EX78900X 系列

強固級網管型 12 埠 Gigabit PoE + 4 埠 1G/2.5G/10G SFP+ 乙太網路交換器



產品介紹

EtherWAN 的 EX78900X 系列是一款堅固型、導軌式安裝的網管型 PoE 交換器，專為工業與關鍵應用網路設計。產品最高支援 **12 埠 Gigabit PoE**，符合 **IEEE 802.3bt 標準**， **單埠供電高達 90W**，總供電預算可達 **360W**，另搭載 **4 埠三速 1G/2.5G/10G SFP+ 上行介面**，該系列已通過 Class I, Division 2 危險場所認證，非常適合部署於工業自動化、能源、交通運輸及其他嚴苛環境。提供高速光纖連線能力。無風扇設計可在 **-40 至 75°C** 的極端溫度下穩定運作，具備抗衝擊、耐熱震與抗電磁干擾的工業級防護能力。該系列已通過 Class I, Division 2 危險場所認證，非常適合部署於工業自動化、能源、交通運輸及其他嚴苛環境。EX78900X 搭載全雙工交換技術，並具備 **PoE Watchdog 自動修復功能**、 **802.1x 存取控制**、**RADIUS/TACACS+ 驗證**，搭配 **eVue™ 與 eLite™** 直覺化管理平台，兼顧靈活性與網路安全。內建的 **Lite Layer 3 功能** 包含靜態路由、RIP、OSPF 及 VRRP，可有效降低廣播流量並提升整體網路效率，是智慧城市、交通建設與工業自動化等應用的理想選擇。

IEC 62443-4-2 認證 — 為關鍵工業與基礎設施應用打造更強大的資安韌性與營運可靠性。

益網科技 - “ **連結，制勝的關鍵** “

產品亮點

高頻寬彈性配置

12 個 10/100/1000BASE-T(X) 高速連接埠
4 個 1G/2.5G/10G SFP+ 光纖上行鏈路連接埠
全雙工運行的全容量交換

PoE 乙太網供電功能

IEEE 802.3bt支援每埠最高90W, 總輸出功率達 360W
PoE 看門狗監控設備的連接狀態與自訂排程

符合ISA 12.12.01防爆認證標準

通過ISA 12.12.01 Class I, Division 2 classified防爆認證，可應用於煉油廠、礦場等特殊環境

管理/安全功能

連接埠控制連接埠控制，SFTP 安全檔案傳輸協定
以 802.1x 連接埠基礎之網路登入控制以及透過 RADIUS的遠端身份驗證
使用 eVue ™ 和 eLite ™ 設定和監控

強固等級適用於不通風的惡劣環境

-40 至 75°C (-40 至 167°F)的寬工作溫度範圍
無風扇設計
高衝擊、耐熱和電氣干擾抵抗力

服務支援

提供技術支援
免費韌體升級和通知
有限終身保固

第三層網管功能

靜態路由、RIP v1/v2 , 和 OSFP
VRRP 虛擬路由器備援協定
廣播流量減輕

產品特色

Interface

CLI, Telnet, Web GUI, SSH

Management

SFTP (Secured FTP) support
Configuration backup
DHCP Server/Client
RMON (Remote Monitoring)
Port Mirroring
NTP (Network Time Protocol) synchronization
PoE Watchdog
LLDP (Link Layer Discovery Protocol)
IPv4/IPv6
SNMP v1/v2c/v3
Modbus TCP

Security

MAC Address filtering
Enable/Disable port
Storm Control and Detection
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)
IPSG (IP Source guard)
DAI (Dynamic ARP Inspection)
DHCP Snooping

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

104Gbps

Forwarding Rate

75.29Mpps

Max VLANs

256 (4096 VID)

Jumbo Frame Size

9KB

MAC Table Size

16K

Packet Buffer Memory

12M bits

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)

產品規格

Interface

Ethernet

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

4 x 1G/2.5G/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; 0.5A/48VDC

LED Indicators

Per Unit: Power 1, Power 2

Per Port: Link/Activity (Green)

Per PoE Port: PoE Status (Orange)

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

1.5kg (3.3lbs)

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)

MTBF

1,496,987 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 802.3af/at/bt Power over Ethernet

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 full-duplex 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)

PoE Ports: line to earth 6kV Surge

EN 61000-4-6 (Induced RFI)

EN 61000-4-8 (Magnetic field)

Safety

UL 61010

ISA 12.12.01

• Class 1, Division 2 group A, B, C & D for hazardous locations

Cybersecurity

IEC 62443-4-1

IEC 62443-4-2

Traffic

NEMA TS2

Railway

EN 50121-4

Vibration

IEC 60068-2-6

Shock

IEC 60068-2-27

Free Fall

FED STD 101C Method 5007.1

Power

Input

46-57VDC Redundant (Terminal block)**
** 46-57VDC for IEEE 802.3af type 1, ≤15.4W PD devices.
52-57VDC for IEEE 802.3at/bt type 2/3, 30W, 60W PD devices.
54-57VDC for IEEE 802.3bt, type 4, 90W PD devices

Power Consumption

20W Max (without PoE)

PoE Power Output

Ports 1-12: Up to 90W/port; Power Budget: 360W

Protection

Reverse Polarity Protection

Warranty

Length

Limited Lifetime

Details

www.etherwan.com/support/warranty-policy

What's Included

Device

Ethernet switch

Cables

1 Console cable

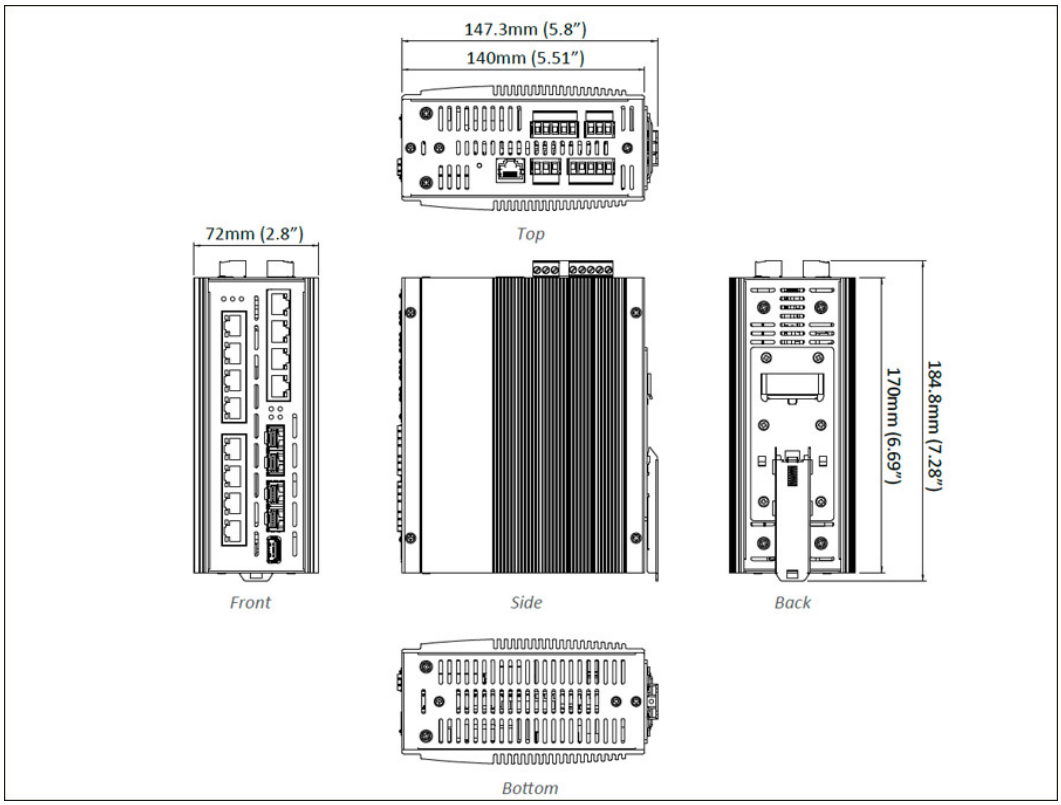
Installation

Mounting brackets, screws

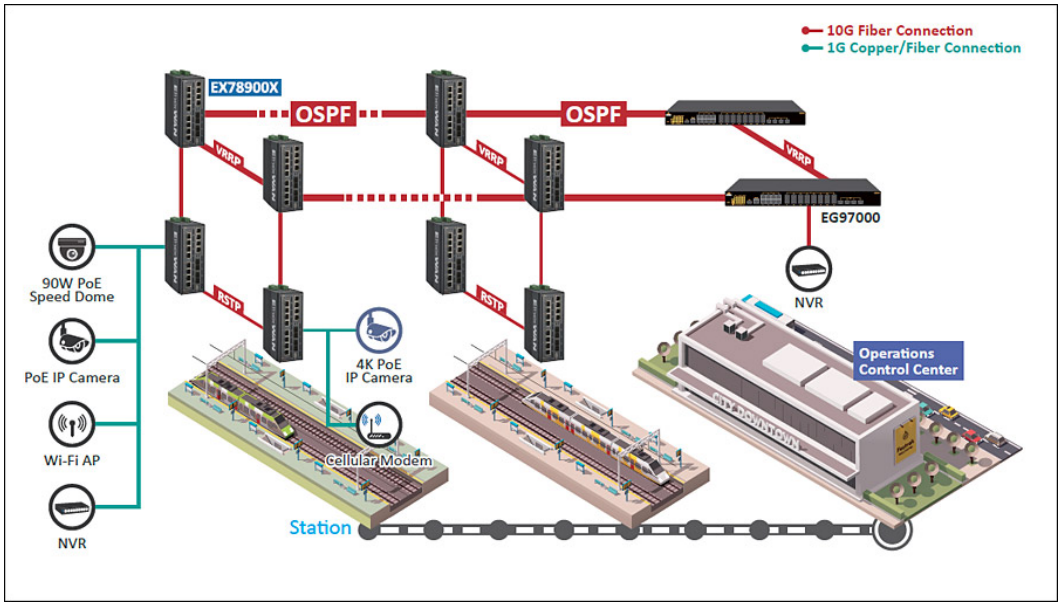
Documentation

Quick install guide

產品尺寸圖

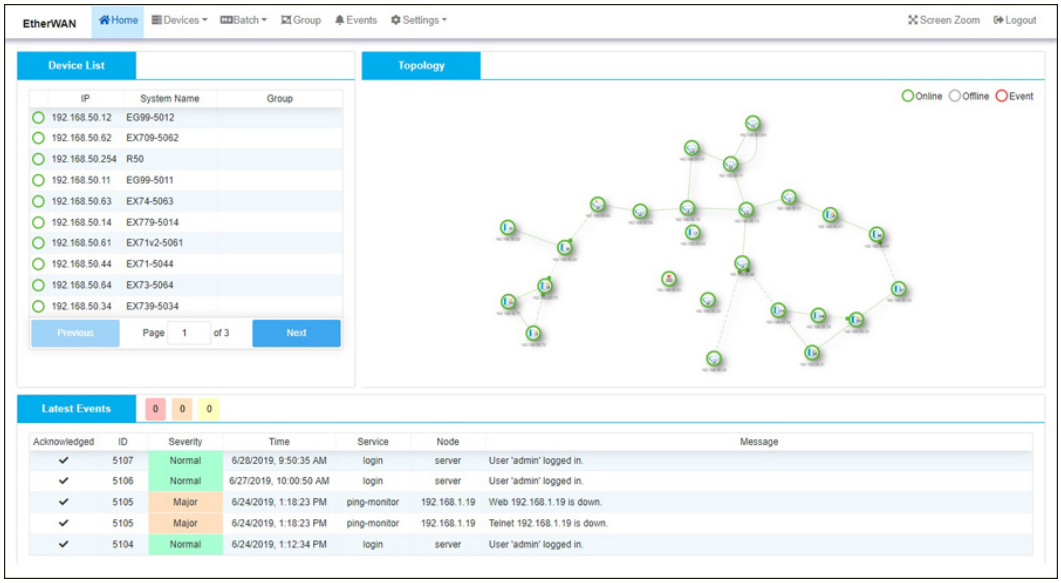

147.3mm (5.8")
140mm (5.51")
Top
72mm (2.8")
Front
Side
170mm (6.69")
184.8mm (7.28")
Back
Bottom

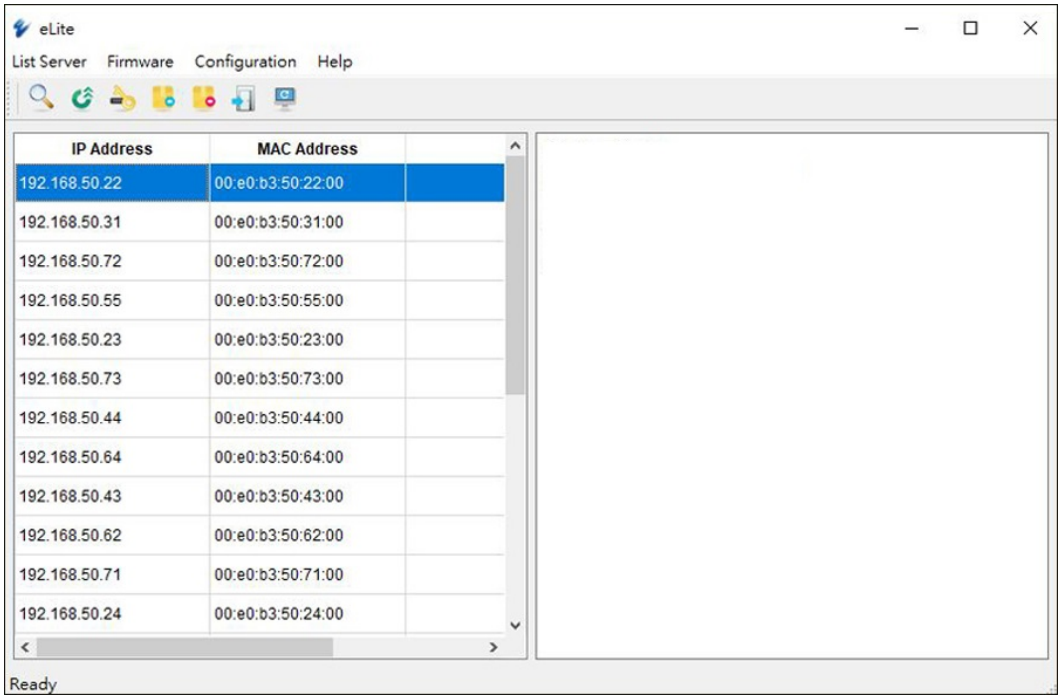
應用圖


10G Fiber Connection
1G Copper/Fiber Connection
EX78900X
OSPF
OSPF
VRRP
VRRP
VRRP
EG97000
NVR
90W PoE Speed Dome
PoE IP Camera
Wi-Fi AP
NVR
RSTP
RSTP
4K PoE IP Camera
Cellular Modem
Station
Operations Control Center

管理軟體

Network Management	eVue™ Network Configuration and Monitoring Tool
Network Discovery	eLite™ Network Discovery and IP Configuration Tool





訂購型號

Model



	EX78934X-0VB
10/100/1000BASE TX	12
1G/2.5G/10G SFP+	4
supports PoE++	12
PoE per port	最高支援 90W
	訂購諮詢

Accessories

Hardened Gigabit & 10 Gigabit SFP Modules	www.etherwan.com/products/sfp-fiber-transceiver
DIN-Rail Power Supplies	www.etherwan.com/products/din-rail-power-supply (*)
*Recommended Power Supply	NDR-480-48 480W 48VDC DIN-Rail Power Supply

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