Planet ISW-500T

ISW-500T Industrial Fast Ethernet Switch User Manual

Model: ISW-500T

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Planet ISW-500T Industrial 5-Port 10/100TX Compact Ethernet Switch. Designed for robust industrial environments, the ISW-500T offers reliable and fast data transmission with its 5 10/100Mbps auto-negotiation ports. Its IP30-rated compact case and wide-ranging redundant power system ensure stable performance in challenging conditions.

2. PRODUCT OVERVIEW

The ISW-500T is engineered for industrial applications, featuring a durable design and essential connectivity. Below are key components and their descriptions.
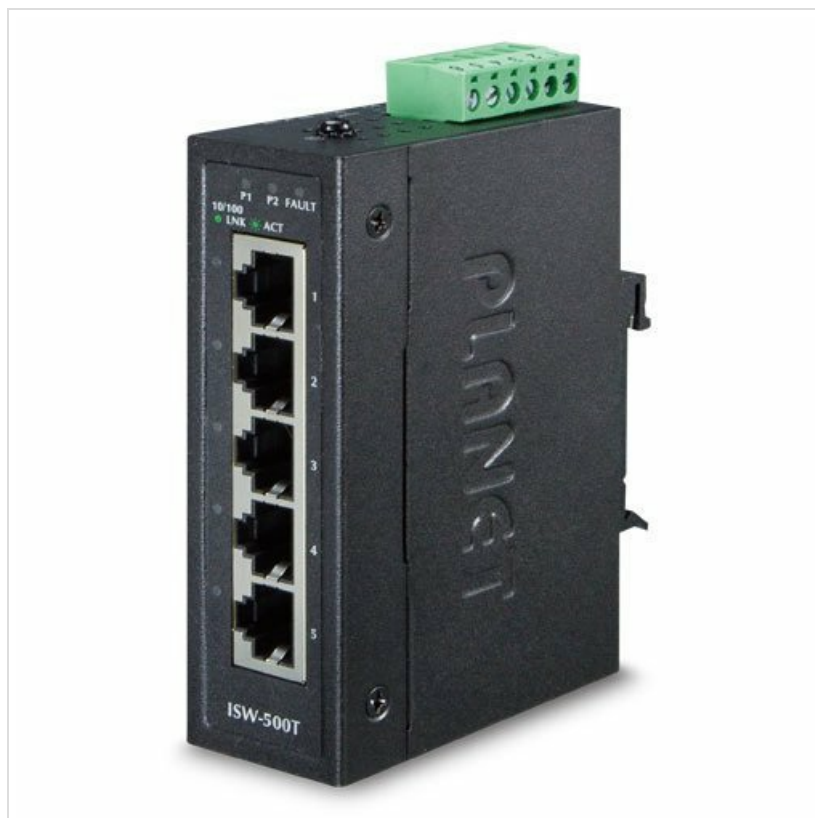

Figure 2.1: Angled view of the ISW-500T Industrial Ethernet Switch, showing its compact design and front-facing Ethernet ports.

2.1 Front Panel

Figure 2.2: Front panel of the ISW-500T, detailing the five 10/100TX Ethernet ports (labeled 1-5) and LED indicators for power (P1, P2), fault (FAULT), and link/activity (LNK/ACT).

- **Ethernet Ports (1-5):** Five 10/100TX auto-negotiation ports for network connections.
- **P1/P2 LEDs:** Indicate the status of Power Input 1 and Power Input 2.
- **FAULT LED:** Illuminates if a power supply failure is detected.
- **LNK/ACT LEDs:** Indicate link status and data activity for each Ethernet port.

2.2 Top Panel

Figure 2.3: Top panel of the ISW-500T, featuring the removable terminal block for dual redundant power inputs (DC1, DC2) and a fault alarm output.

- **Power Input Terminal Block:** Supports wide-ranging redundant power inputs (12~48V DC or 24V AC). Includes connections for DC1 (V1+, V1-), DC2 (V2+, V2-), and a fault alarm output (Fault).
- **Grounding Screw:** For proper grounding of the device.

3. KEY FEATURES

- 5 10/100TX Fast Ethernet Ports
- 1Gbps Non-blocking Switch Fabric
- IP30-rated Compact Case
- Wide-ranging Redundant Power System (12~48V DC or 24V AC)
- Operating Temperature Range: -40 to 75°C
- Plug and Play for easy deployment
- Auto Power Saving and IEEE 802.3az Energy Efficient Ethernet (EEE) Protocol
- Dual Power Input System with Hardware Failover
- Ethernet ESD Protection: ±6KV DC contact discharge, ±8KV DC air discharge
- Surge Immunity: ±4KV

4. SETUP AND INSTALLATION

4.1 Package Contents

Verify the following items are included in your package:

- ISW-500T Industrial Ethernet Switch
- Terminal Block Connector
- Quick Installation Guide (if applicable, not provided in input)

4.2 Mounting

The ISW-500T is designed for DIN-rail or wall mounting. Ensure the mounting location is stable, well-ventilated, and within the specified operating temperature range (-40 to 75°C).

4.3 Power Connection

1. Ensure the power source is off before connecting.
2. Connect the 12~48V DC or 24V AC power supply to the appropriate terminals (V1+, V1- for DC1; V2+, V2- for DC2) on the terminal block.
3. Tighten the screws on the terminal block to secure the wires.
4. Connect the terminal block to the power input port on the top panel of the ISW-500T.
5. For enhanced reliability, connect both DC1 and DC2 inputs to separate power sources. The device supports hardware failover.
6. Ensure proper grounding by connecting a ground wire to the grounding screw.

4.4 Network Connection

1. Connect standard RJ45 Ethernet cables from your network devices (e.g., industrial PCs, IP cameras, PLCs) to any of the five 10/100TX ports on the front panel of the ISW-500T.
2. The switch supports auto MDI/MDI-X, so straight-through or crossover cables can be used.
3. Verify the LNK/ACT LED for each connected port illuminates, indicating a successful link. A blinking LED indicates data activity.

5. OPERATION

The ISW-500T is a 'Plug and Play' device, requiring minimal configuration for basic operation.

5.1 Power On

Once power is supplied, the P1 and/or P2 LEDs will illuminate, indicating successful power input. The switch will automatically begin forwarding Ethernet traffic between connected devices.

5.2 Data Transmission

The switch operates at 10Mbps or 100Mbps, automatically negotiating the speed with connected devices. Data is forwarded efficiently with a 1Gbps non-blocking switch fabric.

5.3 Energy Efficiency

The ISW-500T incorporates Auto Power Saving and IEEE 802.3az Energy Efficient Ethernet (EEE) Protocol. This allows the switch to automatically detect cable link status and network traffic, adjusting power consumption accordingly. It consumes less power when less active, contributing to energy conservation.

5.4 Redundant Power System

The dual power input system ensures continuous operation. If Power Supply 1 fails, the hardware failover function automatically switches to Power Supply 2, maintaining system uptime. The FAULT LED will illuminate if a power supply failure occurs.

6. MAINTENANCE

To ensure optimal performance and longevity of your ISW-500T switch, follow these maintenance guidelines:

- **Environmental Control:** Ensure the operating environment remains within the specified temperature range (-40 to 75°C) and humidity levels. Avoid exposure to excessive dust, moisture, or corrosive substances.
- **Cleaning:** Periodically clean the exterior of the switch with a soft, dry cloth. Do not use liquid or aerosol cleaners. Ensure

ventilation openings are clear of obstructions.

- **Cable Management:** Keep network and power cables organized and securely connected to prevent accidental disconnections or damage.
- **Power Supply Check:** Regularly verify the status of the P1 and P2 LEDs to ensure both power inputs are functioning correctly, especially if using redundant power.
- **Firmware Updates:** While this model is 'Plug and Play' and typically does not require user firmware updates, always refer to the manufacturer's official website for any potential advisories or updates.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with the ISW-500T switch.

Problem	Possible Cause	Solution
No Power (P1/P2 LEDs Off)	No power supply, incorrect voltage, loose power connection.	Verify power source is active. Check power cable connections to the terminal block and the switch. Ensure power supply voltage is within 12~48V DC or 24V AC.
FAULT LED On	One of the redundant power supplies has failed.	Identify which power supply (DC1 or DC2) has failed by checking the P1/P2 LEDs. Inspect the faulty power supply and its connections. Replace if necessary. The switch should continue operating on the remaining power supply.
LNK/ACT LED Off for a Connected Port	No link, faulty cable, device not powered on, incorrect port speed/duplex.	Ensure the connected device is powered on and functioning. Check the Ethernet cable for damage and ensure it is securely plugged into both the switch and the device. Try a different Ethernet cable or port. Verify the connected device's network interface is enabled.
Slow Network Performance	Network congestion, faulty cable, device issues.	Check for excessive network traffic. Ensure all cables are in good condition. Verify the connected devices are operating optimally.

8. SPECIFICATIONS

Attribute	Value
Model Number	ISW-500T
Ports	5 x 10/100TX Fast Ethernet
Switch Fabric	1Gbps / non-blocking
Throughput	0.74Mpps @ 64Bytes
Max. Power Consumption	1.1W / 3.77BTU (power on w/o any connection), 2W / 6.86BTU (full loading)
Operating Temperature	-40 to 75°C (-40 to 167°F)

Attribute	Value
Power Input	12~48V DC or 24V AC (Redundant)
Protection	Ethernet ESD Protection (±6KV DC contact, ±8KV DC air), ±4KV Surge Immunity
Dimensions (L x W x H)	4.09 x 2.76 x 1.18 inches (103.9 x 70.1 x 30 mm)
Weight	8.78 ounces (249 grams)
IP Rating	IP30

9. WARRANTY AND SUPPORT

For detailed warranty information, technical support, and service inquiries, please refer to the official Planet Technology website or contact your authorized reseller. Warranty terms and conditions may vary by region and product. It is recommended to register your product upon purchase, if applicable, to ensure access to full support services.

Manufacturer: Planet Technology

Related Documents - ISW-500T

Compact Industrial 5-Port 10/100TX Ethernet Switch ISW-500T-E User's Manual	[PLANET ISW-500T-E Compact Industrial 5-Port 10/100TX Ethernet Switch User Manual](#) User manual for the PLANET ISW-500T-E Compact Industrial 5-Port 10/100TX Ethernet Switch, detailing its specifications, hardware features, installation procedures for DIN-rail and wall mounting, and customer support information.
Industrial 5-/8-Port 10/100TX Compact Ethernet Switch ISW-500T/ISW-800T User's Manual	[PLANET ISW-500T/ISW-800T Industrial Ethernet Switch User Manual](#) Comprehensive user manual for the PLANET ISW-500T and ISW-800T industrial 5-/8-port 10/100TX compact Ethernet switches, covering specifications, hardware introduction, installation, and support.
Compact Industrial 5-Port 10/100/1000T Ethernet Switch IGS-500T-E User's Manual	[PLANET IGS-500T-E Compact Industrial 5-Port 10/100/1000T Ethernet Switch User's Manual](#) User's manual for the PLANET IGS-500T-E Compact Industrial 5-Port 10/100/1000T Ethernet Switch, covering package contents, product specifications, hardware introduction, installation, and customer support.

Compact Industrial 4-Port 10/100TX 802.3at PoE + 1-Port 10/100TX Ethernet Switch ISW-504PT-E User's Manual	**PLANET ISW-504PT-E Compact Industrial Ethernet Switch User's Manual** User's manual for the PLANET ISW-504PT-E, a compact industrial 4-port 10/100TX 802.3at PoE + 1-port 10/100TX Ethernet Switch. Provides detailed information on package contents, product specifications, hardware overview, installation instructions for DIN-rail and wall mounting, LED definitions, power wiring, grounding, and customer support.
	PLANET IFGS-1022TF Industrial Ethernet Switch User Manual User manual for the PLANET IFGS-1022TF Industrial 8-Port 10/100TX + 2-Port Gigabit TP/SFP Combo Ethernet Switch. Details package contents, product specifications, hardware features including front and upper panel descriptions, LED indicators, power wiring, fault alarm wiring, installation procedures (DIN-rail, wall-mount, grounding), and customer support information. Includes FCC, CE, and WEEE compliance warnings.
Industrial L2+ 8-Port 10/100/1000T M12 Wall-mount Managed Switch WGS-5225-8MT Quick Installation Guide	**PLANET WGS-5225-8MT Industrial L2+ 8-Port Managed Switch Quick Installation Guide** Quick installation guide for the PLANET WGS-5225-8MT Industrial L2+ 8-Port 10/100/1000T M12 Wall-mount Managed Switch, covering package contents, hardware installation, and initial web login.