

## Product Specifications

### Compact Industrial 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T Ethernet Switch

## IGS-504PT

Version 1.0

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#### Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2021.4.26	Angeline	Initial Release

Author:	Angeline	Editor:	Kent Kang
Reviewed By:		Approved By:	Kent Kang

## 1. PRODUCT DESCRIPTION



### High Power PoE Solution for Harsh Industrial Network

The IGS-504PT is the smallest industrial-grade 4-Port PoE+ Switch in PLANET industrial PoE product line and is specially designed to be installed in a narrow environment. It provides up to 120-watt 802.3at PoE+ output capability and wire-speed Gigabit performance even in the harsh industrial environment. With **four 10/100/1000BASE-T** ports featuring IEEE **802.3at PoE+** and **one extra 10/100/1000BASE-T** RJ45 copper interface for uplink connection.

The power system of the IGS-504PT supports **48~54V DC** power input for power redundancy and operational flexibility. It comes with a total power budget of up to **120 watts** for different kinds of PoE applications and operating temperature ranging from **-40 to 75 degrees C** in a rugged IP30 metal housing.

### Plug and Play High Power Sourcing Solution

Complying with the **IEEE 802.3at Power over Ethernet Plus** technology, the IGS-504PT provides up to **30 watts** of PoE output power to allow users to flexibly deploy standard and high powered devices simultaneously with no need of software configuration. Furthermore, the IGS-504PT can extend much longer distance by using PLANET PoE Extender for powering up the PoE PD devices which can be installed over more than 100 meters away. By daisy-chaining multiple PoE extenders, it offers the great flexibility of doubling, tripling or quadrupling the distance of PoE network.

### Dual Power Input for High Availability Network System

The IGS-504PT features a strong dual power input system with wide-ranging voltages (48V~54V DC) incorporated into customer's automation network to enhance system reliability and uptime. In the example below, when Power Supply 1 fails to work, the hardware failover function will be activated automatically to keep powering the IGS-504PT via Power Supply 2 without any break of operation

### **Small but Strong Enough for Any Hardened Environment**

With the **IP30** industrial metal case, the IGS-504PT 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 without air conditioning. It features a ventilated construction in which a cooling fan is not necessary, thereby making its operation noiseless. Being able to operate under the temperature range from **-40 to 75 degrees C**, the IGS-504PT can be placed in almost any difficult environment.

### **Robust Protection**

The IGS-504PT provides contact discharge of  $\pm 6\text{KV}$  DC and air discharge of  $\pm 8\text{KV}$  DC for Ethernet ESD protection. It also supports  $\pm 6\text{KV}$  surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

### **Flexible and Easy Installation with Limited Space**

The compact-sized IGS-504PT is specially designed to be installed in a narrow environment, such as wall enclosure. It can be installed by fixed wall mounting or DIN rail, thereby making its usability more flexibly and easily in any space-limited location.

## 2. PRODUCT FEATURES

### Interface

- 5 10/100/1000BASE-T Gigabit Ethernet RJ45 copper ports

### Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 4 ports of IEEE 802.3af/at devices powered
- Up to 120-watt PoE budget
- Supports PoE power up to 30 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

### Layer 2 Switching

- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 2K MAC address table size
- 9K jumbo frame
- IEEE 802.1Q VLAN transparency
- Automatic address learning and address aging

### Industrial Case and Installation

- IP30 metal case
- DIN-rail, wall-mount or side wall-mount design
- 48~54V DC redundant power with reverse polarity protection
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

### 3. PRODUCT SPECIFICATIONS

#### 3.1 MAIN COMPONENTS

Switch ASIC:	Realtek RTL8367SBI	x 1
PoE ASIC:	IC+ IP804A	x 1

#### 3.2 FUNCTION SPECIFICATIONS

<b>Model</b>	IGS-504PT
<b>Hardware Specifications</b>	
<b>Copper Ports</b>	5 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
<b>PoE Injector Ports</b>	4 ports with 802.3at PoE+ injector function (Ports 1 to 4)
<b>PoE Budget</b>	120W maximum@75 degrees C
<b>Connector</b>	Removable 4-pin terminal block Pin 1/2 for Power 1; Pin 3/4 for Power 2
<b>Power Requirements</b>	48~54V DC, 3A (max.) Redundant power with reverse polarity protection function
<b>Power Consumption</b>	<ul style="list-style-type: none"> <li>■ <b>DC 48V:</b> Max. 0.48 watts/1.63BTU (System) Max. 62.88 watts/214.5BTU ( Full Loading)</li> <li>■ <b>DC 54V:</b> Max. 0.54 watts/1.84BTU (System) Max. 123.12 watts/420BTU ( Full Loading)</li> </ul>
<b>Dimensions (W x D x H)</b>	30 x 70 x 104 mm
<b>Weight</b>	260g
<b>Enclosure</b>	IP30 metal case
<b>Installation</b>	DIN-rail kit and wall-mount kit
<b>ESD Protection</b>	6KV
<b>Switch Specifications</b>	
<b>Switch Architecture</b>	Store-and-Forward
<b>Switch Fabric</b>	10Gbps
<b>Throughput (packet per second)</b>	7.4Mpps@64bytes
<b>Address Table</b>	2K entries
<b>Jumbo Frame</b>	9Kbytes
<b>Flow Control</b>	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
<b>Power over Ethernet</b>	

<b>PoE Standard</b>	IEEE 802.3at Power over Ethernet Plus/PSE Backward compatible with IEEE 802.3af Power over Ethernet/PSE
<b>PoE Power Supply Type</b>	End-span
<b>Power Pin Assignment</b>	1/2 (+), 3/6 (-)
<b>PoE Power Output</b>	Per port 48-54V DC Max. 30 watts@54V DC Max. 15 watts@48V DC
<b>PoE Power Budget</b>	120 watts
<b>Max. Number of Class 4 PDs</b>	4
<b>Standards Conformance</b>	
<b>Regulatory Compliance</b>	FCC Part 15 Class A, CE
<b>Stability Testing</b>	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
<b>Standards Compliance</b>	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 (EEE) IEEE 802.3at Power over Ethernet Plus PSE IEEE 802.3af Power over Ethernet Plus IEEE 802.1p Class of Service
<b>Environment</b>	
<b>Temperature</b>	Operating: -40~75 degrees C Storage: -40~75 degrees C
<b>Humidity</b>	Operating: 5~90% (non-condensing) Storage: 5~90% (non-condensing)

### 3.3 PHYSICAL SPECIFICATIONS:

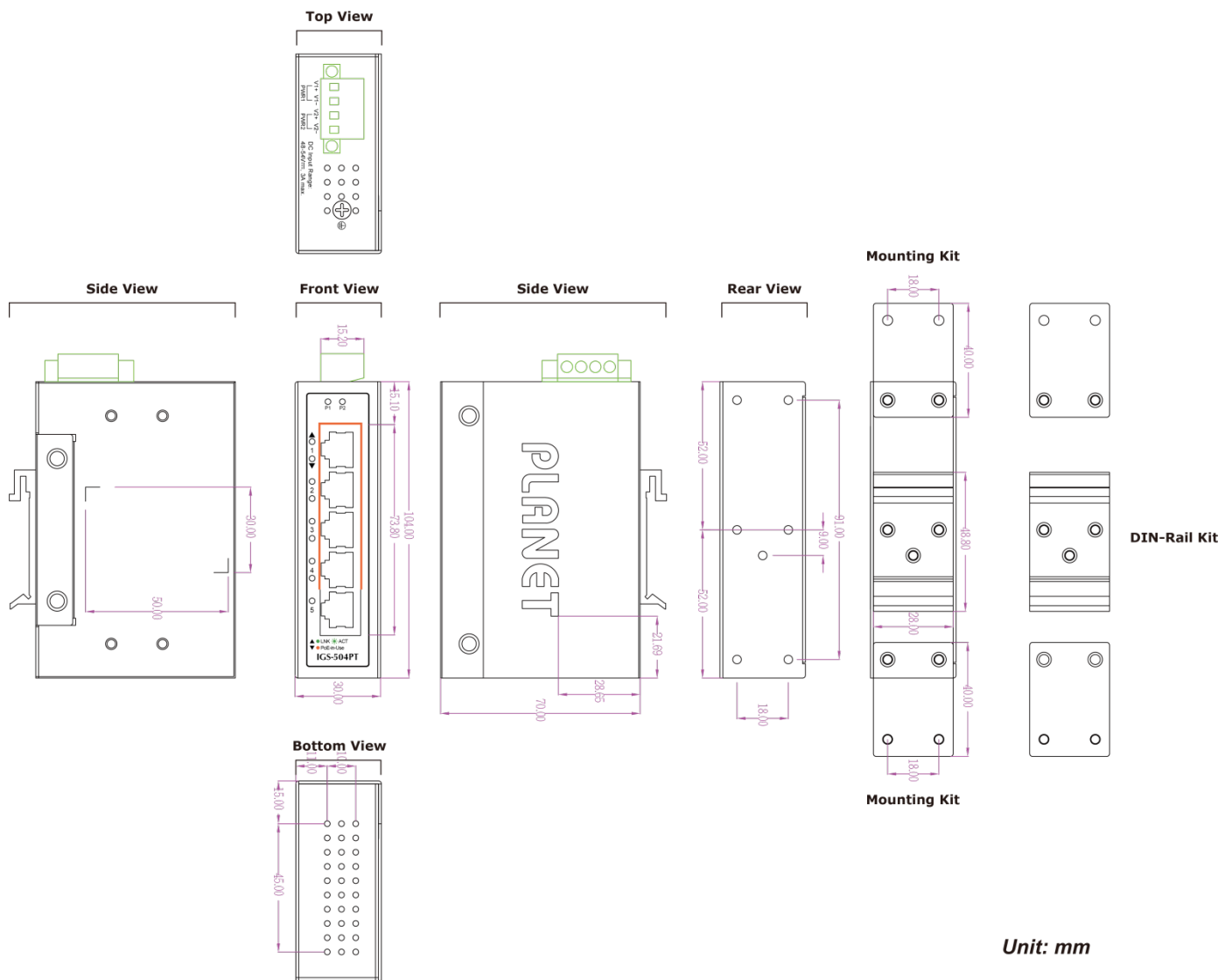
#### ■ Dimensions:

30 x 70 x 104 mm (W x D x H)

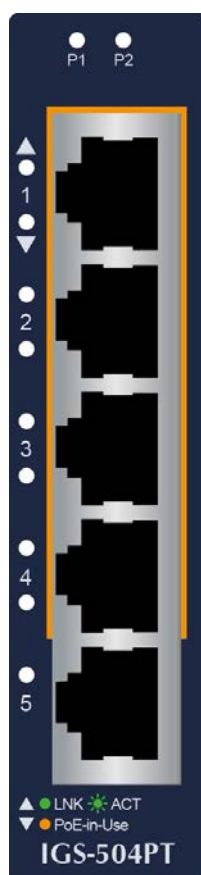
#### ■ Weight:

260g

#### ■ Diagram



## ■ Front Panel:



## ■ LED Definition

### ► System

LED	Color	Function
P1	Green	Lights to indicate power 1 has power.
P2	Green	Lights to indicate power 2 has power.

### ► Per 802.3at PoE+ 10/100/1000BASE-T Interface (Port 1 to Port 4)

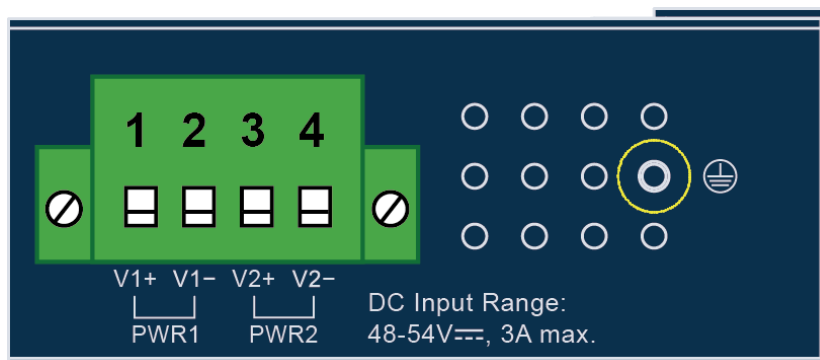
LED	Color	Function
LNK/ACT	Green	Lights to indicate the link through that port is successfully established at 10/100/1000Mbps. Blinks to indicate that the Switch is actively sending or receiving data over that port.
PoE-in-Use	Amber	Lights to indicate the port is providing DC in-line power. Off to indicate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

### ► Per 10/100/1000BASE-T Interface (Port 5)

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



## ■ Top View



## 3.4 ENVIRONMENTAL SPECIFICATIONS

### Operating:

**Temperature:** -40°C ~ 75 degrees C

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

### Storage:

**Temperature:** -40°C ~ 85 degrees C

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

## 3.5 ELECTRICAL SPECIFICATION

LOADING INPUT	System on without any devices attached	Port-1~Port-5 Link Up with Data + PoE Full Loading
DC 48V	0.48 watts/1.63BTU	62.88 watts/214.5BTU
DC 54V	0.54 watts/1.84BTU	123.12 watts/420BTU

## 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-504PT | 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 INFORMATION

<b>Box Dimensions (W x D x H):</b>	205 x 144 x 46 mm
<b>Weight:</b>	TBD
<b>Carton Dimensions (W x D x H):</b>	435 x 325 x 280 mm
<b>Total Weight:</b>	TBD
<b>Quantity:</b>	20pcs in one carton