

5/8 Port 10/100/1000Mbps Gigabit Ethernet Switch User's Manual

(625-0491-000)

1. Overview

The Gigabit switch, a 5/8 port desktop Gigabit switch, meets the demand of bandwidth. This desktop switch seamlessly integrates with the rest of the network through its auto-negotiating and non-blocking design. To break through the bottlenecks at the core of network, the switch provides up to 10Gbps aggregate bandwidth and seamless migration and the most cost effective method for bringing high-speed networking to the desktop.

2. Checklist

Before you start installing the Switch, verify that the package contains the following:

- The 5/8 Port Gigabit Switch
- AC-DC Power Adapter
- This User's Manual

Please notify your sales representative immediately if any of the aforementioned items is missing or damaged.

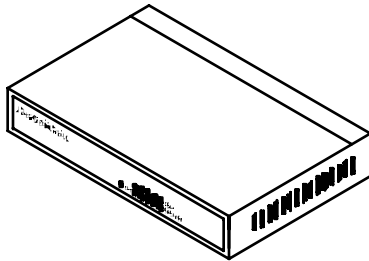


Fig. 1 the 5/8 Port Gigabit Switch

3. Installing the Switch

With the plug and play design, the Gigabit switch is easy in installation and use. Network and port status can be easily monitored and done trouble-shooting via diagnostic LEDs. Wiring auto crossover on all ports of the switch also allows the connection to server or PC to free from cabling problems.

- ⇒ In the switch, TP port supports MDI/MDI-X auto-crossover, so both types of cable, straight-through (Cable pin-outs for RJ-45 jack 1, 2, 3, 6 to 1, 2, 3, 6 in 10/100M TP; 1, 2, 3, 4, 5, 6, 7, 8 to 1, 2, 3, 4, 5, 6, 7, 8 in Gigabit TP) and crossed-over (Cable pin-outs for RJ-45 jack 1, 2, 3, 6 to 3, 6, 1, 2) can be used. It means you do not have to tell from them, just plug it.
- ⇒ Use Cat. 5 grade RJ-45 TP cable to connect to a TP port of the switch and the other end is connected to a network-aware device such as a workstation or a server.
- ⇒ Repeat the above steps, as needed, for each RJ-45 port to be connected to a Gigabit 10/100/1000 TP device.
- ⇒ For Fast Ethernet TP network connection
 - The grade of the cable must be Cat. 5 or Cat. 5e with a maximum length of 100 meters.
- ⇒ Gigabit Ethernet TP network connection
 - The grade of the cable must be Cat. 5 or Cat. 5e with a maximum length of 100 meters. Cat. 5e is recommended.
- ⇒ The TP, fiber cables and devices' bit-time delay (round trip) are as follows:

| 1000Base-X TP, Fiber | | 100Base-TX TP | | 100Base-FX Fiber | |
|------------------------|---------|-----------------------|--------|------------------|-------|
| Round Trip Delay: 4096 | | Round Trip Delay: 512 | | | |
| Cat. 5 TP Wire: | 11.12/m | Cat. 5 TP Wire: | 1.12/m | Fiber Cable: | 1.0/m |

| | | |
|--|---------|--|
| Fiber Cable: | 10.10/m | TP to Fiber Converter: 56 |
| Bit Time unit: 1ns (1sec./1000 Mega bit) | | Bit Time unit: 0.01μs (1sec./100 Mega bit) |

Sum up all elements' bit-time delay and the overall bit-time delay of wires/devices must be within Round Trip Delay (bit times) in a half-duplex network segment (collision domain). For full-duplex operation, this will not be applied. You may use the TP-Fiber module to extend the TP node distance over fiber optic and provide the long haul connection.

⇒ Verify the AC-DC adapter conforms to your country AC power requirement and insert the power plug. AC-DC adapter using different AC input voltages is available for different areas.

4. LED Description

| LED | Color | Function |
|--|-----------------|--|
| Power | Green | Lit when DC power is coming up |
| Gigabit Switch TP Port 1 to 5/8 | | |
| Link/Act | Green | Lit when TP connection is good Blinks when any traffic is present |
| 10/100/1000Mbps | Green/ Amber | Lit green when 1000Mbps speed is active Lit amber when 100Mbps speed is active Off when 10Mbps speed is active |



Fig. 2 Front View of the 5/8 Port Gigabit Switch



Fig. 3 Rear View of the 5/8 Port Gigabit Switch

5. AC-DC Power Adapter and AC Jack

| | | |
|-----------|---------------|----------------|
| AC Input | North America | 120VAC 60Hz |
| | Europe | 230VAC 50Hz |
| | U.K. | 230VAC 50Hz |
| | South Africa | 230VAC 50Hz |
| | Australia | 240VAC 50Hz |
| | Japan | 100VAC 50/60Hz |
| DC Output | 5VDC @ 2.0A | |

The AC input jack's central post is 2.5mm wide; it conforms to the AC-DC Adapter output receptacle dimension (2.5mm).

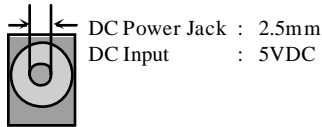


Fig. 4 5VDC Input Jack and Dimension

6. Connecting to 10/100/1000Mbps Device

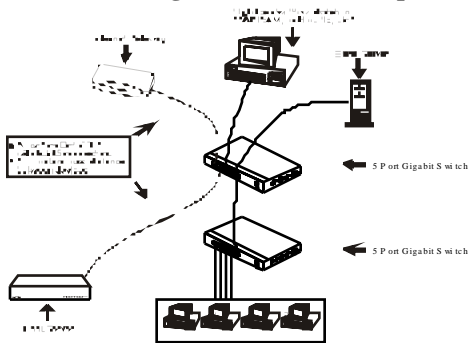


Fig. Network Connection

7. 5 Port Gigabit Switch Specifications

- **Standards** : IEEE802.3/802.3ab/802.3u/802.3x
- **Transmission** : 10/100Mbps supports full or half duplex
1000Mbps supports full duplex only
- **Data Transfer Rate**: PPS (packets per second)

| Speed | Forwarding Rate |
|----------|-----------------|
| 1000Mbps | 1,488,000 PPS |
| 100Mbps | 148,800 PPS |
| 10Mbps | 14,880 PPS |

- **MAC Address and Self-learning** : up to 8K
- **Buffer Memory** : 112KB on chip frame buffer – 5port
144KB on chip frame buffer – 8port
- **Flow Control**: IEEE802.3x compliant for full-duplex
Backpressure flow control for half-duplex
- **Switching Method** : Store & forward
- **Network Interface** : 5/8 10/100/1000Mbps RJ-45 ports
- **UTP Cable** :
10BASE-T: UTP Cat. 3, 4, 5 or up
100BASE-TX: UTP Cat. 5 or up
1000BASE-T: UTP Cat. 5 or up
- **Diagnostic LEDs** :
System LED --Power
Per Port LED--Link/Act, 10/100/1000Mbps
- **Power Supply** : External Switching Power (DC 5V/2A)
- **Power Consumption** : Max. 10W
- **Operation Temperature** : 0° to 40°C
- **Operation Humidity** : 10% to 90%
- **Storage Temperature** : 0° to 55°C
- **Storage Humidity** : 5% to 95%
- **Dimensions**: 27(H) × 159(W) × 102(D) mm

- **Complies with FCC Part 15 Class A, CE Mark Approval**

Note: For connecting this device to Router, Bridge, or Switch, please refer to the corresponding device's Technical Manual.