



Install External Modules and FRUs

This chapter describes how to install and remove optional small-form-pluggable (SFP) modules in the router to provide optical Gigabit Ethernet connectivity. It also describes how to install antennae for Cisco ISR1100-4GLTE routers.

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Safety Warnings



Warning Class 1 laser product. Statement 1008

Install Antennae for Cisco ISR1100-4GLTE Routers

Cisco ISR1100-4GLTE routers use the Omnidirectional Dipole Antennae (LTE-ANTM-SMA-D).

For more information, see [Installation Instructions for Cisco 4G LTEA, 4GLTE, and 3G Omnidirectional Dipole Antenna](#).

Install and Remove SFP Modules

Install SFPs

Optical SFPs use a small laser to generate the fiber-optic signal. Keep the optical transmit and receive ports covered whenever a cable is not connected to the port.

**Warning**

Invisible laser radiation may be emitted from the end of the unterminated fiber cable or connector. Do not view directly with optical instruments. Viewing the laser output with certain optical instruments (for example, eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard. Statement 1056

Fiber type and Core diameter (μm)	Wavelength (nm)	Max. Power (mW)	Beam divergence (rad)
SM 11	1200 - 1400	39 - 50	0.1 - 0.11
MM 62.5	1200 - 1400	150	0.18 NA
MM 50	1200 - 1400	135	0.17 NA
SM 11	1400 - 1600	112 - 145	0.11 - 0.13

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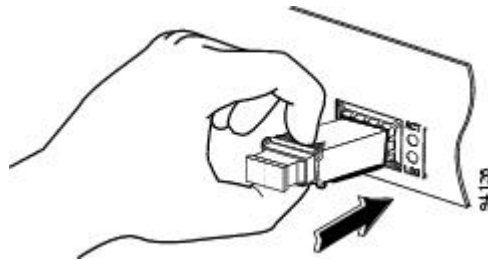
To install an SFP module in your router:

1. Read the “Safety Warnings” section , and disconnect the power supply before you replace any module.
2. Slide the SFP into the router connector until it locks into position.

**Note**

The following image is for reference only.

Figure 1: Install an SFP Module

**Caution**

Do not remove the optical port plugs from the SFP until you are ready to connect cabling.

3. Connect the network cable to the SFP module.

Remove SFP Modules

Read the “Safety Warnings” section in this chapter, and disconnect the power supply before you replace any module.

1. Disconnect all cables from the SFP module.



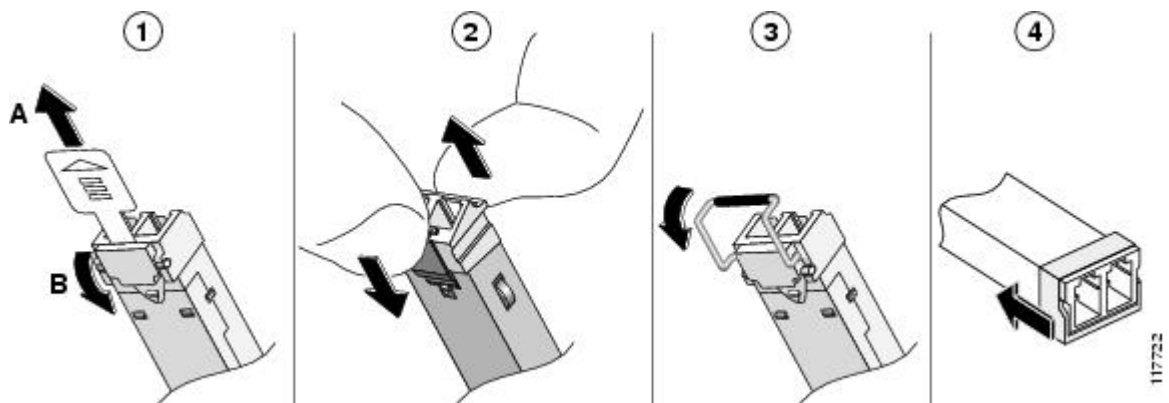
Caution The latching mechanism used on many SFPs locks the SFP into place when cables are connected. Do not pull at the cabling in an attempt to remove the SFP.

2. Disconnect the SFP latch.



Note SFP modules use various latch designs to secure the module in the SFP port. Latch designs are not linked to SFP models or technology type. For information on the SFP technology type and model, see the label on the side of the SFP.

Figure 2: Latch Mechanisms for Disconnecting SFP Modules



- 1: Sliding latch
- 2: Swing and slide latch
- 3: Bale-clasp latch
- 4: Plastic collar latch

3. Grasp the SFP on both sides and remove it from the router.

