

KIEN1008G
Industrial Ethernet Switch
Hardware Installation Manual



KYLAND
Kyland Technology Co., LTD.

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Customer Service Hotline: (+8610) 88796676

FAX: (+8610) 88796678

Website: <http://www.kyland.cn>

E-mail: support@kyland.biz

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**KIEN1008G Industrial Ethernet Switch
Hardware Installation Manual**

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Notice for Safety Operation

This product performs reliably as long as it is used according to guidelines. Artificial damage or destruction of the equipment should be avoided.

- Read this manual carefully and keep it for future reference;
- Do not place the equipment near water sources or damp areas;
- Do not place anything on power cable and put the cable in unreachable places;
- Do not tie or wrap the cable to prevent fire.
- Power connectors and other equipment connectors should be firmly interconnected and checked frequently.
- Do not repair the equipment by yourself, unless it is clearly specified in the manual.
- Please keep the equipment clean; if necessary, wipe the equipment with soft cotton cloth.

In the following cases, please immediately cut off the power supply and contact our company:

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

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1. Packing List

KIEN1008G Industrial Ethernet Switch	1
Hardware Installation Manual	1
Certificate of Quality (including Warranty Card)	1

Note: After unpacking, please check the accessories and the appearance of the equipment. If anything is missing or damaged, please contact us.

2. Product Overview

KIEN1008G is a series of green, low power consumption, DIN-Rail industrial Ethernet switch that can be applied extensively in wind power, distribution network automation, subway PIS, power SCADA, wastewater treatment, metallurgy, intelligent transportation, rail transit and many other industries.

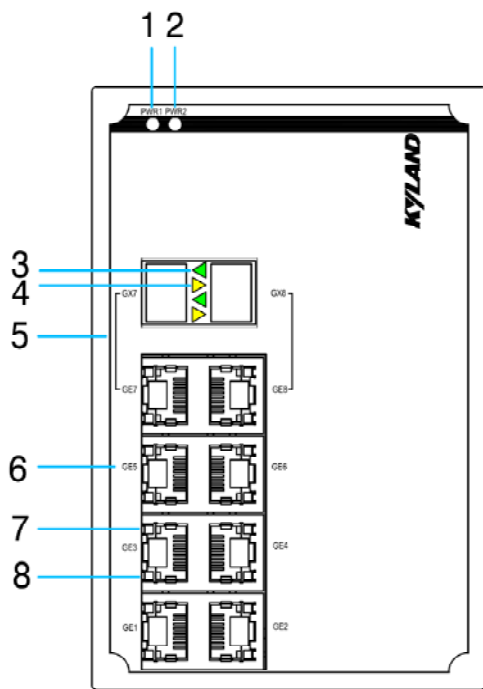
KIEN1008G industrial Ethernet switch supports DIN-Rail and panel mounting. It supports IP40 protection class and provides abundant Gigabit ports.

3. Structure and Interface

3.1 Front Panel

KIEN1008G supports two kinds of product models. The interface is different for each product model.

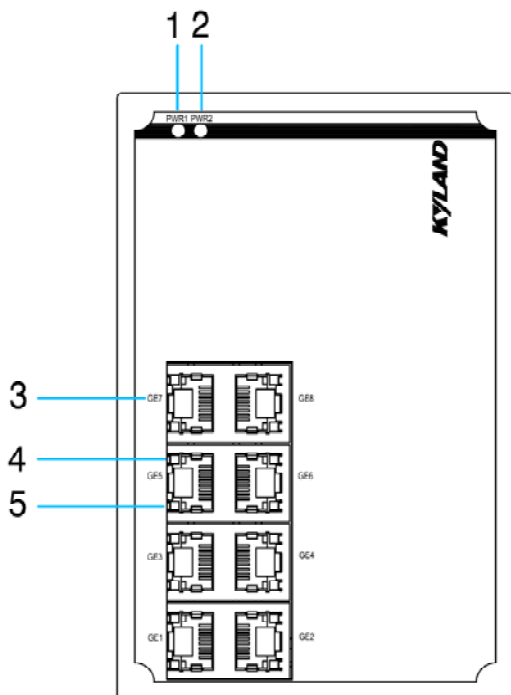
- KIEN1008G-2GX/GE-6GE front panel is shown in Figure 1 below



- 1: PWR1-Power 1 LED
- 2: PWR2-Power 2 LED
- 3: Combo port (SFP)Link/ACT LED
- 4:Combo port(SFP) Speed LED
- 5:(GX7/GE7、GX8/GE8)-two Combo ports
- 6:(GE1-GE6)-six 10/100/1000Base-T(X) RJ45 ports
- 7:RJ45port Speed LED
- 8:RJ45portLink/ACT LED

Figure 1 Front Panel 1

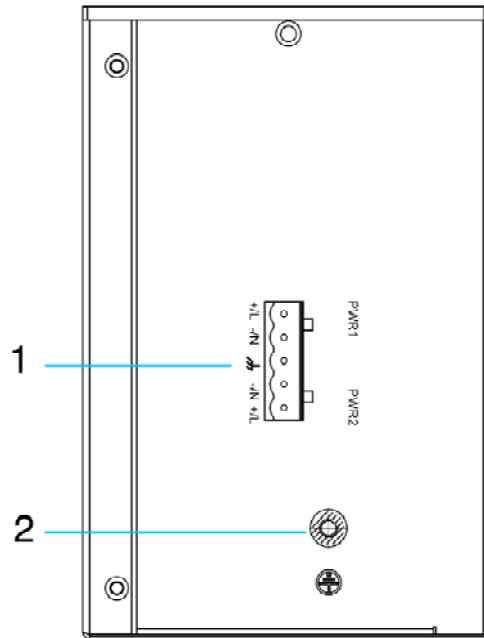
- KIEN1008G-8GE front panel is shown in Figure 2 below



- 1: PWR1-Power 1 LED
- 2: PWR2-Power 2 LED
- 3:(GE1-GE8)-eight 10/100/1000Base-T(X) RJ45 ports
- 4:RJ45port Speed LED
- 5:RJ45portLink/ACT LED

Figure 2 Front Panel 2

3.2 Top Panel



1: Terminal block for power input

2: Screw hole for grounding

Figure 3 Top Panel

4. Mounting

4.1 Mounting

- Dimension Drawing for DIN-Rail Mounting (Unit: mm)

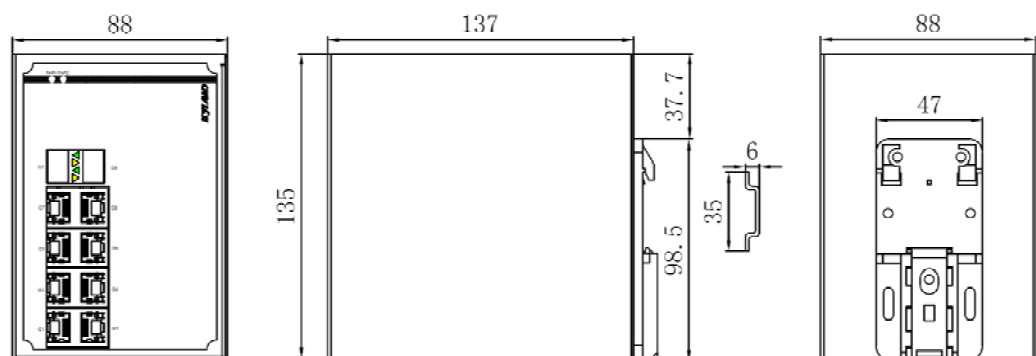


Figure 4 DIN-Rail Mounting

- Dimension Drawing for Panel Mounting (Unit: mm)

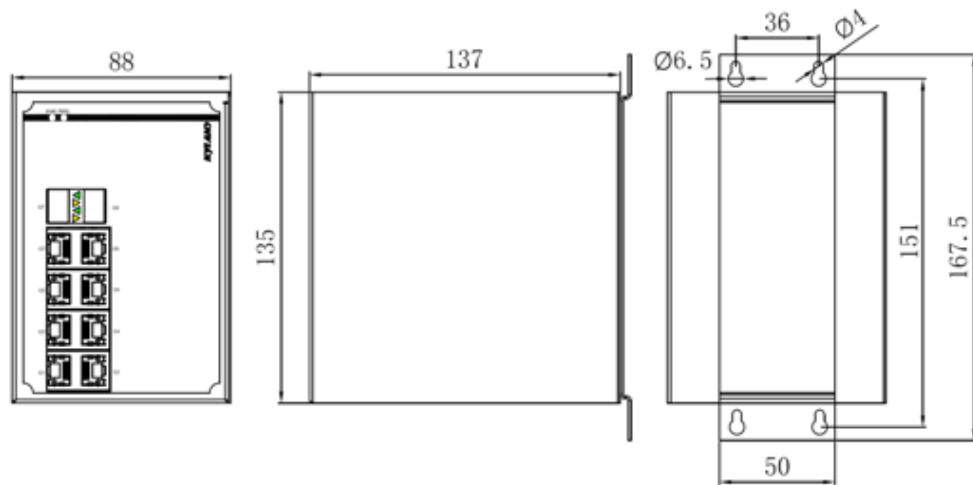


Figure 5 Panel Mounting

4.2 Mounting Steps

- KIEN1008G DIN-Rail Mounting

The specific steps are as follows:

Step 1: Select the mounting position for KIEN1008G and ensure that there is adequate space.

Step 2: Insert the top of the DIN-Rail into the spring-supported slot of the DIN-Rail connecting seat in the rear panel of KIEN1008G as seen below; move the device in the direction of arrow 2 to put the whole Din-Rail into place; verify the KIEN1008G is firmly mounted on the DIN-Rail, as shown below.

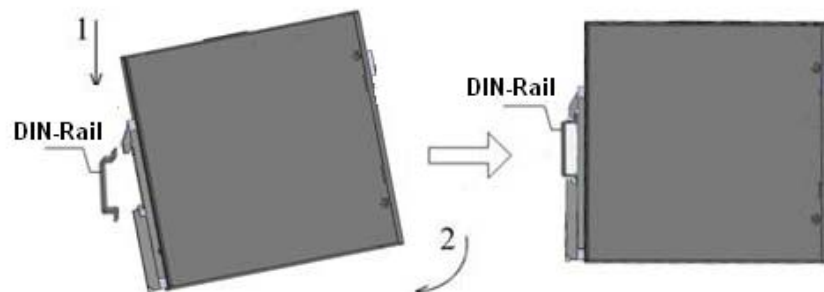


Figure 6 DIN-Rail Mounting

- Remove KIEN1008G from DIN-Rail

The specific steps are as follows:

Step 1: Place the screwdriver into the hole at the bottom of spring locking plate; press the plate down to loosen the connection of DIN-Rail and switch, as shown in arrow 1.

Step 2: Pull the KIEN1008G up in the direction of arrow 2; meanwhile remove the device from the DIN-Rail along the direction of arrow 3.

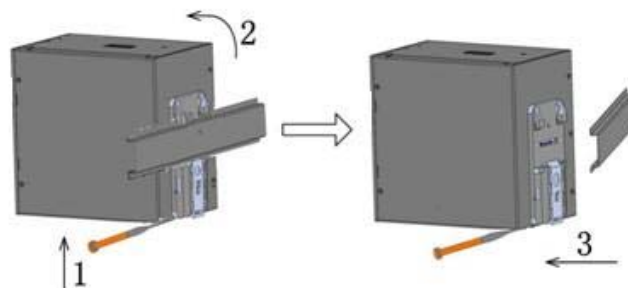


Figure 7 DIN-Rail Dismounting

- KIEN1008G Panel Mounting

The specific steps are as follows:

Step 1: Select the mounting position for KIEN1008G on the wall or in cabinet; ensure that there is adequate space for the switch.

Step 2: Drill 4 holes on the selected position according to the panel mounting dimension drawings; use a cross-screwdriver to screw 4 cross-slot screws (M3×10) into holes. Don't tighten the screws completely; leave about 5mm of space between.

Step 3: Aim 4 mounting holes on KIEN1008G mounting plate at 4 fixed screws; pass the screws through 4 holes with the diameter of 6.5mm (Φ6.5); then slide down KIEN1008G as seen below; finally screw 4 screws tightly.

Now the KIEN1008G should be firmly fixed to the wall or cabinet.

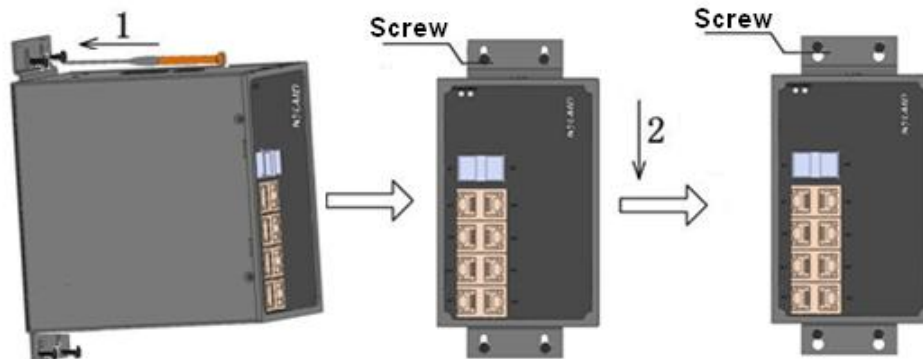


Figure 8 Panel Mounting

- Remove KIEN1008G from wall or cabinet

The specific steps are as follows:

Step 1: Use a screwdriver to loosen 4 screws; move the device up to let screws into 4 holes with the diameter of 6.5mm ($\Phi 6.5$).

Step 2: Unscrew the screws from wall or cabinet; remove the device from wall or cabinet.

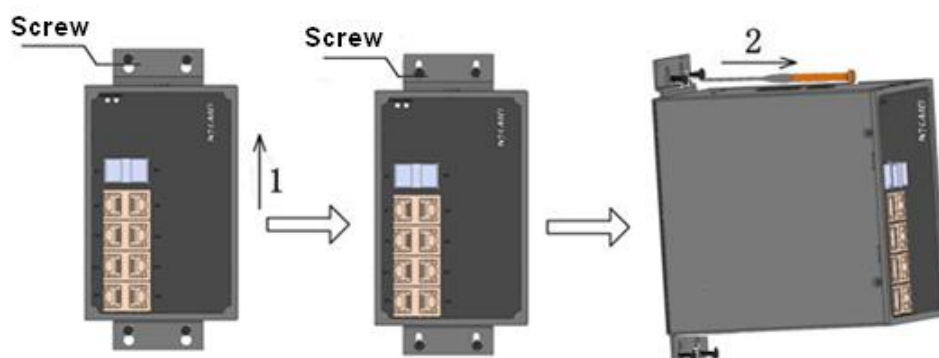


Figure 9 Panel Dismounting

5. Cable Connection

5.1 10/100/1000Base-T(X)

10/100/1000Base-T(X) Ethernet RJ45 port can be connected to terminal equipment and network devices with straight-through cables or crossover cables. RJ45 connectors must be attached at both ends of cable.

- RJ45 port and pin number

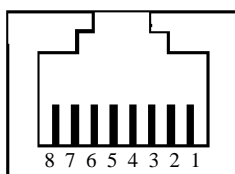


Figure 10 RJ45 Port

- Pin distribution of 10/100/1000Base-T(X)

Table 1 Pin Distribution of 10/100/1000Base-T(X)

Pin	MDI	MDI-X
1	Output/Receiving data (TRD0+)	Output/Receiving data (TRD1+)
2	Output/Receiving data (TRD0-)	Output/Receiving data (TRD1-)
3	Output/Receiving data (TRD1+)	Output/Receiving data (TRD0+)
4	Output/Receiving data (TRD2+)	Output/Receiving data (TRD3+)
5	Output/Receiving data (TRD2-)	Output/Receiving data (TRD3-)
6	Output/Receiving data (TRD1-)	Output/Receiving data (TRD0-)
7	Output/Receiving data (TRD3+)	Output/Receiving data (TRD2+)
8	Output/Receiving data (TRD3-)	Output/Receiving data (TRD2-)

Note: "+" "-" mean level polarity.

- 1000M straight-through cable wiring

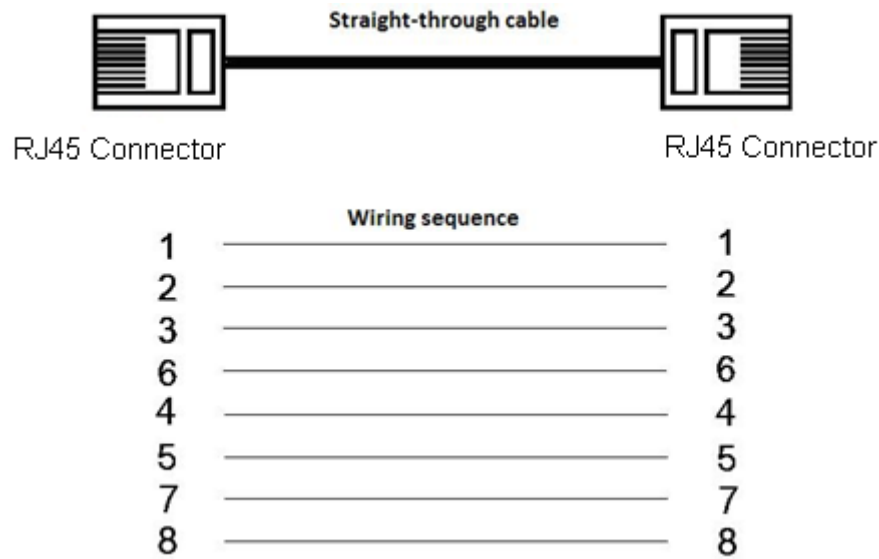


Figure 11 1000M Straight-through Cable Wiring

- 1000M crossover cable wiring

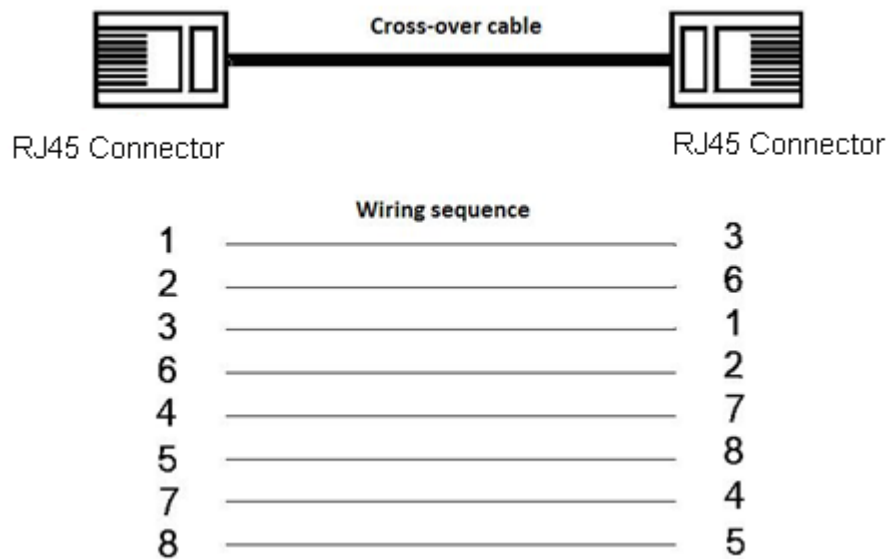


Figure 12 1000M Crossover Cable Wiring

5.2 Combo port

A Combo port is on the front panel, which consists of one RJ45 port and one gigabit SFP slot that accepts a modular SFP optical fiber transceiver. The RJ45

port and its related fiber port are both always connected but cannot be used simultaneously.

- **For RJ45 port please refer to section 5.1**
- **1000BaseSFP**

➤ 1000Base SFP(1.25Gbit/s)Parameter Table

Table 2 1000Base SFP(1.25Gbit/s) Parameter Table

Property	SX	LX	LH	ZX	ZX	
Type	Multi Mode (M)	Single Mode (S)	Single Mode (S)	Single Mode (S)	Single Mode (S)	
Center Wavelength (nm)	850	1310	1310	1550	1550	
Transmission Distance(Km)	0.55	10	40	60	80	
Application Range of Transmission Distance(Km)	0~0.55	0~10	12~40	24~60	27~80	
Transmitting Optical Power	Mini. (dBm)	-11	-10	-4	-3	-2
	Max. (dBm)	-2	-3	3	4	5
Receiving Sensitivity(dBm)	-18	-21	-23	-22	-25	
Overload Optical Power (dBm)	0	-3	-3	-3	-3	

➤ Figure 13 shows an example of an SFP gigabit optical fiber transceiver



Figure 13 SFP Gigabit Optical Fiber Transceiver

➤ Wiring

While wiring, first insert the SFP modular into the SFP slot in the device, and then plug the optical fiber into the SFP module. See Figure 14

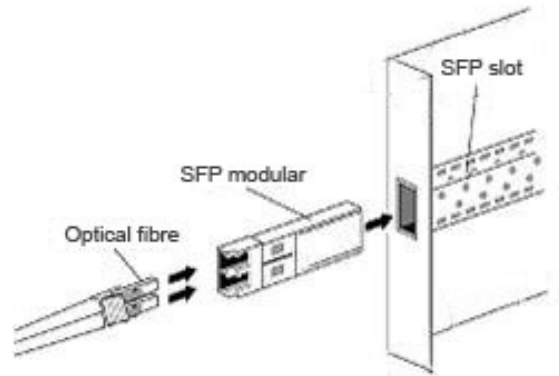


Figure 14 SFP Gigabit Optical Fiber Transceiver Wiring

5.3 Power

According to the power input requirements, use a 5.08mm-spacing terminal block to connect the power cable.

Note: The cross section area of the power cable is required to be greater than 0.75mm² and less than 2.5mm². The grounding resistance requirement: <5Ω.

- 5.08mm power terminal block pin number is shown in Figure 15

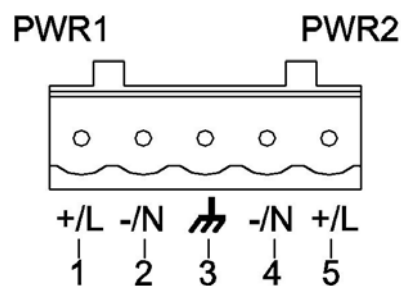


Figure 15 Pin 5.08mm Power Terminal Block

- 5.08mm power terminal block contact definition

Table 3 Contact Definition

Contact number	DC wiring definition	AC wiring definition
1	PWR1: +	PWR1: L
2	PWR1: -	PWR1: N
3	Protection Ground	Protection Ground
4	PWR2: -	PWR2: N
5	PWR2: +	PWR2: L

- Wiring and mounting

Step 1: Take the power terminal block off KIEN1008G

Step 2: Insert the power cable into the terminal block and fix the power cable

Step 3: Put the terminal block back to KIEN1008G with the connected cable

5.4 Grounding

- Chassis grounding and power terminal grounding

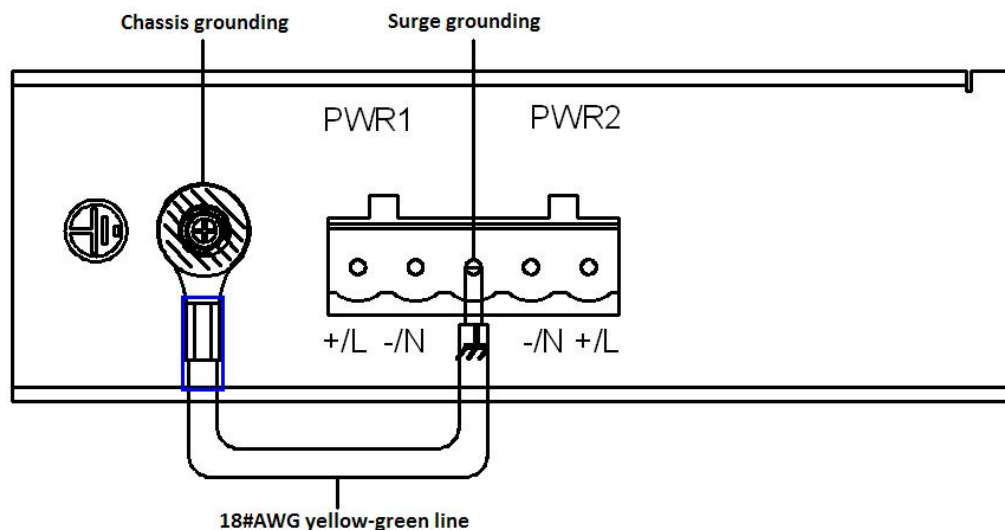


Figure 16 Chassis Grounding and Power Terminal Grounding

There is a grounding screw on the top panel of the KIEN1008G, which is for chassis grounding. One end of the chassis grounding cable is connected with the grounding screw and the other end of the cable is reliably grounded. (The cross section area of chassis grounding cable should be more than 2.5mm^2 . The grounding resistance requirement: $<5\Omega$)

The grounding part in the 5.08mm power terminal block is called surge grounding.

It is required to connect the chassis grounding part with the surge grounding part by an 18#AWG yellow-green line as seen below

- 18#AWG yellow-green line (Unit: mm)

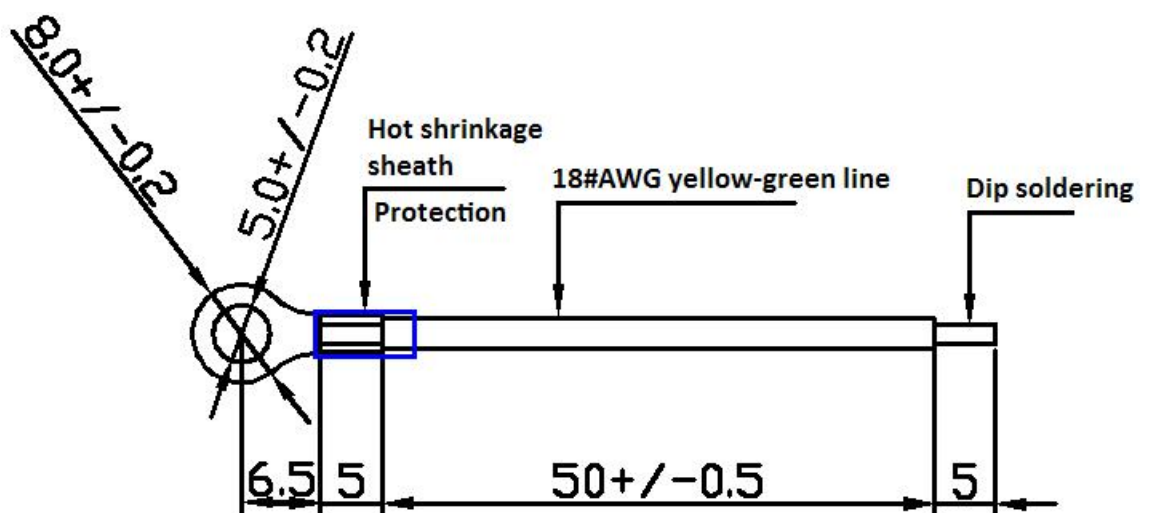


Figure 17 18#AWG Yellow-green Line

Note: If KIEN1008G needs to do a dielectric voltage withstand test, in order to ensure proper testing, please disconnect the 18#AWG yellow-green line to disable surge protection circuit that connects to surge grounding

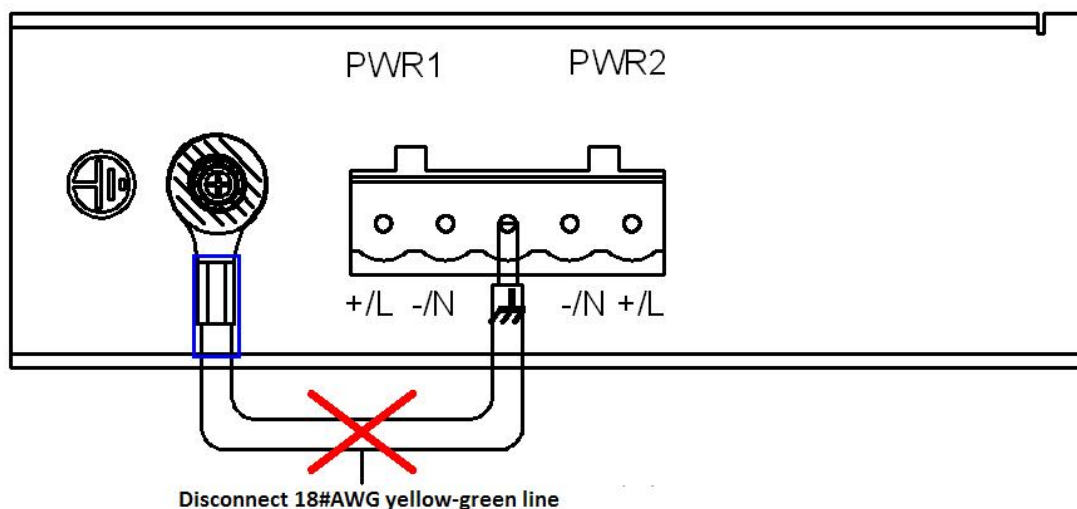


Figure 18 Disconnect 18#AWG Yellow-green Line

6. LED Indicators

Table 4 KIEN1008G LED Indicators

LED	State	Description
Power LEDs		
PWR1	ON	Power 1 connects and operates normally.
	OFF	Power 1 disconnects or operates abnormally.
PWR2	ON	Power 2 connects and operates normally.
	OFF	Power2 disconnects or operates abnormally.
Combo port(SFP) LEDs		
Speed (Yellow)	ON	1000M working state (i.e. 1000Base-X)
	OFF	100M working state (i.e. 10/100Base-FX) or no connection
Link/Act (Green)	ON	Effective network connection in the port
	Blinking	Network activities in the port
	OFF	No effective network connection in the port
Ethernet RJ45 port LEDs		
Each RJ45 Ethernet port has two indicators a yellow LED and a green LED. The yellow LED indicates port rate, while the green LED indicates port connection state.		
Speed	ON	1000M working state

(Yellow)	OFF	10/100M working state or no connection
Link/Act (Green)	ON	Effective network connection in the port
	Blinking	Network activities in the port
	OFF	No effective network connection in the port

7. Product Models and Accessories

- The specific configuration models of KIEN1008G are shown in Table 5

Table 5 KIEN1008G Configuration Table

Model	Description	Power
KIEN1008G-2GX/GE-6GE	2 1000M Combos Ports, 6 10/100/1000Base-T(X) RJ45 Ports	12VDC(9~36VDC), 24VAC/DC(18~50VAC/18-72VDC), dual redundant power inputs
KIEN1008G-8GE	8 10/100/1000Base-T(X) RJ45 Ports	

- The optional accessories of KIEN1008G are shown in Table 6

Table 6 KIEN1008G Optional Accessories

Model	Description
DT-BGAZ-02	Panel mounting kit
DT-FCZ-RJ45-01	RJ45 dustproof shield

8. Basic Features and Specifications

- **Cable**

Twisted Pair: 100m (Standard CAT5, CAT5e network cable)

Multi Mode Fiber: 850nm, 550m (1000Mbps)

Single Mode Fiber:1310nm, 10Km/40Km(1000Mbps);

1550nm, 60Km /80Km(1000Mbps)

- **Power Requirements**

Power input: 12VDC (9~36VDC), 24VAC/DC (18~50VAC, 18~72VDC)

Power terminal: 5-pin 5.08mm-spacing plug-in terminal block

Power consumption: full load:

KIEN1008G-2GX/GE-6GE: 8.5W(full load)

KIEN1008G-8GE: 7.5W(full load)

- **Physical Characteristics**

Housing: Metal, fanless

Installation: DIN-Rail or Panel mounting

Dimensions (W×H×D): 88mm×135mm×137mm

Weight: 0.76Kg

- **Environment Limits**

Operating Temperature: -40°C to 85°C (-40 to 185°F)

Storage Temperature: -40°C to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5% to 95% (non-condensing)

- **MTBF: 357000h**

- **Warranty: 5 years**