



# **KGS-2422**

**Managed 24-Port Modular Gigabit Ethernet  
Switches with 100BASE-FX Support**

**Installation Guide**



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## **FCC NOTICE**

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 the interference that may cause undesired operation.

## **CE NOTICE**

Marking by the symbol indicates compliance of this equipment to the EMC directive of the European Community. Such marking is indicative that this equipment meets or exceeds the following technical standards:

EMC Class A

EN55022:2006/A1:2007

EN61000-3-2:2006

EN61000-3-3:1995/A1:2001/A2:2005 Class A

EN 55024:1998/A1:2001/A2:2003

IEC 61000-4-2:2001

IEC 61000-4-3:2002/A1:2002

IEC 61000-4-4:2004

IEC 61000-4-5:2001

IEC 61000-4-6:2003

IEC 61000-4-8:2001

IEC 61000-4-11:2001

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# 1. Introduction

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The 24-port Managed Gigabit Ethernet Switches are standard L2 switches that meets all IEEE 802.3/u/x/z Gigabit, Fast Ethernet specifications. The switches provide three 8-port modular slots. Each slot can accommodate one 8-port module. A variety of modules is available for selection. They include 10/100/1000M copper module, 100/1000M SFP module, Copper and SFP mixed modules, and Fast Ethernet fiber modules. Different modules can be installed flexibly in one device rack. The system detects the types of the installed modules and configures the modules automatically. With variety of modules and flexibility of installation, the switches can meet most requirements of deployment of fiber networks no matter they are Gigabit Ethernet base, Fast Ethernet base or even combination of both.

The switches support Telnet CLI, Web GUI, SNMP and console CLI interface for switch stack management. The network administrator can logon the switch to monitor and configure port operating mode, Quality of Service, and powerful L2 switching functions such as VLAN, IGMP, RSTP etc. In addition, the switches are also featured with powerful security functions such as SSH, HTTPS, IEEE 802.1x & MAC-based authentication, and ACL control to make them suitable for office core applications.

The following figure illustrates the switch has 3 empty slots with no module installed.



## Model Definition

Model No.	Model	Power Input	Power connector
KGS-2422-S	AC powered model	AC 100 ~ 240V	IEC320
KGS-2422-D	DC powered model	DC +/-48V	Screw terminals

## 1.1 Features

- Fully modular design with three 8-port module slots supporting Gigabit and Fast Ethernet
- A variety of optional modules is available for selection including Gigabit copper, Gigabit fiber, Gigabit mix of copper and fiber, and Fast Ethernet fiber
- The copper ports support 10/100/1000Mbps auto-negotiation and auto-MDI/MDI-X detection.
- The SFP port can support both 100Mbps fiber transceivers and Gigabit Ethernet SFP fiber transceivers
- Support connectivity for Fast Ethernet fiber, 100BASE-FX with SC/ST/BiDi/VF-45 transceivers
- Flexible installation with any combination of different modules in one rack
- Provides Gigabit full wire speed forwarding
- Supports power saving mode when port link down
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Supports console and in-band Web/Telnet/SSH/HTTPS/SNMP interfaces for switch management
- Supports configurable maximum frame length from 1518 up to 9600 jumbo frame
- Supports port-based ,802.1Q tag-based VLAN and private VLAN
- Provides QoS function
- Supports port bandwidth control for ingress and egress
- Supports packets storm control function for broadcast, unicast and multicast
- Supports MAC address learning, ageing and filtering control
- Supports LACP port link aggregation
- Supports IEEE 802.1d, 802.1w, 802.1s STP (Spanning Tree Protocol), RSTP, MSTP
- Provides port mirroring function
- Provides IP Multicasting with IGMP Snooping function
- Supports DHCP client for dynamic IP configuration
- Supports 802.1X port-based radius authentication for access security
- Provides ACL filtering function
- Provides port data rate control function
- Supports SNTP Client
- Supports LLDP
- Provides SNMP v1/v2C/v3 agent and event trap function
- Supports Configuration download and upload 19” rack mountable
- Both AC powered model and DC powered model are available for choice

### Management Features:

- Port Control
  - Port Speed/Duplex Mode/Flow Control/Power saving configuration
  - Port frame size control (Jumbo frame support)
- QoS
  - Traffic Classification up to 4 active priorities

- Port QoS configuration
- QoS Control List for policy rules
- Port bandwidth control for ingress and egress
- Storm Control for UC, MC and BC
- Layer2
  - Auto MAC address learning and ageing
  - Static MAC address filtering
  - Port-based and 802.1Q Tag-based VLAN
  - Link Aggregation - LACP
  - Rapid Spanning tree - RSTP
  - Port Mirroring
  - IGMP snooping
  - DHCP client for IP configuration
- Security features
  - Access Control List for L2/L3 protocol filtering, ingress rate limit, port copy
  - Port Access Control based on IEEE 802.1X
- Management
  - Web management
  - Console CLI
  - Telnet CLI
  - Software Download via Web
  - SNMP Client
  - SNMP v1/v2c Agent
  - SSH v2 & HTTPS
  - Restore to default configuration
  - Configuration download and upload
  - System syslog
- SNMP MIBs

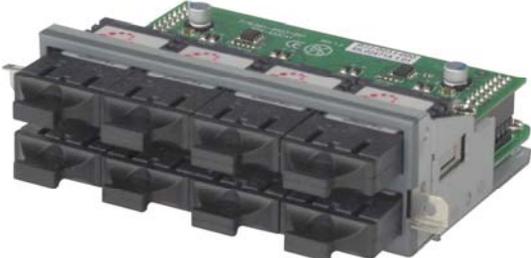
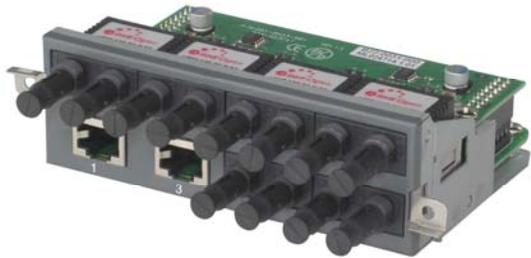
## 1.2 Product Panels

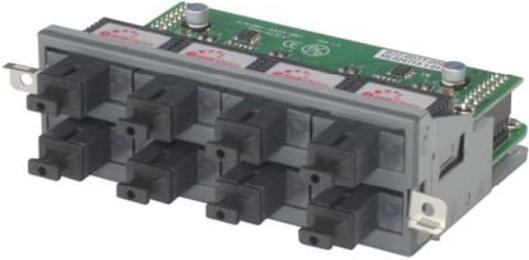
The following figure illustrates the front panel and rear panel of the switch:

Model	Front Panel	Rear Panel (Power Input)
AC powered model		
DC powered model		

## 1.3 Optional Modules

Module Part No.	Image	Specifications
8GT		<ul style="list-style-type: none"> <li>● 8 10/100/1000 copper ports</li> <li>● 8 RJ-45 jacks</li> </ul>
8GX		<ul style="list-style-type: none"> <li>● 8-port 100/1000 SFP module</li> <li>● 8 dual-speed SFP slots</li> <li>● Supports standard 100M or 1000M SFP optical fiber transceivers</li> </ul>

8G4		<ul style="list-style-type: none"> <li>● 4 10/100/1000 copper ports (4 RJ-45) support 10/100/1000Mbps</li> <li>● 4 dual-speed SFP slots support standard 100M or 1000M SFP optical fiber transceivers</li> </ul>
8FX-xxx		<ul style="list-style-type: none"> <li>● 8 fixed 100M fiber ports</li> <li>● 8 duplex SC transceivers support 100Mbps</li> <li>● Options: MMF 2km, SMF 20km</li> </ul>
8FM-xxx		<ul style="list-style-type: none"> <li>● 6 fixed 100M fiber ports with 6 duplex SC transceivers supporting 100Mbps</li> <li>● 2 10/100/1000 copper ports (2 RJ-45)</li> <li>● Fiber options: MMF 2km, SMF 20km</li> </ul>
8FX-T		<ul style="list-style-type: none"> <li>● 8 fixed 100M fiber ports</li> <li>● 8 duplex ST transceivers support 100Mbps and MMF 2km</li> </ul>
8FM-T		<ul style="list-style-type: none"> <li>● 6 fixed 100M fiber ports with 6 duplex ST transceivers supporting 100Mbps and MMF 2km</li> <li>● 2 10/100/1000 copper ports (2 RJ-45)</li> </ul>

8FX-W <sub>xy</sub>		<ul style="list-style-type: none"> <li>● 8 fixed 100M fiber ports</li> <li>● 8 BiDi SC transceivers support 100Mbps</li> <li>● Options: Tx1310/Rx1550 SMF 20km Tx1550/Rx1310 SMF 20km</li> </ul>
8FM-W <sub>xy</sub>		<ul style="list-style-type: none"> <li>● 6 fixed 100M fiber ports with 6 BiDi SC transceivers support 100Mbps</li> <li>● 2 10/100/1000 copper ports (2 RJ-45)</li> <li>● Fiber options: Tx1310/Rx1550 SMF 20km Tx1550/Rx1310 SMF 20km</li> </ul>

### 1.3.1 Optional Module Table

Module Part No.	10/100/1000M Copper ports	100/1000M pluggable SFP	Fixed 100M Fiber
8GT	8 RJ-45		
8GX		8 SFP	
8G4	4 RJ-45	4 SFP	
8FX-T			8 ST for MMF 2km
8FX-C			8 SC for MMF 2km
8FX-SL2			8 SC for SMF 20km
8FX-W3520			8 BiDi SC
8FX-W5320			for single SMF 20km
8FM-SL2	2 RJ-45		6 SC for SMF 20km
8FM-C	2 RJ-45		6 SC for MMF 2km
8FM-T	2 RJ-45		6 ST for MMF 2km
8FM-W3520	2 RJ-45		6 BiDi SC
8FM-W5320			for single SMF 20km

### 1.4 LED Indicators

LED	Function
POWER	Power status
Mngt	Management status

1000M Port speed 1000Mbps status  
Link/Act. Port link and activity status (Port 1 – Port 24)

## 1.5 Specifications

### **10/100/1000 Copper Ports**

Compliance IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3u 1000Base-T  
Connectors Shielded RJ-45 jacks  
Pin assignments Auto MDI/MDI-X detection  
Configuration Auto-negotiation or software control  
Transmission rate 10Mbps, 100Mbps, 1000Mbps  
Duplex support Full/Half duplex  
Network cable Cat.5 UTP

### **Dual-speed SFP Slots**

Compliance IEEE 802.3z 1000BASE-SX/LX (mini-GBIC)  
IEEE 802.3u 100BASE-FX  
Connectors SFP slot supports optional both 100M and 1000M SFP type fiber transceivers  
Configuration options Auto-negotiation 1000Mbps Full duplex  
Forced 100Mbps Full duplex  
(Software configurable)  
Network cables MMF 50/125 $\mu$ m 60/125 $\mu$ m, SMF 9/125 $\mu$ m  
Eye safety IEC 825 compliant

### **Fixed 100M Fiber Ports**

Compliance IEEE 802.3u 100BASE-FX  
Connector options Duplex SC for multimode fiber  
Duplex SC for single mode fiber  
Duplex ST for multimode fiber  
BiDi SC for single SM fiber  
Configuration 100Mbps, full duplex  
Network cables MMF 50/125 $\mu$ m 60/125 $\mu$ m, SMF 9/125 $\mu$ m  
Eye safety IEC 825 compliant

### **Console Port**

Interface RS-232, DTE type  
Connector 9-pin D-sub

### **Switch Functions**

MAC Addresses Table	8K entries
Forwarding & filtering	Non-blocking, full wire speed
Switching technology	Store and forward
Maximum packet length	9600 bytes (Jumbo frame support)
Flow control	IEEE 802.3x pause frame base for full duplex operation Back pressure for half duplex operation
VLAN function	Port-based VLAN and IEEE 802.1Q Tag-based VLAN
VLAN support	4096 VLANs (IEEE 802.1Q)
Aggregation	LACP Port link aggregation (port trunking)
QoS function	Ethernet type, IP-based, DSCP, TOS-based, VID-based, VLAN Tag-based packet classification Port rate control, storm control
Port Mirroring	Mirror received frames to a sniffer port

### **AC Power Input (AC powered models)**

Interfaces	IEC320 receptacle
Operating Input Voltages	100 ~ 240VAC
Power Consumption	40W max.

### **DC Power Input (DC powered models)**

Interfaces	Screw-type terminal block
Operating Input Voltages	+40 ~ +72VDC, -40 ~ -72VDC
Power Consumption	40W max.

### **Mechanical**

Dimension (base)	443 x 245 x 43 mm (WxDxH)
Housing	Enclosed metal
Mounting	Desktop mounting, 19" rack mounting

### **Environmental**

Operating Temperature	Typical -5°C ~ +50°C
Storage Temperature	-25°C ~ +85°C
Relative Humidity	10% ~ 90% non-condensing

### **Electrical Approvals**

FCC	Part 15 rule Class A
CE	EMC, CISPR22 Class A
Safety	LVD, IEC60950-1

## 2. Installation

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### 2.1 Unpacking

The product package contains:

- The switch unit
- One AC power cord (AC powered Model)
- One 19" rack mounting kit
- One product CD-ROM

### 2.2 Safety Cautions

To reduce the risk of bodily injury, electrical shock, fire and damage to the product, observe the following precautions.

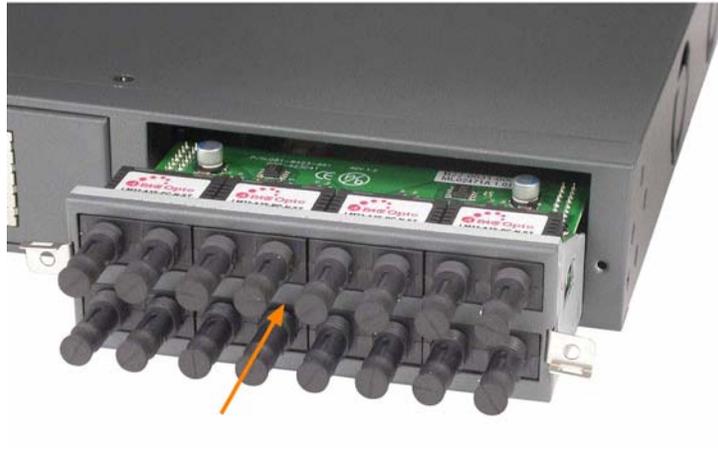
- Do not service any product except as explained in your system documentation.
- Opening or removing covers may expose you to electrical shock.
- Only a trained service technician should service components inside these compartments.
- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your trained service provider:
  - The power cable, extension cable, or plug is damaged.
  - An object has fallen into the product.
  - The product has been exposed to water.
  - The product has been dropped or damaged.
  - The product does not operate correctly when you follow the operating instructions.
- Do not push any objects into the openings of your system. Doing so can cause fire or electric shock by shorting out interior components.
- Operate the product only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your service provider or local power company.

## 2.3 Installing Module

The steps to install a module are:

1. Unscrew and open the cover of the module slot.
2. Insert the module into the slot until it is plugged on the slot connector properly.

Insert the module into a slot



3. Screw the module on the front panel of the base chassis securely.

Screw the module into the base



The module screwed



## 2.4 Removing the Module

The steps to remove an installed module from a base chassis are:



1. Unscrew the module first.



2. Loosen two screw brackets and pull them out as shown below:



3. Use the brackets as handles to pull the module out from the module slot connector.



4. Remove the module from the slot.

## 2.5 Mounting the Switch

### Desktop Mounting

The switch can be mounted on a desktop or shelf. Make sure that there is proper heat dissipation from and adequate ventilation around the device. Do not place heavy objects on the device.



### Rack Mounting

Two 19-inch rack mounting brackets are supplied with the switch for 19-inch rack mounting.

The steps to mount the switch onto a 19-inch rack are:

1. Turn the power to the switch off.
2. Install two brackets with supplied screws onto the switch as shown in figure below.

Install rack mounting brackets



After bracket mounting



2. Mount the switch onto 19-inch rack with rack screws securely.



3. Turn the power to the switch on.

## 2.6 Applying AC Power Supply

If the purchased switch is with AC power input, one AC power cord which meets the specification of your country of origin was supplied in package. Before installing AC power cord to the switch, make sure the AC power is OFF and the AC power to the power cord is turned off.



### AC power input specifications

Connector: IEC320 type

Power Rating: 100 ~ 240VAC, 50/60Hz

Voltage Range: 90 ~ 264VAC

Frequency: 47 ~ 63 Hz

Power Consumption: 40W max.

***Important Notes:***

- 1. The socket-outlet shall be installed near the switch and shall be easily accessible.*
- 2. Use of an approved power supply cord not lighter than IEC 60227, H03VV-F, 3G, 0.75mm<sup>2</sup> or alternatively IEC 60245, H05RR-F, 3G, 0.75mm<sup>2</sup>.*

## **2.7 Applying DC Power Supply**

If the purchased switch is with DC power input, the power connector is shown below:



### DC power input specifications

Receptacle: Screw-type terminal block

Operating Voltages: +40 ~ +72VDC or -40 ~ -72VDC

Power Consumption: 40W max.

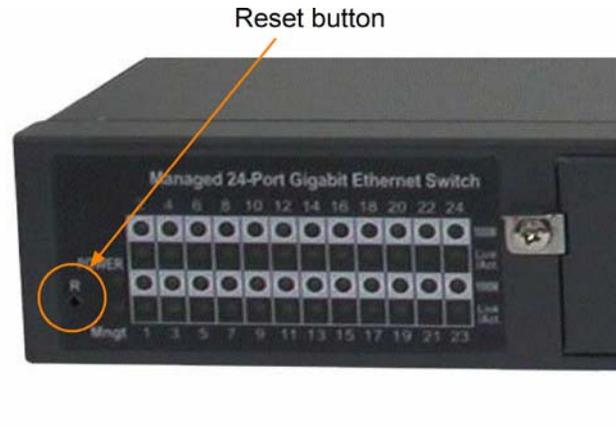
### Contacts

- |   |  |
|---|--|
| + | Vdc+ input   |
| - | Vdc- input   |
| ⏏ | Protective earth (Connected chassis and isolated with Vdc+ & Vdc-) |

***Important Note:***

- 1. For a PERMANENTLY CONNECTED SWITCH EQUIPMENT, a readily accessible power disconnect device shall be incorporated external to the switch equipment.*
- 2. The power disconnecting device be installed near the switch and shall be easily accessible.*
- 3. The power wiring between the DC power supply and the switch must be stranded copper wire within the range of 10 to 24 AWG.*

## 2.8 Reset Button



The reset button is used to perform a reset to the switch. It is not used in normal cases and can be used for diagnostic purpose. If any network hanging problem is suspected, it is useful to push the button to reset the switch without turning off the power. Check whether the network is recovered.

The button can also be used to restore the software configuration settings to factory default values. The operations are:

Operation	Function
Press the button during system boot-up and release it after boot-up. The boot-up takes about 17 seconds and ends with LED diagnostics.	Restore factory default settings
Press the button and release during switch operation	Re-boot the switch unit

## 2.9 Making UTP Connections

The 10/100/1000 RJ-45 copper ports support the following connection types and distances:

### Network Cables

10BASE-T: 2-pair UTP Cat. 3, 4, 5, EIA/TIA-568B 100-ohm

100BASE-TX: 2-pair UTP Cat. 5, EIA/TIA-568B 100-ohm

1000BASE-T: 4-pair UTP Cat. 5 or higher (Cat.5e is recommended), EIA/TIA-568B 100-ohm

Link distance: Up to 100 meters

### Auto MDI/MDI-X Function

This function allows the port to auto-detect the twisted-pair signals and adapts itself to form a valid MDI to MDI-X connection with the remote connected device automatically. No matter a straight through cable or crossover cable are connected, the ports can sense the receiving pair automatically and configure themselves to match the rule for MDI to MDI-X connection. It simplifies the cable installation.

### **Auto-negotiation Function**

The ports are featured with auto-negotiation function and full capability to support connection to any Ethernet devices. The port performs a negotiation process for the speed and duplex configuration with the connected device automatically when each time a link is being established. If the connected device is also auto-negotiation capable, both devices will come out the best configuration after negotiation process. If the connected device is incapable in auto-negotiation, the switch will sense the speed and use half duplex for the connection.

### **Port Configuration Management**

For making proper connection to an auto-negotiation INCAPABLE device, it is suggested to use port control function via software management to set forced mode and specify speed and duplex mode which match the configuration used by the connected device.

## **2.10 Making SFP Fiber Connection**

The dual-speed SFP slot must be installed with an SFP fiber transceiver for making fiber connection. Your switch may come with some SFP transceivers pre-installed when it was shipped.

Since the SFP slot is dual-speed support, it may be installed with a 1000M SFP fiber transceiver or a 100M SFP fiber transceiver. Choose a right transceiver which matches the requirements for connection speed, fiber type and connection distance for your application.

### **Installing SFP Fiber Transceiver**

To install an SFP fiber transceiver into SFP slot, the steps are:

1. Turn off the power to the switch.
2. Insert the SFP fiber transceiver into the SFP slot. Normally, a bail is provided for every SFP transceiver. Hold the bail and make insertion.

**Insert SFP transceiver into a slot**



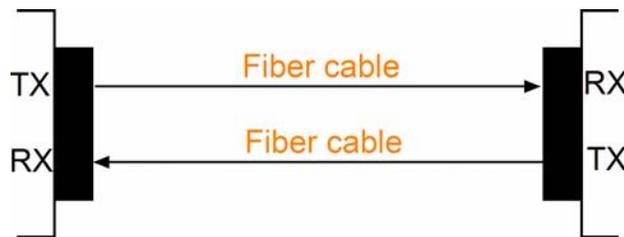
3. Until the SFP transceiver is seated securely in the slot, place the bail in lock position.

The transceiver seated properly



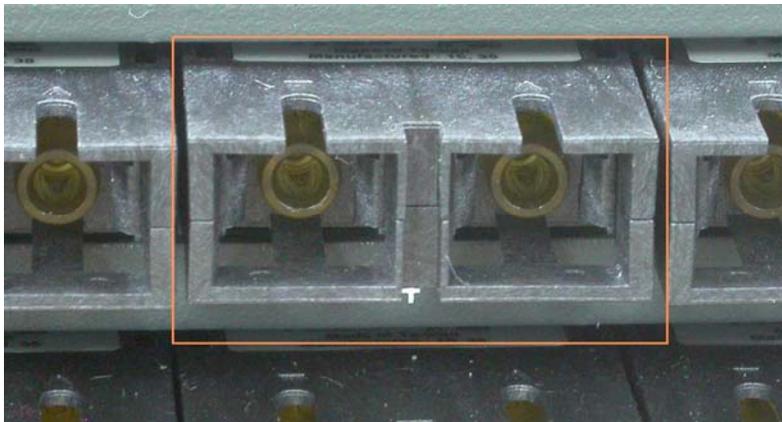
### Connecting Fiber Cables

LC connectors are commonly equipped on most SFP transceiver modules. Identify TX and RX connector before making cable connection. Plug in the cables as shown below. Make sure RX-to-TX connection rule is followed between two ends of the connected cable.



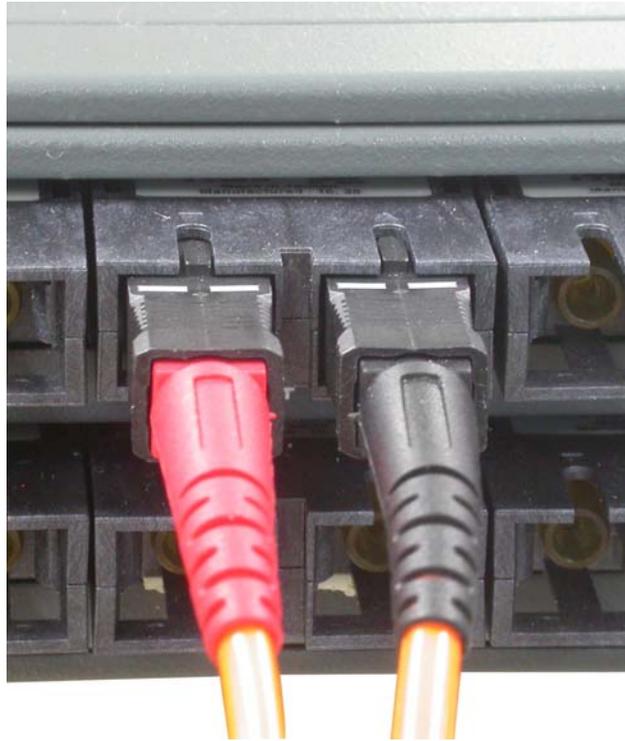
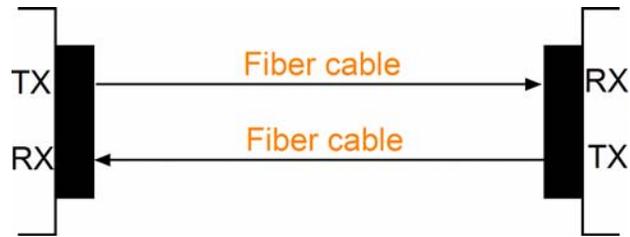
## 2.11 Making Fixed Duplex Fiber Connection

The following figure illustrates an example of fixed duplex fiber port with duplex SC connectors.



A module with fixed duplex ST connectors is also available in the listed optional modules.

Identify TX and RX connector before making cable connection. Plug in the cables as shown below. Make sure RX-to-TX connection rule is followed between two ends of the connected cable.

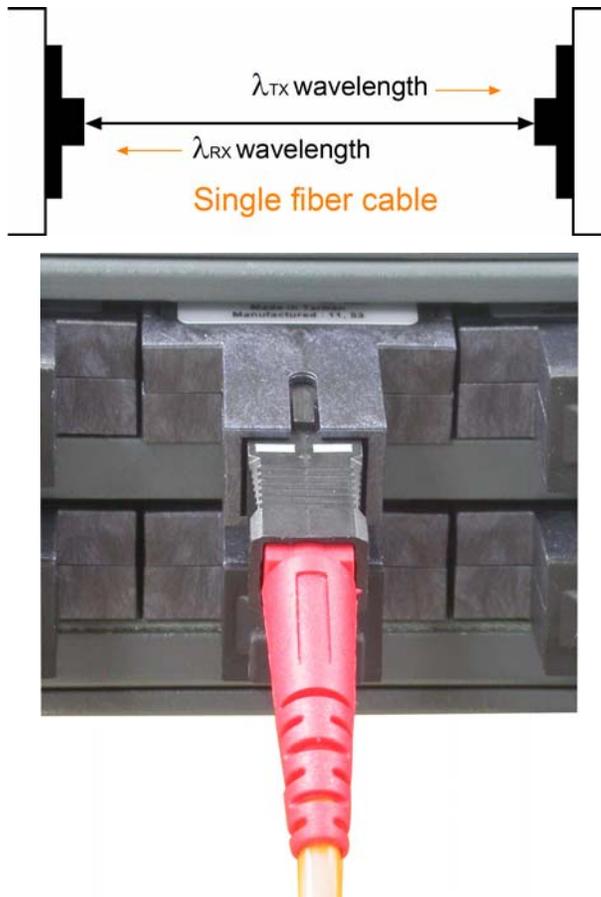


## 2.12 Making Fixed Bi-Di (Bi-Directional) Fiber Connection

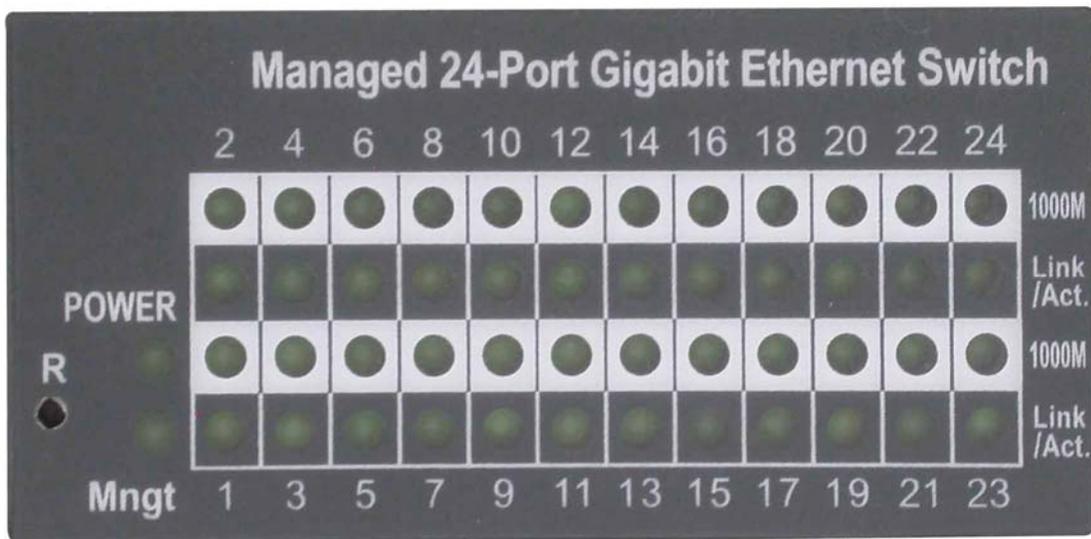
The following figure illustrates an example of fixed Bi-Di (Bi-directional) fiber port with one SC connector.



A Bi-Di port supports single fiber connection. It uses different optical wavelengths for transmission and receiving individually as figure illustrated below:



### 2.13 LED Indication



LED	Function	Color	State	Interpretation
POWER	Power status	Green	ON	The power is supplied to the switch.

			OFF	The power is not supplied to the switch.
Mngt	Management status	Green	OFF	The switch is in initialization and diagnostics.
			BLINK	The switch is initialized completely with diagnostic error.
			ON	The switch is initialized completely and normal.
1000M	Port speed status	Green	ON	1000Mbps is selected
			OFF	100Mbps or 10Mbps is selected.
Link/Act.	Port link status	Green	ON	Port link is established. (No traffic)
			BLINK	Port link is up and there is traffic.
			OFF	Port link is down.

## 2.14 Making Console Connection

Console port is a DB9 connector. It serves as an RS-232 DTE port.

### Pin Definitions

Pin 2	RXD
Pin 3	TXD
Pin 5	GND
Pin 1,4,6-9	NC

Use simple RS232 null modem without handshaking to connect the console port to PC's DB9 COM port as follows:

<u>Console Pins</u>		<u>COM Port Pins</u>	
Pin 2	RXD -----	Pin 3	TXD
Pin 3	TXD -----	Pin 2	RXD
Pin 5	GND -----	Pin 5	GND

### Baud Rate Information

Baud rate: 115200

Data bits: 8

Parity: none

Stop bit: 1

Flow control: disabled

## 3. Managing the Switch

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The switch provides the following methods to configure and monitor the switch as follows:

- Making out of band management via RS-232 console port
- Making in-band management via telnet interface over TCP/IP network
- Making in-band management via web interface over TCP/IP network
- Making in-band SNMP management over TCP/IP network

### 3.1 IP Address & Password

The IP Address is an identification of the switch in a TCP/IP network. Each switch should be designated a new and unique IP address in the network. The switch is shipped with the following factory default settings for software management:

Default IP address of the switch: *192.168.0.2 / 255.255.255.0*

Fixed Username: *admin*

No password

The switch uses local authentication instead of RADIUS authentication with factory defaults. No password is required with factory default. However, the password is used for local authentication in accessing to the switch via console, telnet and Http web-based interface. For security reason, it is recommended to change the default settings for the switch before deploying it to your network.

### 3.2 Configuring IP Address & Password via Web Interface

#### Start Web Browser

Start your browser software and enter the default IP address to which you want to connect. The IP address is used as URL for the browser software to search the device.

*URL: <http://192.168.0.2/>*

#### Login to the switch

When browser software connects to the switch successfully, a Login screen is provided for you to login to the device as the left display below:



Enter the following default values in the login page:

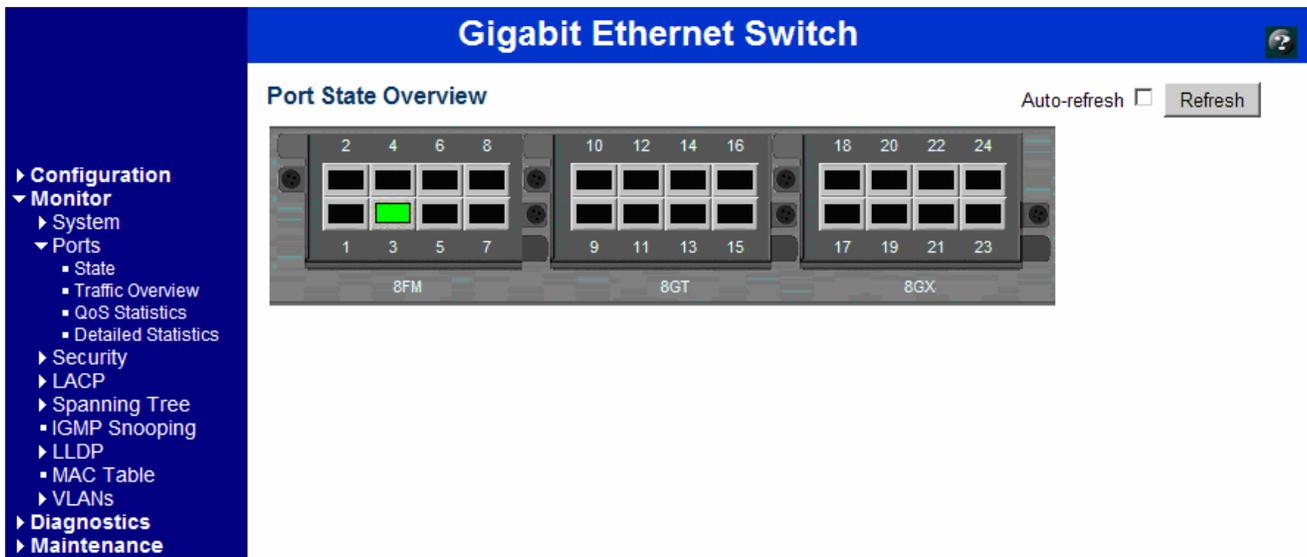
Fixed User Name: *admin*

Default password:

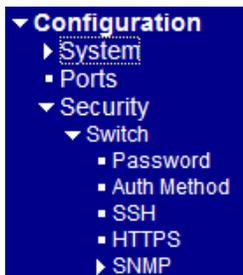
No password is required.

Click **OK** to login into the switch.

The following page is displayed after a successful login:



Select [Configuration] -> [Security] -> [Switch] -> [Password] to configure a new password



## Password configuration web page

### System Password

Old Password	<input type="text"/>
New Password	<input type="text"/>
Confirm New Password	<input type="text"/>

---

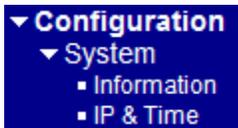
Configuration	Description
Old Password	Enter the current system password. If this is incorrect, the new password will not be set.
New Password	New system password to be used The allowed string length is 0 to 31, and the allowed content is the ASCII characters from 32 to 126.
Confirm New Password	Re-enter the new system password.

---

<input type="button" value="Save"/>	Click to save the changes.
-------------------------------------	----------------------------

---

Select [Configuration] -> [System] -> [IP & Time] to configure IP address



## IP Configuration web page

### IP Configuration

	Configured	Current
DHCP Client	<input type="checkbox"/>	<input type="button" value="Renew"/>
IP Address	192.168.0.171	192.168.0.171
IP Mask	255.255.255.0	255.255.255.0
IP Router	0.0.0.0	0.0.0.0
VLAN ID	1	1
SNTP Server	0.0.0.0	0.0.0.0

---

Configuration	Description
DHCP Client	Enable the DHCP client by checking this box.

---

IP Address	Provide the IP address of this switch unit.
IP Mask	Provide the IP mask of this switch unit.
IP Router	Provide the IP address of the default router for this switch unit.
VLAN ID	Provide the managed VLAN ID. The allowed range is 1 through 4095.
SNTP Server	Provide the IP address of the SNTP Server.

---

<input type="button" value="Save"/>	Click to save the changes.
<input type="button" value="Reset"/>	Click to undo any changes made locally and revert to previously saved values.
<input type="button" value="Renew"/>	Click to renew DHCP. This button is only available if DHCP is enabled.

---

*Note:*

1. *If DHCP fails and the configured IP address is zero, DHCP will retry. If DHCP fails and the configured IP address is non-zero, DHCP will stop and the configured IP settings will be used. The DHCP client will announce the configured System Name as hostname to provide DNS lookup.*
2. *The IP addresses should be in dotted decimal notation.*

### 3.3 Configuring IP Address & Password via console and telnet

[Password] setting command is in System command group.

```
>System password <password>↵
```

Parameters:

*<password>*: The allowed password string length is 0 to 31, and the allowed content is the ASCII characters from 32 to 126.

[IP] command group is used to configure the switch's IP settings. The command syntax is:

```
>IP DHCP [enable|disable]
```

```
>IP Setup [<ip_addr>] [<ip_mask>] [<ip_router>] [<vid>]
```

Parameters:

*<ip\_addr>*: IP address (a.b.c.d), default: Show IP address

*<ip\_mask>*: IP subnet mask (a.b.c.d), default: Show IP mask

*<ip\_router>*: IP router (a.b.c.d), default: Show IP router

*<vid>*: VLAN ID (1-4095), default: Show VLAN ID

### 3.4 Reference Manuals for Web, Console, Telnet Management

The following operation manuals are also provided separately for Console, Telnet and Web management:

*Operation manual - telnet & console management xxxxxx.doc*

*Operation manual - web management xxxxx.doc*

The manuals describe the detailed commands and information.

## **3.5 Configuration for SNMP Management**

The switch supports SNMP v1, SNMP v2c, and SNMP v3 management. Make sure the related settings are well-configured for the switch before you start the SNMP management from an SNMP manager.

### **Using Telnet Interface**

The following are available commands in telnet SNMP command group to configure SNMP-related settings:

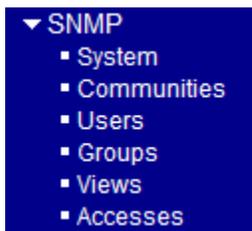
- >SNMP Configuration*
- >SNMP Mode [enable/disable]*
- >SNMP Version [1|2c|3]*
- >SNMP Read Community [<community>]*
- >SNMP Write Community [<community>]*
- >SNMP Trap Mode [enable/disable]*
- >SNMP Trap Version [1|2c|3]*
- >SNMP Trap Community [<community>]*
- >SNMP Trap Destination [<ip\_addr\_string>]*
- >SNMP Trap Authentication Failure [enable/disable]*
- >SNMP Trap Link-up [enable/disable]*
- >SNMP Trap Inform Mode [enable/disable]*
- >SNMP Trap Inform Timeout [<timeout>]*
- >SNMP Trap Inform Retry Times [<retries>]*
- >SNMP Trap Probe Security Engine ID [enable/disable]*
- >SNMP Trap Security Engine ID [<engineid>]*
- >SNMP Trap Security Name [<security\_name>]*
- >SNMP Engine ID [<engineid>]*
- >SNMP Community Add <community> [<ip\_addr>] [<ip\_mask>]*
- >SNMP Community Delete <index>*
- >SNMP Community Lookup [<index>]*

```

>SNMP User Add <engineid> <user_name> [MD5/SHA] [<auth_password>] [DES] [<priv_password>]
>SNMP User Delete <index>
>SNMP User Changekey <engineid> <user_name> <auth_password> [<priv_password>]
>SNMP User Lookup [<index>]
>SNMP Group Add <security_model> <security_name> <group_name>
>SNMP Group Delete <index>
>SNMP Group Lookup [<index>]
>SNMP View Add <view_name> [included/excluded] <oid_subtree>
>SNMP View Delete <index>
>SNMP View Lookup [<index>]
>SNMP Access Add <group_name> <security_model> <security_level> [<read_view_name>] [<write_view_name>]
>SNMP Access Delete <index>
>SNMP Access Lookup [<index>]

```

## Using Web Interface



The commands supports configuration for:

- Basic system configuration for SNMP v1 and SNMP v2c
- Basic system configuration for SNMP v1 trap, SNMP v2c trap and SNMP v3 trap
- Communities that permit to access to SNMPv3 agent
- USM (User-based Security Model) user table for SNMPv3
- VACM (View-based Access Control Model) Viewer table for SNMPv3
- Group table for SNMPv3
- Accesses group table for SNMPv3

## 3.6 SNMP MIBs

The switch provides the following SNMP MIBs:

- RFC 1213 MIB II

- RFC 3635 Ethernet-like MIB
- RFC 4188 Bridge MIB
- RFC 3636 802.3 Medium Attachment Units (MAUs) MIB
- RFC 2863 Interface Group MIB using SMI v2
- RFC 4133 Entity MIB v3
- RFC 2933 IGMP MIB
- IEEE 802.3AB LLDP MIB

One product MIB file is also available in the product CD for SNMP manager software.