5-Port 10/100/1000T Industrial Gigabit Ethernet Switch with Wide Operating Temperature

Slim Type for More Practicability and Convenience

PLANET **IGS-501T slim-type Industrial 5-Port 10/100/1000T Gigabit Ethernet Switch**, suitable for industrial use, features 5 1000Mbps auto-negotiation ports, IP30-rated rugged but compact case and a wide-ranging redundant power system (**9~48V DC** or **24V AC**). The IGS-501T is able to operate in any harsh environment with operating temperature ranging from **-40 to 75 degrees C**.

As the trend for an IIoT (Industrial Internet of Things) infrastructure is gradually in demand, the IGS-501T is especially designed to make the deployment of an industrial network easy as it comes with a Plug and Play feature. Besides, it is stable and reliable when it comes to fast data and power transmission.

Low Power Consumption for Green Networking

The IGS-501T, adopting the advanced green networking technology, provides the link-on cable length power saving and link-down power saving methods. These features make the IGS-501T consume very low power in full load operation mode, which helps conserve energy effectively but maintains high performance efficiently.

With the **Auto Power Saving** and **IEEE 802.3az Energy Efficient Ethernet (EEE)** Protocol, the IGS-501T can automatically detect cable link status and network traffic, and thus is able to adjust power consumption accordingly. It enables the switch to consume less power when it is less active.

Dual Power Input for High Availability Network System

The IGS-501T features a strong dual power input system with wide-ranging voltages (9V~48V DC or 24V AC) 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-500T via power supply 2 alternatively without any loss of operation.

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
- 4M bits 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
- 9 to 48V DC, redundant power with reverse polarity protection, and connective, removable terminal block for master and slave power; 24V AC power support
- Supports EFT protection 6000V DC for power line
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

High Performance under Difficult Environments

The IGS-501T offers high-performance switch architecture. With the 5 10/100/1000Mbps Gigabit Ethernet ports providing non-blocking switch fabric and wire-speed throughput as high as 10Gbps and the 2K MAC address table, the IGS-501T can perform wire-speed packet transfer without the risk of packet loss. The flow control function enables the IGS-501T to provide fast and reliable data transfer.

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.

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.

Flexible and Easy Installation with Limited Space

The compact sized IGS-501T 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.

DIN-rail Mounting

Wall Mounting

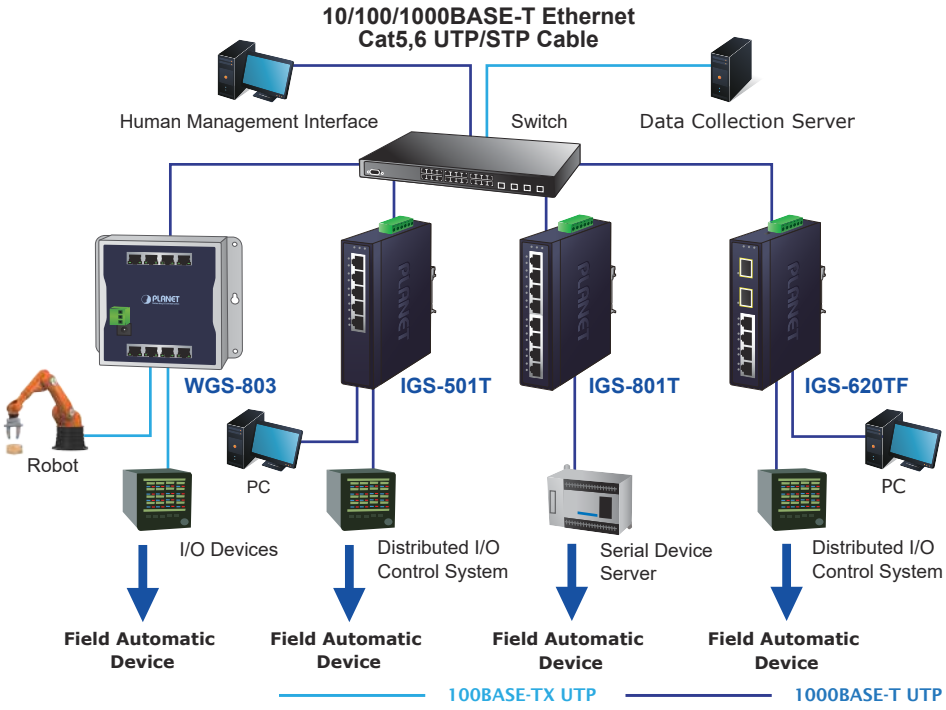
Side Wall Mounting
(Space saving)

Applications

Industrial Area Switch for Data Collection and Forwarding

The IGS-501T comes with high-performance switch architecture suitable for industrial use. With the 5 10/100/1000Mbps Gigabit Ethernet ports providing non-blocking switch fabric and wire-speed throughput as high as 10Gbps and the 2K MAC address table, the IGS-501T can transfer wire-speed packets without the risk of packet loss.

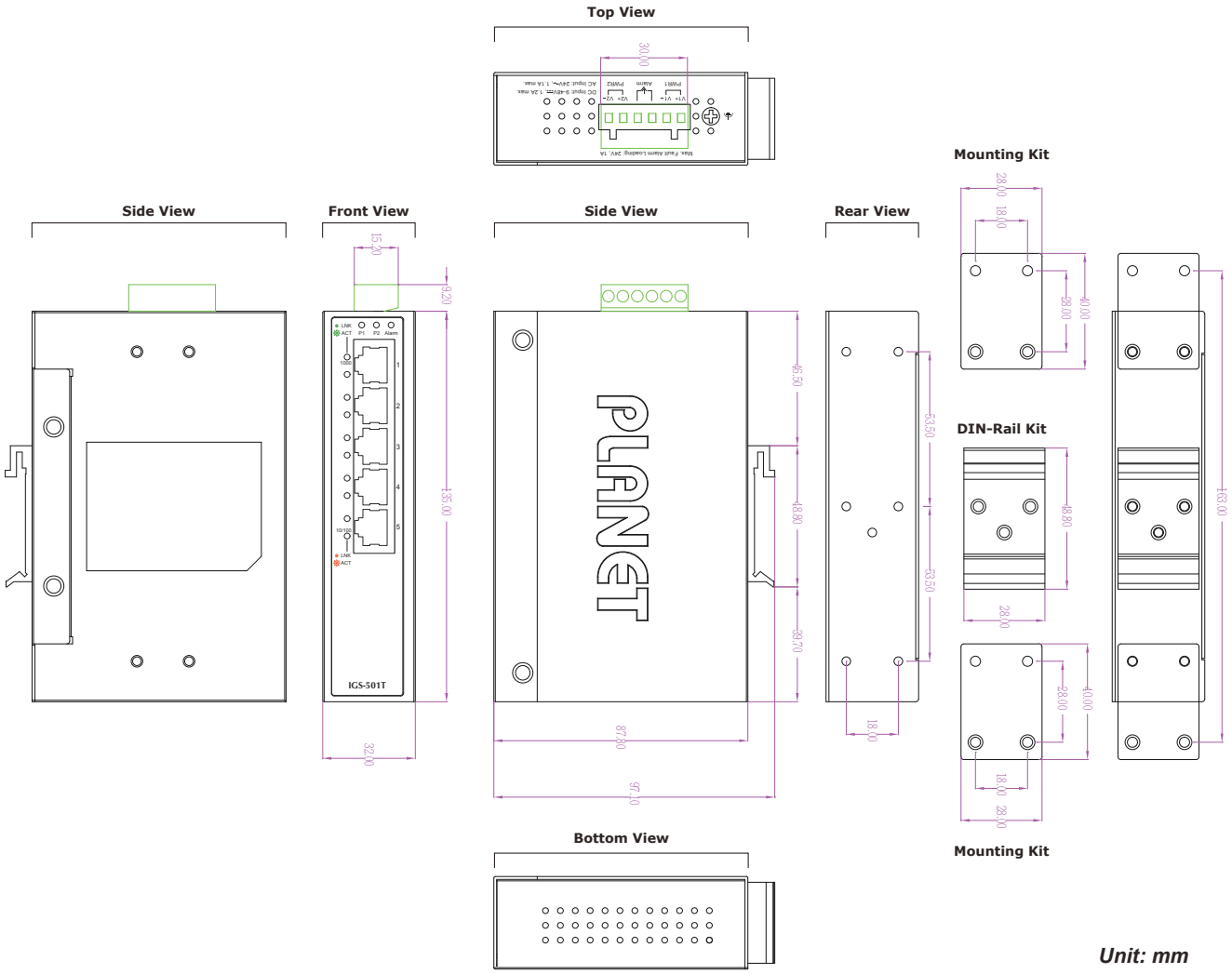
The flow control function enables the IGS-501T to provide fast and reliable data transfer. The Gigabit port with 9K jumbo frame supported can handle extremely large amounts of data transmission in a secure industrial topology that forwards data to the central control room.



Specifications

Model	IGS-501T
Hardware Specifications	
Hardware Version	5
Copper Ports	5 x 10/100/1000BASET 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: ■ **Green**: DC Power 1 ■ **Green**: DC Power 2 ■ **Red**: Power Alarm 2 x LED for each copper port ■ **Green**: 1000Mbps LNK/ACT ■ **Amber**:10/100Mbps LNK/ACT
ESD Protection	6KV
EFT Protection	6KV
Power Requirements	9~48V DC, redundant power with polarity reverse protection function, 24V AC power support
Power Consumption / Dissipation	2.8 watts/9.5BTU
Installation	DIN-rail kit and wall-mount ear
Enclosure	IP30 metal case
Dimensions (W x D x H)	32 x 87 x 135 mm
Weight	430g
Switch Specifications	
Switch Processing Scheme	Store-and-Forward
Address Table	2K entries
Buffer Memory	4M bits 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
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)
Environment	
Temperature	Operating: -40~75 degrees C Storage: -40~75 degrees C
Humidity	Operating: 5~90%, Storage: 5~90% (non-condensing)

Dimensions



Ordering Information

IGS-501T	5-port 10/100/1000T Industrial Gigabit Ethernet Switch (-40~75 degrees C operating temperature)

Related Products

IGS-500T	Compact Industrial 5-port 10/100/1000T Gigabit Ethernet Switch (-40~75 degrees C operating temperature)
IGS-510TF	Industrial Compact 4-port 10/100/1000T + 1-Port 100/1000X SFP Gigabit Ethernet Switch
IGS-620TF	Industrial 4-port 10/100/1000BASE-T + 2-port 100/1G/2.5GBASE-X SFP Ethernet Switch
IGS-801T	8-port 10/100/1000T Industrial Gigabit Ethernet Switch (-40~75 degrees C operating temperature)
IGS-1020TF	Industrial 8-port 10/100/1000T + 2 1000X SFP Ethernet Switch (-40~75 degrees C)
IGS-1600T	Industrial 16-port 10/100/1000T Ethernet Switch (-40~75 degrees C)
IGS-1820TF	Industrial 16-port 10/100/1000T + 2-port 1000X SFP Ethernet Switch (-40~75 degrees C)
WGS-803	Industrial 8-port 10/100/1000T Wall-mount Switch (-10~60 degrees C)
ISW-500T	Industrial 5-port 10/100TX Compact Ethernet Switch (-40~75 degrees C operating temperature)

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