

Product Specifications

5-Port 10/100/1000BASE-T Industrial Gigabit Ethernet Switch

IGS-501T

Version 4.0

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Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2008/12/26	Marc Liao	Initial Release
Version 2.0	2012/6/6	Marc Liao	Hardware Changed -Chip Replacement
Version 3.0	2014/9/12	Marc Liao	Hardware Changed -Chip Replacement from AR8328-AK1A to AR8328-BK1A
Version 4.0	2017/8/2	Marc Liao	Hardware Changed -Chip Replacement from AR8328-BK1A to RTL8368

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Reviewed By:		Approved By:	Kent Kang

1. PRODUCT DESCRIPTION



Slim Type with More Practicability and Convenience

PLANET IGS-501T is an advanced, slim-type Industrial Gigabit Ethernet Switch consisting of 5 10/100/1000Mbps auto negotiation ports. With its IP30-rated metal case, it can operate reliably in heavy and hardened industrial demanding environments. Its compact metal case is designed to be mounted on a DIN rail or wall for the efficient use of cabinet space.

Stable Performance under Difficult Environments

The IGS-501T provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets. Being able to operate under the temperature range from -40 to 75 degrees C, coupled with a hazardous location certification (Class 1, Division 2), the IGS-501T can be placed in almost any difficult environment. The IGS-501T also possesses an integrated power supply source with a wide range of voltages (12 to 48V DC) for worldwide high availability applications requiring dual or backup power inputs.

Plug and Play

All of the RJ45 copper interfaces in the IGS-501T support 10/100/1000Mbps auto negotiation for optimal speed detection through RJ45 Category 6, 5 or 5e cables. The standard auto-MDI/MDI-X support can detect the type of connection to any Ethernet device without requiring special straight-through or crossover cables.

2. PRODUCT FEATURES

➤ **Physical Port**

- 5-port 10/100/1000BASE-T RJ45 with auto MDI/MDI-X function

➤ **Layer 2 Features**

- Complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T Ethernet standard
- Supports auto-negotiation and 10/100Mbps half/full duplex and 1000Mbps full duplex
- High-performance Store and Forward architecture, broadcast storm control and runt/CRC filtering eliminate erroneous packets to optimize the network bandwidth
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- Backplane (switching fabric): 10Gbps
- Integrated address look-up engine, supporting 2K absolute MAC addresses
- Built-in on-chip buffer memory
- 9K jumbo packet size
- Automatic address learning and address aging
- CSMA/CD Protocol

➤ **Industrial Case and Installation**

- IP30 metal case
- DIN-rail and wall-mount design
- 12 to 48V DC, redundant power with polarity reverse protect function and connective, removable terminal block for master and slave power; 24V AC power support
- Supports EFT protection of 6000V DC power
- Supports 6000V DC Ethernet ESD protection
- 40 to 75 degrees C operating temperature

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

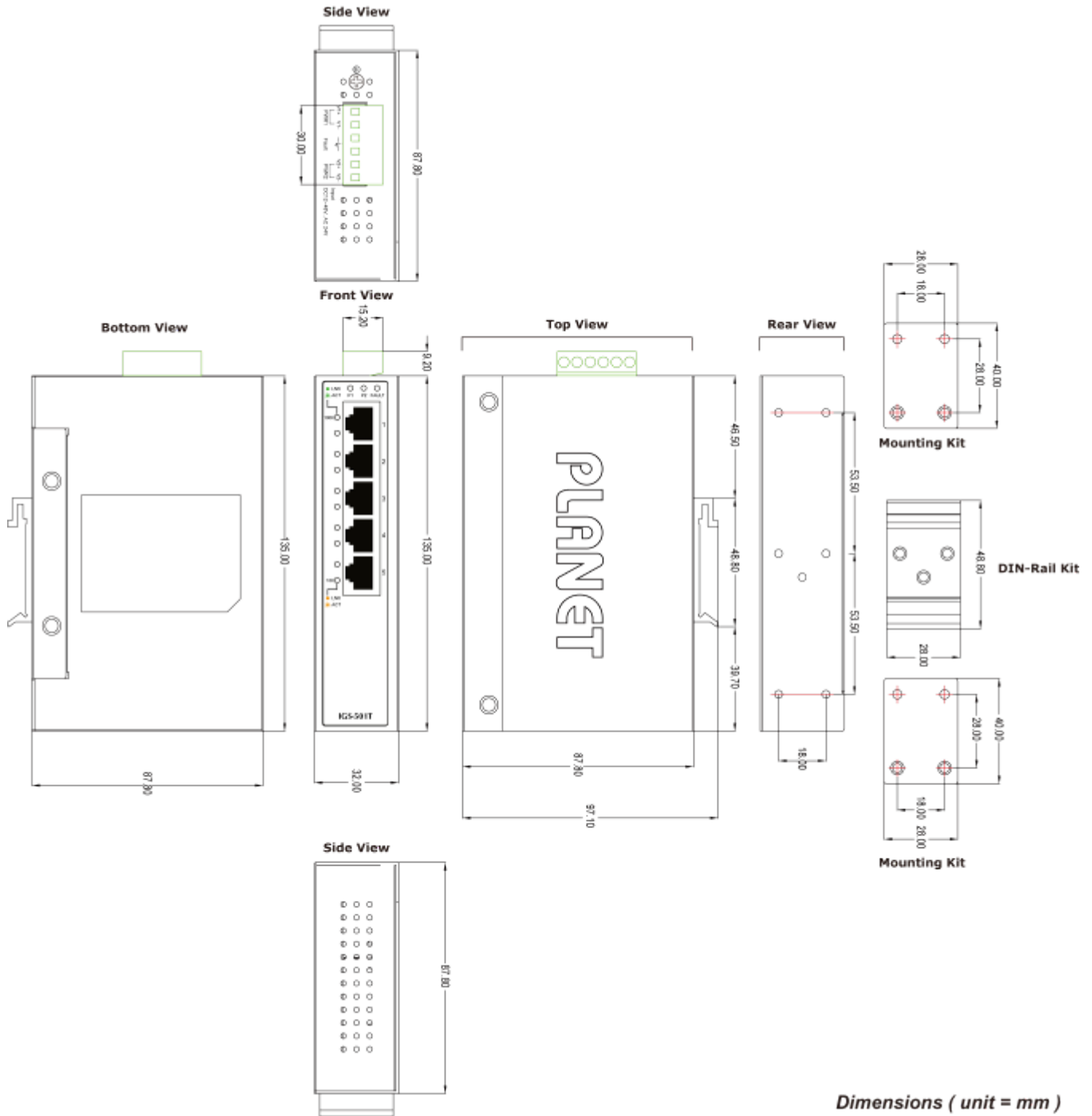
Switch ASIC: Realtek RTL8368MB x1

3.2 FUNCTION SPECIFICATIONS

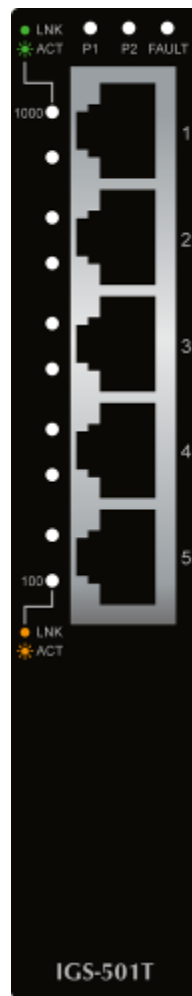
Model	IGS-501T
Hardware Specifications	
Hardware Version	4
Copper Ports	5 x 10/100/1000BASE-T RJ45 TP auto-MDI/MDI-X, auto negotiation
Connector	Removable 6-pin terminal block Pin 1/2 for Power 1; Pin 3/4 for fault alarm; Pin 5/6 for Power 2
Alarm	Provides one relay output for power failure Alarm relay current carry ability: 1A@DC 24V
LED	3 x LED for system and power: <ul style="list-style-type: none"> ■ Green: DC Power 1 ■ Green: DC Power 2 ■ Red: Power Fault 2 x LED for each copper port <ul style="list-style-type: none"> ■ Green: 1000Mbps LNK/ACT ■ Orange: 10/100Mbps LNK/ACT
ESD Protection	6KV
EFT Protection	6KV
Power Requirements	12~48V DC, redundant power with polarity reverse protection function, 24V AC power support O
Power Consumption / Dissipation	5.9 watts/20BTU (AC 24V Input)
Installation	DIN-rail kit and wall-mount ear
Enclosure	IP30 metal case
Switch Specifications	
Switch Processing Scheme	Store-and-Forward
Address Table	2K entries
Buffer Memory	Built-in on-chip buffer memory
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Switch Fabric	10Gbps
Throughput (packet per second)	7.4Mpps@64bytes
Jumbo Frame	9K
Network Cables	10/100/1000BASE-T Cat. 3, 4, 5, 5e, 6 UTP cable (max. 100 meters) EIA/TIA-568 100-ohm STP (max. 100 meters)
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

3.3 PHYSICAL SPECIFICATIONS:

- **Dimensions:**
32 x 87 x 135 mm (W x D x H)
- **Weight:**
455g
- **Diagram**



■ Front Panel:



■ LED Definition

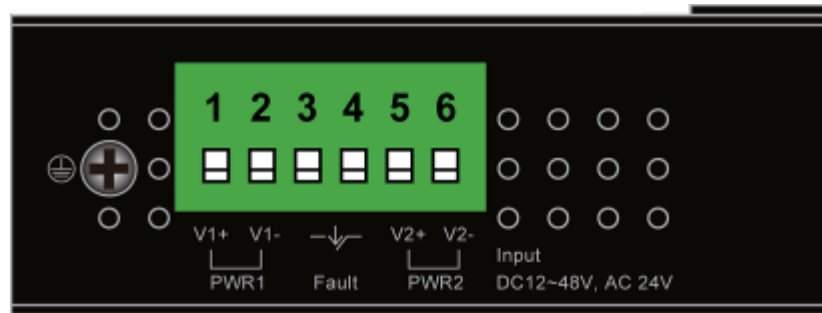
■ System

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.

■ PoE 10/100/1000BASE-T Interfaces (Port-1 to Port-5)

LED	Color	Function	
1000	Green	Lights:	To indicate the port is successfully connecting to the network at 1000Mbps.
		Blinks:	To indicate that the port is actively sending or receiving data.
		Off	To indicate that the port is successfully connecting to the network at 10Mbps or 100Mbps.
100	Orange	Lights:	To indicate the port is successfully connecting to the network at 10Mbps or 100Mbps.
		Blinks:	To indicate that the port is actively sending or receiving data.
		Off	To indicate that the port is successfully connecting to the network at 1000Mbps.

■ Top View



3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

Temperature: -40°C ~ 75 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

Temperature: -40°C ~ 75 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Power Requirement:

12~48 V DC, redundant power with polarity reverse protection function, **AC 24V power input**

Power Consumption:

Status	Input Voltage	Current (A)	Power Consumption (Watts / BTU)
Power ON	DC 12V	0.06A	0.7W / 2.3BTU
	DC 24V	0.03A	0.8W / 2.7BTU
	DC 48V	0.02A	0.9W / 3BTU
	AC 24V	0.04A	4.3W / 14BTU
Full Loading (Port-1 to Port-5 Link Up)	DC 12V	0.08A	0.9W / 3BTU
	DC 24V	0.04A	1W / 3.4BTU
	DC 48V	0.02A	1.1W / 3.7BTU
	AC 24V	0.04A	4.5W / 15BTU
Full Loading Operation (Port-1 to Port-5 packet send & receive)	DC 12V	0.19A	2.2W / 7.5BTU
	DC 24V	0.09A	2.3W / 7.8BTU
	DC 48V	0.05A	2.4W / 8.1BTU
	AC 24V	0.05A	5.9W / 20BTU

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

Stability Testing:

- IEC60068-2-32 (free fall)
- IEC60068-2-27 (shock)
- IEC60068-2-6 (vibration)

3.7 RELIABILITY

MTBF > 100,000Hrs @ 25 degrees C

3.8 BASIC PACKAGING

<input checked="" type="checkbox"/> The IGS-501T	x 1
<input checked="" type="checkbox"/> User's Manual	x 1
<input checked="" type="checkbox"/> DIN-rail Kit	x 1
<input checked="" type="checkbox"/> Wall Mounting Kit	x 1
<input checked="" type="checkbox"/> RJ45 Dust Cap	x 5

3.9 PACKING DIMENSIONS

Box Dimensions:	205 (W) × 144 (D) × 46 mm (H)
Carton Dimensions:	430 (W) × 315 (D) × 264mm (H)
Total Weight :	TBD (gross weight)
Carton Unit:	20pcs in one carton