5-/8-Port 10/100/1000Mbps

Industrial Gigabit Ethernet Switch

IGS-501T/IGS-801T

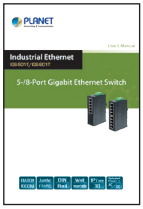
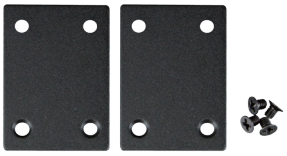
User's Manual

Table of Contents

1. Package Contents

Thank you for purchasing PLANET 5-/8-Port 10/100/1000T industrial Gigabit Ethernet Switch, IGS-501T/IGS-801T. In the following section, the term **"Industrial Gigabit Ethernet Switch"** means the IGT-501T/IGT-801T.

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

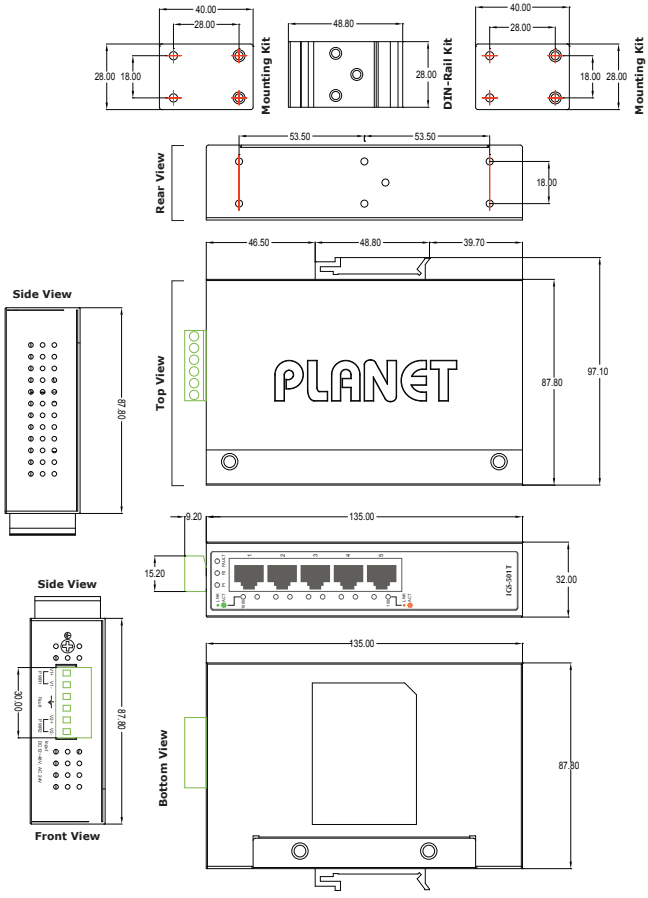
	
Industrial Gigabit Ethernet Switch x 1	User's Manual x 1
	
DIN Rail Kit x 1	Wall-mount Kit x 1

If any of these are missing or damaged, please contact your dealer immediately; if possible, retain the carton including the original packing material, and use them again to repack the product in case there is a need to return it to us for repair.

2. Hardware Introduction

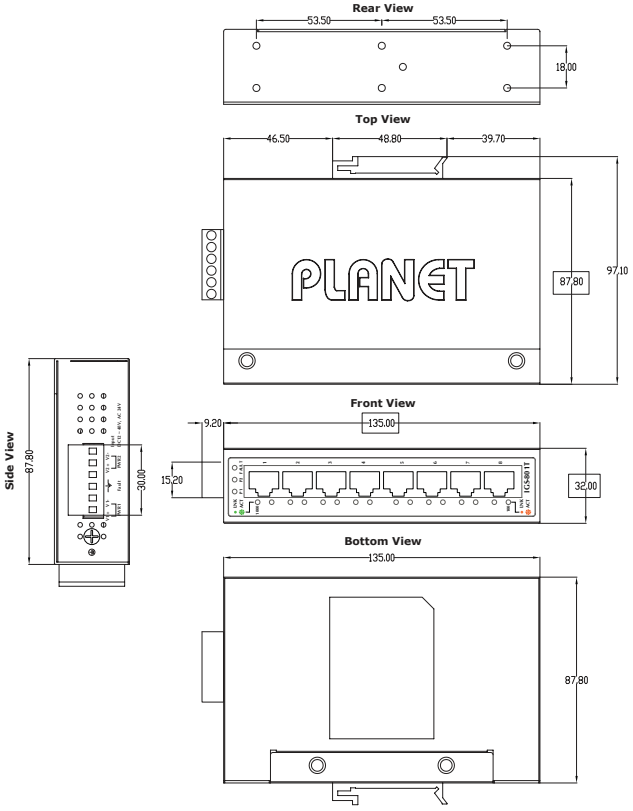
2.1 Physical Dimensions

■ IGS-501T dimensions (W x D x H): 135 x 87 x 32mm



Dimensions (unit = mm)

■ IGS-801T dimensions (W x D x H): 135 x 87 x 32mm



Dimensions (unit = mm)

2.2 Switch Front Panel

The front panel of the Industrial Gigabit Ethernet Switch consists of 5 or 8 auto-sensing 10/100/1000Mbps Ethernet RJ45 ports. The LED Indicators are also located on the RJ45 ports of the Gigabit Ethernet Switch.

Figures 2-1 and 2-2 show the front panels of Industrial Gigabit Ethernet Switches.

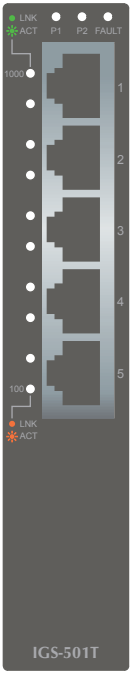


Figure 2-1: IGS-501T Front Panel

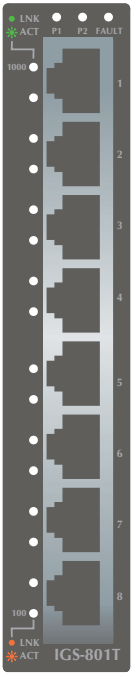


Figure 2-2: IGS-801T Front Panel

2.3 LED Indicators

IGS-501T:

LED	Color	Function
P1	Green	**Lit:** indicates power 1 has power.
P2	Green	**Lit:** indicates power 2 has power.
FAULT	Red	**Lit:** indicates either power 1 or power 2 has no power.
1000	Green	**Lit:** indicates the port is successfully connecting to the network at 1000Mbps. **Off:** indicates that the port is successfully connecting to the network at 10Mbps or 100Mbps. **Blinking:** indicates that the port is actively sending or receiving data.
100	Orange	**Lit:** indicates the port is successfully connecting to the network at 100Mbps or 10Mbps. **Off:** indicates that the port is successfully connecting to the network at 1000Mbps. **Blinking:** indicates that the port is actively sending or receiving data.

IGS-801T:

LED	Color	Function
P1	Green	**Lit:** indicates power 1 has power.
P2	Green	**Lit:** indicates power 2 has power.
FAULT	Red	**Lit:** indicates either power 1 or power 2 has no power.
1000	Green	**Lit:** indicates the port is successfully connecting to the network at 1000Mbps. **Off:** indicates that the port is successfully connecting to the network at 10Mbps or 100Mbps. **Blinking:** indicates that the port is actively sending or receiving data.
100	Orange	**Lit:** indicates the port is successfully connecting to the network at 100Mbps or 10Mbps. **Off:** indicates the port is successfully connecting to the network at 1000Mbps. **Blinking:** indicates that the port is actively sending or receiving data.

2.4 Switch Upper Panel

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

Figure 2-3 shows the upper panel of the Industrial Gigabit Ethernet Switch.

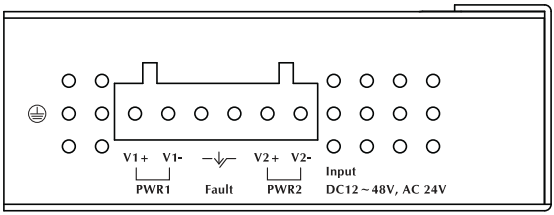
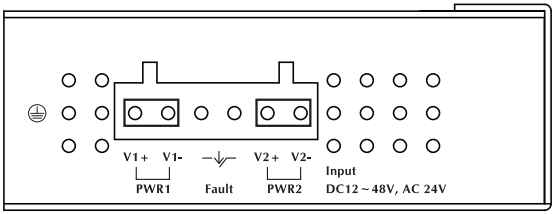


Figure 2-3: Industrial Gigabit Ethernet Switch Upper Panel

2.5 Wiring the Power Inputs

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

1. Insert positive and negative DC power wires into contacts 1 and 2 for Power 1 or 5, and 6 for Power 2.



V1+ V1- V2+ V2-

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

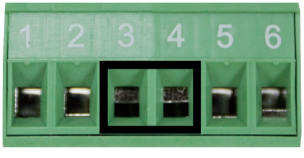
1	2	3	4	5	6
Power 1		Fault		Power 2	
+	-			+	-

Note

1. The wire gauge for the terminal block should be in the range between 12 and 24 AWG.
2. The device must be grounded.
3. The DC power input range is 12V ~ 48V DC.

2.6 Wiring the Fault Alarm Contact

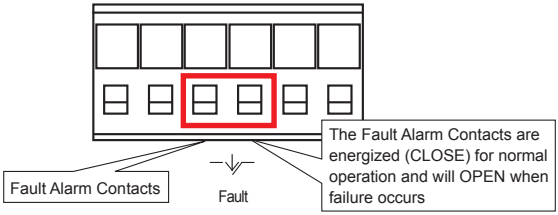
The fault alarm contacts are in the middle of the terminal block connector as the picture shows below. Inserting the wires, the Industrial Gigabit Ethernet Switch will detect the fault status of the power failure and then form an open circuit. The following illustration shows an application example for 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 30V, max. 3A currents.



2.7 Product Specifications

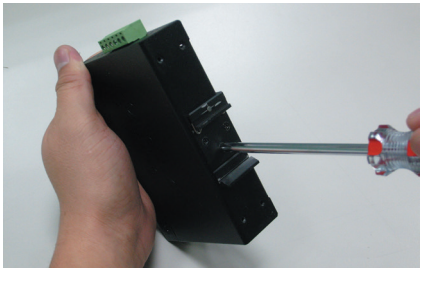
Model	IGS-501T	IGS-801T
Hardware Specifications		
10/100/1000BASE-T Ports	5	8
Dimensions (W x D x H)	135 x 87 x 32 mm	
Weight	498g	461g
Power Requirements	12~48V DC, redundant power with polarity reverse protection function, 24V AC power support	
Power Consumption/ Dissipation	5.28 watts/18BTU	6.72 watts/23BTU
Installation	DIN rail kit and wall-mount ear	
Switch Specifications		
Switch Processing Scheme	Store-and-Forward	

Address Table	2K	4K
Buffer	1Mbits	1.5Mbits SRAM packet buffer
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex	
Switch Fabric	10Gbps	16Gbps
Throughput (packet per second)	7.4Mpps	11.9Mpps
Jumbo Frame	9K	
Network Cables	10/100/1000BASE-T: Cat3, 4, 5, 5e, 6 UTP cable (100 meters, max.) EIA/TIA-568 100-ohm STP (100 meters, max.)	
Standards Conformance		
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy-Efficient Ethernet IEEE 802.1p Class of Service	
Temperature	Operating: -40~75 degrees C Storage: -40~75 degrees C	
Humidity	Operating: 5% to 95% Storage: 5% to 95% (non-condensing)	
Regulatory Compliance	FCC Part 15 Class A, CE	

3. Installation

3.1 DIN-rail Mounting Installation

The DIN-rail is screwed on the Industrial Gigabit Ethernet Switch when out of factory. When you need to replace the wall-mount application with DIN-rail application on Industrial Gigabit Ethernet Switch, please refer to the following figures to screw the DIN-rail on the Industrial Gigabit Ethernet Switch. To hang the Industrial Gigabit Ethernet Switch, follow the steps below:



Step 1: Screw the DIN-rail on the Industrial Gigabit Ethernet Switch.

Step 2: Place the bottom of DIN rail lightly into the track.

Step 3: Check whether the DIN-rail is tightly on the track.

Step 4: Please refer to the following procedure to remove the Industrial Gigabit Ethernet Switch from the track.

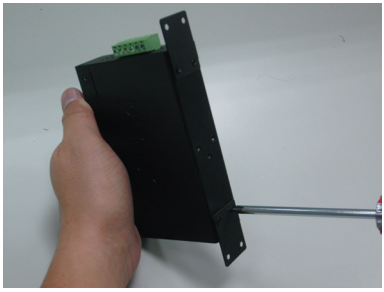
Step 5: Lightly pull out the bottom of DIN rail to remove it from the track.

3.2 Wall-mount Plate Mounting

To install the Industrial Gigabit Ethernet Switch on the wall, please follow the instructions described below.

Step 1: Remove the DIN rail from the Industrial Gigabit Ethernet Switch; loosen the screws to remove the DIN rail.

Step 2: Place the wall-mount plate on the rear panel of the Industrial Gigabit Ethernet Switch.



Step 3: Use the screws to screw the wall-mount plate on the Industrial Gigabit Ethernet Switch.

Step 4: Use the hook holes at the corners of the wall-mount plate to hang the Industrial Gigabit Ethernet Switch on the wall.

Step 5: To remove the wall-mount plate, reverse the steps above.

4. Troubleshooting

This chapter contains information to help you solve issues. If the Industrial Gigabit Ethernet Switch is not functioning properly, make sure the Industrial Gigabit Ethernet Switch was set up according to instructions in this manual.

The per port LED is not lit
Solution:

Check the cable connection of the Industrial Gigabit Ethernet Switch.

Performance is bad
Solution:

Check the speed duplex mode of the partner device. The Industrial Gigabit Ethernet Switch is run in auto-negotiation mode and if the partner is set to half duplex, then the performance will be poor.

Per port LED is lit, but the traffic is irregular
Solution:

Check that the attached device is not set to dedicate full duplex. Some devices use a physical or software switch to change duplex modes. Auto-negotiation may not recognize this type of full-duplex setting.

Why the Industrial Gigabit Ethernet Switch doesn't connect to the network
Solution:

Check per port LED on the Industrial Gigabit Ethernet Switch. Try another port on the Industrial Gigabit Ethernet Switch. Make sure the cable is installed properly. Make sure the cable is the right type. Turn off the power. After a while, turn on the power again.

5. Customer Support

Thank you for purchasing PLANET products. You can browse our online FAQ resource and User's Manual on PLANET Web site first to check if it could solve your issue. If you need more support information, please contact PLANET switch support team.

PLANET online FAQ:
http://www.planet.com.tw/en/support/faq.php?type=1

Switch support team mail address:
support_switch@planet.com.tw

APPENDIX A: Networking Connection

A.1 Switch's RJ45 Pin Assignments

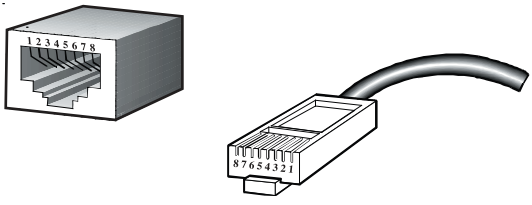
1000Mbps, 1000BASE-T

Contact	MDI	MDI-X
1	BI_DA+	BI_DB+
2	BI_DA-	BI_DB-
3	BI_DB+	BI_DA+
4	BI_DC+	BI_DD+
5	BI_DC-	BI_DD-
6	BI_DB-	BI_DA-
7	BI_DD+	BI_DC+
8	BI_DD-	BI_DC-

10/100Mbps, 10/100BASE-TX

RJ45 Connector pin assignment		
Contact	MDI Media Dependent Interface	MDI-X Media Dependent Interface-Cross
1	Tx + (transmit)	Rx + (receive)
2	Tx - (transmit)	Rx - (receive)
3	Rx + (receive)	Tx + (transmit)
4, 5	Not used	
6	Rx - (receive)	Tx - (transmit)
7, 8	Not used	

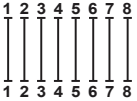
A.2 RJ45 Cable Pin Assignments



The standard RJ45 receptacle/connector

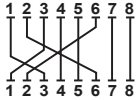
There are 8 wires on a standard UTP/STP cable and each wire is color-coded. The following shows the pin allocation and color of straight-through cable and crossover cable connection:

Straight Cable



	SIDE 1	SIDE 2
SIDE 1	1 = White/Orange	1 = White/Orange
	2 = Orange	2 = Orange
	3 = White/Green	3 = White/Green
	4 = Blue	4 = Blue
	5 = White/Blue	5 = White/Blue
SIDE 2	6 = Green	6 = Green
	7 = White/Brown	7 = White/Brown
	8 = Brown	8 = Brown

Cross Over Cable



	SIDE 1	SIDE 2
SIDE 1	1 = White/Orange	1 = White/Green
	2 = Orange	2 = Green
	3 = White/Green	3 = White/Orange
	4 = Blue	4 = Blue
	5 = White/Blue	5 = White/Blue
SIDE 2	6 = Green	6 = Orange
	7 = White/Brown	7 = White/Brown
	8 = Brown	8 = Brown

Figure A-1: Straight-through and Crossover Cable

Please make sure your connected cables are with the same pin assignment and color as the above picture before deploying the cables into your network.

EC Declaration of Conformity

For the following equipment:

*Type of Product : 5/8-Port 10/100/1000T Industrial Gigabit Ethernet Switch
*Model Number : IGS-501T, IGS-801T
* Produced by:
Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address : 10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C.

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (2014/30/EU).

For the evaluation regarding the EMC, the following standards were applied:

EN 55032	(2015 + AC:2016)
EN61000-3-2	(2014)
EN61000-3-3	(2013)
EN 55024	(2010 + A1:2015)

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C.**

Person responsible for making this declaration

Name, Surname **Kent Kang**

Position / Title : **Director**

Taiwan	**June 28, 2017**	Kent Kang
Place	*Date*	*Legal Signature*

PLANET TECHNOLOGY CORPORATION

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