Industrial 4-Port 10/100/1000BASE-T 802.3at PoE+ Switch

IGS-504HPT/IGS-614HPT

User's Manual

Table of Contents

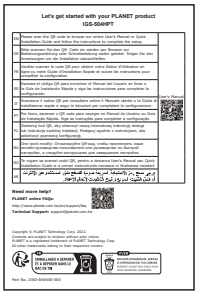
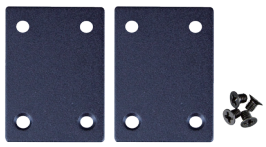
1. Packet Contents

Thank you for purchasing PLANET IGS-504HPT/IGS-614HPT Industrial 5-/6-Port Gigabit Ethernet Switch with 4-Port PoE+. The interfaces of these models are shown below:

Model Name	10/100/1000T RJ45 Port	100/1000X SFP Slot	PoE+ Port
IGS-504HPT	5	-	4
IGS-614HPT	5	1	4

In the following section, the term **"Industrial PoE+ Switch"** means the IGS-504HPT/IGS-614HPT.

Open the box of the Industrial PoE+ Switch and carefully unpack it. The box should contain the following items:

Industrial PoE+ Switch x 1	QR Code Sheet x 1	Wall-mounting Kit x 1
		
DIN-rail Kit x 1	RJ45 Dust Cap x 5	SFP Dust Cap x 1 (IGS-614HPT only)
		

If any of these are missing or damaged, please contact your dealer immediately.

2. Product Specifications

Model	IGS-504HPT	IGS-614HPT
Hardware Specifications		
Copper Ports	**5** 10/100/100/1000BASE-T RJ45 auto-MDI/MDI-X ports	
PoE Injector Ports	Four ports with 802.3at PoE+ injector function (Port 1 to Port 4)	
PoE Budget	DC12V: 60W DC24V: 90W DC48V~54V: 120W	
SFP Slots	-	**1** 1000BASE-SX/LX/BX SFP interface Compatible with 100BASE-FX SFP interface
Connector	Removable 6-pin terminal block Pin 1/2 for Power 1; Pin 3/4 for fault alarm; Pin 5/6 for Power 2	
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A@DC 24V	
Power Requirements	**12~54V DC**, 7A (max.) Redundant power with reverse polarity protection function	
Power Consumption	Max. 6.48 watts/22BTU (Ethernet Full Loading) Max. 137 watts/467BTU (Ethernet + PoE Full Loading)	Max. 5.94 watts/20BTU (Ethernet Full Loading) Max. 139 watts/474BTU (Ethernet + PoE Full Loading)
Dimensions (W x D x H)	50 x 86 x 135 mm	
Weight	618g	623g
Enclosure	IP40 metal case	
Installation	DIN-rail kit and wall-mount kit	
ESD Protection	6KV	

Switch Specifications		
Switch Architecture	Store-and-Forward	
Switch Fabric	10Gbps	12Gbps
Throughput (packet per second)	7.4Mpps@64bytes	8.93Mpps@64bytes
Address Table	2K entries	
Buffer Memory	4M bits on-chip buffer memory	
Jumbo Frame	9Kbytes	
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex	
Standards Conformance		
Regulatory Compliance	FCC Part 15 Class A, CE	
Stability Testing	IEC 60068-2-32 (Free fall) IEC 60068-2-27 (Shock) IEC 60068-2-6 (Vibration)	
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3az Gigabit SX/LX (IGS-614HPT only) IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3at Power over Ethernet Plus PSE IEEE 802.3af Power over Ethernet Plus IEEE 802.1p Class of Service	
Environment		
Temperature	Operating: -40~75 degrees C Storage: -40~75 degrees C	
Humidity	Operating: 5~90% (non-condensing) Storage: 5~90% (non-condensing)	

3. Hardware Introduction

3.1 Switch Front Panel

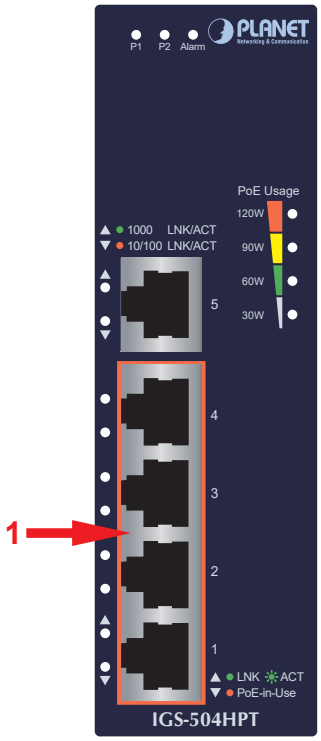


Figure 3-1: IGS-504HPT Front View

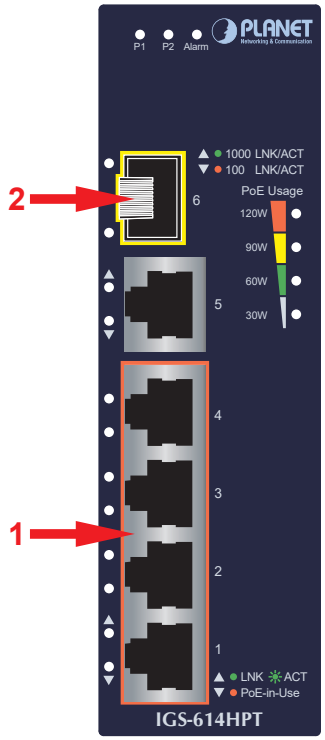


Figure 3-2: IGS-614HPT Front View

1. **Gigabit Ethernet TP Interfaces**

   10/100/1000BASE-T copper, RJ45 twisted-pair: Up to 100 meters.

2. **100/1000BASE-X SFP Slot (IGS-614HPT)**

   The SFP slot built in the IGS-614HPT supports **SFP auto-detection** and dual speed as it features **1000BASE-SX/LX/BX** and **100BASE-FX** SFP (small form-factor pluggable) fiber-optic modules. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and **10/20/40/60/80/120** kilometers (single-mode fiber or WDM fiber).

Note

1. The PoE circuits are classified as ES1 circuits, and the function of the ITE, as outlined in IEC TR 62102, is considered not to be connected to an Ethernet Network with outside plant routing, including campus environment. The installation instructions clearly state that the ITE should only be connected to PoE networks without routing to the outside plant.
2. The output voltage and current for the PoE circuits are 54V, 30W (max.).
3. If optical transceivers are used to be connected to SFP connector, only CDRH certified Laser Class I optical transceiver should be used.

3.2 LED Indicators

■ System

LED	Color	Function
P1	Green	**Lights** to indicate power 1 has power.
P2	Green	**Lights** to indicate power 2 has power.
Alarm	Red	**Lights** to indicate either power 1 or power 2 has no power.

■ PoE Power Usage (Unit: Watt)

LED	Color	Function
30W	Amber	**Off** to indicate the PoE usage is less than 14W. **Blinks** to indicate that the PoE usage is around 15W to 29W. **Lights** to indicate the PoE usage is around/over 30W.
60W	Amber	**Blinks** to indicate that the PoE usage is around 45W to 59W. **Lights** to indicate the PoE usage is around/over 60W.
90W	Amber	**Blinks** to indicate that the PoE usage is around 75W to 89W. **Lights** to indicate the PoE usage is around/over 90W.
120W	Amber	**Blinks** to indicate that the PoE usage is around 100W to 119W. **Lights** to indicate the PoE usage is at the maximum.

■ 802.3at PoE+ 10/100/1000BASE-T Interfaces (Port 1 to Port 4)

LED	Color	Function
LNK/ACT	Green	**Lights** to indicate the link through that port is successfully established at 10Mbps or 100Mbps or 1000Mbps. **Blinks** to indicate that the Switch is actively sending or receiving data over that port.
PoE-in-Use	Amber	**Lights** to indicate the port is providing DC in-line power. **Off** to indicate the connected device is not a PoE powered device (PD).

■ 10/100/1000BASE-T Interface (Port 5)

LED	Color	Function
1000 LNK/ACT	Green	**Lights** to indicate the port is successfully established at 1000Mbps.
		Blinks to indicate that the Switch is actively sending or receiving data over that port.
10/100 LNK/ACT	Amber	**Lights** to indicate the port is successfully established at 100Mbps or 10Mbps.
		Blinks to indicate that the Switch is actively sending or receiving data over that port.

■ 1000BASE-X SFP Slot (Port 6 of IGS-614HPT)

LED	Color	Function
1000 LNK/ACT	Green	**Lights** to indicate the port is successfully established at 1000Mbps.
		Blinks to indicate that the Switch is actively sending or receiving data over that port.
100 LNK/ACT	Amber	**Lights** to indicate the port is successfully established at 100Mbps.
		Blinks to indicate that the Switch is actively sending or receiving data over that port.

3.3 Switch Upper Panel

The upper panel of the Industrial PoE+ Switch consists of one terminal block connector within two DC power inputs.

Figure 3-3 shows the upper panel of the Industrial PoE+ Switch.

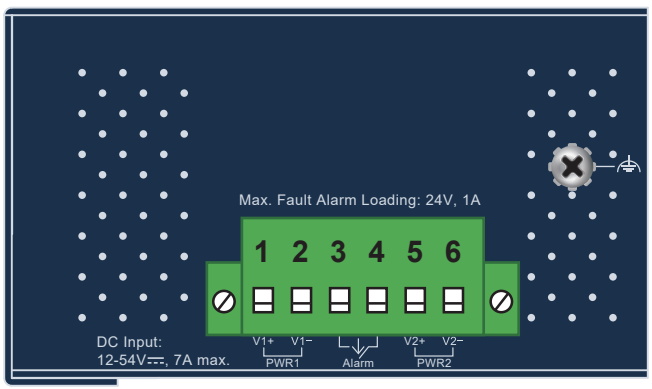


Figure 3-3: Industrial PoE+ Switch Upper Panel

3.4 Wiring the Power Inputs

The 6-contact terminal block connector on the top panel of Industrial PoE+ Switch is used for two DC redundant power inputs. Please follow the steps below to insert the power wire.

Caution	When performing any of the procedures like inserting the wires or tightening the wire-clamp screws, make sure the power is OFF to prevent from getting an electric shock.

1. The DC power input range is **12V ~ 54V DC**. Please insert positive and negative DC power wires into contacts 1 and 2 for POWER 1, or 5 and 6 for POWER 2.

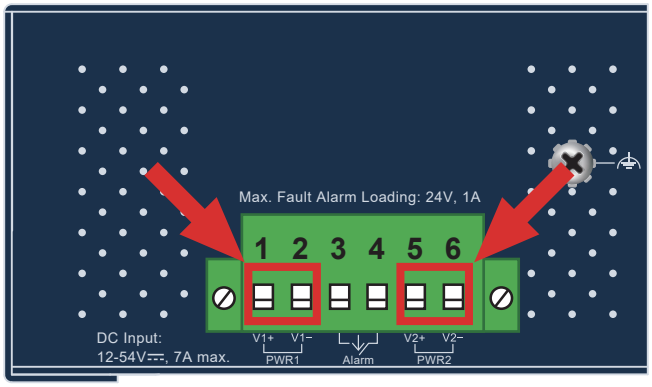
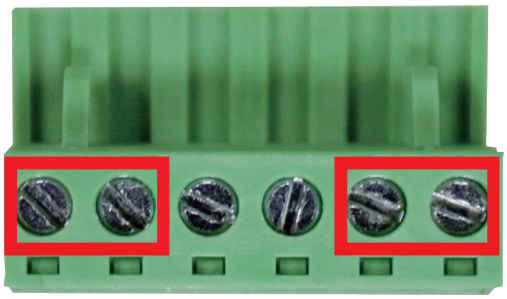


Figure 3-4: Industrial PoE+ Switch DC Input

DC Input	Max. PoE Budget
12V	60W
24V	90W
48V~54V	120W

Note	1. To avoid damage, please use the Industrial PoE+ Switch according to its specifications. 2. Please follow the table above for DC input in relation with maximum PoE budget. 3. Based on the manufacturer's product specifications, this unit is intended to be supplied by a UL-listed power supply suitable for use at a minimum temperature of 75 °C, a rated output of 12 to 54V DC, and a minimum current of 7 A. 4. The power cord must be connected to a socket or outlet with a ground connection.

2. Tighten the wire-clamp screws for preventing the wires from loosening.

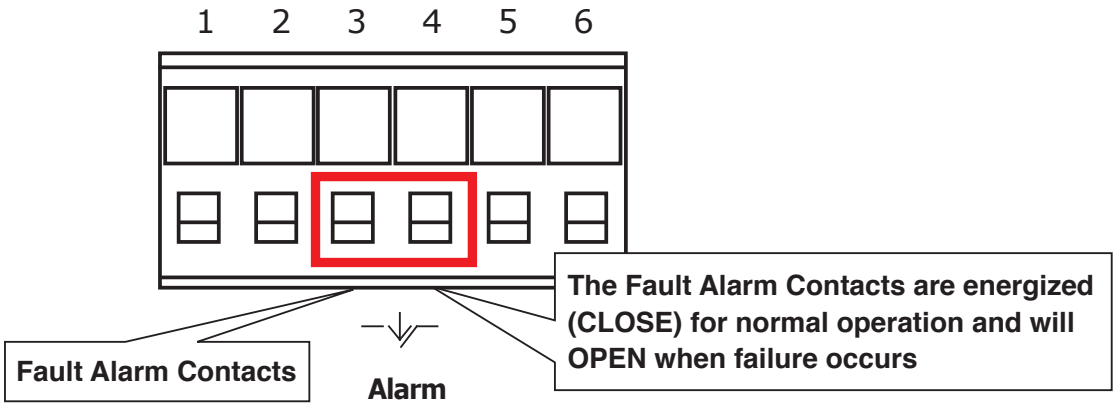


Note

The power input terminal block should be installed using 12-24 AWG wires. The wiring for the power input terminal block must be installed by a skilled person. Wire type: Cu, TQ Lb In.: 5

3.5 Wiring the Fault Alarm Contact

The fault alarm contacts are in the middle of the terminal block connector as the picture shows below. Inserting the wires, the Industrial PoE+ Switch will detect the fault status of the power failure and then forms an open circuit. The following illustration shows an application example for wiring the fault alarm contacts.



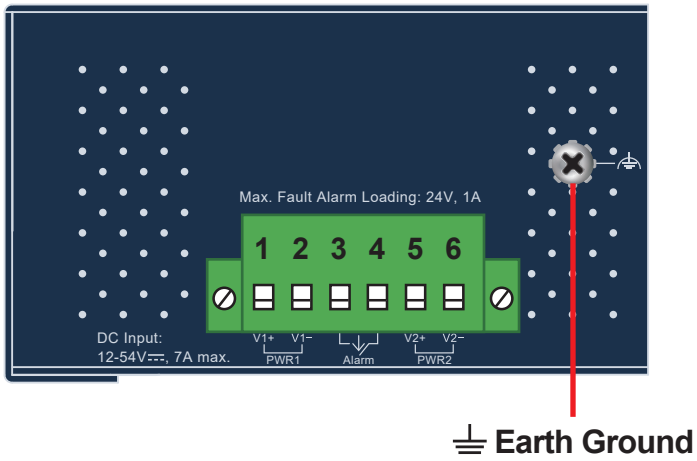
Insert the wires into the fault alarm contacts

Note

1. The wire gauge for the terminal block should be in the range between 12 and 24 AWG.
2. Alarm relay circuit accepts up to 24V, max. 1A currents.

3.6 Grounding the Device

Uses **MUST** complete grounding wired with the device; otherwise, a sudden lightning could cause fatal damage to the device.



Note

EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.

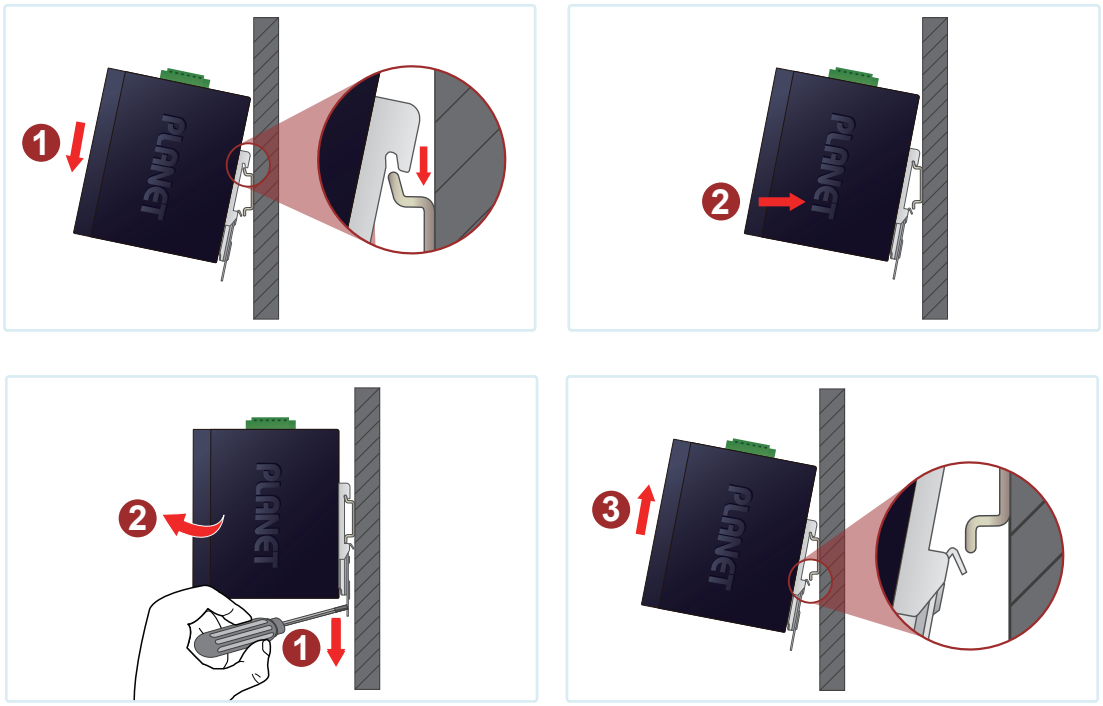
4. Installation

This section describes the functionalities of the Industrial PoE+ Switch's components and guides you to installing it on the DIN-rail and wall. Basic knowledge of networking is assumed. Please read this chapter completely before continuing.

Note	This following pictures show how to install the device. However, the device in the picture is not IGS-504HPT nor IGS-614HPT.

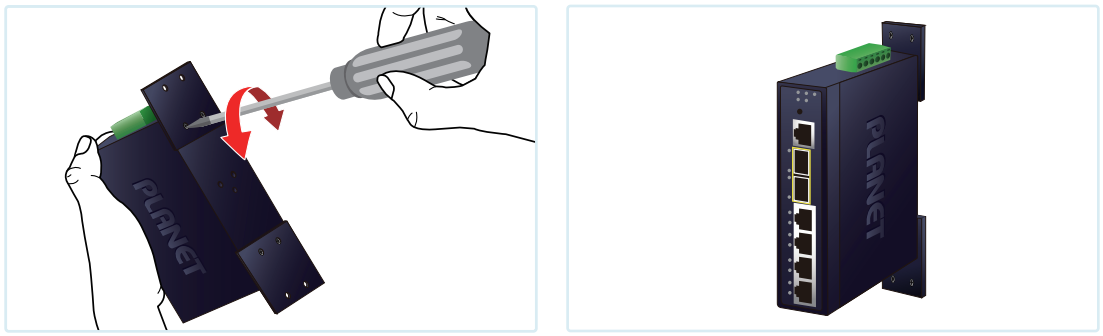
Caution	Restricted Access Area: The equipment should be installed only in a restricted access area.

4.1 DIN-rail Mounting Installation

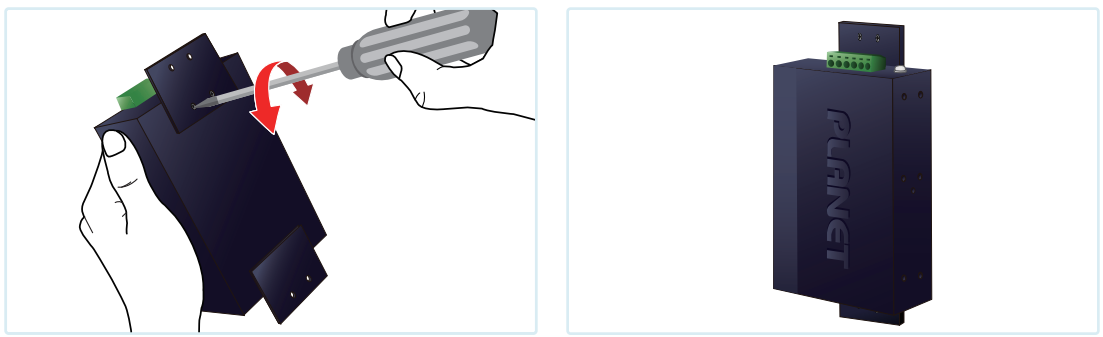


DIN-rail Mounting Installation

4.2 Wall-mount Plate Mounting



4.3 Side Wall-mount Plate Mounting



Mount on product or wall (Screw size and quantity: 4mm (L), 3mm (dia.) and 4pcs); DIN-rail mount on product (Screw size and quantity: 4mm (L), 3mm (dia.) and 3pcs

Caution

You must use the screws supplied with the wall-mounting brackets. Damage caused to the parts by using incorrect screws would invalidate your warranty.

5. Customer Support

Thank you for purchasing PLANET products. You can browse our online FAQ resource at the PLANET Web site first to check if it could solve your issue. If you need more support information, please contact PLANET support team.

PLANET online FAQs:
https://www.planet.com.tw/en/support/faq

Support team mail address:
support@planet.com.tw

FCC Warning

This device 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.

CE Mark Warning

This device is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

WEEE Warning

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.