Layer-2 DIN-Rail Industrial Switches

Installation Guide

1. Device Description

This chapter is about the general feature and parameter of the Industrial Switch, and offering readers an overall knowledge about the Industrial Switch.

⚠ **Note:**

This product is only for indoor use. Please read the following Safe Notes carefully to protect the users and the devices. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. The manufacturer does not assume any responsibilities for personal injury or equipment damages caused by violation of safety instructions.

Note: This product is designed to enable the network communication in industrial environment and for the use in restricted areas. The product can only be used within the scope of the specified technical data. And the product needs to be installed on a well-grounded surface, such as metal control cabinet. Any use out

of the range may lead to accidental failure and product damage, please follow the specifications.

Pollution degree is Level 2 for indoor use. The equipment and labels must be wiped by dry cloth.

QUALIFIED CERTIFICATE
合格证
QUALIFIZIERUNGSZERTIFIKAT
자격을 갖춘 인증서
資格のある証明書

The Layer-2 DIN-Rail Industrial Switches support:

1 100BaseX Fixed Fiber Ports + 2 100/1000BaseX SFP ports + 6 10/100BaseT ports	2 100BaseX Fixed Fiber Ports + 6 10/100BaseT ports	3 100BaseX Fixed Fiber Ports + 6 10/100BaseT ports
2 100/1000BaseX SFP ports + 4 10/100/1000BaseT ports	2 100/1000BaseX SFP ports + 8 10/100/1000BaseT ports	4 100/1000BaseX SFP ports + 8 10/100/1000BaseT ports
2 100/1000BaseX SFP ports + 4 10/100/1000BaseT PoE ports	2 100/1000BaseX SFP ports + 8 10/100/1000BaseT PoE ports	4 100/1000BaseX SFP ports + 8 10/100/1000BaseT PoE ports

Hereinafter takes the 2 100/1000BaseX SFP ports + 8 10/100/1000BaseT PoE Ports as example.

Front Panel View:

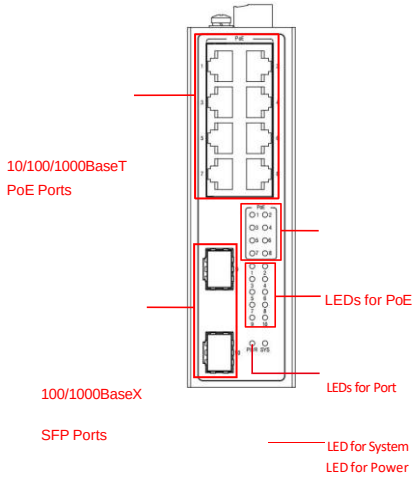
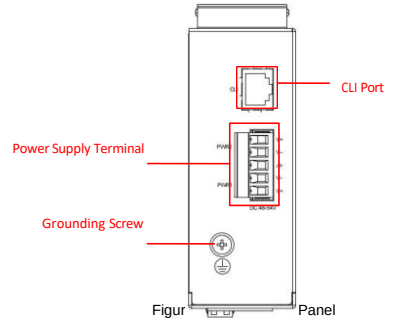


Figure 1- 1 Front Panel

On the top panel, there are 1 power socket, 1 grounding screw and CLI management port. Top Panel View:



Figur Panel

Table 1- 1 Description of the LEDs

No.	Name	Description
1	SYS	When the device is starting and/or is not ready for operation, the light is normally on. When the system is ready for operation, the light is flashing.
2	PWR	When the supply voltage of PWR is on, the light is normally on.
3	1~10	Port States LEDs. When the port is active and links, the light is normally on. When the port's data is being transmitted, the light is flashing.
4	PoE(1~8)	LED lights for PoE. When the port is connected with PoE terminal device, and providing power supply for the PoE terminal device, the PoE LED light is normally on. When there is no PoE terminal device connected, or the port is not providing power supply for the PoE terminal device, the PoE LED light is off.

2. Installing the Device

2.1. Mounting Dimensions

Unit: mm

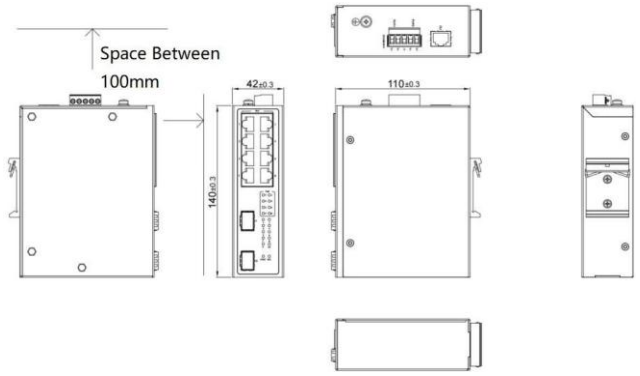


Figure 2- 1 Mounting Dimension

2.2. DIN-Rail Mounting

The Industrial Switches only supports DIN-Rail Mount. Do as the following steps.

Suggested installation method:

1) Make sure that there is enough space for installation and good ventilation where you select to install the device.

2) Insert the upper lip of the DIN-Rail kit into the mounting rail as the arrow 1 in Figure 2-2 shows. Press the device towards the mounting rail until it snaps into place as the arrow 2 in Figure 2-2 shows.

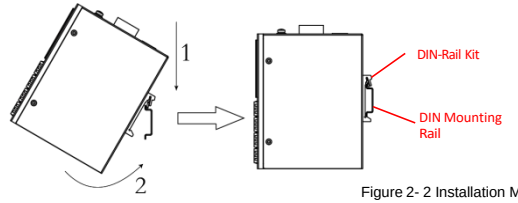


Figure 2- 2 Installation Method

Suggested removal method:

1) Press down the device a little bit hard as the arrow 1 in Figure 2-3 shows.

2) Slightly pull the device forward and lift up to remove it from the mounting rail as the arrow 2 and 3 in Figure 2-3 shows.

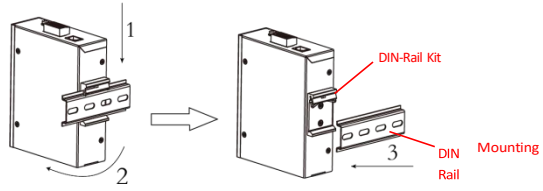


Figure 2- 3 Removal Method

3. Connecting the Power Input

3.1. Grounding

There is a grounding grew on the top panel of the Industrial Switch. It is an important guarantee for the device to prevent lightning and interference, so it must be properly grounded. The GND pin on the power supply terminal needs to be connected to the grounding screw with grounding cable. Crimp one end of the grounding cable and washer on the grounding screw, and then keep the other end of the grounding cable connected to the grounding point to the earth. Disconnect the grounding cable after power off. Available wire of the grounding cable is 10AWG; Applicable tightening torque of the grounding cable is 5NM~6NM.

STEPs:

1) Install the switch on the mounting rail as described in section 2.2.

2) Loosen the grounding screw and washer with a suitable cross screwdriver, and take off the grounding screw and washer.

3) Arrange the grounding washer, M4 end of the power supply terminal grounding cable, M4 end of the power cord grounding wire and M4 end of the switch grounding cable in sequence onto the grounding screw, and then tighten the grounding screw on the switch with the cross screwdriver.

4) Connect the other end of the switch grounding cable with suitable screw to the grounding point to the earth.

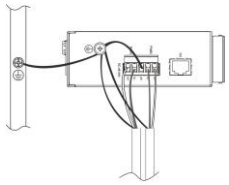


Figure 3- 1 Grounding

3.2. Wiring the Power Input

The Industrial Switches have built-in dual industrial-grade power supplies, supporting 48 ~ 54V DC (for PoE models) or 9.6 ~ 60V DC power supply, and wiring definitions have been given beside the power-supply terminal on the top panel. The GND pin on the power-supply terminal and grounding wire of the power cord should be connected to the grounding screw of the chassis (as described in section 3.1), and then correctly connect the Live line/ Positive and Null line/ Negative wires according to the wiring definitions provided on the panel. The suitable diameter of cable: 30AWG ~ 12AWG.

Power-supply connections:

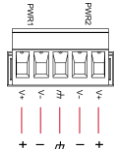


Figure 3- 2 DC Power-supply Connection

Table 3- 1 Description for Power Socket

No.	Name	Description
1	+	Positive of DC power
2	—	Negative of DC power
3	⏚	Requiring good grounding connection

⚠ **Note:**

Do not touch any exposed wires, terminals and parts marked with a dangerous voltage label on the device to avoid bodily harm. Do not remove components or plug connectors during power on.

4. Connecting the Ports

4.1. Connecting the CLI port

The Industrial Switch has a CLI port, standard RJ45 connector. This part describes the feature and the using method of this CLI port. The rate of the CLI port is 115,200 Baud. After you connect the CLI port to the serial port of PC through a console cable, you can configure and monitor the device by running a terminal emulation software, such as super Windows terminal.

The communication parameters of the terminal serial port can be set to a rate of 115,200 Baud, eight data bits, one stop bit, no sum check bit and traffic control. Below is the cable wiring diagram(RJ45-DB9).

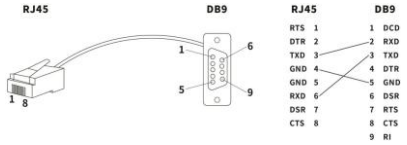


Figure 4- 1 RJ45 - DB9 Cable Wiring

4.2. Connecting Ethernet Electrical Port

The Industrial Switch can support multiple electrical ports. Every port corresponds to a LED to indicate the link/ACT state of the port. You can connect other Ethernet terminal devices to the electrical port through the straight-through/cross-over Ethernet cables.

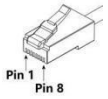


Figure 4- 2 RJ-45 connector

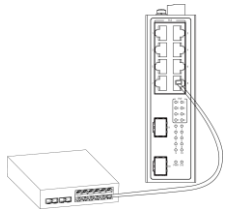


Figure 4- 3 Connecting Ethernet Electrical Port

The Industrial Switch support both MDI ports and MDIX ports. And the straight-through/cross-over Ethernet cables can be used to connect to Ethernet-enabled devices.

4.3. Connecting SFP Port

The Industrial Switch supports multiple SFP ports. You can insert the SFP optical module into the port then connect the module to other Ethernet terminal devices through optical fiber if you want to use the SFP ports.

⚠ **Note:**

The device transmits the signals with laser over fiber optic cable, and the laser meet the standard of the laser product class 1. Please do not look directly at the light emitting port of SFP module to avoid the damage to the eyes.

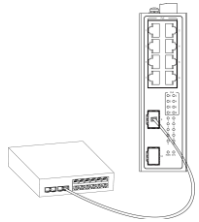


Figure 4- 4 Connecting SFP Port

5. Checkup after Installation

Before power on, perform the following checkups after the switch is installed:

- Check whether the installation point between the cabinet and the switch is strong.
- Check whether the connected power meets the power requirements of the switch.
- Check whether the power cable is correctly connected.
- Check whether the grounding line is correctly connected.
- Check whether the switch is correctly connected to other terminal devices.

6. Hardware Fault Analysis

The part describes how to troubleshoot hardware fault.

⚠ **Note：**

Do not disassemble the device by yourself. Please contact our sales representative or technical support team, if any failure occurs.

6.1. Fault Separation

The key for resolving the systematic fault is to separate the fault from the system. You can compare what the system is doing with what the system should do to detect the fault. You need to check the following subsystems:

- Power supply—power 1 and power 2;
- Port, cable and connection—ports and cables connecting with ports of the rear panel.

6.2. Faults Relative with Power Supply

Do the following checkups to help remove the fault:

- The power supply connects correctly;
- Check the environment condition and keep the industrial switch away from heat resources. Leave about 50mm at least between 2 devices. The operating temperature of industrial switch should be -40~75℃, and adequate airflow should be maintained;
- If the switch cannot be started and the PWR LED is off, check the power supply.

6.3. Faults Relative with Port, Cable and Connection

Do the following checkups to help remove the fault:

- If the port of the switch cannot be linked, check whether the cable is correctly connected and whether the peer connection is normal;
- Check the power supply and the power cable;
- If the system started, but CLI port does not work, check the configuration of CLI port.

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