

pakedgedevice&software inc

SE-18/SE-26

16/18 Port Unmanaged Gigabit Ethernet Switch with
Two Independent Gigabit SFP Ports

User Manual – Version 1.0

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 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

FCC Certifications

This equipment has been tested and found to comply with the limits for a Class B 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 their 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.

Trademarks:

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Unpacking Information

Thank you for purchasing this product. Before installation, please verify that your package contains the following items.

1. One 16/24-port gigabit switch with 2 SFP ports
2. One AC power cord
3. Rack-mount brackets and screws (included, optional use)
4. User's Manual

Introduction

These SE Series Unmanaged switches offer high-performance Gigabit Ethernet switching with 16/24 Gigabit Ethernet ports and 2 Gigabit SFP ports. Providing you a cost-effective, space-saving solution for expanding your network. The fully Gigabit Ethernet ports of these switches offer high bandwidth connection for today's most demanding applications. The two SFP ports provide the ability to add fiber-optic connectivity between other network switches, giving the option for long-distance communications.

Automatic MDI/MDI-X crossover detection ensures you will not need to worry about the cable type by automatically switching the port's receive and transmit connections with plugged in devices. Also, flow control ensures the correctness of data transmitting. What's more, the 802.3x and backpressure flow control mechanisms work respectively for full and half duplex modes.

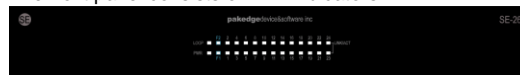
The switch is plug and play without any software to configure and also fully compliant with all kinds of network protocols. Moreover, the rich diagnostic LEDs on the front panel demonstrate the operating status of individual port and the whole system.

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
- Provides 16/24 10/100/1000Mbps Ethernet ports
- Provides 2 100/1000Mbps 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
- Supports 8K MAC address
- Supports 4.1Mbit buffer memory
- Supports 9K bytes jumbo frame
- Supports IEEE 802.3az Energy Efficient Ethernet
- Supports extensive LED indicators for network diagnostics
- Supports automatic loop detection and isolation

Front Panel

The front panel consists of LED indicators.



24 ports + 2 SFP



16 ports + 2 SFP

The following table describes the LEDs on the front panel.

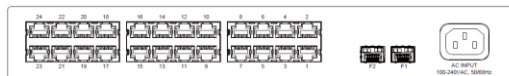
LEDs Definition:

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

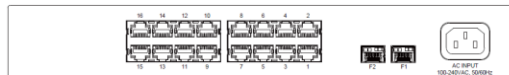
LED	Status	Operation
Power	Steady Blue	The switch is powered on
	Off	The switch is powered off
Loop	Blinking Red	There is a loop existing
	Off	There is no loop existing
Link/ ACT	Steady Blue	Valid port connection
	Blinking Blue	Valid port connection and there is data transmitting/receiving
	Off	Port disconnected

Rear Panel

The back side is shown as bellow.



24 ports + 2 SFP



16 ports + 2 SFP

The following table describes the port labels on the rear panel.

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	
		100/1000Mbps (Fiber) (SFP required)	100
1000	Full		

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, 6 UTP/STP
1000Mbps Fiber (SFP required)	1000	The cable type differs from the SFP you purchase. Please refer to the instruction that came with your SFP.

[Tips:] In order to ensure optimal performance, we strongly recommend the 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.

Product Specifications

Standard	IEEE802.3 (10BASE-T) IEEE802.3u (100BASE-TX) IEEE802.3ab (1000BASE-T) IEEE802.3x full-duplex flow control IEEE802.1p class of service, priority protocols IEEE802.3az (Energy Efficient Ethernet)
Interface	16/24 10/100/1000Mbps RJ-45 ports 2* SFP 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, 6 or enhanced UTP/STP Fiber: depend on SFP types
Network Data Rate	10/100/1000 Mbps Auto-negotiation
Transmission Mode	10/100Mbps: Full-duplex, Half-duplex 1000Mbps: Full-duplex
LED Indications	1*power LED(Power: Blue) 1*loop LED(Loop: Blinking Red) 18/26*port LEDs(Link/Act: Blue)
Memory	8K MAC entries 4.1Mbit buffer memory
Jumbo Frame	9K bytes
Temperature	Operating: 0~40°C (32°~104°F) Storage: -20 ~ 70°C (14°~158°F)
Humidity	Operating: 10%~90%, non-condensing Storage: 5% ~ 95%, non-condensing
Power Supply	Internal power supply 5V/5A
EMC	FCC/CE Class A
Safety	EN60950-1

TECHNICAL SUPPORT:

Please visit our website for up-to-date support information:

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