FCC Certifications

This Equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

CE Mark Warning

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class A for ITE, the essential protection requirement of Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Unpacking Information

Thank you for purchasing this product. Before installation, please verify that your package contains the following items.
1. One 24-port gigabit switch with 2 SFP ports
2. One AC power cord
3. Rubber foot*4 and screws
4. Rack-mount *2
5. One user manual

Introduction

The device is a powerful, high-performance Gigabit Ethernet switch with 24 10/100/1000 Mbps ports and 2 SFP(mini GBIC) ports, providing you a cost-effective, space-saving solution for expanding your network. The gigabit ports can lead you to a real gigabit connection, making you be able to transfer larger and high bandwidth-needed files faster in an easy way. Another feature is, for your network expansion, the two mini gigabit ports allow you to add fiber-optic connectivity for connecting to other network switches for obtaining long-distance communication.

Automatic MDI/MDI-X crossover detection ensures you no need to worry about the cable type by automatically switch the port's receive and transmit connections with plugged in devices and alleviates the effort to use crossover cables. Flow control ensures the correctness of data transmitting. The 802.3x and backpressure flow control mechanisms work respectively for full and half duplex modes.

The switch is plug and play without any software to configure and also fully compliant with all kinds of network protocols. Moreover, the rich diagnostic LEDs on the front-panel demonstrate the operating status of individual port and the whole system.

Key Features

- Complies with 10 BASE-T specifications of the IEEE802.3 standard
- Complies with 100BASE-TX specifications of the IEEE802.3u standard
- Complies with 1000BASE-T specifications of the IEEE802.3ab standard
- Complies with 1000BASE-X specifications of the IEEE802.3z standard
- Provides 2 SFP ports for optional fiber connection
- Supports back-pressure (half duplex) and flow control (IEEE 802.3x)
- Supports NWay protocol for speed(10/100/1000Mbps) and duplex mode(Half/Full) auto-detection
- Supports MDI/MDI-X auto crossover and polarity correction
- Store-and-forward architecture filters fragment & CRC error packets
- Supports 16K MAC address
- Supports 448K bytes buffer memory
- Supports 9K bytes jumbo frame
- Supports IEEE 802.3az Energy Efficient Ethernet
- Supports extensive LED indicators for network diagnostics

Front Panel

The front panel consists of LED indicators and the ports.

24 ports + 2 Mini GBIC Ports 19-inch Model

LEDs Definition:

This switch contains LEDs to shows the activities and information of the ports, including power LED and Link/Act LEDs.

| LED	Status	Operation
Power	Steady Green	The switch is powered on
	Off	The switch is powered off
Link/ ACT	Steady Green	Valid port connection
	Blinking Green	Valid port connection and there is data transmitting/ receiving
	Off	Port disconnected

Ports Operation

The auto-negotiation feature allows ports running at one of the following operation modes:

Port	Media	Speed (Mbps)	Duplex Mode
10/100/1000 Mbps	10/100/1000Mbps (copper)	10	Full
			Half
		100	Full
			Half
		1000	Full
	1000Mbps (Fiber) (Mini-GBIC required)	1000	Full

Rear Panel

The back side is shown as bellow (contains a three pronged outlet).
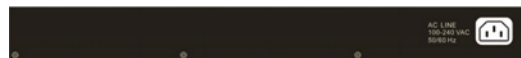
Power Receptacle

To be compatible with the electric service standards around the world, the switch is designed to afford the power supply in the range from 100 to 240VAC, 50/60Hz. Please make sure that your outlet standard to be within this range.

To power on the switch, plug the female end of the power cord firmly into the receptacle of the switch and the other end into an electric service outlet. After the power cord installation, please check if the power LED is illuminated for a normal power status.

Installation

This switch can be placed on your desktop directly, or mounted in a rack. The installation is a snap. Users can display all the features of the switch by simply attaching the cables and turning the power on.

Desktop Installation

1. Attach the provided rubber feet to the bottom of the switch to keep the switch from slipping. The recommend position has been square-marked.

2. Install the switch on a level surface that can support the weight of the unit and the relevant components.

3. Plug the switch with the female end of the provided power cord and plug the male end to the power outlet.

Rack-mount Installation

The switch may standalone, or may be mounted in a standard 19" rack. Rack mounting produces an orderly installation when you have a number of related network devices. The switch is supplied with two optional rack mounting brackets and screws, which are used for rack mounting the unit.

Procedures to Rack-Mount the switch in the rack:

1. First disconnect all the cables from the switch.
2. Place the unit the right way up on a hard, flat surface with the front facing you.
3. Locate a mounting bracket over the mounting holes on one side of the unit.
4. Insert the screws and fully tighten with a suitable screwdriver.
5. Repeat the two previous steps for the other side of the unit.
6. Insert the unit into the rack with suitable screws.
7. Reconnect all the cables.

Network Cables

1. Crossover or straight-through cable: All the ports on the switch support Auto-MDI/MDI-X functionality. Both straight-through or crossover cables can be used to connect the switch with PCs as well as other devices like switches, hubs or routers.

2. Category 3,4,5 or 5e UTP/STP cable: To make a valid connection and obtain the optimal performance, appropriate cables corresponding to different transmitting/ receiving speed is required. To choose a suitable cable, please refer to the following table.

Media	Speed (Mbps)	Wiring
10/100/1000Mbps copper	10	Category3,4,5 UTP/STP
	100	Category 5 UTP/STP
	1000	Category5,5e UTP/STP
1000Mbps Fiber (Mini GBIC required)	1000	The cable type differs from the mini-GBIC you purchase. Please refer to the instruction that came with your mini-GBIC.

[Tips:] On the purpose of performing this switch well, we strongly recommend below installation environment:

1. The switch is placed with appropriate ventilation environment. A minimum 25mm space around the unit is recommended.

2. The switch and the relevant components are away from sources of electrical noise such as radios, transmitters and broadband amplifiers.

3. The switch is away from environments beyond recommend moisture.

Network Application

The following picture is an application sample of network topology for your reference:
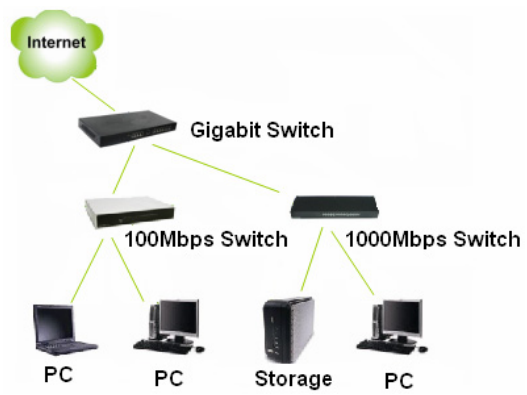
Product Specifications

Standard	IEEE802.3 (10BASE-T) IEEE802.3u (100BASE-TX) IEEE802.3ab (1000BASE-T) IEEE 802.3z (1000Base-X) IEEE802.3x full-duplex flow control
Interface	24 10/100/1000Mbps RJ-45 ports 2* Mini-GBIC ports
Cable Connections	RJ-45 (10BASE-T): Category 3,4,5 UTP/STP RJ-45 (100BASE-TX): Category 5 UTP/STP RJ-45 (1000BASE-T): Category 5,5e or enhanced UTP/STP Fiber: depend on Mini-GBIC types
Network Data Rate	10/100/1000 Mbps Auto-negotiation
Transmission Mode	10/100Mbps: Full-duplex, Half-duplex 1000Mbps: Full-duplex
LED Indications	System: Power Ports: Link/ACT
Memory	16K MAC entries 448K bytes buffer memory
Jumbo Frame	9K bytes
Temperature	Operating: 0~40℃ (32°~104°F) Storage: -40 ~ 70℃ (-40°~158°F)
Humidity	Operating: 10%~90%, non-condensing Storage: 5% ~ 90%, non-condensing
Power Supply	Internal power supply
Emission	FCC, CE, VCCI Class A