

## EX78900G 系列

強固級網管型 8 埠 Gigabit PoE++ (90W) + 4 埠 100/1G/2.5G SFP 乙太網路交換器



### 產品介紹

益網科技 EX78900G 系列是工業用強固級網管型導軌式 PoE 乙太網交換機。網路連接埠配有 8 個 90W 功率的 Gigabit PoE 千兆埠，以及 4 個 2.5G SFP 光纖端口。本系列 PoE 總輸出功率最高可達 480W 大功率供電，並支援國際 PoE 標準 IEEE 802.3bt (PoE++), IEEE 802.3at (PoE+), IEEE 802.3af (PoE)，保證長時間穩定供電需求。4 個 SFP 光纖埠提供三種速率 (100/1G/2.5G)，可建立從 100Mbps、1Gbps、到高速 2.5Gbps 頻寬連線，並配上豐富的 L2 與 L3 功能，提供建立具規模且穩固的網路架構。EX78900G 系列可為城市基礎設施、交通、安全和監控領域的重要網路連結、提供靈活、高速和可靠的通訊表現。

EtherWAN — "When Connectivity is Crucial."

## 產品亮點

### + 2.5GbE 高頻寬網路交換器

8 埠 PoE Gigabit 全千兆高頻寬連接  
4 個獨立 SFP 埠支援三速 100/1G/2.5G 光纖連接  
高達 36Gbps 交換容量的全雙工運行  
支援 2.5Gbps 超高速連接埠，頻寬再升級

### + PoE供電

支援所有PoE標準 – IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt (PoE, PoE+, PoE++)  
高功率 PoE 輸出 – 每埠支援 90W  
高功率 PoE 預算 – 整機支援高達 480W 總功率  
智慧遠端監控 – PoE 看門狗 (PoE Watchdog) 功能

### + 適用於不通風和惡劣環境的強固設計

-40 至 75°C 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  
6Kv防雷突波設計

### + 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 OSPF  
VRRP 虛擬路由器備援協定

## 產品特色

### + Interface

CLI, Telnet, Web GUI

### + Management

Firmware Upgrade  
Configuration Backup  
DHCP Server/Client/Snooping/Relay  
RMON (Remote Monitoring)  
Port Mirroring  
NTP (Network Time Protocol) Synchronization  
LLDP (Link Layer Discovery Protocol)  
IPv4/IPv6  
SNMP v1/v2c/v3

### + Security

MAC Address Filtering  
Enable/Disable Port  
Storm Control  
System logging  
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)

### + 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  
ITU-T G.8032 Ethernet Ring Protection Switch (ERPS)

**VLANs**  
IEEE 802.1Q Tag VLANs  
GVRP  
GMRP

**Link Aggregation**  
Static Trunk (8 groups)  
IEEE 802.3ad LACP

**IGMP Snooping v1/v2/v3**

### + Layer 3 Features

**IP Packet Routing**  
Maximum 512 hosts  
Maximum 64 routes  
Static routing  
RIP v1/v2  
OSPF v2

**Routing Redundancy**  
VRRP v2

## + 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

36Gbps

### Forwarding Rate

26.78Mpps

### Max VLANs

256 (4096 VID)

### Jumbo Frame Size

9KB

### MAC Table Size

16K

### Packet Buffer Memory

512KB (4M bits)

## 產品規格

### + Interface

**Ethernet**

8 x 10/100/1000BASE-T(X)  
2 or 4 x 100/1000/2500BASE SFP

**Console**

1 x RJ45

**Config Backup**

1 x USB (Type A Connector)

**Alarm Contact**

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 (Amber)

### + Physical

**Casing Material**

Metal

**IP Rating**

IP30

**Dimensions**

62 x 125 x 145mm (W x D x H)

**Weight**

0.75 kg (1.65 lbs)

**Installation Type**

DIN-rail mounting

## + 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 Radius  
IEEE 802.1ab LLDP  
IEEE 802.3az Energy-Efficient Ethernet (EEE)  
IEEE 802.3af/at/bt Power over Ethernet

### Forward/Filtering Rate

14,880pps for 10Mbps  
148,809pps for 100Mbps  
1,488,095pps for 1000Mbps  
3,720,238pps for 2500Mbps

### Processing Type

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

### System Memory

1GB DDR3 SDRAM

### Flash Storage

128MB

## + 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

2,696,769 hours

## + 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  
EN 55032

### EMS

EN 61000-6-2  
- IEC 61000-4-2 (ESD)  
- IEC 61000-4-3 (Radiated RFI)  
- IEC 61000-4-4 (Burst)  
- IEC 61000-4-5 (Surge)  
- PoE Ports: line to earth 6kV Surge  
- IEC 61000-4-6 (Induced RFI)  
- IEC 61000-4-8 (Magnetic field)

### Safety

UL 62368

### Traffic

NEMA TS2

### Rail

EN 50121-4

### Vibration

IEC 60068-2-6

### Shock

IEC 60068-2-27

### Free Fall

IEC 60068-2-31

## + Power

### Input

46-57VDC Redundant (Terminal block)\*\*  
 \*\* Connected powered devices (PDs) power input requirements:  
 IEEE 802.3 af (15W): 46 – 57 VDC  
 IEEE 802.3 at (30W): 52 – 57 VDC  
 IEEE 802.3 bt (Type 3: 60 Watts): 52 – 57 VDC  
 IEEE 802.3 bt (Type 4: 90 Watts): 54 – 57 VDC

### Power Consumption

Max. 14W (without PoE)

### Power Budget (Max.)

For EX78912G-0BT:  
 • 240 Watts  
 For EX78924G-0BT & EX78922G-0BT:  
 • 480 Watts up to operating temp. 70°C  
 • 400 Watts up to operating temp. 75°C

### 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

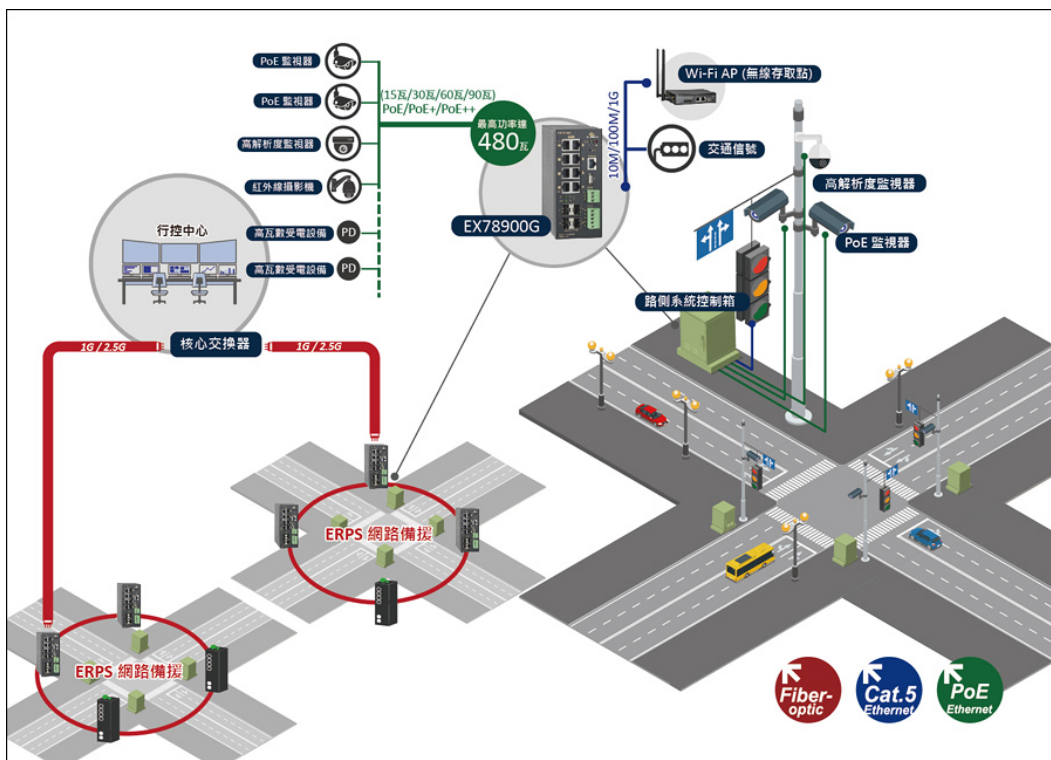
### Cables

1 Console cable

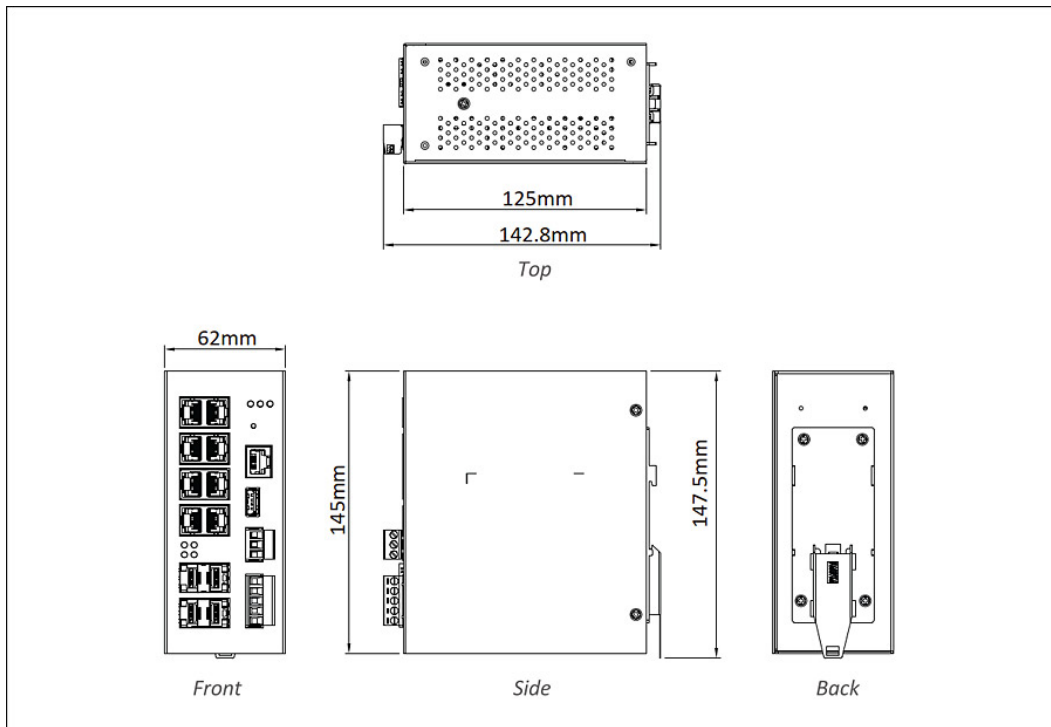
### Installation

DIN-Rail mounting kit

## 產品應用圖



## 產品尺寸圖





## 訂購型號

### + Model

EX78924G-XYZ	8-port 10/100/1000BASE-T(X) PoE++ 90W + 4-port 100/1000/2500BASE SFP
EX78922G-XYZ	8-port 10/100/1000BASE-T(X) PoE++ 90W + 2-port 100/1000/2500BASE SFP
EX78912G-XYZ	4-port 10/100/1000BASE-T(X) PoE++ 90W + 4-port 10/100/1000BASE-T(X) + 2-port 100/1000/2500BASE SFP

### + Power Input Range (X)

0	46 to 57VDC
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### + PoE PSE Standard Support (Y)

B	IEEE 802.3bt / IEEE 802.3at / IEEE 802.3af
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### + Power Input Interface (Z)

T	Terminal Block
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### + Accessories

#### SFP Modules

Model Number	Transmission Speed	Mode	Distance	Operating Temperature	Wavelength	Connector Type	DDM
SFP2IS20M	2500Mbps	Single-mode	20km	-40 to 85°C	1310nm	Duplex LC	✓
SFP2IM2AM	2500Mbps	Multi-mode	160m	-40 to 85°C	850nm	Duplex LC	✓
SFP2XT1AM	2500Mbps	-	100m	-40 to 85°C	-	RJ-45	-
SFPGIM5AM	1000Mbps	Multi-mode	275/550m	-40 to 85°C	850nm	Duplex LC	✓
SFPGIM02M	1000Mbps	Multi-mode	2km	-40 to 85°C	1310nm	Duplex LC	✓
SFPGIS10M	1000Mbps	Single-mode	10km	-40 to 85°C	1310nm	Duplex LC	✓
SFPGIS20M	1000Mbps	Single-mode	20km	-40 to 85°C	1310nm	Duplex LC	✓
SFPGXT1AM	1000Mbps	-	100m	-40 to 85°C	-	RJ-45	-
EX-0155NSP-MB2L-A	100Mbps	Multi-mode	2km	-40 to 85°C	1310nm	Duplex LC	-
SFPMIS20M (DDM)	100Mbps	Single-mode	20km	-40 to 85°C	1310nm	Duplex LC	✓



For more SFP, please visit website: [www.etherwan.com/products/sfp-fiber-transceiver](http://www.etherwan.com/products/sfp-fiber-transceiver)

#### Industrial DIN-Rail Power Supplies

Model Number	Input Voltage	Output Voltage	Description	Operating Temperature
NDR-480-48	90 - 264VAC	48VDC	480W/10A DIN-Rail 48VDC Industrial Power Supply	-20 to 70°C
NDR-240-48	90 - 264VAC	48VDC	240W/5A DIN-Rail 48VDC Industrial Power Supply	-20 to 70°C
NDR-120-48	90 - 264VAC	48VDC	120W/2.5A DIN-Rail 48VDC Industrial Power Supply	-20 to 70°C

For more Power Supplies, please visit website: [www.etherwan.com/products/din-rail-power-supply](http://www.etherwan.com/products/din-rail-power-supply).

## + Mounting Kits

Part Name	Description	Image
KP-AA96-480	Panel Mounting Adapter	
KP-BK78900G	Panel Mounting Bracket	
KR-BK71000	Rack Mounting Bracket	