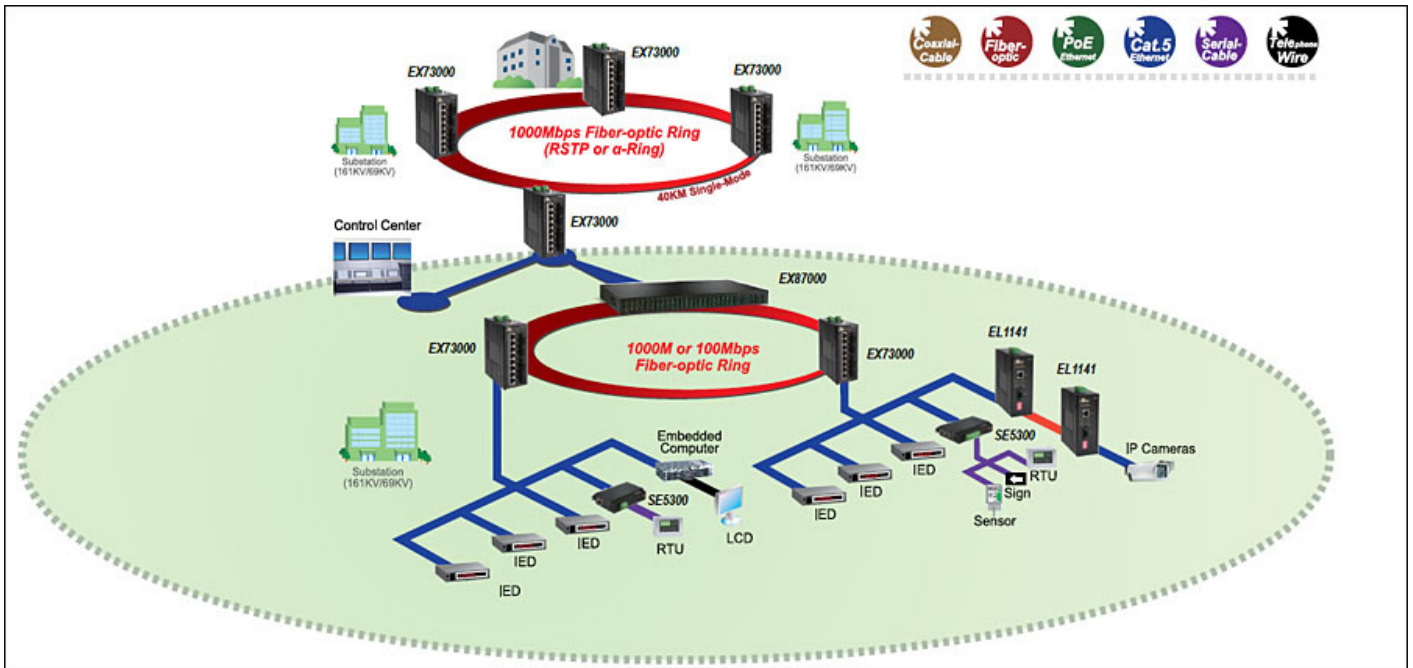
## 產品尺寸圖



**Device**  
Ethernet Switch

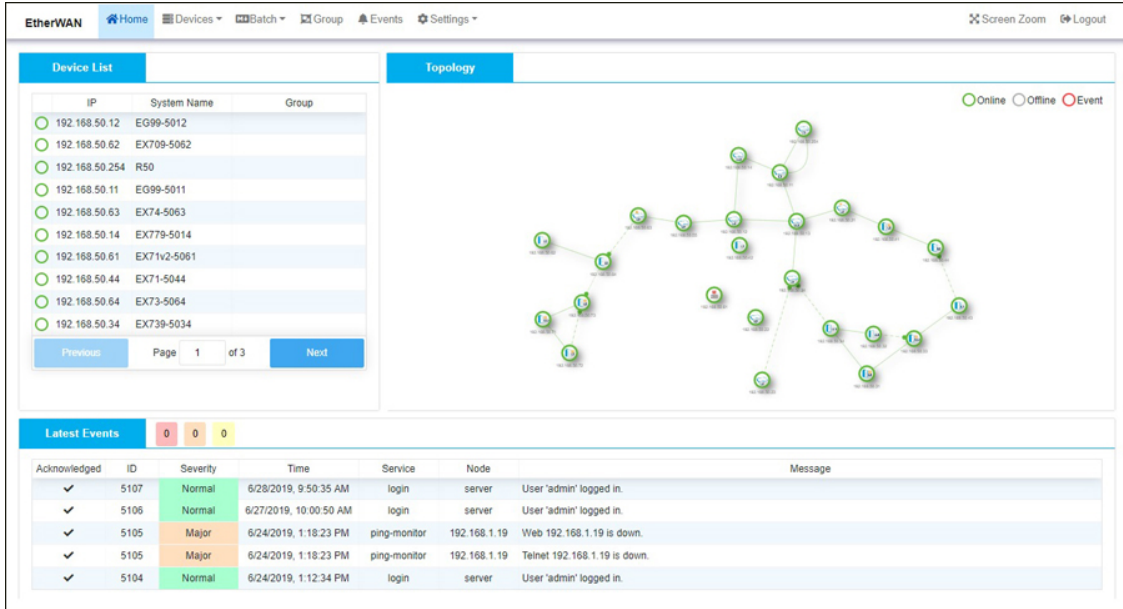
**Documentation**  
Quick Install Guide

# 產品應用圖



# 管理軟體

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



**Device List**

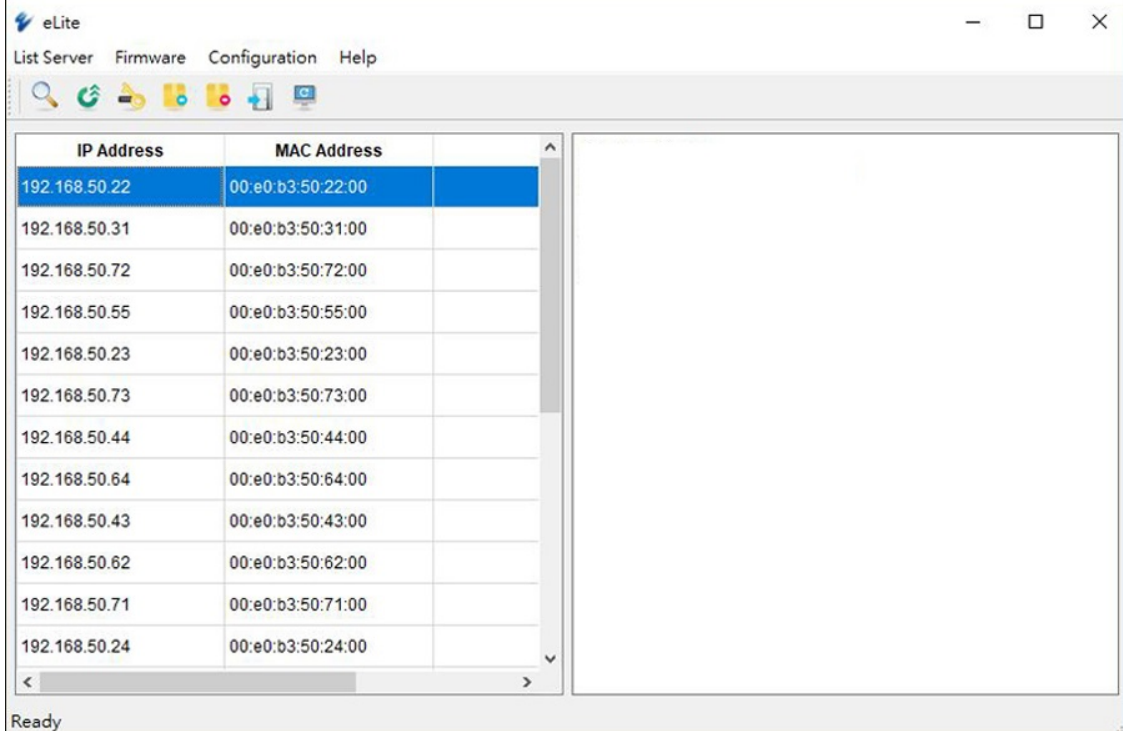
IP	System Name	Group
192.168.50.12	EG99-5012	
192.168.50.62	EX709-5062	
192.168.50.254	R50	
192.168.50.11	EG99-5011	
192.168.50.63	EX74-5063	
192.168.50.14	EX779-5014	
192.168.50.61	EX71v2-5061	
192.168.50.44	EX71-5044	
192.168.50.64	EX73-5064	
192.168.50.34	EX739-5034	

**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

## 訂購型號

### + Model

**EX73400-00B** 16-port 10/100BASE-TX  
**EX73402-0YB** 16-port 10/100BASE-TX + 2-port Gigabit (Combo)

\* DIN-Rail mounting kit included.

### + Gigabit Fiber Options (Y)

**1** 10/100/1000BASE-TX (No Gigabit Fiber port supported)  
**3** Combo port: 10/100/1000BASE-TX with 1000BASE-SX (SC) - 550m  
**4** Combo port: 10/100/1000BASE-TX with 1000BASE-SX (SC) - 2Km  
**5** Combo port: 10/100/1000BASE-TX with 1000BASE-SX (ST) - 550m  
**A** Combo port: 10/100/1000BASE-TX with 1000BASE-LX (SC) - 10Km  
**B** Combo port: 10/100/1000BASE-TX with 1000BASE-LX (SC) - 20Km

### + Accessories

Hardened 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 EB-232	HDR-30-24 30W 24VDC DIN-Rail Power Supply Configuration Backup and Restoration Tool

