SICOM3000A Industrial Ethernet Switch

Hardware Installation Manual

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KYLAND

SICOM3000A Industrial Ethernet Switch

Hardware Installation Manual

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Notice for Safety Operation

The product performs reliably as long as it is used according to the guidance. Artificial damage or destruction of the device should be avoided. Before using the device, read this manual carefully for personal and equipment safety. Please keep the manual for further reference. Kyland is not liable to any personal or equipment damage caused by violation of this notice.

- Do not place the device near water sources or damp areas. Keep the ambient relative humidity within the range from 5% to 95% (non-condensing).
- Do not place the device in an environment with high magnetic field, strong shock, or high temperature. Keep the working and storage temperatures within the allowed range.
- Install and place the device securely and firmly.
- Please keep the device clean; if necessary, wipe it with a soft cotton cloth.
- Do not place any irrelevant materials on the device or cables. Ensure adequate heat dissipation and tidy cable layout without knots.
- Wear antistatic gloves or take other protective measures when operating the device.
- Avoid any exposed metal wires because they may be oxidized or electrified.
- Install the device in accordance with related national and local regulations.
- Before power-on, make sure the power supply is within the allowed range of the device. High voltage may damage the device.
- Power connectors and other connectors should be firmly interconnected.
- Do not plug in or out the power supply with wet hands. When the device is powered on, do not touch the device or any parts with wet hands.
- Before operating a device connected to a power cable, remove all jewelry (such as rings, bracelets, watches, and necklaces) or any other metal objects, because they may cause electric shock or burns.
- Do not operate the device or connect or disconnect cables during an electrical storm.
- Use compatible connectors and cables. If you are not sure, contact our sales or technical support personnel for confirmation.

- Do not disassemble the device by yourself. When an anomaly occurs, contact our sales or technical support personnel.
- If any part is lost, contact our sales or technical support personnel to purchase the substitute. Do not purchase parts from other channels.
- Dispose of the device in accordance with relevant national provisions, preventing environmental pollution.

In the following cases, please immediately shut down your power supply and contact your Kyland representative:

- Water gets into the equipment.
- Equipment damage or shell damage.
- Equipment operation or performance has abnormally changed.
- The equipment emits odor, smoke or abnormal noise.

The following information applies when operating this device in hazardous locations:

Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous Locations, or nonhazardous locations only.

Cet appareillage est utilisable dans les emplacements de Classe I, Division 2, Groupes A, B, C et D, ou dans les emplacements non dangereux seulement.

WARNING: EXPLOSION HAZARD

- Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.
- Substitution of any component may impair suitability for Class I, Division 2.

AVERTISSEMENT: RISQUE D'EXPLOSION

- Avant de deconnecter l'equipement, couper le courant ou s'assurer que l'emplacement est designe non dangereux.
- La substitution de composants peut rendre ce materiel inacceptable pour les emplacements de Classe I, Division 2.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTE: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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1 Product Overview

SICOM3000A includes a series of green low-consumption industrial Ethernet switches.

The series switches provide RJ45 Consoleport, and supports one-touch recovery, and network management through Web, Telnet, and console port.

1.1 Small products（The shell width is 66 mm）

The series switches provide four 100/1000Base-X, 10/100/1000Base-T(X) SFP slots (Gigabit SFP Slot), and eight 10/100Base-T(X) Ethernet ports, The SPF slots support the optical power detection function. For details, see the following table.

Table 1 Models

Models	**SICOM3000A-Ports-Connector-PS1-PS2**
Code definition	Code option
Ports：	4GX8T、4SFP8T、2GX8T、2SFP8T、8T、6T
	Note： *4GX8T：four 100/1000Base-X，10/100/1000Base-T(X) SFP slots；eight 10/100Base-T(X) ports* *4SFP8T：four 100Base-X SFP slots；eight 10/100Base-T(X) ports* *2GX8T：two 100/1000Base-X，10/100/1000Base-T(X) SFP slots；eight 10/100Base-T(X) ports* *2SFP8T：two 100Base-X SFP slots；eight 10/100Base-T(X) ports* *8T：eight 10/100Base-T(X) ports* *6T：six 10/100Base-T(X) ports*
Connector: parameters for S/M	**Ports can't work at** *100Base-FX in the default,sfp slots support configure the 100Base-FX*
PS1-PS2：power input	L2-L2 (24-48VDC, redundant power input) L5-L5 (12-24VDC, redundant power input) HV：100-240VAC,50/60Hz;110-220VDC

1.2 Medium products（The shell width is 88 mm）

The series switches provide either four 100/1000Base-X, 10/100/1000Base-T(X) SFP slots (Gigabit SFP Slot), and eight 10/100/1000Base-T(X) Ethernet ports, or eight 10/100/1000Base-T(X) Ethernet ports. The SPF slots support the optical power detection function. For details, see the following table.

Table 2 Models

Models	**SICOM3000A-Ports-Connector-PS1-PS2**
Code	Code option
Ports：	4GX8GE、2GX8GE、8GE
	Notes： *4GX8GE: four 100/1000Base-X，10/100/1000Base-T(X) SFPslots；eight 10/100/1000Base-T(X)ports* *2GX8GE：two 100/1000Base-X，10/100/1000Base-T(X) SFP slots；eight 10/100/1000Base-T(X)ports* *8GE:eight 10/100/1000Base-T(X)ports*
Connector：parameters for S/M	**Ports can't work at** *100Base-FX in the default,sfp slots support configure the 100Base-FX*
PS1-PS2：power input	L2-L2 (24-48VDC, redundant power input) L5-L5 (12-24VDC, redundant power input) HV：100-240VAC,50/60Hz;110-220VDC

1.3 Large products（The shell width is 102 mm）

The series switches provide either sixteen 100/1000Base-X, 10/100/1000Base-T(X) SFP slots (Gigabit SFP Slot), and four 10/100/1000Base-T(X) Ethernet ports, or four 100/1000Base-X, 10/100/1000Base-T(X) SFP slots (Gigabit SFP Slot), and sixteen 10/100/1000Base-T(X) Ethernet ports. The SPF slots support the optical power detection function. For details, see the following table.

Table 3 Models

Models	**SICOM3000A-Ports-Connector-PS1-PS2**
Code	Code option
Ports：	12GX8GE、8GX8GE、8GX8T、8SFP8T、4GX16GE、4GX16T、4SFP16T、2GX16GE、2GX16T、16GE、16T
	Notes： *12GX8GE：twelve 100/1000Base-X，10/100/1000Base-T(X) SFP slots；eight 10/100/1000Base-T(X)ports* *8GX8GE: eight 100/1000Base-X，10/100/1000Base-T(X) SFP slots；eight 10/100/1000Base-T(X)ports* *8GX8T：eight 100/1000Base-X，10/100/1000Base-T(X) SFP slots；eight 10/100Base-T(X)ports* 8SFP8T：*eight 100Base-X，10/100Base-T(X) SFP slots；eight 10/100Base-T(X)ports* *4GX16GE：four 100/1000Base-X，10/100/1000Base-T(X) SFP slots；sixteen 10/100/1000Base-T(X)ports* *4GX16T：four 100/1000Base-X，10/100/1000Base-T(X) SFP slots；sixteen 10/100Base-T(X)ports* *4SFP16T：four 100Base-X，10/100Base-T(X) SFP slots；sixteen 10/100Base-T(X)ports* *2GX16GE：two 100/1000Base-X，10/100/1000Base-T(X) SFPslots；sixt*

	een 10/100/1000Base-T(X)ports *2GX16T：two 100/1000Base-X，10/100/1000Base-T(X) SFPslots；sixteen 10/100Base-T(X)ports* *16GE：sixteen 10/100/1000Base-T(X)ports* *16T：sixteen 10/100Base-T(X)ports*
Connector：parameters for S/M	**Ports can't work at** *100Base-FX in the default,sfp slots support configure the 100Base-FX*
PS1-PS2：power input	L2-L2 (24-48VDC, redundant power input) L5-L5 (12-24VDC, redundant power input) HV：100-240VAC,50/60Hz;110-220VDC

2 Structure and Interface

Caution:

It is recommended to purchase the port dustproof shield (optional) to keep ports clean and ensure device performance.

2.1 Front Panel

- Small product front panel

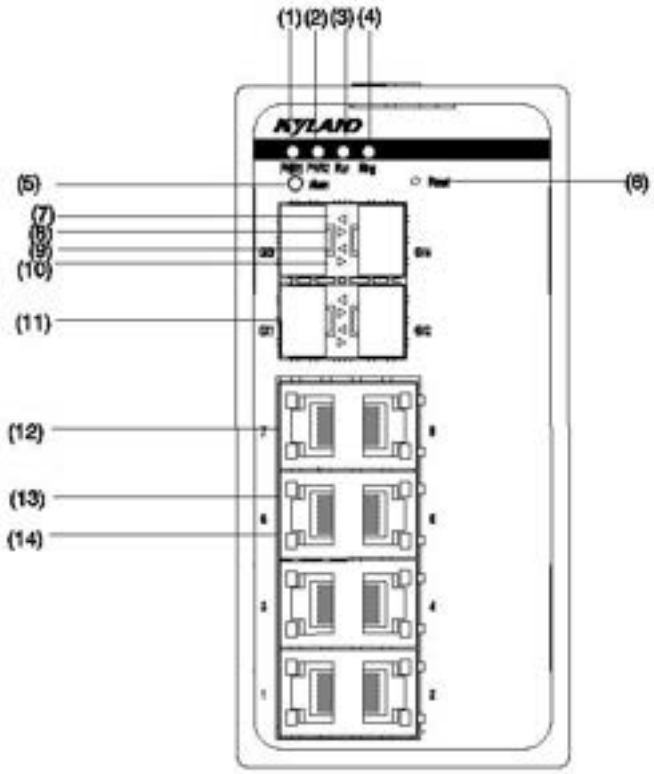


Figure 1 Medium product front panel

(1) Power 1 LED (2) Power 2 LED (3) Running LED

(4) Ring LED (5) Alarm LED (6) Reset button

(7) 10/100/1000Base-X SFP port connection status LED (green)

(8) 10/100/1000Base-X SFP Port speed LED (yellow)

(9) 10/100/1000Base-X SFP Port connection status LED (green)

(10) 10/100/1000Base-X SFP Port speed LED (yellow)

(11) 10/100/1000Base-X SFP Slot

(12) 10/100Base-X Ethernet Port

(13) 10/100Base-T(X) Ethernet Port speed LED (yellow)

(14) 10/100Base-T(X) Ethernet Port connection status LED (green)

- Medium product front panel

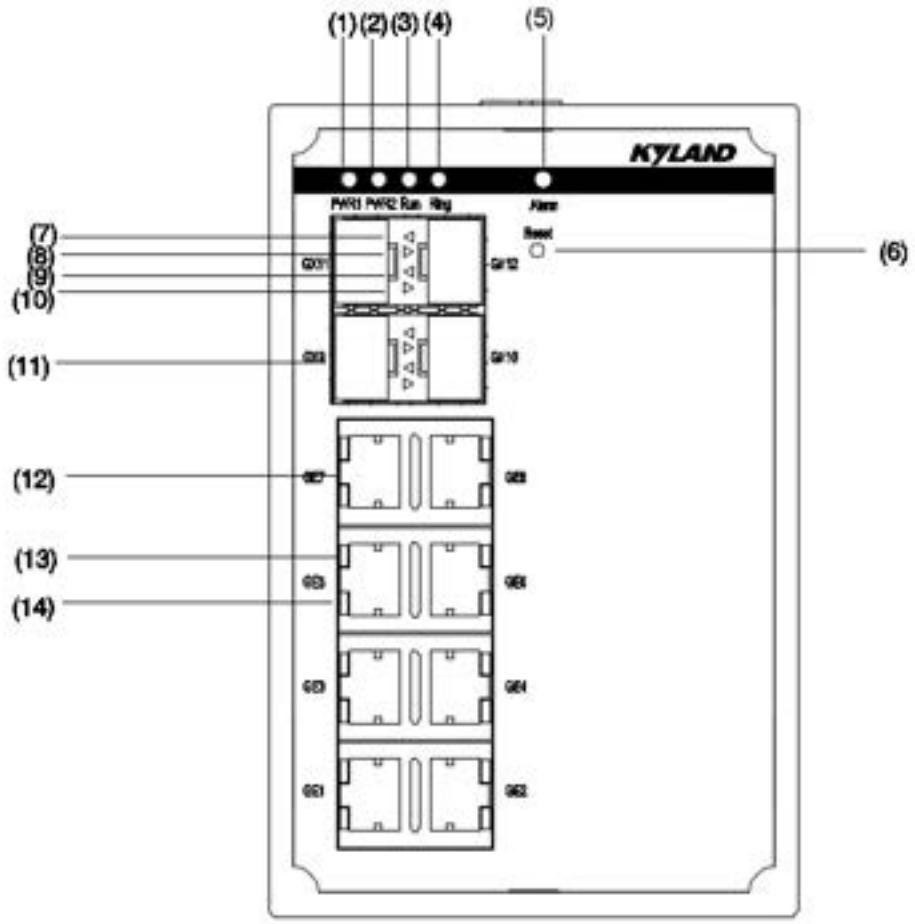


Figure 2 Medium product front panel

(1) Power 1 LED (2) Power 2 LED (3) Running LED

(4) Ring LED (5) Alarm LED (6) Reset button

(7) 10/100/1000Base-X Port connection status LED (green)

(8) 10/100/1000Base-X SFP Port speed LED (yellow)

(9) 10/100/1000Base-X Port connection status LED (green)

(10) 10/100/1000Base-X SFP Port speed LED (yellow)

(11)10/100/1000Base-X SFP Slot

(12) 10/100/1000Base-T(X) Ethernet Port

(13) 10/100/1000Base-T(X) Ethernet Port speed LED (yellow)

(14) 10/100/1000Base-T(X) Ethernet Port connection status LED (green)

- Large product front panel

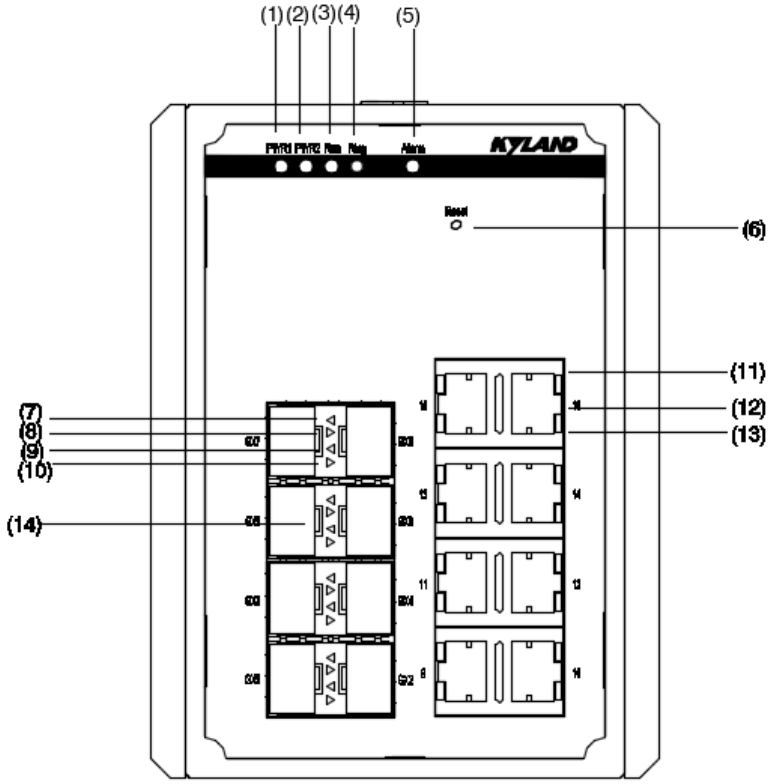


Figure 3 Large product front panel

(1) Power 1 LED (2) Power 2 LED (3) Running LED

(4) Ring LED (5) Alarm LED (6) Reset button

(7) 10/100/1000Base-X SFP Port connection status LED (green)

(8) 10/100/1000Base-X SFP Port speed LED (yellow)

(9) 10/100/1000Base-X SFP Port connection status LED (green)

(10) 10/100/1000Base-X SFP Port speed LED (yellow)

(11) 10/100Base-T(X) or 10/100/1000Base-T(X) Ethernet port speed LED (yellow)

(12) 10/100Base-T(X) or 10/100/1000Base-T(X) Ethernet Port

(13) 10/100Base-T(X) or 10/100/1000Base-T(X) Ethernet Port connection status LED (green)

(14) 100/1000M SFP Slot

2.2 Top Panel

2.2.1 Low voltage（L2/L5）products Top Panel

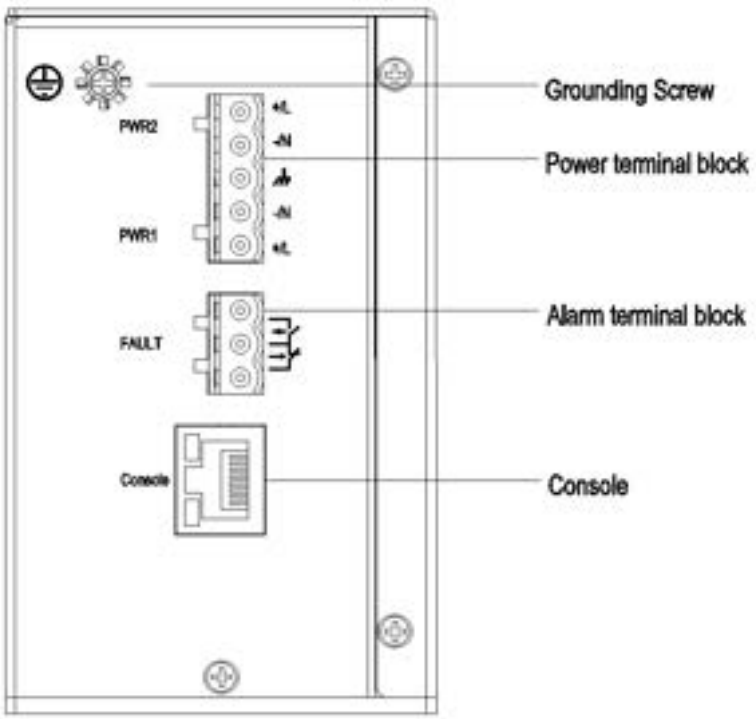


Figure 4 Low voltage products Top Panel

2.2.2 High voltage（HV）products Top Panel

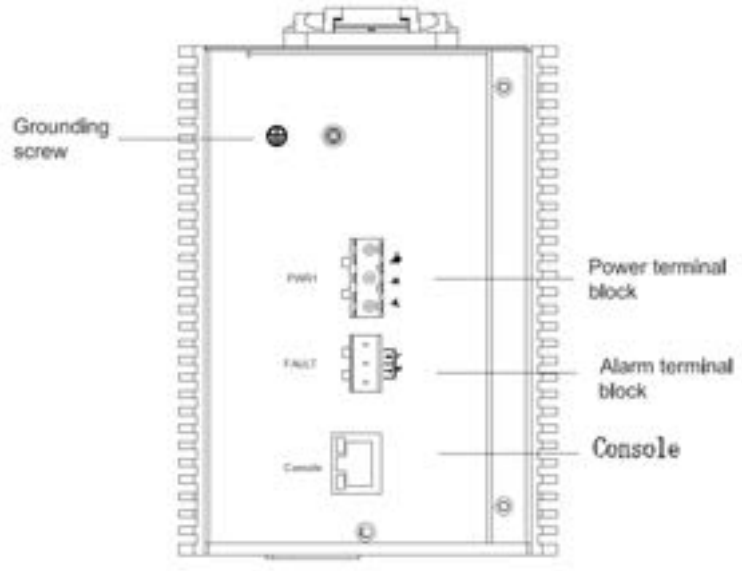


Figure 5 High voltage products Top Panel

3 Mounting

3.1 Dimension Drawing

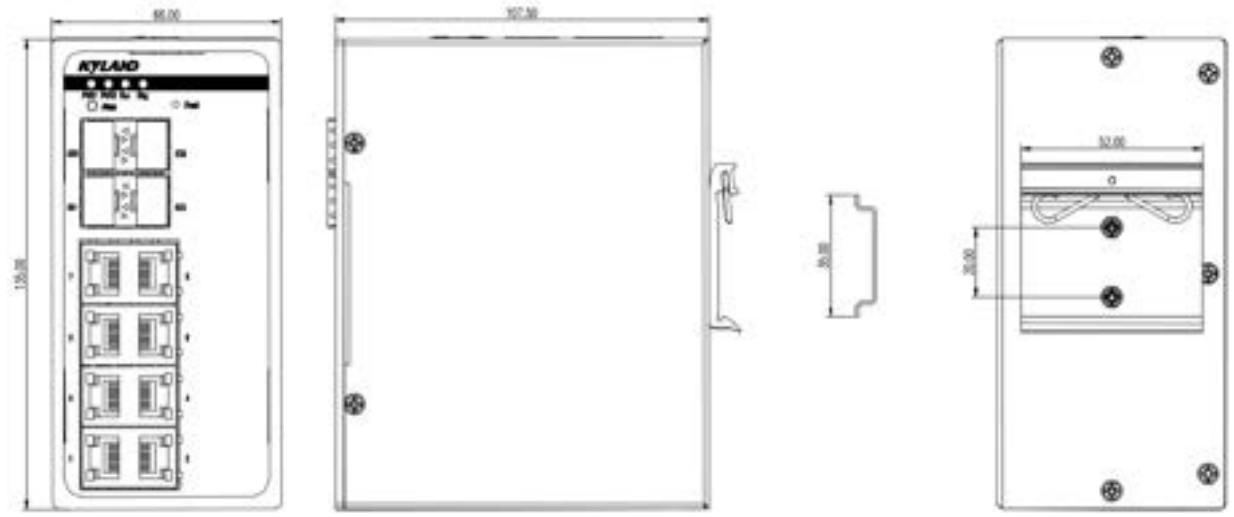


Figure 6 Dimensions for Small Products DIN-Rail Mounting (unit: mm)

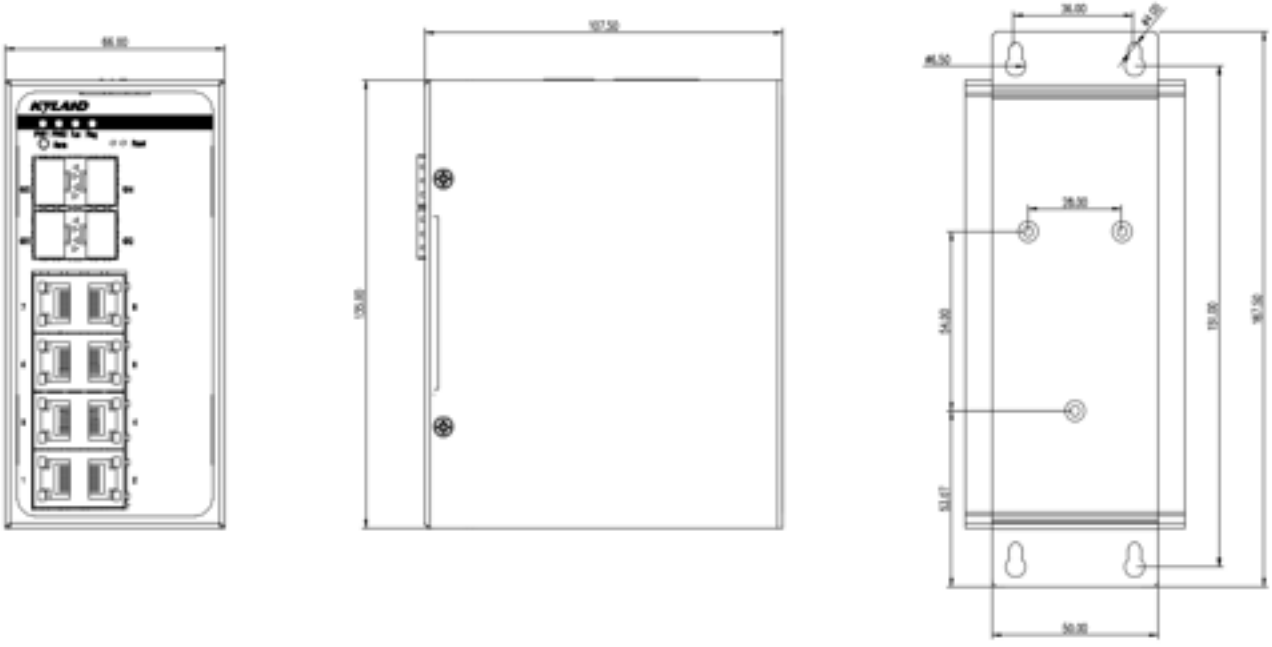


Figure 7 Dimensions for Small Products Panel Mounting(unit: mm)

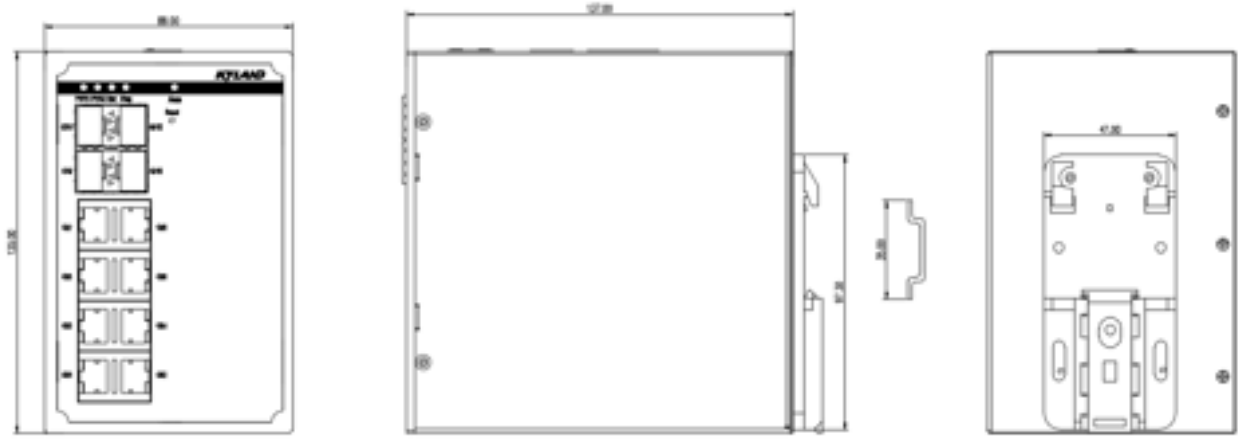


Figure 8 Dimensions for Medium Products DIN-Rail Mounting (unit: mm)

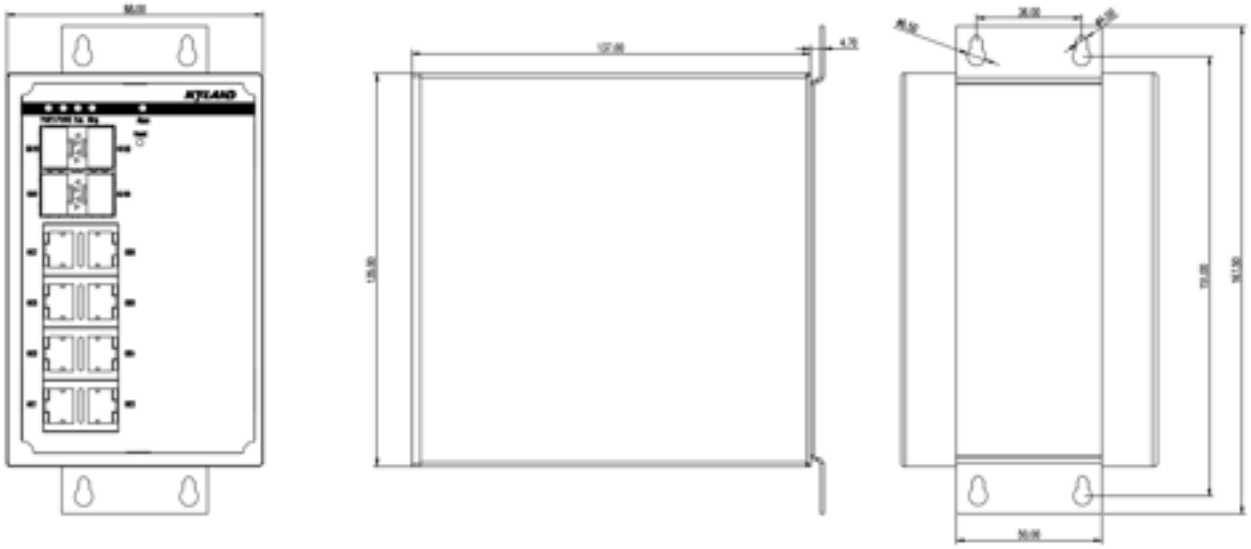


Figure 9 Dimensions for Medium Products Panel Mounting(unit: mm)

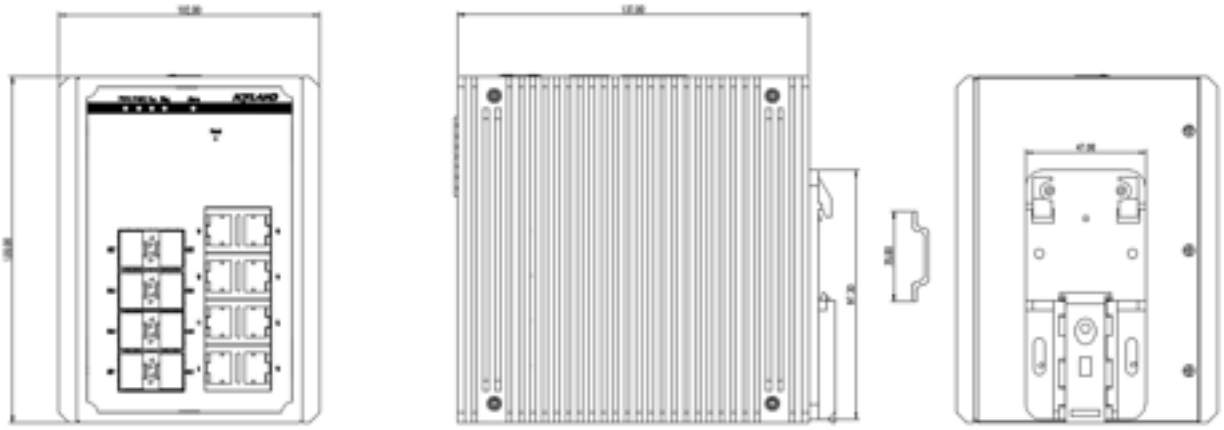


Figure 10 Dimensions for Large Products DIN-Rail Mounting (unit: mm)

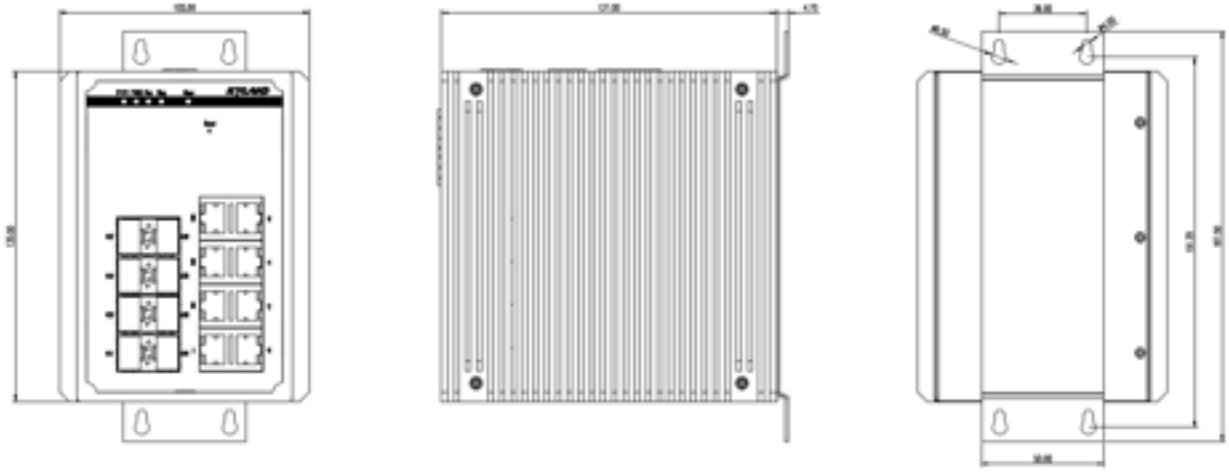


Figure 11 Dimensions for Large Products Panel Mounting(unit: mm)

Caution:

- As part of the heat dissipation system, the switch housing becomes hot during operation. Please use caution when coming in contact and avoid covering the switch housing when the switch is running.
- The figures in this manual are only for reference.

3.2 Mounting Modes and Steps

The device supports both DIN-rail mounting and panel mounting. Before installation, make sure that the following requirements are met.

1) Environment: temperature (-40℃ to 75℃), ambient relative humidity (5% to 95%,

non-condensing)

2) Power requirement: The power input is within the voltage range of the switch.

3) Grounding resistance: <5Ω

4) No direct sunlight, distant from heat source and areas with strong electromagnetic interference.

5) Devices are to be installed in an authority certified enclosure and accessible only by the use of a tool.

6) Devices should be installed and accessed by service personnel or users who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken.

3.2.1 DIN-Rail Mounting

- DIN-Rail Mounting

Step 1: Select the mounting position for the device and guarantee adequate space and heat dissipation.

Step 2: Insert the connecting seat onto the top of the DIN rail, and push the bottom of the device inward and upward to ensure the DIN rail fits in the connecting seat. Make sure the device is firmly installed on the DIN rail, as shown in the following figure.

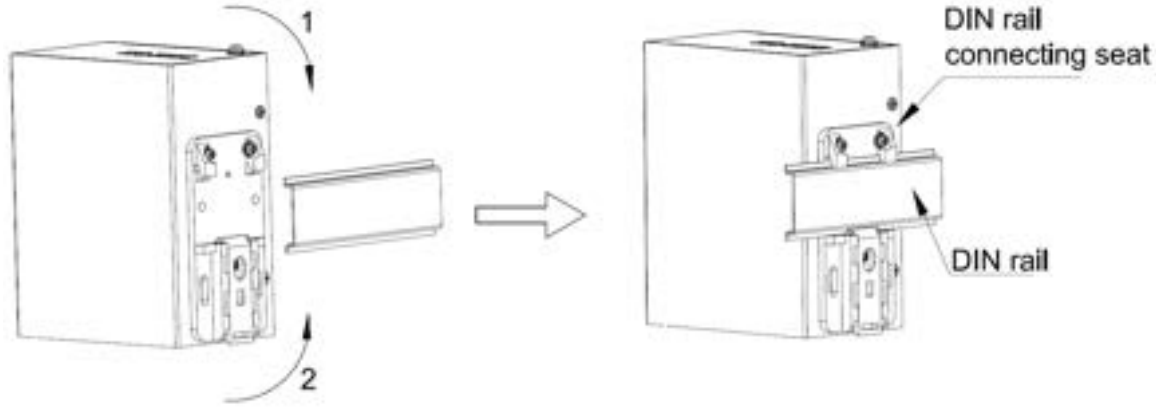


Figure 12 DIN-Rail 2 Mounting

- DIN-Rail Dismounting

Step 1: Insert the head of a screwdriver into the opening of the spring locking piece at the bottom from the left. Lift the handle of the screwdriver to open the spring locking piece of the

connecting seat, as shown on the left of the following figure.

Step 2: Move the device in direction 2 until the bottom of the device is detached from the DIN rail. Then move the device in direction 3 and uplift the device until the top of the connecting seat is detached from the DIN rail. In this way, the device is removed from the DIN rail completely.

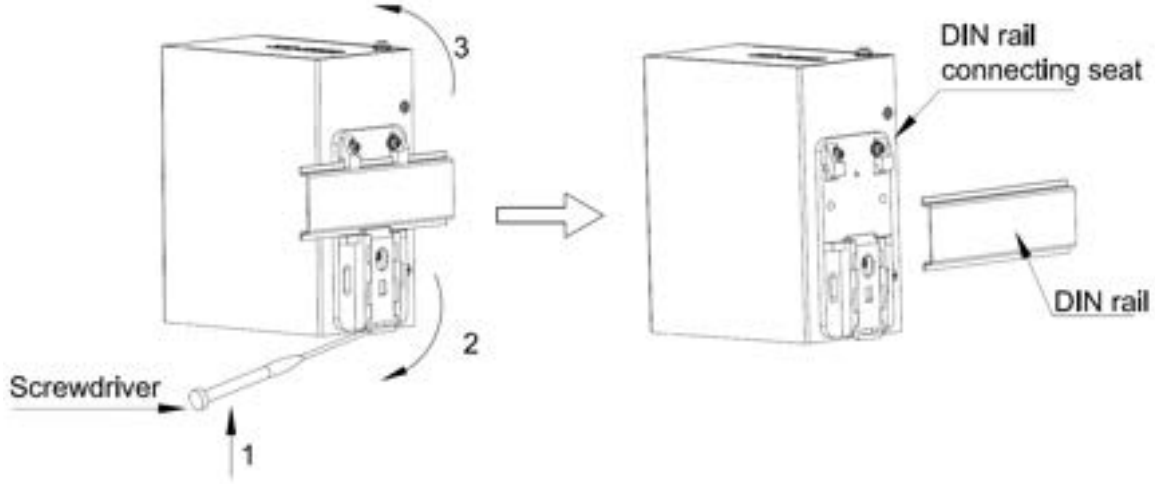


Figure 13 DIN-Rail 2 Dismounting

3.2.2 Panel Mounting

Note:

To adopt panel mounting, you need to purchase the plate for panel mounting (optional).

- Mounting

Step 1: Use screws to fix the plate for panel mounting to the rear panel of the device.

Step 2: Select the mounting position (on a wall or inner wall of a cabinet) for the device and guarantee adequate space and heat dissipation for it.

Step 3: Punch four holes in the selected position according to the dimensions for panel mounting. Insert four screws into the four holes respectively, and turn the screws with a screwdriver until about a 5mm distance is left between each screw head and the wall.

Step 4: Align the four mounting holes on the plate for panel mounting with the four screws. Make the screws pass through the Φ6.5 positions in the following figure. Move the device in

direction 1 until the four screws are in the Φ4 positions. Then tighten the screws to complete mounting.

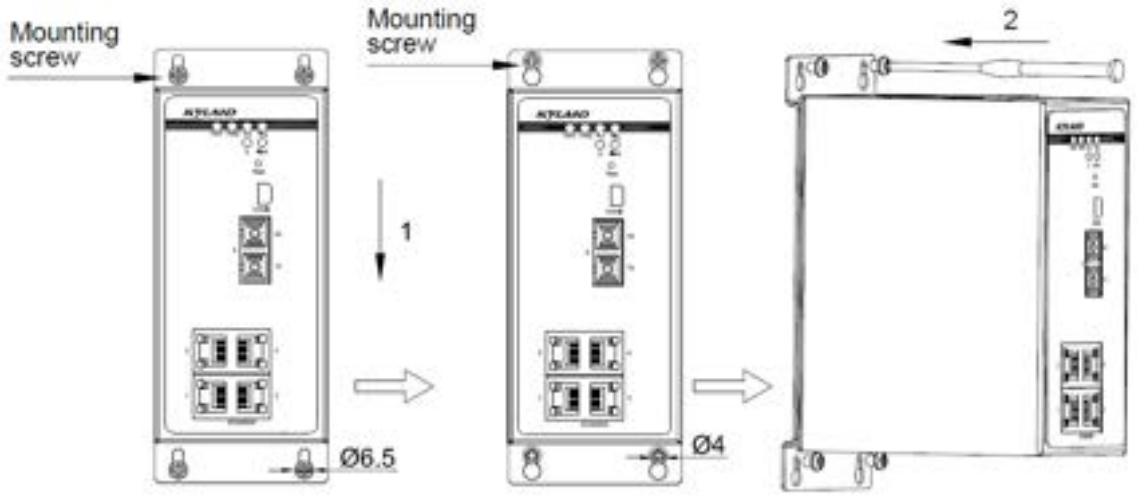


Figure 14 Panel Mounting

- Dismounting

Step 1: Loosen the four screws with a screwdriver. Move the device upward until the four screws are in the Φ6.5 positions in the following figure. Then remove the plate for panel mounting from the four screws to detach the device from the wall or inner wall of the cabinet.

Step 2: Loosen the screws completely with a screwdriver. Remove them from the wall or inner wall of the cabinet. Then remove the plate for panel mounting from the rear panel to complete dismounting the device.

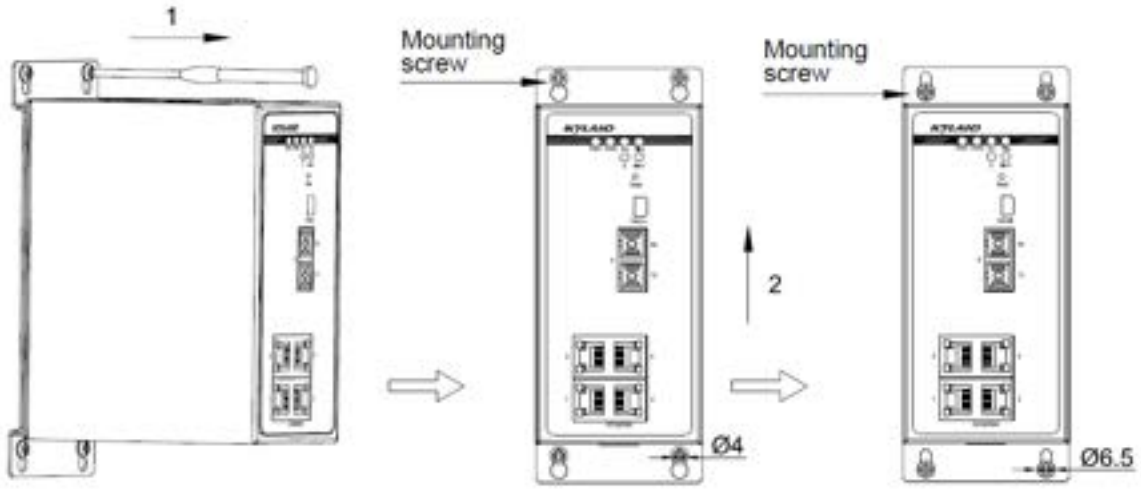


Figure 15 Panel Dismounting



Caution:

Cut off the power and disconnect all cables before mounting, dismounting or moving the equipment.

4 Connection

4.1 10/100Base-T(X) Ethernet Port

10/100Base-T(X) Ethernet port is equipped with RJ45 connector. The port is self-adaptive. It can automatically configure itself to work in 10M or 100M state, full or half duplex mode. The port can also adapt to MDI or MDI-X connection automatically. You can connect the port to a terminal or network device with a straight-through or cross-over cable.

- Pin Definition

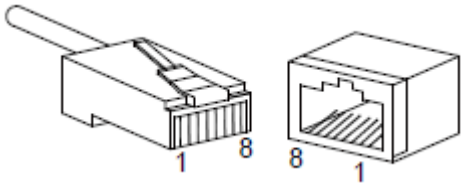


Figure 16 RJ45 Port

Table 4 Pin Definitions of 10/100Base-T(X) Ethernet Port

Pin	MDI-X Signal	MDI Signal
1	Receive Data+ (RD+)	Transmit Data+ (TD+)
2	Receive Data- (RD-)	Transmit Data- (TD-)
3	Transmit Data+ (TD+)	Receive Data+ (RD+)
6	Transmit Data- (TD-)	Receive Data- (RD-)
4, 5, 7, 8	Unused	Unused
Note: "+" and "-" indicate level polarities.		

- Wiring Sequence

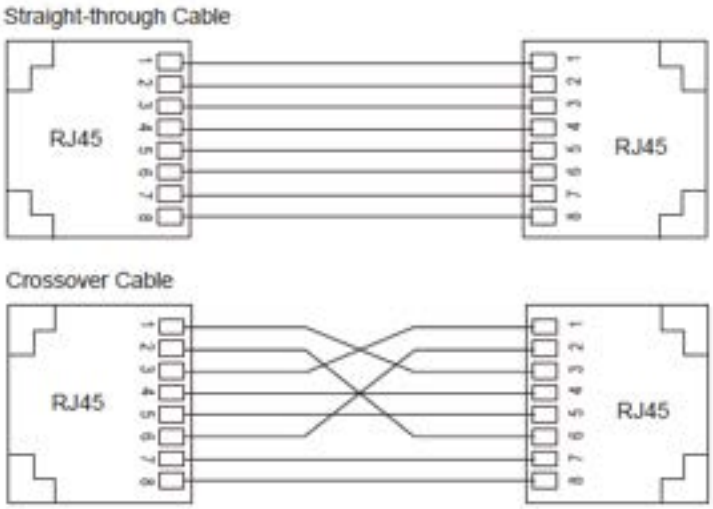


Figure 17 Connection Using Straight-through/Cross-over Cable

Note：

The color of the cable for RJ45 connector meets the 568B standard: 1-orange and white, 2-orange, 3-green and white, 4-blue, 5-blue and white, 6-green, 7-brown and white, and 8-brown.

4.2 10/100/1000Base-T(X) Ethernet Port

10/100/1000Base-T(X) Ethernet port is equipped with RJ45 connector. The port is self-adaptive. It can automatically configure itself to work in 10M or 100M , 1000M state, full or half duplex mode. The port can also adapt to MDI or MDI-X connection automatically. You can connect the port to a terminal or network device with a straight-through or cross-over cable.

- Pin Definition

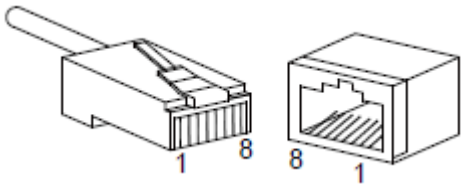


Figure 18 RJ45 Port

Table 5 Pin Definitions of 10/100Base-T(X) Ethernet Port

Pin	MDI-X Signal	MDI Signal
1	Receive Data+ (RD0+)	Transmit Data+ (TD0+)
2	Receive Data- (RD1-)	Transmit Data- (TD1-)
3	Transmit Data+ (TD0+)	Receive Data+ (RD0+)
4	Receive Data+ (RD2+)	Transmit Data+ (TD2+)
5	Receive Data- (RD2-)	Transmit Data- (TD2-)
6	Transmit Data- (TD1-)	Receive Data- (RD1-)
7	Receive Data+ (RD3+)	Transmit Data+ (TD3+)
8	Receive Data- (RD3-)	Transmit Data- (TD3-)
Note: "+" and "-" indicate level polarities.		

- Wiring Sequence

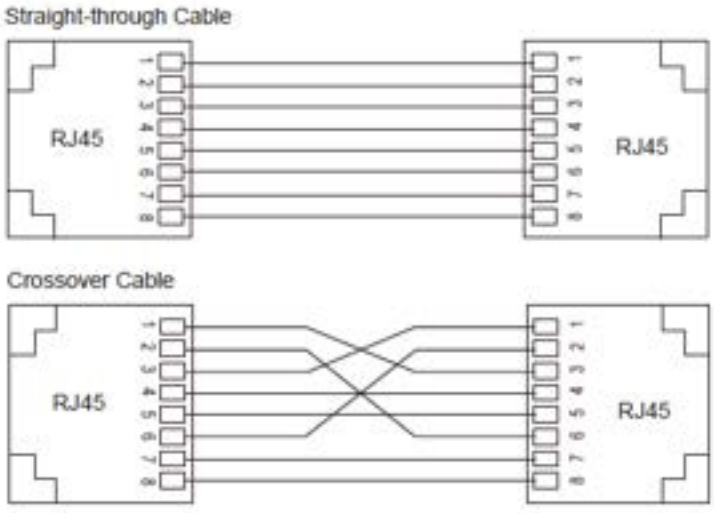


Figure 19 Connection Using Straight-through/Cross-over Cable

Note:

The color of the cable for RJ45 connector meets the 568B standard: 1-orange and white, 2-orange, 3-green and white, 4-blue, 5-blue and white, 6-green, 7-brown and white, and 8-brown.

4.3 100/1000Base-X, 10/100/1000Base-T(X) SFP slot

100/1000Base-X, 10/100/1000Base-T(X) SFP slot (gigabit SFP slot) requires an SFP optical/electrical module to enable data transmission. The following table lists the SFP optical/electrical modules (optional) supported by the series switches.

Table 6 SFP Optical/Electrical Modules

Model	**Port**	**MM/SM**	**Connector**	**Central Wavelength**	**Transmission Distance**
IGSFP-M-SX-LC-850-0.55	1000Base-X port	MM	LC	850nm	0.55km
IGSFP-S-LX-LC-1310-2	1000Base-X port	SM	LC	1310nm	2km
IGSFP-S-LX-LC-1310-10	1000Base-X port	SM	LC	1310nm	10km
IGSFP-S-LX-LC-1310-20	1000Base-X port	SM	LC	1310nm	20km
IGSFP-S-LH-LC-1310-40	1000Base-X port	SM	LC	1310nm	40km
IGSFP-S-LH-LC-1550-60	1000Base-X port	SM	LC	1550nm	60km
IGSFP-S-ZX-LC-1550-80	1000Base-X port	SM	LC	1550nm	80km
IFSFP-M-LX-LC-850-0.55	100Base-X port	MM	LC	850nm	0.55km
IFSFP-M-LX-LC-1310-2	100Base-X port	MM	LC	1310nm	2km
IFSFP-S-LH-LC-1310-10	100Base-X port	SM	LC	1310nm	10km
IFSFP-S-LH-LC-1310-20	100Base-X port	SM	LC	1310nm	20km
IFSFP-S-LH-LC-1310-40	100Base-X port	SM	LC	1310nm	40km
IFSFP-S-LH-LC-1310-60	100Base-X port	SM	LC	1310nm	60km
IFSFP-S-ZX-LC-1550-80	100Base-X port	SM	LC	1550nm	80km
IGSFP-10/100/1000BASE-T-RJ45	10/100/1000Base-T(X) port	--	RJ45	--	--

Note:

The device uses the SFP module that supports digital diagnosis to support the optical power detection function of the SFP slot. For details about the SFP module, consult our sales or

technical support personnel.

4.3.1 SFP Optical Module

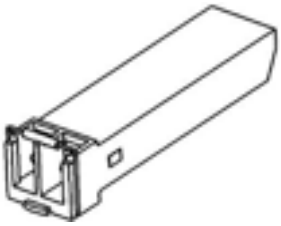


Figure 20 SFP Optical Module

An SFP optical module is equipped with LC connector, and each port consists of a TX (transmit) port and an RX (receive) port. To enable communication between Device A and Device B, connect the TX port of Device A to the RX port of Device B, and the RX port of Device A to the TX port of Device B, as shown in the following figure.



Figure 21 Fiber Connection of an SFP Optical Module

- How to Connect the SFP Optical Module

Insert the SFP optical module into the SFP slot in the switch, and then insert the fibers into the TX port and RX port of the SFP module.

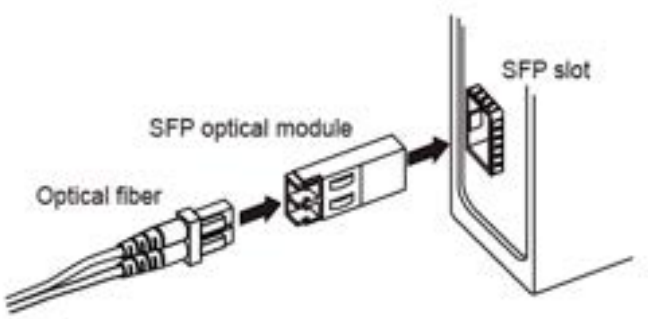


Figure 22 Connecting the SFP Optical Module

Identify the RX port and TX port of an SFP optical module:

1. Insert the two connectors in one end of two fibers into the SFP module, and those in the

other end into the peer module.

2. View the corresponding connection status LED:

If the LED is on, the connection is correct. If the LED is off, the link is not connected. This may be caused by incorrect connection of the TX and RX ports. In this case, swop the two connectors at one end of the fibers.

Caution:

- The device uses laser to transmit signals in fibers. The laser meets the requirements of level 1 laser products. Routine operation is not harmful to your eyes, but do not look directly at the fiber port when the device is powered on.
- If the defined transmission distance of an SFP module is longer than 60km, do not use a short fiber (<20km) for connection. If such a short fiber is used, the module will be burned.

4.3.2 SFP Electrical Module

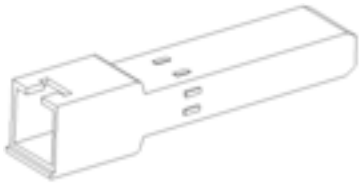


Figure 23 SFP Electrical Module

- How to Connect the SFP Electrical Module

Insert the SFP electrical module into the SFP slot in the switch, and then insert the RJ45 connector of the twisted pair into the SFP module.

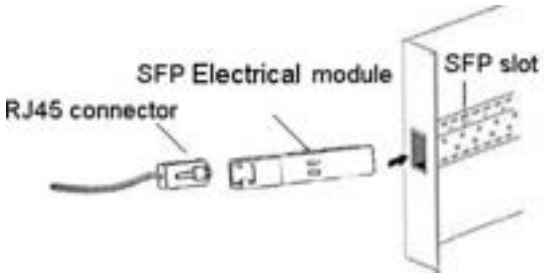


Figure 24 Connecting the SFP Electrical Module

4.4 Console Port

4.4.1 RJ45 Console port

Medium products& Large products provide RJ45 Console port. There is a Console port on the front panel of the switch, as shown in Connect the 9-pin serial port of a PC to the console port of the switch with a DB9-RJ45 console cable. You can configure, maintain, and manage the switch by running Hyper Terminal in the Windows OS of a computer.



Figure 25 Console Port

- DB9-RJ45 Console Cable

One end of a DB9-RJ45 console cable is the DB9 connector to be inserted into the 9-pin serial port of a PC, and the other end is crimped RJ45 connector to be inserted into the console port of the switch.

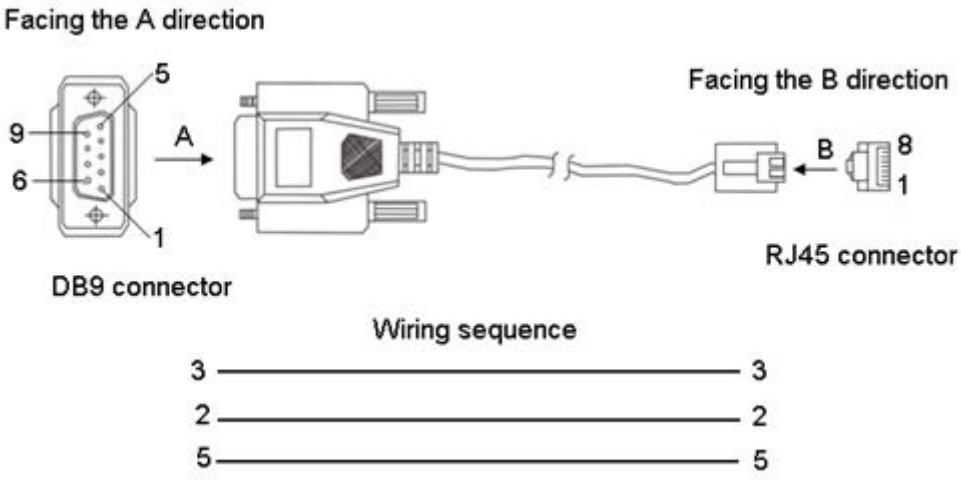


Figure 26 Wiring Sequence of DB9-RJ45 Console Cable

Table 7 Pin Definitions of DB9 Port (9-Pin Serial Port) and RJ45 Port (Console Port)

DB9 Port (9-Pin Serial Port)		**RJ45 Port (Console Port)**	
Pin	**Signal**	**Pin**	**Signal**
2	RXD (Receive data)	2	TXD (Transmit data)

3	TXD (Transmit data)	3	RXD (Receive data)
5	GND (Grounding)	5	GND (Grounding)

4.5 Grounding

Grounding protects the switch from lightning and interference. Therefore, you must ground the switch properly. You need to ground the switch before it is powered on and disconnect the grounding cable after the switch is powered off.

The switch provides a grounding screw on the top panel for chassis grounding. After crimping one end of the grounding cable to a cold pressed terminal, secure the end to the grounding screw and connect the other end to the earth firmly.

Note：

Cross-sectional area of the chassis grounding cable>2.5mm^2; grounding resistance<5Ω.

4.6 Power Terminal Block

- 3-Pin 7.62mm-Spacing Plug-in Terminal Block

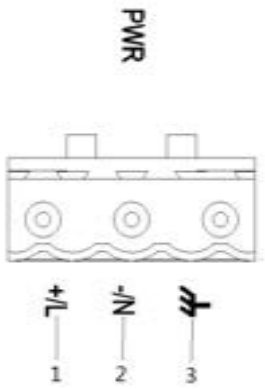


Figure 27 3-Pin 7.62mm-Spacing Plug-in Terminal Block (socket)

Table 8 Pin Definitions of 3-Pin 7.62mm-Spacing Plug-in Terminal Block

No.	DC Definition	AC Definition
1	PWR：+	PWR：L
2	PWR：-	PWR：N
3	PGND	PGND

There is a power terminal block on the top panel of the device. You need to connect the

power wires to the terminal block to provide power to the device. The device supports redundant power input with a 5-pin 5.08mm-spacing plug-in terminal block. When one power input is faulty, the device can continue operating properly, thereby improving network reliability.

Note：

- 0.75mm^2<Cross-sectional area of the power wire<2.5mm^2; grounding resistance<5Ω.
- Use copper conductors only, temperature rating 75℃ only.
- Seuls les fils en cuivre sont utilisés et la température n 'est que de 75 °C.

- 5-Pin 5.08mm-Spacing Plug-in Terminal Block

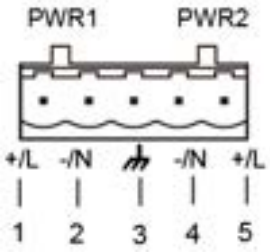


Figure 28 5-Pin 5.08mm-Spacing Plug-in Terminal Block (socket)

Table 9 Pin Definitions of 5-Pin 5.08mm-Spacing Plug-in Terminal Block

No.	Signal	DC Definition	AC Definition
1	+/L	PWR1: +	PWR1: L
2	-/N	PWR1: -	PWR1: N
3	⏚	PGND	PGND
4	-/N	PWR2: -	PWR2: N
5	+/L	PWR2: +	PWR2: L

- Wiring and Mounting

Step 1: Ground the device properly according to section 4.5.

Step 2: Remove the power terminal block from the device.

Step 3: Insert the power wires into the power terminal block according to Table 8、Table 9 and secure the wires.

Step 4: Insert the terminal block with the connected wires into the terminal block socket on

the device.

Step 5: Connect the other end of the power wires to the external power supply system according to the power supply requirements of the device. View the status of the power LEDs on the front panel. If the LEDs are on, the power is connected properly.

Wiring and Mounting should meet following specifications.

Table 10 Wiring and Mounting Specifications

Terminal Type	Required Torque	Wire Range (AWG)
Terminal Block Plug	4.4-5.0 lb-in	12-24

Caution:

- Before connecting the device to power supply, make sure that the power input meets the power requirement. If connected to an incorrect power input, the device may be damaged.
- To comply with UL restrictions, this equipment must be powered from a source compliant with SELV.

Warning:

- Do not touch any exposed conducting wire, terminal, or component with a voltage warning sign, because it may cause damage to humans.
- Do not remove any part or plug in or out any connector when the device is powered on.

4.7 Alarm Terminal Block

The device provides an alarm terminal block on the top panel for alarm output. When the switch works properly, the normally-open contacts of the alarm relay are closed and the normally-closed contacts are open; when an alarm occurs, the normally-open contacts are open and the normally-closed contacts are closed. The alarm is outputted through a 3-pin 5.08mm-spacing plug-in terminal block.

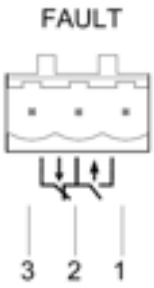


Figure 29 Alarm Terminal Block (socket)

Electrical parameters of the relay:

Max Switch Voltage: 250VAC/220VDC

Max Switch Current: 2A

Max Switching Power: 60W

Dielectric Strength: 2KV

Note:

- Pin 1 and pin 2 are normally-open contacts; pin 2 and pin 3 are normally-closed contacts. When the switch works properly, pin 1 and pin 2 are closed, pin 2 and pin 3 are open; when an alarm occurs, pin 1 and pin 2 are open; pin 2 and pin 3 are closed.
- Use copper conductors only, temperature rating 75℃ only.
- Seuls les fils en cuivre sont utilisés et la température n 'est que de 75 °C

- Wiring and Mounting

Step 1: Remove the alarm terminal block from the switch.

Step 2: Secure the three wires for alarm into the alarm terminal block in the required sequence.

Step 3: Insert the alarm terminal block into its socket.

Wiring and Mounting should meet following specifications.

Table 11 Wiring and Mounting Specifications

Terminal Type	**Required Torque**	**Wire Range (AWG)**
Terminal Block Plug	4.4 lb-in	12-24

5 Reset

The device provides a Reset button on the front panel. The button can be used to restart the device or restore factory default settings.

You can restart the device by pressing and holding the button for 0.5 to 3 second.

You can restore factory default settings by pressing and holding the button for 3 seconds or more.

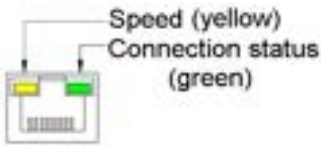


Caution:

To restart the device only, do not press and hold the button for 3 seconds or more, because the operation will restore factory default settings.

6 LEDs

Table 12 Front Panel LEDs

LED	State	Description
Power 1 LED	On	Power 1 is connected and operates properly.
	Off	Power 1 is not connected or operates abnormally.
Power 2 LED	On	Power 2 is connected and operates properly.
	Off	Power 2 is not connected or operates abnormally.
Running LED	Blinking	The CPU operates properly.
	On	The CPU is starting up.
	Off	The CPU does not start up.
Ring LED	On	Master (DT-Ring mode)/Root (DRP mode)
	Blinking	Slave (DT-Ring mode)/B-Root or Normal (DRP mode)
	Off	No ring
Alarm LED	On	An alarm occurs.
	Off	No alarm occurs.
100Base-X SFP Port speed LED（yellow）	On	100M working state (100Base-TX)
	Off	No connection
100/1000Base-X SFP Port speed LED（yellow）	On	1000M working state (1000Base-TX)
	Off	100M working state (100Base-TX) or no connection
100Base-FX Ethernet port/Gigabit SFP slot connection status LED（green）	On	Effective port connection
	Blinking	Ongoing network activities
	Off	No effective port connection
		
10/100Base-T(X) Ethernet port speed LED (yellow)	On	100M working state (100Base-TX)
	Off	10M working state or no connection

10/100Base-T(X) Ethernet port connection status LED (green)	On	Effective port connection
	Blinking	Ongoing network activities
	Off	No effective port connection
10/100Base-T(X) Ethernet port speed LED (yellow)	On	1000M working state (1000Base-T（X）)
	Off	10M or 100M working state or no connection
10/100Base-T(X) Ethernet port connection status LED (green)	On	Effective port connection
	Blinking	Ongoing network activities
	Off	No effective port connection

7 Switch Access

You can access the switch in any of the following ways:

7.1 Access through Console Port

Step 1: The RJ45 management port connects the 9-pin serial port of the PC and the Console port of the device through the DB9-RJ45 Network cable Equipment attached. Mini USB needs to Install Mini USB driver.exe. You can find the program in the delivered CD. Connect the USB port of the PC to the console port of the switch with the USB console cable.

Step 2: Open Hyper Terminal in Windows OS. On the computer's desktop, click Start → All Programs → Accessories → Communications → Hyper Terminal.

Step 3: Create a connection "Switch", as shown in the following figure.



Figure 30 Creating a Connection

Step 4: Connect the communication port in use, as shown in the following figure.



Figure 31 Selecting a Serial Port

Note:

To confirm the communication port in use, right-click [My Computer] and select [Property]. Click [Hardware] → [Device Manager] → [Port] to view the communication port.

Step 5: Set port parameters (Bits per second: 115200, Data bits: 8, Parity: None, Stop bits: 1, and Flow control: None), as shown in the following figure.

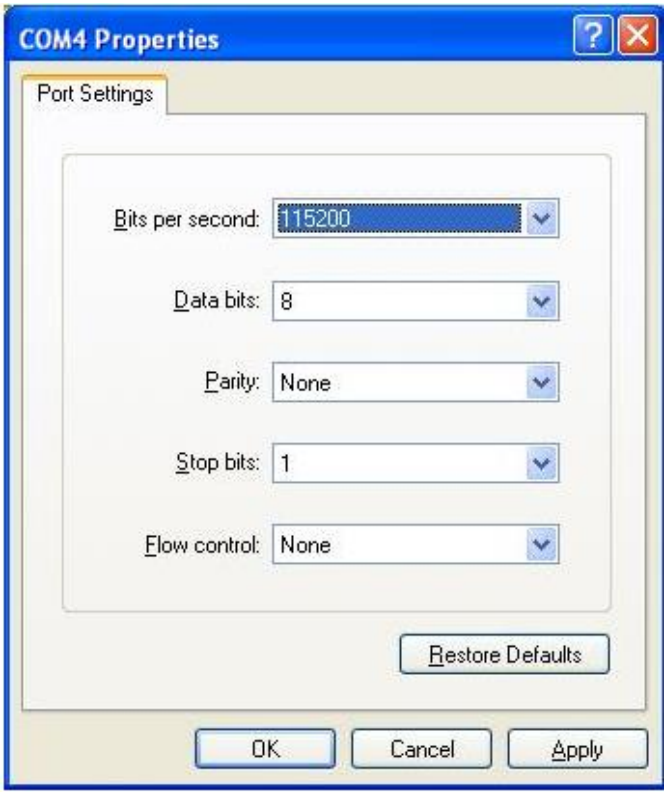


Figure 32 Setting Port Parameters

Step 6: Click OK to enter the switch CLI. Then the following commands can be used to perform operations.

Table 13 CLI Commands

View	Command	Description
Privileged mode	SWITCH#show interface vlan 1	Query the IP address of the switch.
Privileged mode	SWITCH#show version	Query the version of the switch.
Privileged mode	SWITCH#reboot	Restart the switch.
Privileged mode	SWITCH#load default	Restore the factory default settings .
Privileged mode	SWITCH#config terminal	Enter the configuration mode.

7.2 Access through Telnet

Step 1: Connect the network port of a PC to the Ethernet port of the switch with a network cable.

Step 2: On the Windows desktop, click Start and Run. The Run dialog box is displayed. Enter "telnet *IP address*". For example, if the IP address of the device is 192.168.0.2 (default IP

address of the device), enter "telnet 192.168.0.2" in the dialog box.

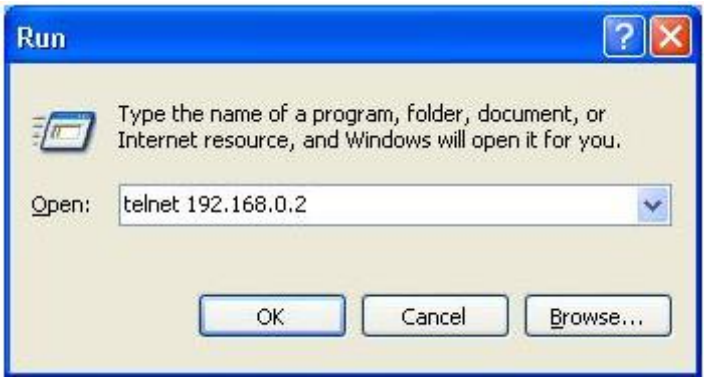


Figure 33 Access through Telnet

Step 3: Click OK. The Telnet CLI is displayed. Then you can run the commands (as shown inTable 13) to perform operations.

7.3 Access through Web

Step 1: Connect the network port of a PC to the Ethernet port of the switch with a network cable.

Step 2: Enter the IP address of the device in the address box of the browser. The user login interface is displayed. You can log in to the Web UI by default user name "admin" and password "123".

Note:

- IE8.0 or a later version is recommended.
- For details about how to access the device and other operations, refer to the Web operation manual in the delivered CD.

8 Basic Features and Specifications

Power Requirements		
Power Identifier	Rated Voltage Range	Maximum Voltage Range
L2	24-48VDC	18-60VDC
L5	12-24VDC	9-36VDC
HV	100-240VAC,50/60Hz;110-220VDC	85-264VAC/77-300VDC
Terminal block	L2/L5：5-pin 5.08 mm-spacing plug-in terminal block HV：3-pin 7.62 mm-spacing plug-in terminal block	
Rated Power Consumption		
Rated power consumption	Small products：<12W Medium products：<16W Large products：<20W	
Physical Characteristics		
Housing	Metal, fanless	
Protection class	IP40	
Installation	DIN-rail mounting or panel mounting	
Dimensions (W×H×D)	Small products： 66mm×135mm×107.5mm； Medium products：88mm×135mm×137mm； Large products： 102mm×135mm×137mm； (excluding the connector, DIN rail, and component for panel mounting)	
Weight	Small products：1.1kg Medium products：1.5kg Large products：1.9kg	
Environmental Limits		
Applicable Environmental	Indoor	

Operating temperature	-40℃~+75℃
Storage temperature	-40℃~+85℃
Ambient relative humidity	5%~95% (non-condensing)
Pollution degree	2
Altitude	2000m
Warranty	
Warranty	5 years

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