# GBIC and SFP Transceivers

## User's Guide

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## Introduction

Use a transceiver module for connection to a remote device. The GBIC and SFP (also known as mini-GBIC) transceiver modules are hot swappable. This means that you can install and remove a module while your device is operating. The GBIC and SFP modules provide duplex single-mode or multi-mode connections.

### GBIC Transceiver Modules

The GBIC module uses either 3.3V or 5V power input and SC-type connectors.

### SFP Transceiver Modules

The SFP module uses 3.3V power input and LC-type connectors.

## Handling, Safety and Environmental Guidelines

Read the following guidelines before installing and using a GBIC or SFP module.

### Handling Warning

GBICs and SFPs are static sensitive. To prevent damage from electrostatic discharge (ESD), it is recommended you attach an ESD preventive wrist strap to your wrist and to a bare metal surface when you install or remove a GBIC or SFP module.

GBIC and SFP modules are dust sensitive. When not in use, always keep the dust plug on. Avoid getting dust and other contaminant into the optical bores, as the optics do not work correctly when obstructed with dust.

### Safety Warning

Fiber-optic GBIC and SFP modules are equipped with a Class 1 laser, which emits invisible radiation. Read the following safety warnings carefully.

- To avoid possible eye injury, do not look into an operating fiber-optic module's connectors.
- Laser radiation is present when the device or system is powered up.

- Only trained and qualified personnel should be allowed to install or replace these modules.

*Note:* Class 1 Laser Product.

Appareil A` Laser De Classe 1

Laser Produkt Der Klasse 1.

### Environmental Warnings

Dispose of your fiber-optic module according to all national laws and regulations.

## Installing and Removing a GBIC Module

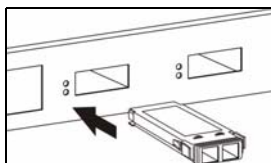This section describes how you install and remove a GBIC module.

*Note:* Disconnect all fiber-optic cables from a GBIC module before installing or removing it.

Do NOT remove and install a GBIC module more often than is absolutely necessary. Doing so may shorten the useful life of the GBIC module.

### Installing a GBIC module

Follow these steps to install a GBIC module.

1 Attach an ESD preventive wrist strap to your wrist and to a bare metal surface.
2 Remove the GBIC module from its protective packaging.
3 Locate the transmit (Tx) and the receive (Rx) markings on the GBIC module.
4 Align the GBIC module in front of the slot opening on a device.
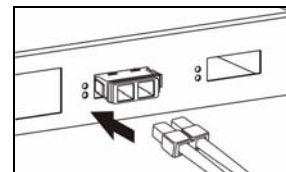5 Insert the GBIC module into the slot until the GBIC module snaps into place.



*Note:* GBIC module installation orientation varies depending on your device. Your GBIC module comes with a mechanism that prevents incorrect insertion. Do NOT force or twist the GBIC module into a slot.

### Connecting a Fiber-optic Cable

Follow the steps to connect a fiber-optic cable to the GBIC module.

1 Remove the dust plugs from the GBIC module and the cables.
2 Identify the signal transmission direction of the fiber-optic cable and the GBIC module. Insert one end of the fiber-optic cable into the GBIC module.
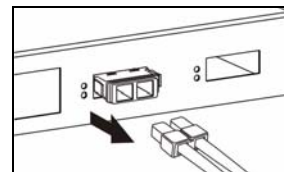


3 Insert the other end of the fiber-optic cable into a remote device.

Refer to the user's guide that comes with your device for GBIC module slot status.
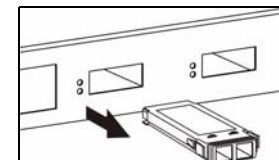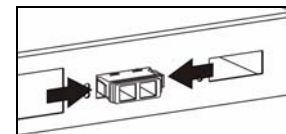
### Removing a GBIC Module

Follow the steps below to remove a GBIC module.

1 Attach an ESD preventive wrist strap to your wrist and to a bare metal surface.
2 Disconnect all fiber-optic cables from the GBIC module.



3 Insert the dust plug onto the GBIC module.
4 Using your thumb and index finger, grasp the tabs on both sides of the

GBIC module and carefully slide it out of the slot.





*Note:* Do NOT force or twist the module out of a slot.

## Installing and Removing an SFP Module

This section describes how you install and remove a SPF module.
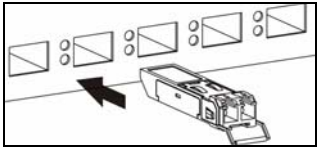
*Note:* Disconnect all fiber-optic cables from an SFP module before installing or removing it.

Do NOT remove and install an SFP module more often than is absolutely necessary. Doing so may shorten the useful life of the SFP module.

### Installing an SFP Module

Follow the steps below to install an SFP module.

1 Attach an ESD preventive wrist strap to your wrist and to a bare metal surface.
2 Remove the SFP module from its protective packaging.
3 Locate the transmit (Tx) and the receive (Rx) markings on the SFP module.
4 Align the SFP module in front of the slot opening on a device.
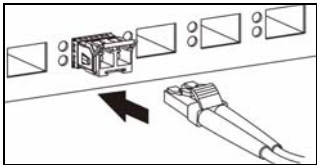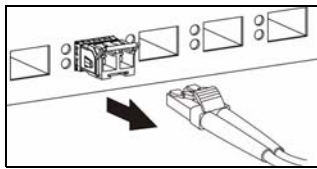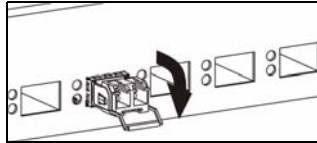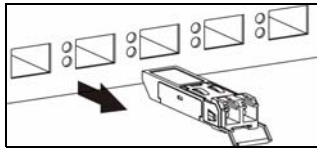5 Insert the SFP module into the slot until the SFP module snaps into place

## Connecting a Fiber-optic Cable

Follow the steps described to connect a fiber-optic cable to the SFP module.

1 Remove the dust plugs from the SFP module and the cables.

2 Identify the signal transmission direction of the fiber-optic cable and the SFP module. Insert one end of the fiber-optic cable into the SFP module.

3 Insert the other end of the fiber-optic cable into a remote device.



Refer to the user's guide that comes with your device for SFP module slot status.

## Removing an SFP Module

Follow the steps below to remove an SFP module.

1 Attach an ESD preventive wrist strap to your wrist and to a bare metal surface on the chassis.

2 Disconnect all fiber-optic cables from the SFP module.



3 Insert the dust plug into the ports on the SFP module.

4 Pull out the latch and down to unlock the SFP module.



5 Using your thumb and index finger, grasp the tabs on both sides of the module and carefully slide it out of the slot.



*Note:* Do NOT force or twist the module out of a slot.

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## Note