# EX73900X Series Hardened Managed Ethernet Switch

## Installation Guide

EtherWAN

## 1 Unpacking

Unpack the items. Your package should include:

- One **EX73900X** hardened managed switch
- One RJ-45 console cable

If items are missing or damaged, notify your EtherWAN representative. Keep the carton and packing material. The full product manual can be downloaded from:

**https://www.etherwan.com**

## 2 What Else You Need

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

## 3 Select a Location

- Installations: DIN-Rail mount.
- Select a power source within 6 feet (1.8 meters).
- Choose a dry area with ambient temperature between -40 and 75ºC (-40 and 167ºF).
- For use at altitudes up to 2000 meters, indoor use only.
- Humidity range (Operational): 5% to 95%, non-condensation
- For use in Pollution Degree 2 environment.
- Do not block the device ventilation holes.

## 4 Connect to the Data Ports

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

| EX73934X-0VB | 12-port 10/100/1000BASE-T(X) + 4-port 1G/10G SFP+ |
| EX73924X-0VB | 8-port 10/100/1000BASE-T(X) + 4-port 1G/10G SFP+ |
| EX73922X-0VB | 8-port 10/100/1000BASE-T(X) + 2-port 1G/10G SFP+ |

### 10/100/1000BASE-TX Ports

To prevent damage to the switch from electrical surges, it is recommended to use STP (Shielded twisted pair) cabling.

### 1G/10G 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 Apply 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.

Power rating: 12-48VDC, Max. 2.13A.

The power input specification complies with the requirements of Safety Extra Low Voltage (SELV), and the power supply should comply with UL 61010-1 and UL 61010-2-201

### Terminal Block

The switch provides two power inputs on a terminal block with nominal power of 24VDC. The terminal block has 5 terminal posts.
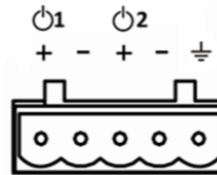


| Pin | | Description |
|---|---|---|
| Power 1 | + | 12-48VDC |
| | − | Power Ground |
| Power 2 | + | 12-48VDC |
| | - | Power Ground |
| ⏚ | | Earth Terminal |
| Relay Output Rating | | 0.6A @30VDC |

### Relay Output Alarm

The switch provides two relay output contacts. Both Relay 1 and Relay 2 signal actions from one of the digital inputs. The relay outputs can be connected to an alarm signaling device. The Current is 0.6A@30VDC at Normal Open or Normal Close.
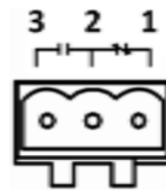


3 Normal Open | 2 Ground | 1 Normal close



| Relay Status | | |
|---|---|---|
| | Normally closed | Normally Open |
| No Power | Closed | Open |
| Normal | Open | Closed |
| Abnormal | Closed | Open |

### Power-Up Sequence

When you apply power:

- All **Link/ACT** LEDs blink momentarily.
- The **Power 1** LED goes ON.
- LEDs for every port connected to a device flash, as the switch conducts a brief Power On Self-Test (POST).

## 6 Front Panel LEDs

| LED | Color | Status |
|---|---|---|
| **Power 1 & 2** | Green | On: Power on<br>Off: Power off |
| **Link/Act** | Green | On: Network connection established<br>Flashing: Port sending or receiving data |
| **Alarm** | Red | Link down or power down |



EX73934X
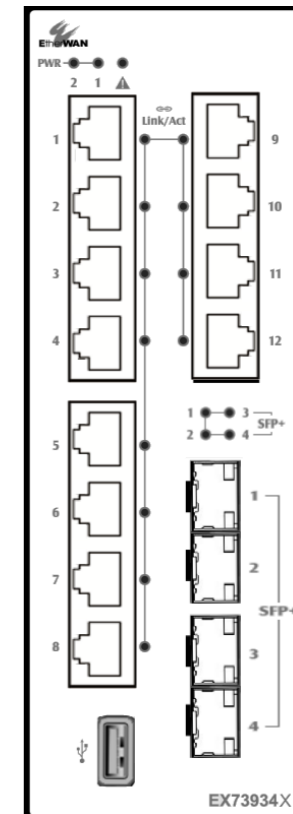
## 7 Digital IO-Setting

### Connecting the Digital Inputs

The pin definitions for the digital input module are shown below. Each digital input consists of two contacts on the 5-pin connector located on the top of the switch. The inputs can be wired as either dry or wet contacts.

### Dry Contacts:

[DI1-/GND]  [DI2-/GND]
Logic level 1: Close to GND(10mA)
Logic level 0: Open

### Wet Contacts:

[DI1+/DI1-]  [DI2+/DI2-]
Logic level 1 (High): 13~30 Volts (3.2mA)
Logic level 0 (Low): 0~3 Volts

### Configuring Digital Input Alarms Using the Web Interface

Located under the **Diagnostics** group, the Digital IO-Setting page allows for quick configuration and enabling of digital input and environmental alarms.

To enable digital input alarms globally:

1. Choose Enable from the drop down menu in the Set State field.
2. Click on the Update Setting button to the right of the field.

### To enable specific digital input alarms:

1. Enter a name or description of the alarm in the **Description** field.
2. In the **Alert** field, choose **Enable/High** from the drop-down menu if you want the alarm to trigger in an occurrence of high voltage (wet contact), or Open state (dry contact). Choose **Enable/Low** if you want the alarm to trigger in an occurrence of low voltage (wet contact), or Closed to ground state (dry contact).
3. Click on the **Update Setting** button at the bottom right to put the new settings into effect. Then navigate to the Email configuration page.

## 8 Console Configuration

Connect to the switch console by connecting the RJ-45 console cable to the console port of the switch and 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.

When logging into the GUI or the CLI for the first time, the switch will prompt you to change the default password to a new one. The new password must meet the following complexity requirements:

Minimum 8 characters and maximum 35 characters in password length without leading or trailing blanks.

The password must contain characters from the following categories:

1. Uppercase English letters, (A to Z)
2. Lowercase English letters, (a to z)
3. Numbers, (0 to 9)
4. Non-alphanumeric characters (e.g. @, #, $), but not including (", ?, !)

## 9 Web Configuration

Log in to the switch by launching a web browser and entering 192.168.1.10 in the address bar.

Enter the default login ID: root (no password) and click "Login." The system information screen will display.

## 10 USB Port

The switch is equipped with one USB port (Type A connector) for configuration file and syslog backup. The USB port can be used to save the configuration and Syslog to a (FAT32) USB storage device.

Plug the device into the USB port, and use the "Save Configuration" command in the web interface, or "copy running-config startupconfig" in the CLI. Use the "Export Logs to USB" command in the web interface, or "export logs" 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.
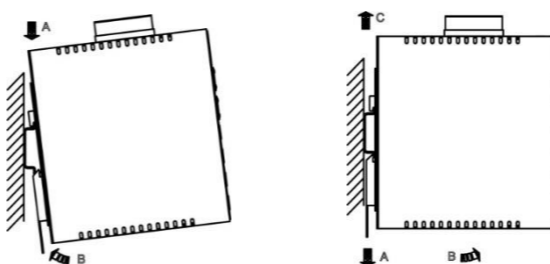
**"The device can get hot to the touch after running at full load for some time. Please use caution when handling the device."**

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.

Using torque value 5 lb-in, do not use excessive force when fixing 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 reparation.*

**Label clean up:**
It must be wiped with a dry cloth to clean up 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 3.3 or 5 VDC.
The installation safety of any system incorporating the equipment is the responsibility of the assembler of the system.

**Nettoyage de l'étiquette:**
Nettoyez avec un chiffon doux et sec.
Si l'équipement est utilisé d'une façon non conforme aux directives du manufacturier, il peut être endommagé.
Le produit est du type ouvert et doit être installé dans un coffret ou panneau de contrôles industriel.
Spécification pour le module SFP : Laser classe 1 conforme aux normes CDRH 21CFR 1040.11 Alimentation  3.3 ou 5 VCC.
La sécurité d'une l'installation d'un système incorporant  l'équipement est la responsabilité de l'assembleur du système.

Manufacturer information:

**ETHERWAN SYSTEMS, INC.**

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