

## EX78900G Series

Hardened Managed 8-Port Gigabit PoE++ and 4-Port 100/1G/2.5G SFP Ethernet Switch



## Overview

The EX78900G series represents EtherWAN's latest advancement in 2.5G Ethernet switch technology, featuring comprehensive Layer 2 and Layer 3 management functionalities. This 2.5G managed PoE switch, compactly DIN-rail mounted, supports up to 8 gigabit PoE ports, providing a maximum of 90W PoE power. It adheres to the IEEE 802.3bt protocol while maintaining compatibility with IEEE 802.3af and IEEE 802.3at standards, allowing for versatile PoE power delivery ranging from 15W, 30W, 60W to 90W per Ethernet port.

Additionally, the switch integrates up to 4 tri-rate 2.5G SFP uplink ports, providing adaptability with triple-speed options of 100Mbps, 1000Mbps, and 2500Mbps for flexible connectivity expansion. The EX78900G series is designed to offer networks in urban infrastructure, transportation, security, and other critical sectors the trifecta of flexibility, speed, and reliability.

EtherWAN — **"When Connectivity is Crucial."**

## Highlight

### + 2.5GbE High Bandwidth and Scalability

- 8 x 10/100/1000BASE-T(X) ports for high bandwidth connections
- Up to 4 tri-speed 100/1000/2500BASE SFP uplink ports for fiber connections
- Full capacity switching running at full duplex

### + PoE Features

- Backward compatible with IEEE 802.3af & IEEE 802.3at
- IEEE 802.3bt PoE with up to 90W per port; Max. 480W total power budget
- PoE watchdog monitors status of connected PoE devices

### + 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

### + Support

- Complimentary technical support
- Free firmware upgrades and notifications
- Limited lifetime warranty

## Features

### + 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)

## Specifications

### + 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  
- IEC 61000-4-3  
- IEC 61000-4-4  
- IEC 61000-4-5  
- IEC 61000-4-6  
- IEC 61000-4-8

### 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

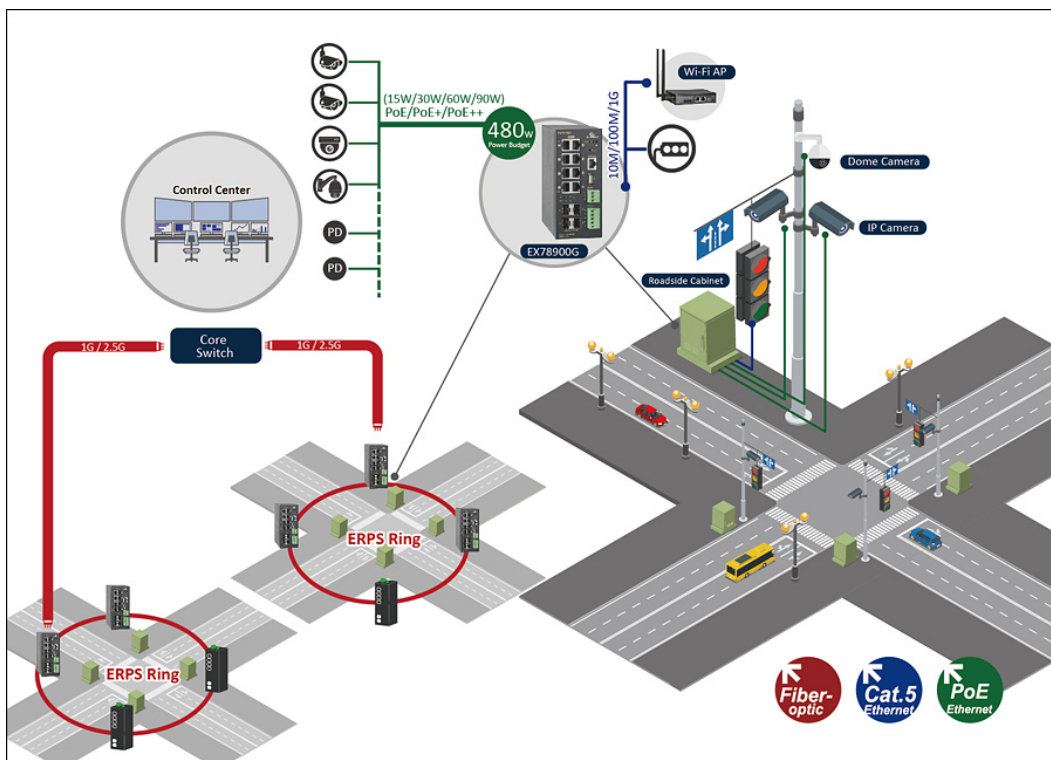
### Cables

1 Console cable

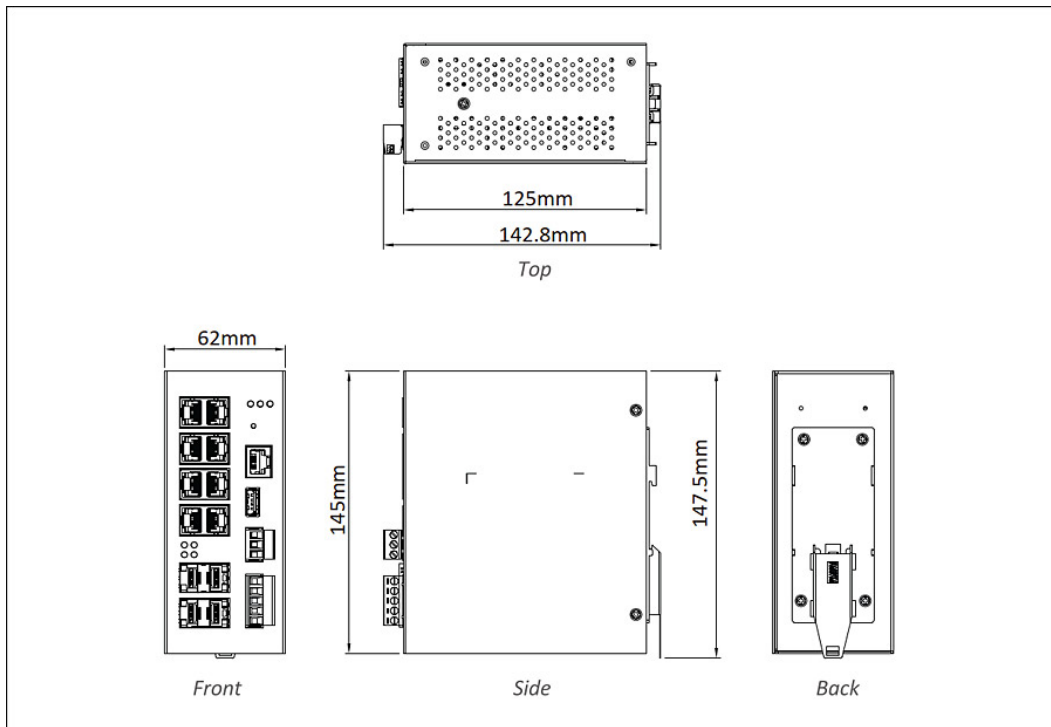
### Installation

DIN-Rail mounting kit

## Application



## Dimensions





## Ordering Info

### + 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
KP-AA96-480	
KP-BK78900G	
KR-BK71000	

