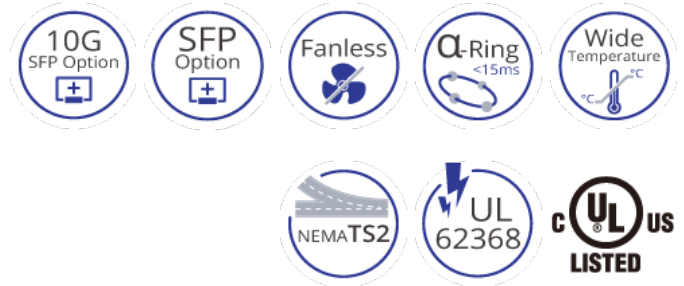


## EX77964

Lite Layer 3 強固級網管型 24 埠 Gigabit + 4 埠 1G/10G SFP 乙太網路交換器



### 產品介紹

益網科技 EX77964 系列，為一款強固等級設計、Full-Gigabit 並結合 Layer 3 路由協定功能的乙太交換器。支援靜態路由、路由信息協議 (RIP) V1/V2 和虛擬路由備援協定 (VRRP)，確保資訊傳輸的高安全性及最佳的成本效益。

EX77964 系列可依需求挑選 28 個 Gigabit 埠，或 24 個網路埠搭配 4 個 10G SFP+ 等多種組合，254mm 深度之特殊短機殼設計，適合安裝於小型機箱內。完整的管理功能和組合，支援 Port Security, IGMP Snooping, Port-based VLAN, GARP 協定, Link Aggregation 及 ACL, 網路瀏覽介面, Telnet, SSH, SNMP, RMON, TFTP, 和 RS-232 管理介面。強固等級設計，可於 -40 到 75°C 之寬溫環境下穩定運作。

EtherWAN — "When Connectivity is Crucial."

### 產品亮點

#### + 適用於不通風和惡劣環境的強固等級

-40 至 75°C (-40 至 167°F) 寬工作溫度範圍  
無風扇設計  
高耐溫衝擊和高雜訊抗噪

#### + 簡配第 3 層網路功能

支援 Static routing、RIP v1/v2 和 OSPF  
VRRP 備援機制  
減少廣播性封包的流量

#### + 具高頻寬靈活性

最高可串接 24 個 10/100/1000BASE-T(X) RJ45 連接埠，用於乙太網路的銅線連接  
最高可串接 8 個雙速率 100/1000BASE SFP 連接埠，用於多組光纖連接  
4 個 1G/10G SFP+ 連接埠，用於連接到核心與集線核心層

#### + 保固服務

提供免費技術支援  
提供免費韌體升級服務  
有限終身保固

## 產品特色

### + Interface

CLI, Telnet and Web Browser  
SNMP v1/v2c/v3

### + Management

Firmware upgrade  
Configuration backup via TFTP  
DHCP Server/Client  
RMON (Remote Monitoring)  
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  
ACL (Access Control List)

### + 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  
EtherWAN's Alpha-Ring network fault recovery (<15ms) and Alpha-Chain

#### 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

## 產品規格

### + Interface

#### Ethernet

16 or 24 x 10/100/1000BASE-T(X)  
8 x 100/1000BASE SFP  
4 x 10G SFP+

#### Console

1 x RJ45 RS-232

#### Config Backup

1 x USB (Type A Connector)

#### Alarm Contact

1 x Relay output, current capacity 0.6A/30VDC

#### LED Indicators

Per Unit: Power  
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  
14,881,000pps for 10Gbps

#### 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

### + 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 62368

#### Vibration

IEC 60068-2-6 Fc

#### Shock

IEC 60068-2-27 Ea

#### Free Fall

FED STD 101C Method 5007.1

#### Industrial Compliance

NEMA TS2

## + Power

**Input**  
12-24VDC Redundant (Terminal block)

**Power Consumption**  
31.08W

## + Warranty

**Length**  
Limited Lifetime

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

## + Physical

**Casing Material**  
Metal

**IP Rating**  
IP30

**Dimensions**  
430 x 254 x 44.2mm (W x D x H)  
16.9" x 10" x 1.74"

**Weight**  
3.29Kg (7.25lbs)

**Installation Type**  
Rack mounting

## + What's Included

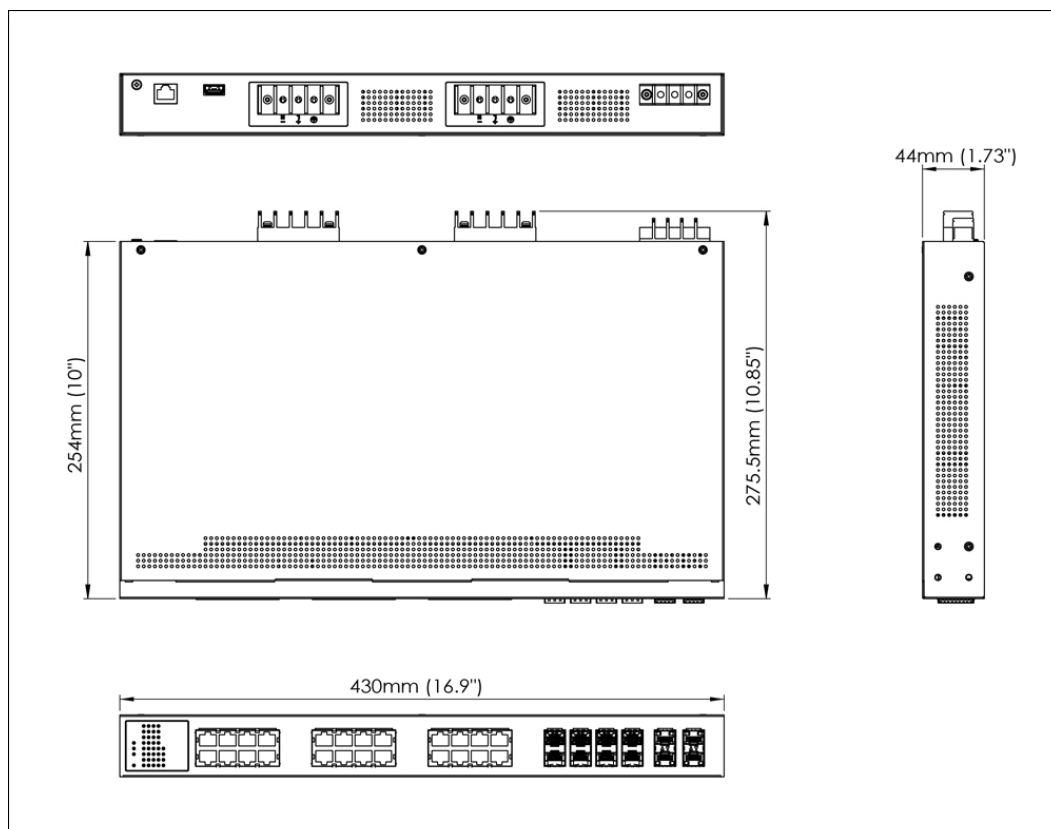
**Device**  
Ethernet Switch

**Cables**  
1 Console Cable

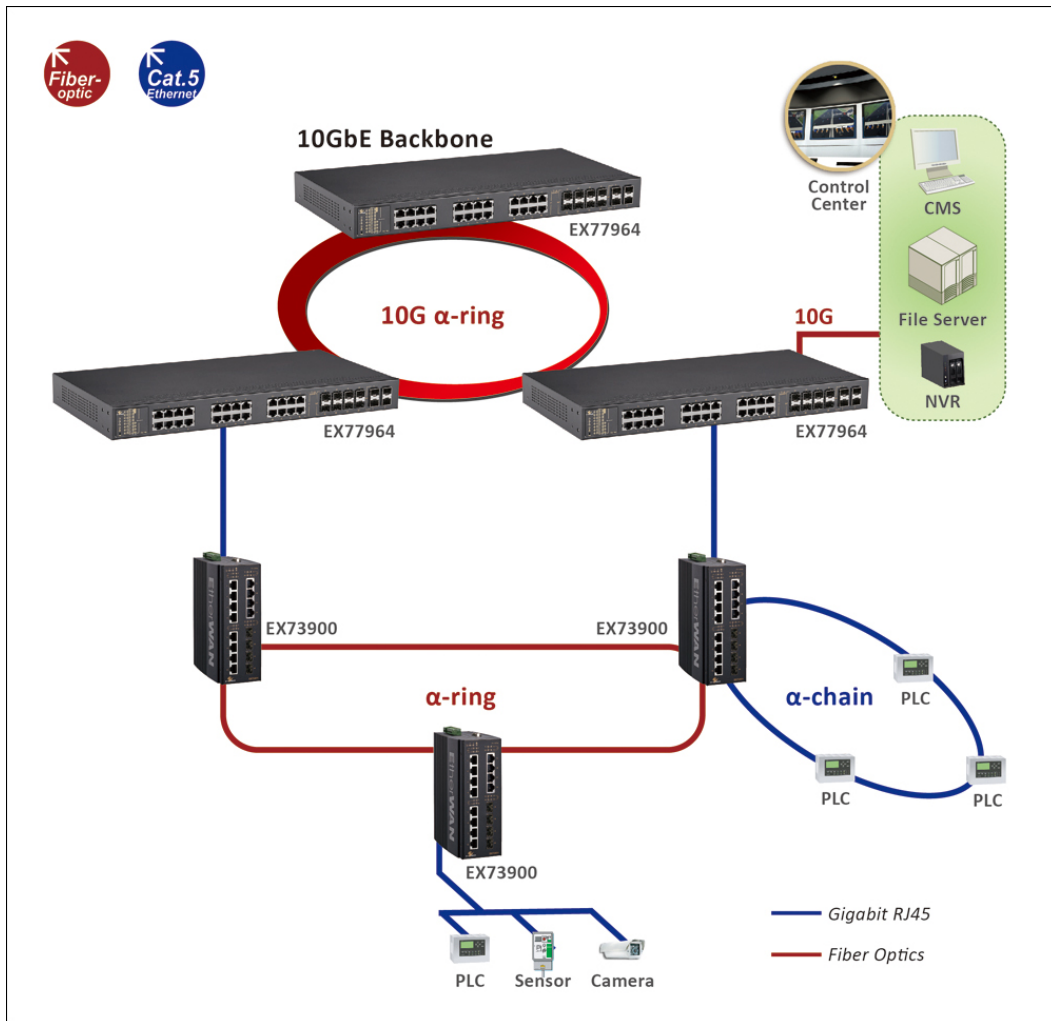
**Installation**  
Mounting brackets

**Documentation**  
Quick Install Guide

## 產品尺寸圖



# 產品應用圖



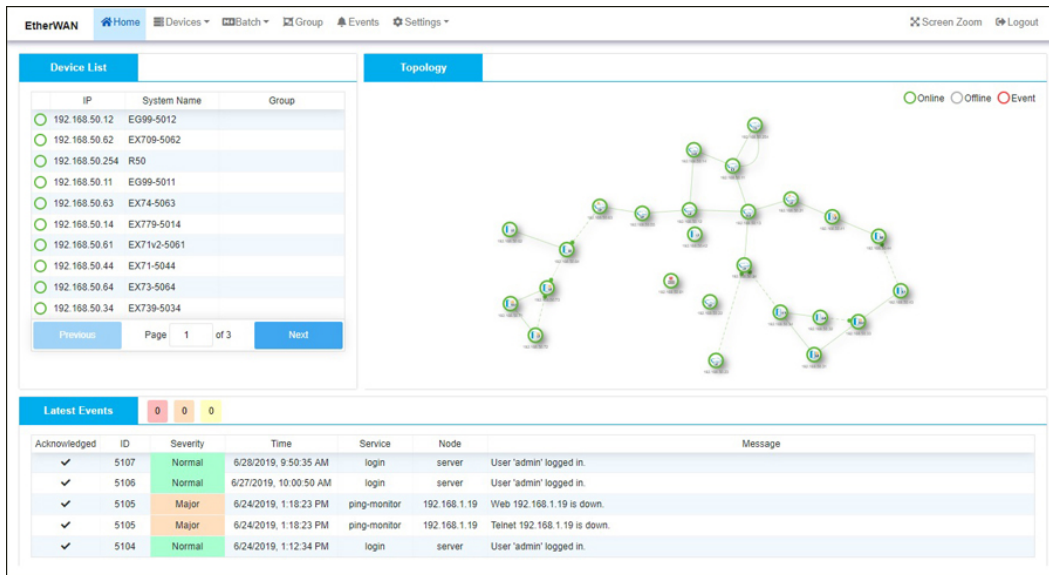
# 管理軟體

Network Management

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

Network Discovery

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



**Device List**

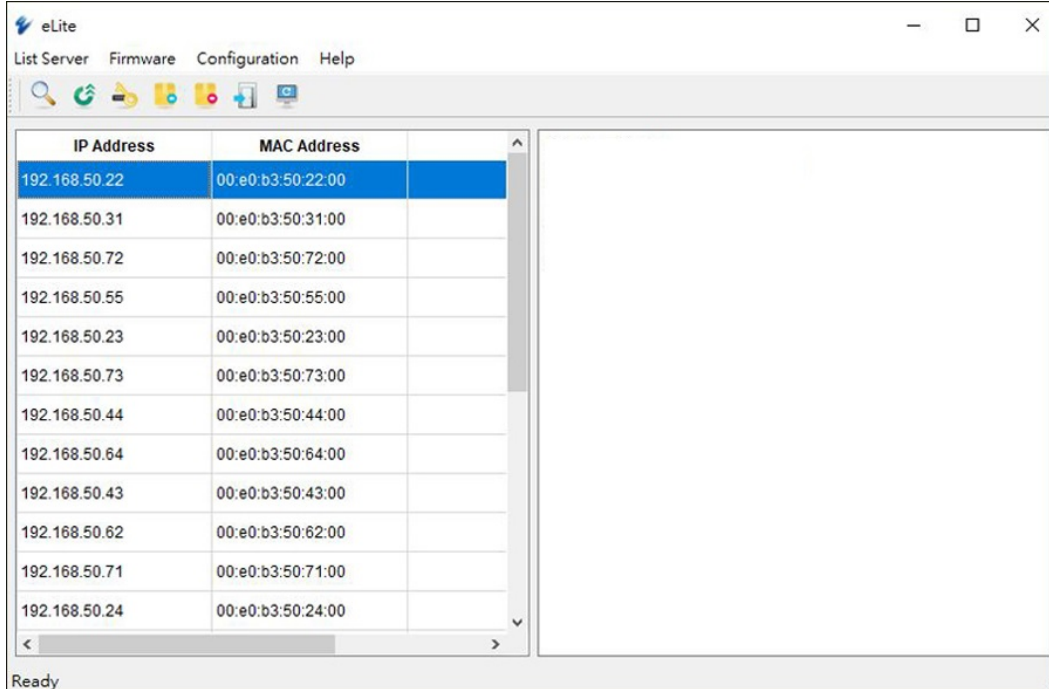
IP	System Name	Group
192.168.50.12	EG99-5012	
192.168.50.62	EX709-5062	
192.168.50.254	R50	
192.168.50.11	EG99-5011	
192.168.50.63	EX74-5063	
192.168.50.14	EX779-5014	
192.168.50.61	EX71v2-5061	
192.168.50.44	EX71-5044	
192.168.50.64	EX73-5064	
192.168.50.34	EX739-5034	

**Topology**

Legend: ● Online ○ Offline ○ Event

**Latest Events**

Acknowledged	ID	Severity	Time	Service	Node	Message
✓	5107	Normal	6/29/2019, 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**

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

EX77964-8VB	16-port 10/100/1000BASE-TX + 8-port 100/1000BASE SFP Combo + 4-port 1G/10G SFP+ (12-24VDC)
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### + Accessories

Hardened 100BASE SFP Modules	<a href="http://www.etherwan.com/products/sfp-fiber-transceiver">www.etherwan.com/products/sfp-fiber-transceiver</a>
Hardened Gigabit and 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	HDR-60-24 60W 24VDC DIN-Rail Power Supply
EB-232	Configuration Backup and Restoration Tool

