

HP 6125G & 6125G/XG Blade Switches

Installation Guide

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Product overview

The HP 6125 Blade Switch Series includes the models in [Table 1](#):

Table 1 Models in the HP 6125 Blade Switch Series

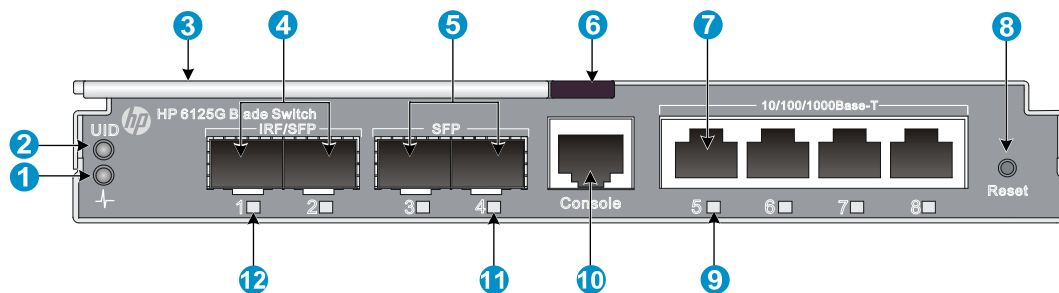
HP description	RMN
HP 6125G	HSTNS-BC57-N
HP 6125G/XG	HSTNS-BC58-N

! IMPORTANT:

For regulatory identification purposes, the HP 6125 Blade Switch Series are assigned Regulatory Model Numbers (RMN). These regulatory numbers should not be confused with the marketing name HP 6125.

Panel views

Figure 1 Front panel of the HP 6125G

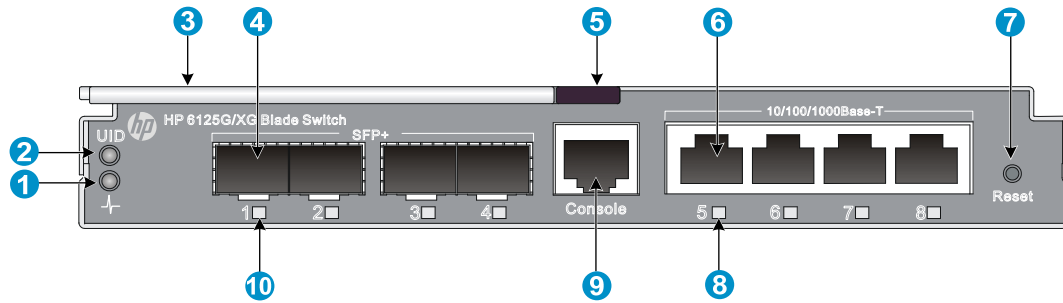


(1) Health LED	(2) Unit ID (UID) LED
(3) Ejector lever	(4) IRF/SFP port
(5) SFP port	(6) Release tab
(7) 10/100/1000Base-T auto-sensing Ethernet port	(8) Reset button
(9) 10/100/1000Base-T auto-sensing Ethernet port LED	(10) Console port
(11) SFP port LED	(12) IRF/SFP port LED

NOTE:

The Reset button is recessed in the device. To push the Reset button, use a thin, elongated object, such as a pencil.

Figure 2 Front panel of the HP 6125G/XG



(1) Health LED	(2) Unit ID (UID) LED
(3) Ejector lever	(4) SFP+ port
(5) Release tab	(6) 10/100/1000Base-T auto-sensing Ethernet port
(7) Reset button	(8) 10/100/1000Base-T auto-sensing Ethernet port LED
(9) Console port	(10) SFP+ port LED

Installing the blade switch

The HP 6125 switches can be installed into the HP BladeSystem c3000 and c7000 enclosures. The installation position in the enclosure in this document is only for illustration. For more information, see *HP BladeSystem Enclosure Setup and Installation Guide*.

Preparing for installation

WARNING!

The blade switches are Class 1 laser devices. Do not stare into any fiber port when the blade switch has power. The laser light emitted from the optical fiber may hurt your eyes.

CAUTION:

Take ESD-preventive measures to avoid damaging the components. For more information, see *HP BladeSystem Enclosure Setup and Installation Guide*.

- To avoid any equipment damage or bodily injury caused by improper use, follow the enclosure safety recommendations. For more information, see *HP BladeSystem Enclosure Setup and Installation Guide*.
- Identify the interconnect bay to install the blade switch. For more information, see *HP BladeSystem Enclosure Setup and Installation Guide*.

Installing and removing the blade switch

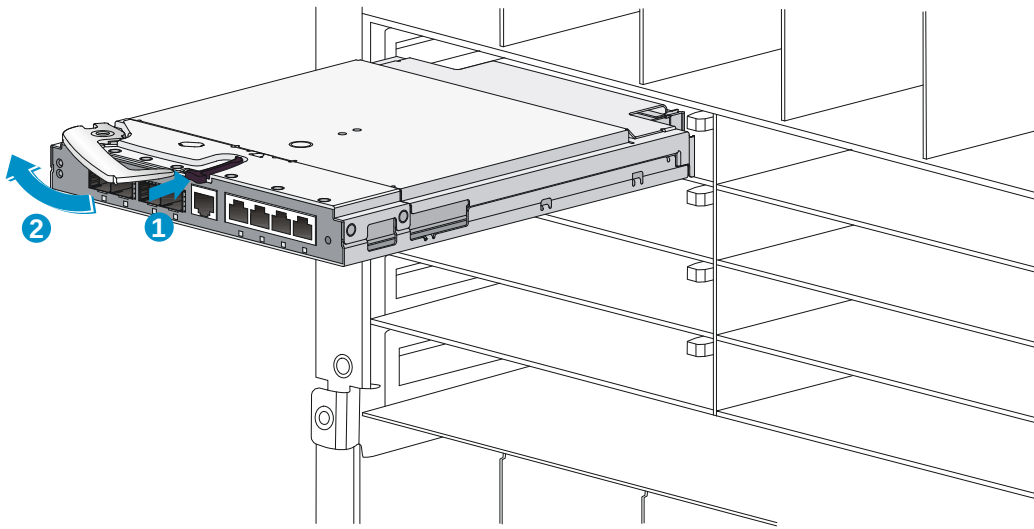
IMPORTANT:

- If the blade switch does not install easily, make sure that it is correctly oriented.
 - To prevent dust from entering the system, install the interconnect blank into the interconnect bay after removing the blade switch.
-

Installing the blade switch

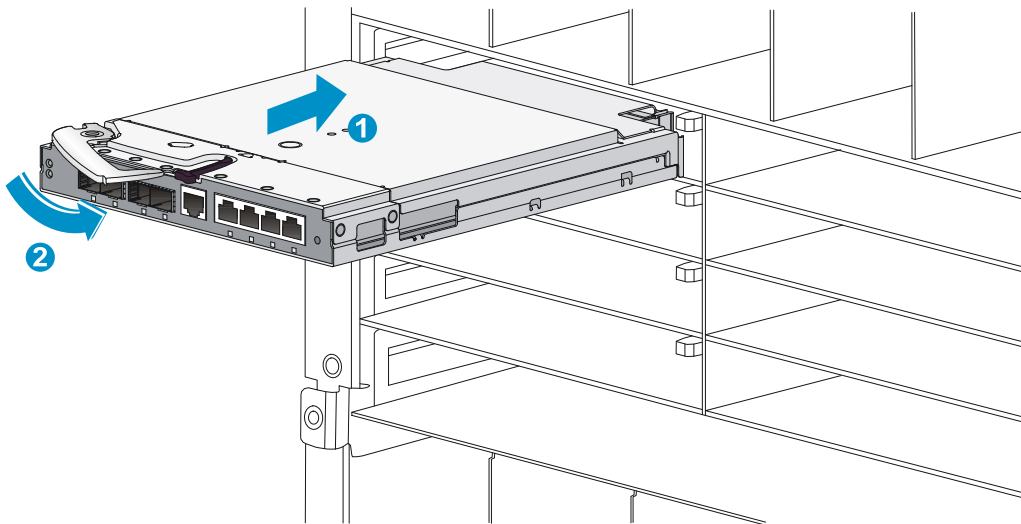
1. Wear an ESD-preventive wrist strap and make sure it makes good skin contact and is well grounded.
2. Remove the interconnect blank from the slot.
Keep the removed interconnect blank for future use.
3. Unpack the blade switch.
4. Press the release tab (see callout 1 in [Figure 3](#)) and then pull the ejector lever to the open position (see callout 2 in [Figure 3](#)).

Figure 3 Opening the ejector lever



5. Slide the blade switch into the interconnect bay (see callout 1 in [Figure 4](#)) until it touches the backplane.
6. Push the ejector lever to the closed position. (See callout 2 in [Figure 4](#)).

Figure 4 Sliding the blade switch into the interconnect bay



7. Verify that the Health LED is green after the blade switch starts up. Otherwise, check the installation.
8. Choose proper cables for the blade switch.
For more information about ports, see "[Ports](#)." For more information about cable installation, see "[Connecting the blade switch to the network](#)."

Removing the blade switch

1. Wear an ESD-preventive wrist strap and make sure it makes good skin contact and is well grounded.
2. Press the release tab to open the ejector lever.
3. Pull the ejector lever outwards slowly to take out the blade switch.

Connecting the blade switch to the network

Connecting the blade switch to the network through twisted pair cables

You can use category-5 or above twisted pair cables to connect the 10/100/1000Base-T ports on your blade switch to the network. These ports use RJ-45 connectors and support MDI/MDI-X auto-sensing.

To connect a 10/100/1000Base-T port to a peer device:

1. Plug one end of a twisted pair cable into the RJ-45 port of the blade switch.
2. Plug the other end of the twisted pair cable into the RJ-45 port of the peer device.
3. Verify the port LED for correct connection.

For LED status, see "[LEDs](#)."

Connecting the blade switch to the network through optical fibers

WARNING!

To avoid injury to your eyes, do not stare at the optical interfaces and optical fiber connectors when connecting optical fibers.

You can install a transceiver module in a fiber port on the blade switch and then plug the fiber connector to the transceiver module. For more information about installing the transceiver module, see *Pluggable SFP[SFP+][XFP] Transceiver Modules Installation Guide*.

To install a transceiver module into the port on the blade switch and the peer device:

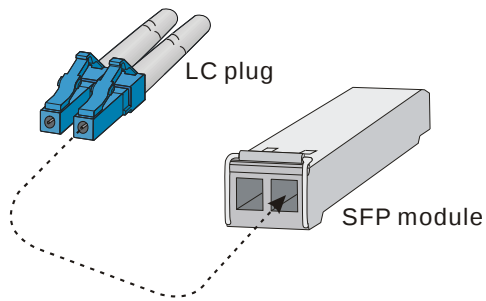
1. Remove the dust cover of the fiber connector, and clean the end of the fiber connector.
2. Remove the dust plug of the transceiver module, plug one end of the optical fiber into the transceiver module, and plug the other end into the transceiver module in the peer device, as shown in [Figure 5](#).

The transmit port on one end must connect to the receive port on the other end.

3. Verify the port LEDs for correct connection.

For more information about LED status, see "[LEDs](#)."

Figure 5 Using LC optical fiber connectors to connect transceiver modules



Testing connectivity

After you connect the blade switch to the network, use the **ping** or **tracert** command to test network connectivity. For more information about these two commands, see *HP 6125 Blade Switch Series Network Management and Monitoring Command Reference*.

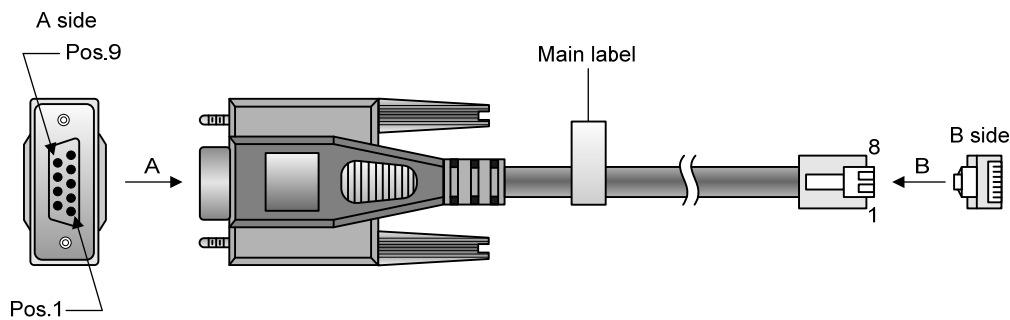
Accessing the blade switch for the first time

Logging in through the console port

The first time you access the blade switch you must use a console cable (see [Figure 6](#)) to connect a console terminal, for example, a PC, to the console port on the blade switch.

A console cable is an 8-core shielded cable, with a crimped RJ-45 connector at one end for connecting to the console port of the blade switch, and a DB-9 female connector at the other end for connecting to the serial port on the console terminal.

Figure 6 Console cable



Setting up the configuration environment

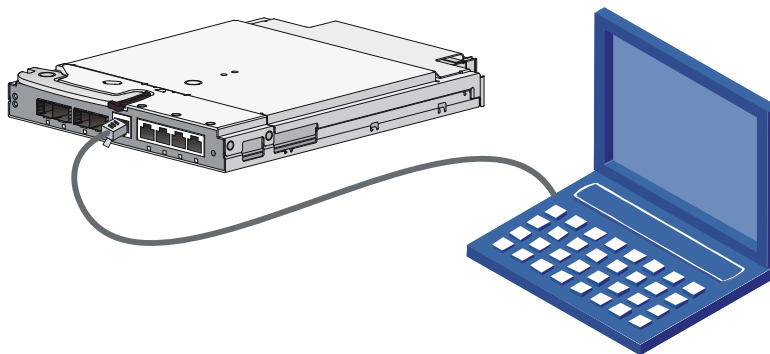
To connect a terminal, for example, a PC, to the blade switch:

1. Plug the DB-9 female connector of the console cable to the serial port of the PC.
2. Plug the RJ-45 connector of the console cable to the console port of the blade switch.

! IMPORTANT:

Identify the mark on the console port and make sure that you are connecting to the correct port.

Figure 7 Connecting a console port to a terminal



Setting terminal parameters

To configure and manage the blade switch, you must run a terminal emulator program on the console terminal, for example, a PC. This section uses Windows XP HyperTerminal as an example.

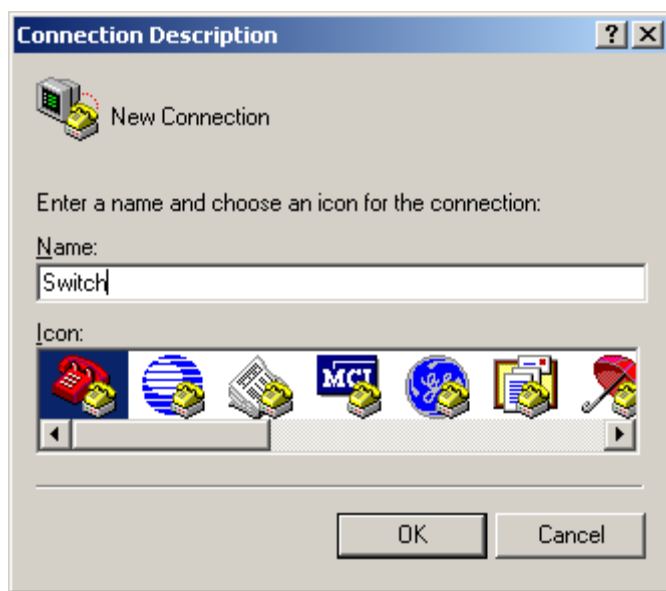
The following are the required terminal settings:

- **Bits per second**—9,600
- **Data bits**—8
- **Parity**—None
- **Stop bits**—1
- **Flow control**—None
- **Emulation**—VT100

To set terminal parameters, for example, on a Windows XP HyperTerminal:

1. Select **Start > All Programs > Accessories > Communications > HyperTerminal**.
The **Connection Description** dialog box appears.
2. Enter the name of the new connection in the **Name** field and click **OK**.

Figure 8 Connection description



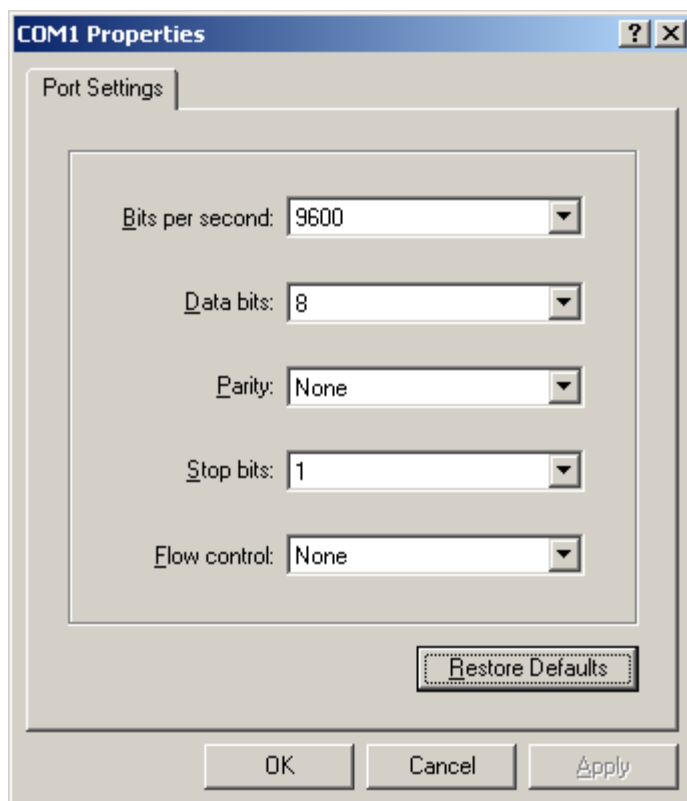
3. Select the serial port to be used from the **Connect using** list, and click **OK**.

Figure 9 Setting the serial port used by the HyperTerminal connection



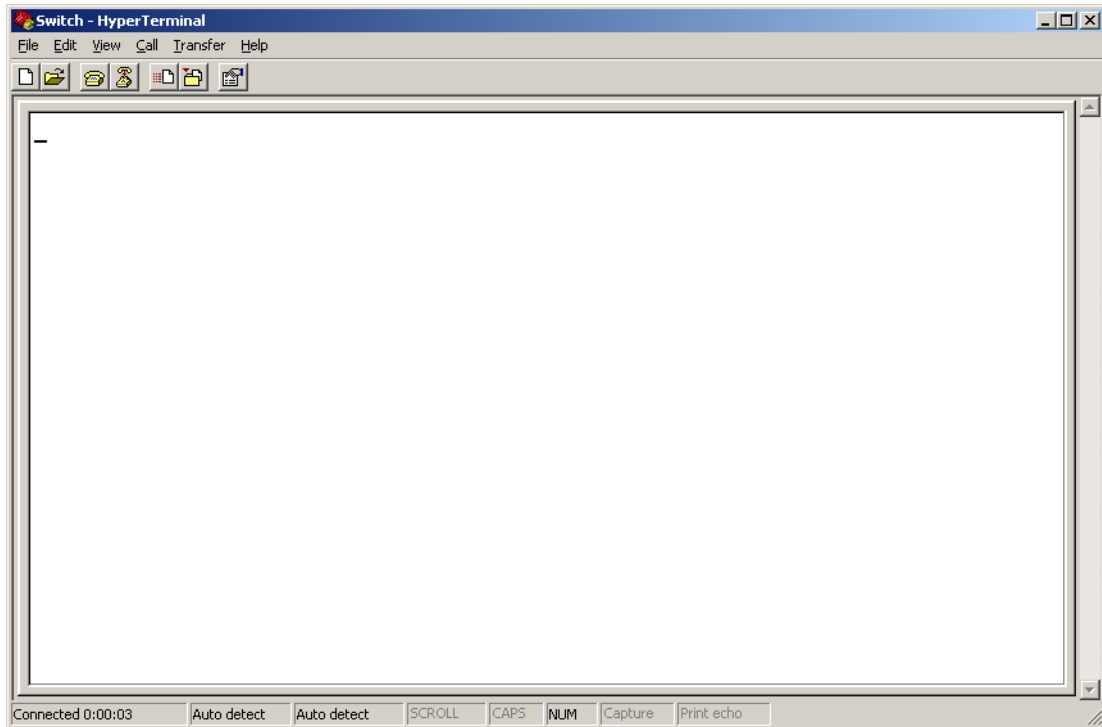
4. Set **Bits per second** to **9600**, **Data bits** to **8**, **Parity** to **None**, **Stop bits** to **1**, and **Flow control** to **None**, and click **OK**.

Figure 10 Setting the serial port parameters



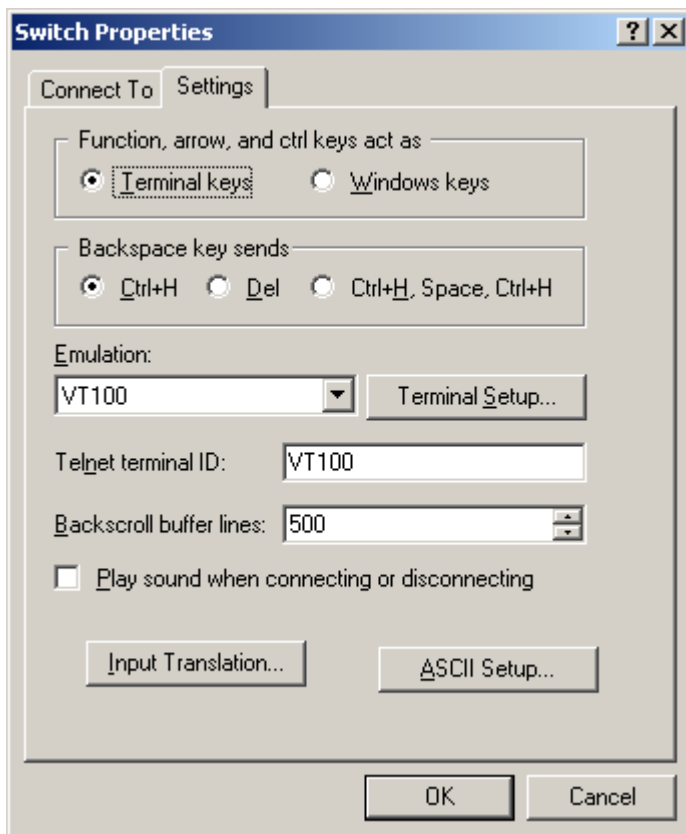
5. Select **File > Properties** in the HyperTerminal window.

Figure 11 HyperTerminal window



6. On the **Settings** tab, set the emulation to **VT100**, and click **OK**.

Figure 12 Setting terminal emulation in Switch Properties dialog box



Press **Enter** at the prompt. When the command line prompt appears, you can configure the switch. For more information about the configuration, see "[Configuring the blade switch](#)."

Logging in through the OA module

To log in to the blade switch through the HP BladeSystem Onboard Administrator (OA) module:

1. Use a serial cable to connect the terminal (for example, a PC) to the serial port of the OA module.
2. Turn on the PC, run a terminal emulator program (for example, Windows XP HyperTerminal) on the PC, and set terminal parameters as follows:
 - **Bits per second**—9,600
 - **Data bits**—8
 - **Parity**—None
 - **Stop bits**—1
3. Press **Enter** and the login information appears.
4. Enter the username and password.
OA prompt information appears on the login interface.
5. Enter the **connect interconnect <bay_number>** command, where the *bay number* argument specifies the slot number of the blade switch.
6. Press **Enter**.

When the command line prompt appears, you can configure the switch. For more information about the configuration, see "[Configuring the blade switch](#)."

Configuring the blade switch

By default, the switch does not authenticate console login users. To increase system security and enable remote management:

- Configure a login authentication method, for example, Telnet, SSH, or NMS.
- Configure access services.

Configuring an authentication method

You can configure authentication on a user interface to control access to the switch.

[Table 2](#) describes the Telnet login authentication methods available for a VTY user interface. For more information about login authentication methods, see *HP 6125 Blade Switch Series Fundamentals Configuration Guide*.

Table 2 Telnet login authentication methods

Authentication method	Characteristics	Application scenarios
None	Easy to configure, insecure	Lab environments and extremely secure network environments
Password	Easy to configure, secure, providing flat user management	Environments that do not need granular privilege management

Authentication method	Characteristics	Application scenarios
Username and password	Complex to configure, secure, providing hierarchical user management	Environments where multiple operators cooperate to manage the switch

Configuring the basic network settings

An HP 6125 blade switch without any configuration can perform basic data forwarding immediately after connecting to a network. To implement more forwarding features, you can configure the basic network settings such as IP address, static route, and VLAN. For more information, see *HP 6125 Blade Switch Series Configuration Guides*.

Configuration example

Configuring Telnet

```
# Enter system view.
<Sysname> system-view

# Enable the Telnet server.
[Sysname] telnet server enable

# Enter the user interface view VTY 0.
[Sysname] user-interface vty 0

# Enable password authentication on the user interface.
[Sysname-ui-vty0] authentication-mode password

# Set the password to hello.
[Sysname-ui-vty0] set authentication password cipher hello

# Set the user privilege level to 3 so Telnet users accessing VTY 0 can use all commands.
[Sysname-ui-vty0] user privilege level 3
[Sysname-ui-vty0] quit
```

Configuring the basic network settings

1. Specify an IP address:


```
# Create VLAN-interface 1.
[Sysname] interface vlan-interface 1

# Assign an IP address, for example, 192.168.0.1, to VLAN-interface 1.
[Sysname-vlan-interface1] ip address 192.168.0.1 24
[Sysname-vlan-interface1] quit
```
2. Configure a static route:


```
# Configure a static route, with the destination IP address 172.16.1.0 and the next hop IP address 192.168.0.2.
[Sysname] ip route-static 172.16.1.0 255.255.255.0 192.168.0.2
```
3. Configure a VLAN:


```
# Create VLAN 10 and enter its view.
[Sysname] vlan 10
[Sysname-vlan10]
```

```
# Assign GigabitEthernet 1/1/5 to VLAN 10.  
[Sysname-vlan10] port gigabitethernet 1/1/5  
[Sysname-vlan10] quit
```

Setting up an IRF fabric

You can use HP Intelligent Resilient Framework (IRF) technology to connect and virtualize HP 6125 blade switches into a virtual switch called an "IRF fabric" or "IRF virtual device" for flattened network topology, and high availability, scalability, and manageability.

Planning IRF fabric setup

Determining the number of IRF member devices

Choose HP 6125 blade switch models and identify the number of required IRF member switches, depending on the user density and upstream bandwidth requirements. The switching capacity of an IRF fabric equals the total switching capacities of all member switches.

Identifying the master switch and planning IRF member IDs

IRF member switches will automatically elect a master. You can affect the election result by assigning a high member priority to the intended master switch. For more information about master election, see *HP 6125 Blade Switch Series IRF Configuration Guide*.

Determine which switch you want to use as the master for managing all member switches in the IRF fabric. An IRF fabric has only one master switch. You configure and manage all member switches in the IRF fabric at the command line interface of the master switch.

Prepare an IRF member ID assignment scheme. An IRF fabric uses member IDs to uniquely identify and manage its members, and you must assign each IRF member switch a unique member ID.

Planning IRF topology and connections

You can create an IRF fabric in daisy chain topology, or more reliably, ring topology. In ring topology, the failure of one IRF link does not cause the IRF fabric to split as in daisy chain topology. Rather, the IRF fabric changes to a daisy chain topology without interrupting network services.

You connect the IRF member switches through IRF ports, the logical interfaces for the connections between IRF member switches. Each IRF member switch has two IRF ports: IRF-port 1 and IRF-port 2. An IRF port goes up when you bind the first member physical port to it.

When connecting IRF member switches, you must connect the physical ports of IRF-port 1 on one switch to the physical ports of IRF-port 2 on its neighbor switch.

The HP 6125 switches can provide 10-GE IRF connections through SFP+ ports, and you can bind several SFP+ ports to an IRF port for increased bandwidth and availability.

When two 6125G or 6125G/XG switches are plugged into adjacent (side-by-side) interconnect bays of the c7000 or c3000, the internal 10-GE cross connect ports between those adjacent 6125G or 6125G/XG can be used for an IRF connection as well.

NOTE:

- Figure 13 and Figure 14 show the topologies for an IRF fabric made up of HP 6125G blade switches for IRF connections.
- The IRF port connections in the two figures are for illustration only, and more connection methods are available.
- Any or all of the four SFP+ ports on the 6125G/XG can be used either for IRF or data connections.

Figure 13 IRF fabric in daisy chain topology

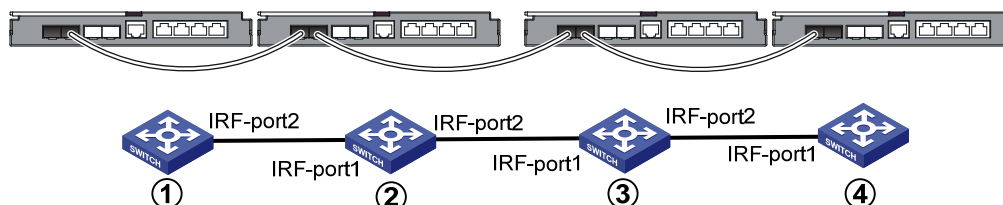
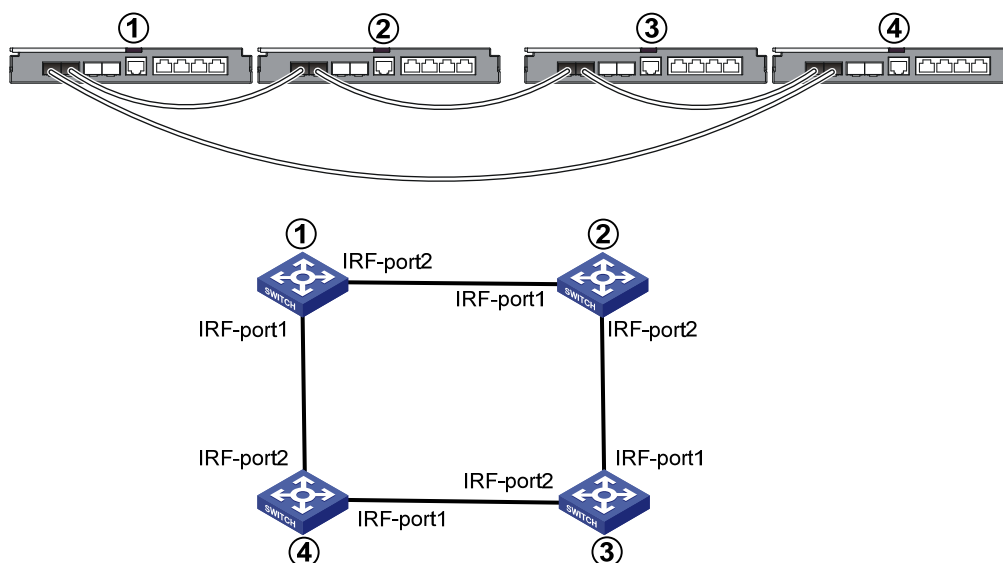


Figure 14 IRF fabric in ring topology



Identifying physical IRF ports on the member switches

Identify the physical IRF ports on the member switches according to your topology and connection scheme.

Table 3 shows the physical ports that can be used for IRF connection.

Table 3 Physical IRF port requirements

Switch chassis	Candidate physical IRF ports
HP 6125G	• 2 fixed IRF/SFP ports • 1 internal 10-GE cross connect port
HP 6125G/XG	• 4 fixed SFP+ ports • 1 internal 10-GE cross connect port

Planning the cabling scheme

Use SFP+ cables or SFP+ transceiver modules and fibers to connect the IRF member switches.

- **SFP+ cables**—Reliable and suitable for IRF connection over a relatively short distance.
- **SFP+ transceiver modules and fibers**—More flexible and suitable for IRF connection over a long distance.

Table 9 and Table 10 list the SFP+ transceivers and SFP+ cables available for the HP 6125 blade switch IRF connections.

Configuring basic IRF settings

After you install the IRF member blade switches, power on the blade switches, and log in to each IRF member blade switch (see *HP 6125 Blade Switch Series Fundamentals Configuration Guide*) to configure their member IDs, member priorities, and IRF port bindings.

For more information about configuring basic IRF settings, see *HP 6125 Blade Switch Series IRF Configuration Guide*.

Connecting the physical IRF ports

Use SFP+ cables or SFP+ transceiver modules and fibers to connect the IRF member switches as planned.

NOTE:

Wear an ESD-preventive wrist strap when you connect SFP+ cables or SFP+ transceiver modules and fibers. For how to connect them, see *Pluggable SFP[SFP+][XFP] Transceiver Modules Installation Guide*.

Accessing the IRF fabric to verify the configuration

To verify the basic functionality of the IRF fabric after you finish configuring basic IRF settings and connecting IRF port:

1. Log in to the IRF fabric through the console port of any member switch.
2. Create a Layer 3 interface, assign it an IP address, and make sure that the IRF fabric and the remote network management station can reach each other.
3. Use Telnet, web, or SNMP to access the IRF fabric from the network management station. (See *HP 6125 Blade Switch Series Fundamentals Configuration Guide*.)
4. Check that you can manage all member switches as if they were one node.
5. Display the running status of the IRF fabric by using the commands in Table 4.

Table 4 Displaying and maintaining IRF configuration and running status

Task	Command
Display information about the IRF fabric	display irf
Display all members' configurations	display irf configuration

Task	Command
Display topology information about the IRF fabric	display irf topology

NOTE:

To avoid IP address collision and network problems, configure at least one multi-active detection (MAD) mechanism to detect the presence of multiple identical IRF fabrics and handle collisions. For more information about MAD detection, see *HP 6125 Blade Switch Series IRF Configuration Guide*.

Troubleshooting

! IMPORTANT:

To prevent configuration loss, save the configuration each time you finish configuring a feature. For configuration recovery, regularly back up the configuration to a remote server

Troubleshooting methods

When your HP 6125 blade switch fails, you can use the following methods to troubleshoot the blade switch:

- At the CLI, use the related commands to display the system running information, and locate the failures.
- Locate the failures according to the LED status on the blade switch. For more information, see "[LEDs](#)."
- View the system and port operating state through the OA module on the enclosure. For more information, see *HP BladeSystem Enclosure Setup and Installation Guide*.

NOTE:

If you cannot locate failures by following the guidelines in this chapter, contact HP Support.

Collecting log and operating information

Diagnostic information is important for locating and solving problems. You can execute the **display diagnostic-information** command to obtain diagnostic information.

HP recommends that you execute the **display diagnostic-information** command over Telnet instead of the console port because information collection through the console port (9600 bps) takes a long time. Information collection on an IRF fabric takes more time than on a single device.

To obtain diagnostic information:

```
<Sysname> display diagnostic-information
Save or display diagnostic information (Y=save, N=display)? [Y/N]:y
Please input the file name(*.diag)[flash:/default.diag]:aa.diag
Diagnostic information is outputting to flash:/aa.diag.
Please wait.....
Save successfully.
```

The following describes the output information above:

```
save or display diagnostic information (Y=save, N=display)? [Y/N]:
```

This prompt asks you whether to save diagnostic information into a **.diag** file in the flash memory.

- If the free space of the flash memory is larger than 10 MB, HP recommends that you enter **y** to save diagnostic information into a **.diag** file. After you enter **y**, the following prompt appears:

```
Please input the file name(*.diag)[flash:/default.daig]:
```

Enter a name for the **.diag** file at the prompt. If you press **Enter**, the default name **default.diag** is used. You can enter a name to differentiate between different **.diag** files.

If the name you entered already exists, the following prompt appears:

```
The file already exists, overwrite it? [Y/N]
```

If you enter **y**, the new file overwrites the old file. If you enter **n**, the system returns to the view in which you executed the **display diagnostic-information** command. You need to execute the **display diagnostic-information** command again and enter a new name for the **.diag** file.

```
Please wait.....
```

The system continues to print dots while saving the diagnostic information. If a fault occurs, the interval between dots will increase, but it will not exceed 2 minutes.

After the system saves the diagnostic information, you can execute the **dir** command in user view to verify whether the diagnostic file exists in the flash memory.

```
<Sysname>dir
```

```
Directory of flash:/
```

0	-rw-	6797	Jun 14 2012 10:37:42	startup.cfg
1	drw-	-	Sep 03 2010 11:03:06	patch6613
2	-rw-	3395	May 13 2013 13:07:13	system.xml
3	-rw-	429516	Aug 19 2010 15:59:51	mpu.btw
4	-rw-	13090	May 13 2013 13:07:03	config.cwmp
5	drw-	-	Apr 09 2010 13:47:34	seclog
6	-rw-	406528	Dec 11 2012 15:43:37	lsv158308616_v1.06.btw
7	-rw-	22600	Jul 01 2013 11:11:42	6125.bin
8	drw-	724660	May 03 2013 14:05:15	default.diag

If the diagnostic file is larger than 10000 bytes and the saving time is correct, the saving operation is successful. If the diagnostic file has a size of 0 (-1) or the saving time is incorrect, the saving operation failed. You must configure the system to print the diagnostic information on the console. If the flash memory has no more space during the saving process, the system prints the excess diagnostic information on the console.

You can use FTP to download the diagnostic file to a PC and send the file to HP Support.

- If you enter **n** at the prompt "save or display diagnostic information (Y=save, N=display)? [Y/N]:", the system prints all diagnostic information on the console. Before you select **n**, enable information capture on the HyperTerminal or Telnet window.

If you are using the console port, the information collection process takes about 20 minutes. If you are using Telnet, the information collection process takes about 3 minutes.

After you obtain the diagnostic information, send the file to HP Support.

Software failures

If the configuration environment setup is correct, the configuration terminal displays boot information when the blade switch is powered on. If the setup is incorrect, the configuration terminal displays nothing or garbled text.

No terminal display

If the configuration terminal displays nothing when the blade switch is powered on, verify the following items:

- The Health LED is green, which indicates that the system is operating properly.
- The console cable is properly connected.

If no problem is found, the following reasons may apply:

- The console cable is connected to an incorrect serial interface (the serial interface in use is not the one set on the terminal). To solve this problem, select a correct serial interface.
- The console cable fails. To solve this problem, replace the console cable.

Garbled terminal display

If terminal display is garbled, verify that the following settings are configured for the terminal:

- **Baud rate**—9,600
- **Data bits**—8
- **Parity**—none
- **Stop bits**—1
- **Flow control**—none
- **Emulation**—VT100

When you modify the settings for the console port of the switch, configure the same settings for the console terminal.

Configuration problems

At the CLI, you can use related commands to display the blade switch information and locate the failures.

When you detect configuration errors, re-configure the blade switch or restore the factory settings for the blade switch.

For more information about commands and configurations, see *HP 6125 Blade Switch Series Configuration Guides* and *HP 6125 Blade Switch Series Command References*.

Software upgrade failure

To locate the software upgrade failure, verify that:

1. Physical ports are correctly connected.
2. All terminal parameters are correctly set when you log in to the blade switch through console port.
3. The information on the HyperTerminal is correctly input, including that:
 - The baud rate set on the HyperTerminal and Console port are the same when software is downloaded using XMODEM.
 - IP address, file name, and the assigned working directory of the TFTP server are correct when software is upgraded using TFTP.
 - Verify that IP address, file name and the assigned working directory of the FTP server, FTP username and password are correct when software is upgraded using FTP.
4. The FTP server or the TFTP server is operating properly and correctly configured.
5. The Flash has enough space to save the file to be downloaded.
6. The file for upgrade is suitable for the product and the file type is correct.

7. The system software image file and the BootWare file versions are correct. For the software version matrix, see relevant *Release Notes*.

Failures during operation

Symptom

A failure occurs when the blade switch is operating.

Solution

To resolve the problem:

1. Execute related commands at the CLI to display blade switch operating information and locate the fault.
2. If a configuration error is found, re-configure the switch, perform configuration rollback, or restore the factory-default settings.

For example, if an incorrect IP address is configured for an interface, you can use the **undo ip address** command in interface view to delete the IP address and configure a new one.

If multiple configuration errors need to be rectified, you can perform configuration rollback to roll back the switch to the specified configuration status without rebooting the switch. For more information about configuration rollback, see *HP 6125 Blade Switch Series Configuration Guides* and *HP 6125 Blade Switch Series Command References*.

3. If the problem persists, contact HP Support.

IRF member device failure

Symptom

An IRF member device fails and needs to be replaced.

Solution

To resolve the problem:

1. Prepare a device that is the same model as the failed one.
2. View the startup configuration file saved on an IRF member device that is operating correctly. Record the IRF member ID of the failed device and how the IRF physical interfaces on the failed device are bound to the IRF ports.
3. From the OA module on the enclosure, power off the failed device.
4. Record the cable connection positions on the failed device and remove all cables from the failed device.
5. Install the new device in the enclosure. The device powers on automatically.
6. Log in to the new device. Configure IRF member ID and IRF port bindings on the new device based on the recorded IRF configuration information of the failed device.
7. Install the modules and cables for the new device.
8. Activate the IRF port configuration on the new device. The device reboots automatically and joins the IRF.
9. Verify that the new device is operating correctly by viewing the operating state of the new device from the OA module in the enclosure.

The new device automatically gets global and interface configuration of the failed device from the IRF and performs the same network functions as the failed device.

10. If the problem persists, contact HP Support.

Password loss

Login password loss

If you lose your password, you cannot enter the system. In this case, you can boot the system by ignoring the system configuration.

To reboot the system:

1. Access the Boot menu and select **6**.
The following prompt appears:
Flag Set Success.
2. When the Boot menu appears again, select **0**.
The system begins rebooting.

NOTE:

After rebooted, the blade switch runs with the initial configuration. To restore to the saved configuration, use the **display saved-configuration** command to display the configuration, and then copy and execute the configuration.

BootWare password loss

If you forget the BootWare password, contact HP Support.

To change the BootWare password, access the Boot menu, enter **5**, and change the password as promoted:

```
please input old password: *****
Please input new password: *****
Please input new password again: *****
Password Set Successfully.
```

NOTE:

- If you enter a wrong old password, prompt "Wrong password,Please input password again:" appears.
 - If you enter a wrong old password in three attempts, prompt "Wrong password,system halt" appears.
 - If the system halts, the blade switch is not available for use. You can press **reset** to reboot the blade switch.
-

Super password loss

If you forget the super password, you can clear the super password.

To clear the super password, access the Boot menu and enter **8**. The following prompt appears:

```
=====<EXTEND-BOOTWARE MENU>=====
|<1> Boot System                               |
```

```
|<2> Enter Serial SubMenu |
|<3> Enter Ethernet SubMenu |
|<4> File Control |
|<5> Modify BootWare Password |
|<6> Skip Current System Configuration |
|<7> BootWare Operation Menu |
|<8> Clear Super Password |
|<9> Storage Device Operation |
|<0> Reboot |
```

```
=====
```

Enter your choice(0-9): 8

When the following prompt appears, you have successfully cleared the super password.

Clear Application Password Success

NOTE:

Clearing the super password is valid only for the first reboot of the blade switch. The super password will be restored after a second reboot.

Hardware failures

When your blade switch is operating properly, the Health LED is green. If the LED is in other state, failures have occurred.

To troubleshoot the failures:

1. Verify that the enclosure is operating properly.
2. Verify that the blade switch is correctly installed. If not, pull out the blade switch and install it again.
3. Press the Reset button on the front panel of the blade switch. After the blade switch has started up, check the LED state again.
4. If an idle interconnect bay is available on the enclosure, you can install the blade switch into it to check the operating state.
5. If the failure still exists, contact HP Support.

Interface failure

If the LED of an interface connected to the network is off, the interface or the connecting cable may fail.

To troubleshoot the interface:

1. Verify that the blade switch is operating properly.
2. Verify the cable connection of the interface. For how to correctly connect the cable to an Ethernet interface with an RJ-45 connector or an optical interface, see "[Connecting the blade switch to the network](#)."
3. Verify if the cable is broken. Use the cable to connect two interfaces of the same type that operate properly. If the LEDs of the two interfaces are on, the cable is normal. Otherwise, the cable fails.

NOTE:

- If a port is brought down by the **shutdown** command, use the **undo shutdown** command to bring up the interface.
 - After an interface fails, if the switch has an idle interface of the same type, you can plug the cable into the idle interface.
-
4. Verify that the speed and duplex settings of the interfaces of a link are the same. Make sure that two interfaces can work together.
 5. If the failure still exists, contact HP Support.

Support and other resources

Contacting HP

For worldwide technical support information, see the HP support website:

<http://www.hp.com/support>

Before contacting HP, collect the following information:

- Product model names and numbers
- Technical support registration number (if applicable)
- Product serial numbers
- Error messages
- Operating system type and revision level
- Detailed questions

Subscription service

HP recommends that you register your product at the Subscriber's Choice for Business website:

<http://www.hp.com/go/wwalerts>

After registering, you will receive email notification of product enhancements, new driver versions, firmware updates, and other product resources.

Related information

Documents

To find related documents, browse to the Manuals page of the HP Business Support Center website:

<http://www.hp.com/support/manuals>

- For related documentation, navigate to the Networking section, and select a networking category.
- For a complete list of acronyms and their definitions, see *HP A-Series Acronyms*.

Websites

- HP.com <http://www.hp.com>
- HP Networking <http://www.hp.com/go/networking>
- HP manuals <http://www.hp.com/support/manuals>
- HP download drivers and software <http://www.hp.com/support/downloads>
- HP software depot <http://www.software.hp.com>
- HP Education <http://www.hp.com/learn>

Conventions

This section describes the conventions used in this documentation set.

Command conventions

Convention	Description
Boldface	Bold text represents commands and keywords that you enter literally as shown.
<i>Italic</i>	<i>Italic</i> text represents arguments that you replace with actual values.
[]	Square brackets enclose syntax choices (keywords or arguments) that are optional.
{ x y ... }	Braces enclose a set of required syntax choices separated by vertical bars, from which you select one.
[x y ...]	Square brackets enclose a set of optional syntax choices separated by vertical bars, from which you select one or none.
{ x y ... } *	Asterisk-marked braces enclose a set of required syntax choices separated by vertical bars, from which you select at least one.
[x y ...] *	Asterisk-marked square brackets enclose optional syntax choices separated by vertical bars, from which you select one choice, multiple choices, or none.
&<1-n>	The argument or keyword and argument combination before the ampersand (&) sign can be entered 1 to n times.
#	A line that starts with a pound (#) sign is comments.

GUI conventions

Convention	Description
Boldface	Window names, button names, field names, and menu items are in bold text. For example, the New User window appears; click OK .
>	Multi-level menus are separated by angle brackets. For example, File > Create > Folder .

Symbols

Convention	Description
 WARNING	An alert that calls attention to important information that if not understood or followed can result in personal injury.
 CAUTION	An alert that calls attention to important information that if not understood or followed can result in data loss, data corruption, or damage to hardware or software.
 IMPORTANT	An alert that calls attention to essential information.
NOTE	An alert that contains additional or supplementary information.
 TIP	An alert that provides helpful information.

Network topology icons



Represents a generic network device, such as a router, switch, or firewall.



Represents a routing-capable device, such as a router or Layer 3 switch.



Represents a generic switch, such as a Layer 2 or Layer 3 switch, or a router that supports Layer 2 forwarding and other Layer 2 features.

Port numbering in examples

The port numbers in this document are for illustration only and might be unavailable on your device.

Appendix A Technical specifications

Table 5 Technical specifications

Item	HP 6125G	HP 6125G/XG
Dimensions (H × W × D)	27.9 × 92.8 × 267.7 mm (1.1 × 3.65 × 10.54 in)	27.9 × 92.8 × 267.7 mm (1.1 × 3.65 × 10.54 in)
Weight	≤ 1.3 kg (2.87 lb)	≤ 1.3 kg (2.87 lb)
Console port	1, on the front panel	
Internal management Ethernet port	1 × 100 Mbps port, on the rear panel, connects to the OA module	
Internal downstream ports (on the rear panel)	16 × GE port, connecting to the server blade Ethernet ports	
Internal cross connect port (on the rear panel)	1 × 10-GE port, connecting to the adjacent blade switch	
External upstream ports (on the front panel)	• 4 × 10/100/1000Base-T Ethernet port, connecting to network devices • 2 × SFP port, connecting to network devices • 2 × IRF/SFP port, connecting to network devices or other blade switches to form an IRF fabric	• 4 × 10/100/1000Base-T Ethernet port, connecting to network devices • 4 × SFP+ port, connecting to network devices or other blade switches to form an IRF fabric
Power consumption	25.1 W	40.4 W
Operating temperature	0°C to 45°C (32°F to 113°F)	
Operating humidity (noncondensing)	5% to 95%	

Appendix B Ports and LEDs

Ports

Console port

Every HP 6125 blade switch has one console port.

Table 6 Console port specifications

Item	Specification
Connector type	RJ-45
Compliant standard	EIA/TIA-232
Transmission baud rate	9600 bps (default) to 115200 bps
Services	• Provides connection to an ASCII terminal. • Provides connection to the serial port of a local PC or a remote terminal running terminal emulation program.

10/100/1000Base-T Ethernet port

Every HP 6125 blade switch has 10/100/1000Base-T Ethernet ports.

Table 7 10/100/1000Base-T Ethernet port specifications

Item	Specification
Connector type	RJ-45
Interface attributes	• 10 Mbps, full duplex • 100 Mbps, full duplex • 1000 Mbps, full duplex • MDI/MDI-X, auto-sensing
Max transmission distance	100 m (328.08 ft)
Transmission medium	Category-5 (or above) twisted pair cable
Standards	IEEE 802.3i, 802.3u, 802.3ab

IRF/SFP port and SFP port

An HP 6125G has up to four SFP ports. The IRF/SFP ports can be configured for IRF operation, in which case they will operate as SFP+ ports that will accept supported SFP+ modules or cables (see [Table 9](#) and [Table 10](#)). If one or both of these ports are not used for IRF, they can be used only as SFP ports that will accept supported 1000 Mbps SFP transceiver modules (see [Table 8](#)), with the exception of HP X120

1G SFP RJ45 T transceiver. The SFP ports will accept all supported 1000 Mbps SFP transceiver modules including HP X120 1G SFP RJ45 T transceiver.

Table 8 1000 Mbps SFP transceiver modules

Product code	Module description	Central wavelength (nm)	Fiber diameter (μm)	Multimode fiber modal bandwidth (MHz × km)	Max transmission distance
JD118B	HP X120 1G SFP LC SX Transceiver	850	50/125	500	550 m (1804.46 ft)
				400	500 m (1640.42 ft)
			62.5/125	200	275 m (902.23 ft)
				160	220 m (721.78 ft)
JD119B	HP X120 1G SFP LC LX Transceiver	1310	9/125	N/A	10 km (6.21 miles)
			50/125	500	550 m (1804.46 ft)
				400	
			62.5/125	500	550 m (1804.46 ft)
JD061A	HP X125 1G SFP LC LH40 1310nm Transceiver	1310	9/125	N/A	40 km (24.86 miles)
JD062A	HP X120 1G SFP LC LH40 1550nm Transceiver	1550	9/125	N/A	40 km (24.86 miles)
JD063B	HP X125 1G SFP LC LH70 Transceiver	1550	9/125	N/A	70 km (43.50 miles)
JD089B	HP X120 1G SFP RJ45 T transceiver	N/A	Category-5 twisted pair	N/A	100 m (328.08 ft)

NOTE:

- To guarantee the functionality of the SFP ports, use only HP SFP transceiver modules.
- The SFP transceiver modules available for this blade switch series are subject to change over time. For the most up-to-date list of SFP transceiver modules, consult your HP sales representative or technical support engineer.

SFP+ port

An HP 6125G/XG has four SFP+ ports. The SFP+ ports can be configured for IRF operation, in which case they accept supported SFP+ modules or cables. If they are not used for IRF, they accept supported SFP transceiver modules (with the exception of HP X120 1G SFP RJ45 T transceiver), SFP+ modules, or SFP+ cables.

Table 9 10 Gbps SFP+ transceiver modules available for the SFP+ ports

Product code	Description	Central wavelength (nm)	Fiber diameter (μm)	Multimode fiber modal bandwidth (MHz × km)	Maximum transmission distance
JD092B	HP X130 10G SFP+ LC SR Transceiver	850	50/125	2000	300 m (984.25 ft)
				500	82 m (269.03 ft)
				400	66 m (216.54 ft)
			62.5/125	200	33 m (108.27 ft)
				160	26 m (85.3 ft.)
JD093B	HP X130 10G SFP+ LC LRM Transceiver	1310	50/125	1500	220 m (721.78 ft)
				500	
				400	100 m (328.08 ft)
			62.5/125	200	220 m (721.78 ft)
				160	
JD094B	HP X130 10G SFP+ LC LR Transceiver	1310	9/125	N/A	10 km (6.21 miles)

Table 10 SFP+ cables available for the SFP+ ports

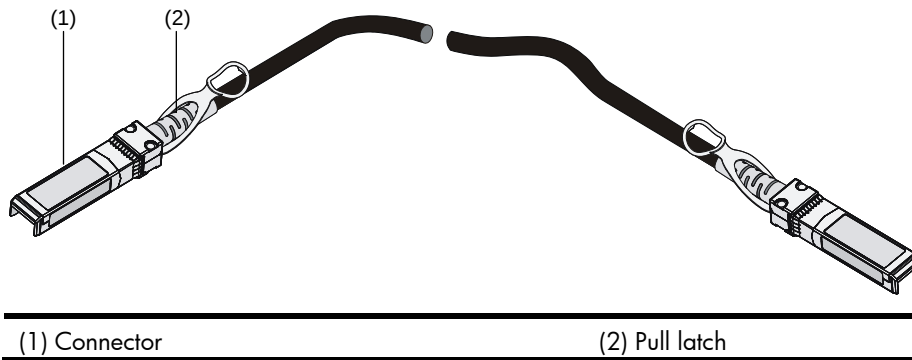
Product code	Cable description	Cable length
JD095B	HP X240 10G SFP+ SFP+ 0.65m DA Cable	0.65 m (2.13 ft)
JD096B	HP X240 10G SFP+ SFP+ 1.2m DA Cable	1.2 m (3.94 ft)
JD097B	HP X240 10G SFP+ SFP+ 3m DA Cable	3 m (9.84 ft)
JG081B	HP X240 10G SFP+ SFP+ 5m DA Cable	5 m (16.40 ft)

NOTE:

- To guarantee the functionality of the SFP+ ports, use only HP SFP+ transceiver modules.
- The SFP+ transceiver modules available for this blade switch series are subject to change over time. For the most up-to-date list of SFP+ transceiver modules, consult your HP sales representative or technical support engineer.

The SFP+ cables available for the HP 6125 blade switches are 10 Gbps SFP+ Cu cables, as shown in [Figure 15](#).

Figure 15 SFP+ cable



LEDs

Unit ID LED

Table 11 Unit ID LED description

LED mark	Status	Description
UID	Blue	Switch ID selected.
	Off	Switch ID not selected.

Health LED

Table 12 Health LED description

LED mark	Status	Description
	Green	The blade switch has started properly.
	Flashing yellow	The blade switch is performing POST, or is faulty.
	Off	The blade switch is not powered on, or is faulty.

10/100/1000Base-T Ethernet port LED

Table 13 10/100/1000Base-T auto-sensing Ethernet port LED description

Port LED status	Description
Steady green	The port is operating at 1000 Mbps. The port LED fast flashes when the port is sending or receiving data.
Steady yellow	The port is operating at 10/100 Mbps. The port LED fast flashes when the port is sending or receiving data.
Off	No link is present on the port.

SFP port LED

Table 14 SFP port LED description

Port LED status	Description
Steady green	The port is operating properly. The port LED fast flashes when the port is sending or receiving data.
Off	No link is present on the port.

SFP+ port LED

Table 15 SFP+ port LED description

Port LED status	Description
Steady green	The port is operating at 10 Gbps. The port LED fast flashes when the port is sending or receiving data.
Steady yellow	The port is operating at 1 Gbps. The port LED fast flashes when the port is sending or receiving data.
Off	No link is present on the port.

IRF/SFP port LED

Table 16 IRF/SFP port LED description

Port LED status	Description
Steady green	The port is used for IRF connection. The port LED fast flashes when the port is sending or receiving data.
Steady yellow	The port is used for SFP connection. The port LED fast flashes when the port is sending or receiving data.
Off	No link is present on the port.

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