1 Unpacking

Open the carton and unpack the items. Your package should include:

- One EX78900G hardened managed switch
- One DB-9 to RJ-45 console cable
- If any items are missing or damaged, notify your EtherWAN representative. If possible, save the carton and packing material in case you need to ship or store the switch in the future.

2 Equipment Needed

- Appropriate cables for data ports. To prevent damage to the switch from electrical surges, it is recommended to use STP (Shielded twisted pair) cables.
- Personal computer or laptop
- Appropriate SFP modules for SFP ports

3 Select a Location

- Installations: Place the device on the DIN rail from above using the slot. Push the front of the device toward the mounting surface until it audibly snaps into place.
- Select a power source within 6 feet (1.8 meters).
- Choose a dry area with an ambient temperature between -40 and 75°C (-40 and 167°F).
- For indoor use, and with an altitude up to 2000 meters.
- Humidity range (Operational): 5% to 95%, non-condensation.
- Designed in accordance with pollution degree 2.
- Do not block the device ventilation holes.

4 Connect to the Data Ports

Depending on the model, your switch can have the following ports:

Model	Ports
EX78912G-0BT	4-port 10/100/1000BASE-T(X) PoE++ (90W) + 4-port 10/100/1000BASE-T(X) + 2-port 100/1000/2500BASE SFP
EX78922G-0BT	8-port 10/100/1000BASE-T(X) PoE++ (90W) + 2-port 100/1000/2500BASE SFP
EX78924G-0BT	8-port 10/100/1000BASE-T(X) PoE++ (90W) + 4-port 100/1000/2500BASE SFP

10/100/1000BASE-T(X) (PoE) Ports

Power over Ethernet (IEEE 802.3 af/at/bt PSE standard) ports that supply power to networked powered devices such as IP phones, wireless LAN access points, and IP security cameras must all be within the allotted PoE power budget.
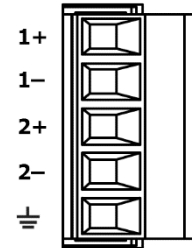
100/1000/2500BASE SFP Ports

SFP transceivers can be installed directly into SFP slots. Ensure that the same type of transceiver is used at both ends of the link and that the correct type of fiber cable is used.

5 Connect Power

- The switch has two pairs of power inputs. Only one power input is required to operate the switch. However, redundant power supply functionality is supported.
- Connect the supply voltage to start up the device via the terminal block.
- Power rating and consumption
    - Power inputs: 46 – 57 VDC, max. 9.81A
    - System: 13.91 Watts, max. 2.44A
    - System with full-load PoE: 510 Watts, max. 9.81A
    - Power supply selection should align with the power consumption of powered devices within the system. https://www.etherwan.com/products/power-supplies/din-rail-power-supplies
- Note: Use a qualified power supply meeting the standards of SELV or double insulation according to EN IEC/UL 60950, EN IEC/UL 62368, EN IEC/ 61010-1, or EN IEC/UL 61010-2-201.

Terminal Block

The switch provides two power inputs on a 46-57VDC terminal block. The terminal block has 5 terminal posts.

Pin		State	Description
Power 1	1+	+	46-57VDC
	1−	−	Power Ground
Power 2	2+	+	46-57VDC
	2−	-	Power Ground
⏚			Earth Terminal

Relay Output Alarm

The switch provides a relay output contact. The relay is for signaling of a user-defined power redundancy failure. The current is 0.5A@48VDC at Normal Open or Normal Closed.
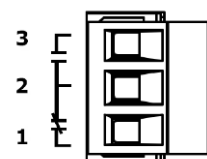

1 Normal Close | 2 Ground | 3 Normal Open

	Relay Contact	
	Normal Closed	**Normal Open**
No power	Closed	Open
Normal	Open	Closed
Abnormal	Closed	Open
Relay Output Rating	0.5A @48VDC	

Power-Up Sequence

When the switch is powering up:

- All **Link/Act**, **Power**, and **Alarm** LEDs light up and stay lit.
- All **Link/Act** LED lights go off.
- The **Alarm** LED light goes off, after the switch completes a brief Power On Self-Test (POST).

6 LED Indicators
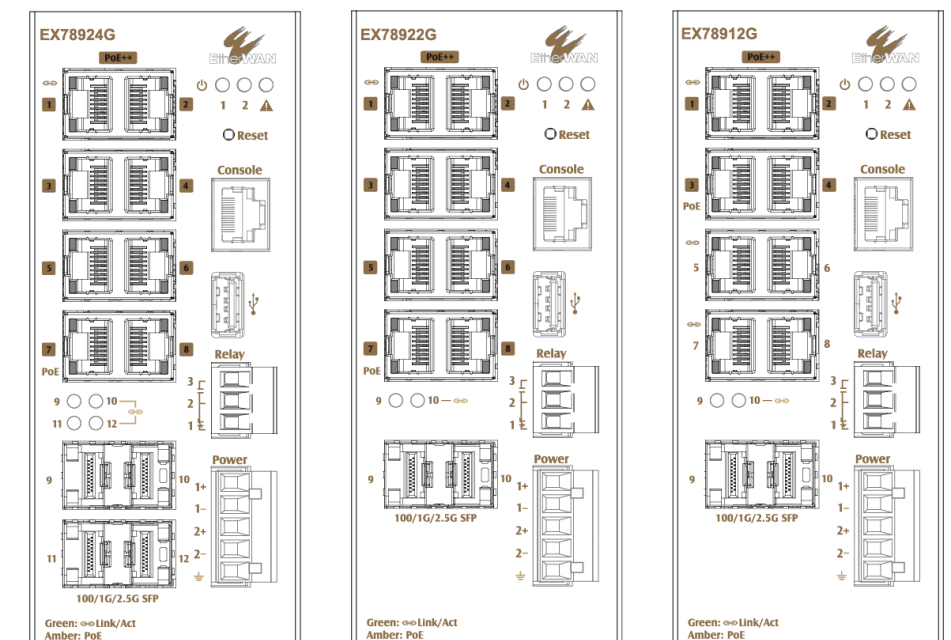
LED	State	Color	Status
Power 1 & 2	⏻	Green	On: Power on / Off: Power off
Link/Act	🔗	Green	On: Network connection established / Flashing: Port sending or receiving data / Off: No Link
PoE	PoE	Amber	On: Powered device (PD) is connected / Off: Powered device (PD) is disconnected
Alarm	⚠	Red	On: Link down or power redundancy failure / Off: No link down or power redundancy failure

7 Power over Ethernet (PoE)

Power budget

The 4 or 8 PoE ports can be divided into 2 or 4 groups. The maximum PoE output is 120W **for each group**, and the maximum PoE output **per port** is 90W.

- Group 1 comprises of **Port 1 and Port 2**
- Group 2 comprises of **Port 3 and Port 4**
- Group 3 comprises of **Port 5 and Port 6**
- Group 4 comprises of **Port 7 and Port 8**

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

Total power budget for the entire system

- 480 Watts for EX78924G-0BT & EX78922G-0BT within an ambient temperature range of -40 to 70°C
- 400 Watts for EX78924G-0BT & EX78922G-0BT within an ambient temperature range of -40 to 75°C
- 240 Watts for EX78912G-0BT within an ambient temperature range of -40 to 75°C

8 Console Configuration

Connect to the switch console by using the RJ-45 console cable (Included in the package). Connect one end to the console port of the switch and the other end to the serial port of the computer running a terminal emulation application (such as HyperTerminal or Putty).

Configuration settings of the terminal-emulation program:

Baud rate: 115,200bps, Data bits: 8, Parity: none, Stop bit: 1, Flow control: none.

The default login name is "root," no password.

9 Web Configuration

Log in to the switch by launching a web browser and enter https://192.168.1.10 in the address bar. If on an earlier firmware version, entering http://192.168.1.10 might be needed instead.

Use the default login ID: root (no password) and click "Login."

10 USB Port

The switch is equipped with one USB port (Type A connector). The USB port can be used to upgrade firmware from the (FAT32) USB flash drive.

An USB flash drive with the firmware file is required. Plug the USB into the USB port and select **USB** as the mode on the "**Firmware Upgrade**" page on the web interface, or use **"install image usb <filename>"** command in the CLI.

11 Other Information

DIN-Rail Assembly Startup, and Dismantling

- **Assembly**: Place the Switch on the DIN rail from above using the slot. Push the front of the switch toward the mounting surface until it audibly snaps into place.
- **Startup**: Connect the supply voltage to start up the switch via the terminal block.
- **Dismantling**: Pull out the lower edge and then remove the switch from the DIN rail.
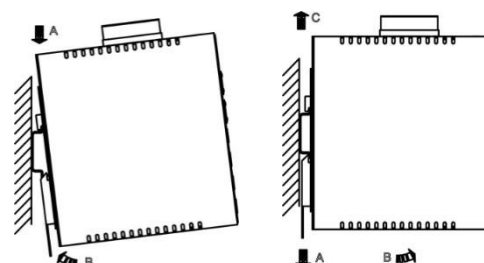
The device can get hot to the touch after running at full load for some time. Please use caution when handling the device.

L'appareil peut devenir chaud au toucher après avoir fonctionné à pleine charge pendant un certain temps. Soyez prudent lors de la manipulation de l'appareil.

Power wiring information:

Use cable type - AWG (American Wire Gauge) 18-22 and corresponding pin type cable terminals.

Use torque value of 5 lb-in, do not use excessive force when fixing the wiring.

The rating of the power wire used must be at least 105°C.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
For repair or maintenance needs, contact EtherWAN directly.

Informations de câblage d'alimentation:

Utilisez le type de câble - AWG (American Wire Gauge) 18-22. valeur de couple de 5 lb-in.

Le calibre du fil d'alimentation utilisé doit être d'au moins 105°C.
DESTINÉ À ÊTRE UTILISÉ AVEC DES CONDUCTEURS EN CUIVRE SEULEMENT.
Si la méthode d'utilisation de l'équipement diffère de celle décrite par le fabricant, la protection assurée par l'équipement risque d'être altérée.
Contactez-nous pour l'entretien ou la réparation.

- Label clean up: Use a dry cloth to clean the labelling.

- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- The product is open type, intended to be installed in an industrial control panel or an enclosure.
- SFP module specification requirement: Class 1 laser product. Complies with CDRH 21CFR 1040.10 and 1040.11. Rated 3.3VDC.
- The installation safety of any system incorporating the equipment is the responsibility of the assembler of the system.

Manufacturer information:

EtherWAN Systems, Inc.

33F, No. 93, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City, 221 Taiwan

The full product manual can be downloaded from:
www.etherwan.com