Cisco Provider Connectivity Assurance Sensor SFP 10G Hardware Installation Guide

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- Reorient or relocate the receiving antenna.
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- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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CHAPTER 1

Overview

Features

The Cisco® Provider Connectivity Assurance Sensor SFP portfolio (formerly Accedian Skylight SFP Compute Sensor) offers customers a wide variety of high-performance Gigabit Ethernet pluggable service assurance and demarcation options for enhanced mobile, Carrier Ethernet, and IP service deployments. Fully integrated with the Provider Connectivity Assurance platform, Assurance Sensor SFPs support service delivery automation, scalable metric collection, and reporting with actionable insight and machine learning-driven analytics to enable accelerated service rollout and improved operational efficiency.

See the Cisco Provider Connectivity Assurance Sensor SFP Data Sheet for product details.

Figure 1: 10G Short-Reach (SR) Transceiver

Figure 2: 10G Long-Reach (LR) Transceiver

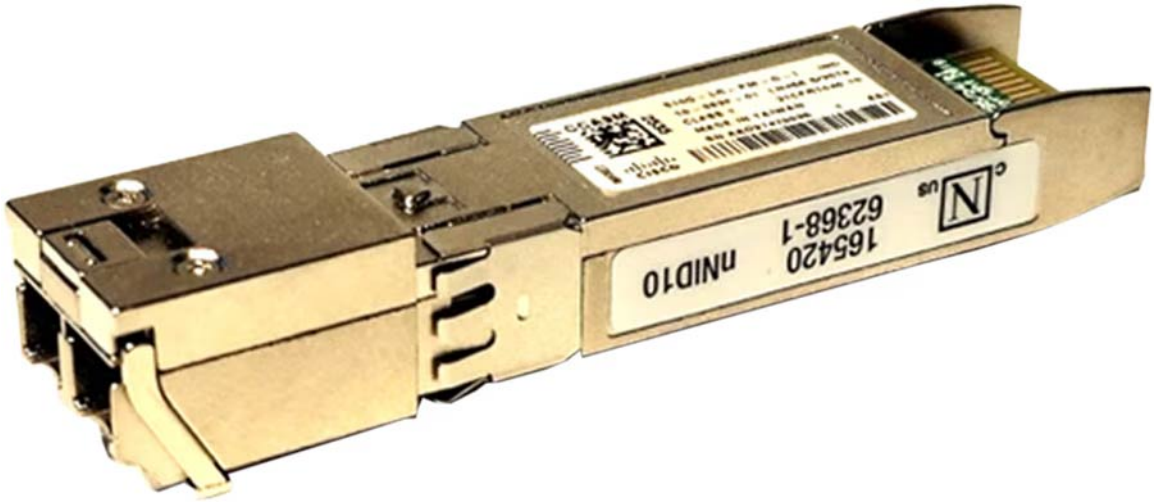


Figure 3: 10G Extended-Reach (ER) Transceiver

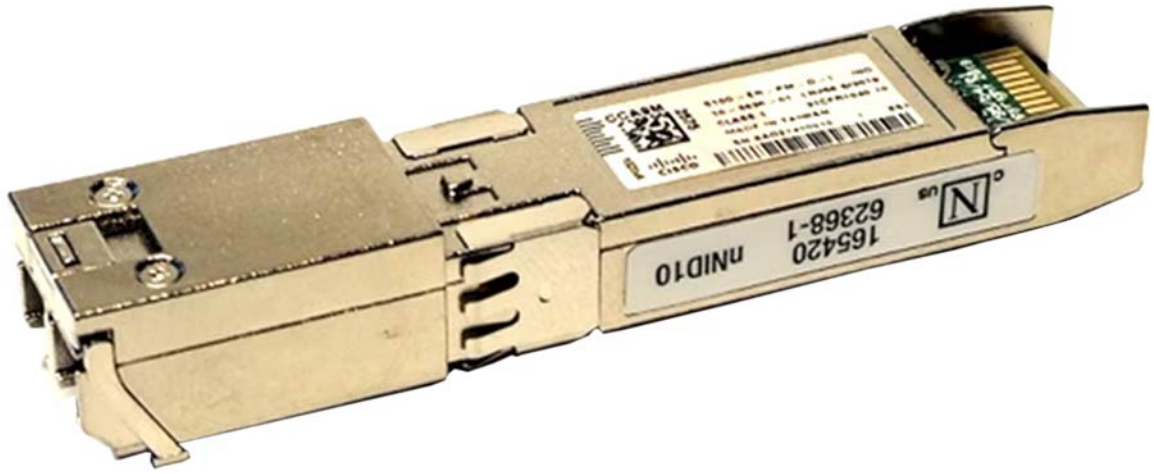


Figure 4: 10G Long-Reach (LR) BiDirectional Transceivers (Upstream and Downstream)

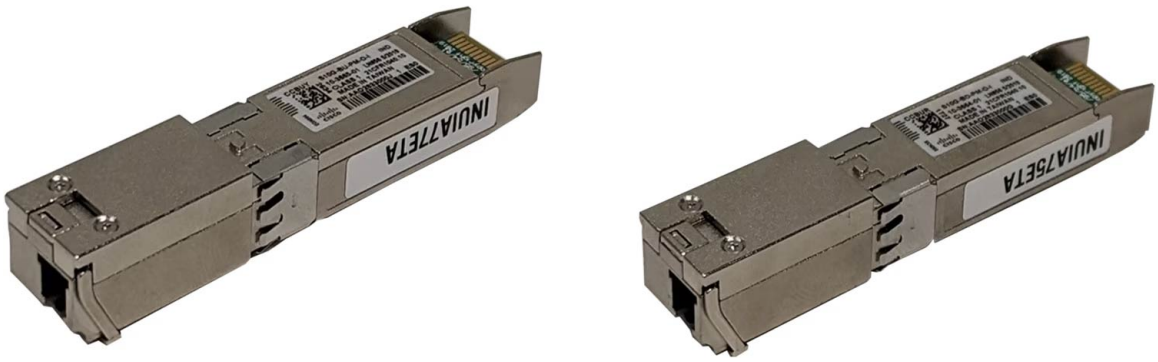
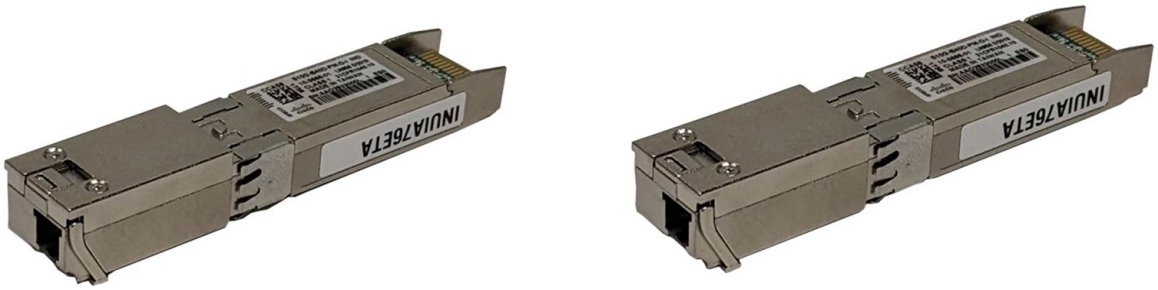


Figure 5: 10G Extended-Reach (ER) BiDirectional Transceivers (Upstream and Downstream)



The following table lists the regulation and standard compliance features of the Cisco Provider Connectivity Assurance Sensor SFP.

Table 1: Regulation and Standard Compliance (Model: nNID10)

Feature	Description
Safety - Laser	IEC 60825-1, FDA CFR 21
Safety	IEC 60950-1, IEC 62368-1, EN 62368-1, CSA/UL 62368- 1, AS/NZS 62368.1, J62368-1, CEI EN 62368-1, DS/EN 62368-1
EMC - Emission (Class B)	CISPR 32, EN 55032, FCC Part 15, ICES-003, AS/NZS CISPR 32, VCCI-CISPR 32, KN32

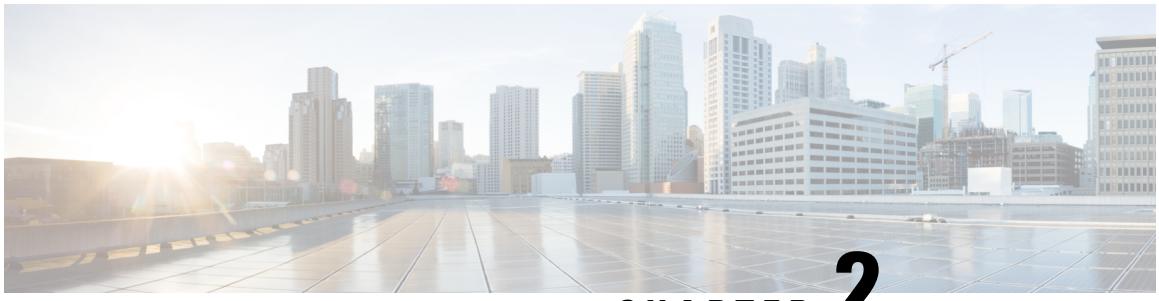
Product ID Numbers

The following table lists the field-replaceable PIDs associated with the Assurance Sensor SFP. If any internal components fail, you must get a return material authorization (RMA). See the Cisco Returns Portal for more information.

Table 2: Assurance Sensor SFP PIDs

PID	Description
S10G-SR-PM-D-I	SFP-10GbE Performance Monitoring, SR, MM, 850nm, 150/150/150m OM3/4/5, E-Temp
S10G-LR-PM-D-I	SFP-10GbE Performance Monitoring, LR, SM, 1310nm, 10km, I-Temp
S10G-ER-PM-D-I	SFP-10GbE Performance Monitoring, ER, SM, 1550nm, 40km, I-Temp
S10G-BD-PM-D-I	SFP-10GbE Performance Monitoring, LR-BiDi, SM, 1310/1270nm, 10km, I-Temp
S10G-BU-PM-D-I	SFP-10GbE Performance Monitoring, LR-BiDi, SM, 1270/1310nm, 10km, I-Temp

PID	Description
S10G-B40D-PM-D-I	SFP-10GbE Performance Monitoring, ER-BiDi, SM, 1330/1270nm, 10km, I-Temp
S10G-B40U-PM-D-I	SFP-10GbE Performance Monitoring, ER-BiDi, SM, 1270/1330nm, 10km, I-Temp



CHAPTER 2

Installation Preparation

Installation Warnings

Caution Do *not* open the appliance except under direction from TAC.

Take note of the following warnings:

Warning **Statement 1071—**Warning Definition

IMPORTANT SAFETY INSTRUCTIONS

Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Read the installation instructions before using, installing, or connecting the system to the power source. Use the statement number at the beginning of each warning statement to locate its translation in the translated safety warnings for this device.

SAVE THESE INSTRUCTIONS

Warning **Statement 1008—**Class 1 Laser Product

This product is a Class 1 laser product.

Warning **Statement 1014—**Laser Radiation

This is a Class 4 laser product. Invisible laser radiation is present. Avoid eye or skin exposure to direct or scattered radiation.

Warning **Statement 1089—**Instructed and Skilled Person Definitions

An instructed person is someone who has been instructed and trained by a skilled person and takes the necessary precautions when working with equipment.

A skilled person or qualified personnel is someone who has training or experience in the equipment technology and understands potential hazards when working with equipment.

There are no serviceable parts inside. To avoid risk of electric shock, do not open.

Warning **Statement 1091—**Installation by an Instructed Person

Only an instructed person or skilled person should be allowed to install, replace, or service this equipment. See statement 1089 for the definition of an instructed or skilled person.

There are no serviceable parts inside. To avoid risk of electric shock, do not open.

Warning **Statement 1255—**Laser Compliance Statement

Pluggable optical modules comply with IEC 60825-1 Ed. 3 and 21 CFR 1040.10 and 1040.11 with or without exception for conformance with IEC 60825-1 Ed. 3 as described in Laser Notice No. 56, dated May 8, 2019.

Warning **Statement 2011—**Voluntary Control Council for Interference (VCCI) Compliance for Class B Equipment

This is a Class B product based on the standard of the VCCI Council. If this product is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

Warning **Statement 2015—**Class B Warning for Korea

This is a Class B device and is registered for electromagnetic compatibility (EMC) requirements for residential use. This device can be used not only in residential areas but in all other areas.

Note **Statement 2018—**Class B Notice for FCC

Modifying the equipment without Cisco's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning **Statement 9001—**Product Disposal

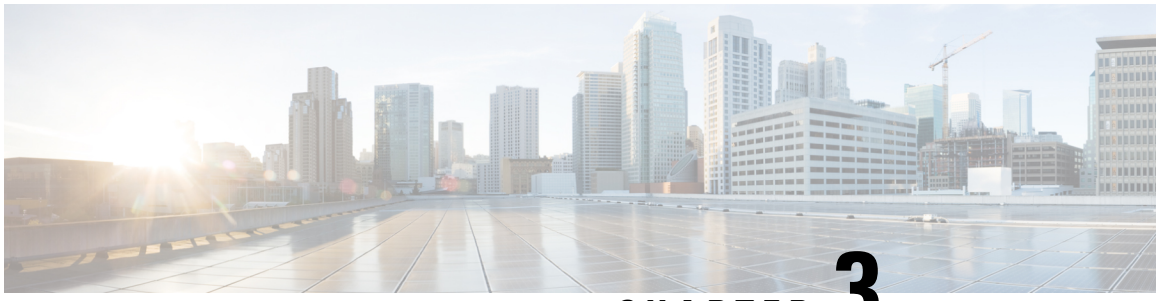
Ultimate disposal of this product should be handled according to all national laws and regulations.

Prevent ESD Damage

ESD occurs when electronic components are improperly handled, and it can damage equipment and impair electrical circuitry, which can result in intermittent or complete failure of your equipment.

Always follow ESD-prevention procedures when removing and replacing components. Ensure that the chassis is electrically connected to an earth ground. Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the grounding clip to an unpainted surface of the chassis frame to safely ground ESD voltages. To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. If no wrist strap is available, ground yourself by touching the metal part of the chassis.

For safety, periodically check the resistance value of the antistatic strap, which should be between one and 10 megohms.



CHAPTER 3

Installation, Maintenance, and Upgrade

Installing a Transceiver Module

Caution The metal surface of a transceiver can become hot when it is powered by the host. Caution must be taken when touching the surface during services.

Warning

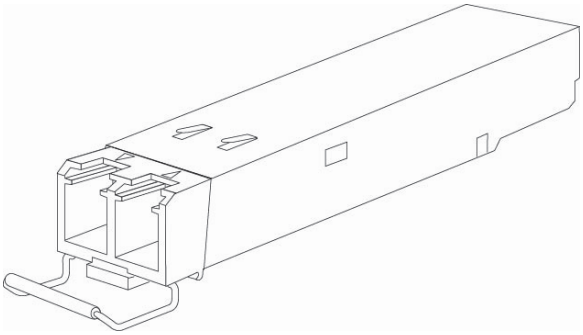
- This device contains laser. Using other than as described in the installation guide, repair, or disassembly may cause damage, which could result in hazardous exposure to infrared laser emissions that are not visible.
- Never stare into open optical ports.
- To prevent damage to a transceiver and to any connected cables, disconnect all cables before installing or removing a module.
- Prior to installing a transceiver, power capabilities of the cage must be verified with the appliance vendor.

Note

- A transceiver is a hot-pluggable device. There is no need to power down the host appliance when installing or removing a module.
- Do not remove the dust cap from the transceiver until directed to do so in the following procedure. In addition, always keep the dust caps on the fiber-optic cable connectors until ready to make a connection.

A bail latch secures the transceiver module in a port socket.

Figure 6: SFP Module with a Bail Clasp Latch



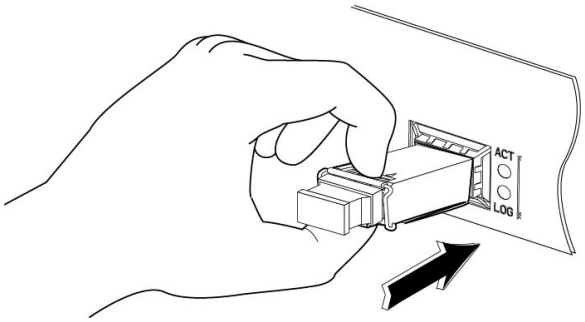
To install an optical transceiver module into a transceiver cage, follow these steps:

Procedure

Step 1 Ensure that the bail latch is closed.

Step 2 Verifying that the transceiver cage notch and hinge are along the same edge, insert the module into the transceiver cage until the module latches into place. The module is fully seated when you hear a click.

Figure 7: Inserting a Transceiver Module



Step 3 At one end of the fiber-optic cable, remove the dust caps from the connectors. Save the dust caps for future use.

Step 4 Inspect and clean the now uncovered fiber-optic end faces of the connectors.

Step 5 Remove the dust cap from the transceiver module. Save the dust cap for future use.

Step 6 Connect the connectors of the fiber-optic cable to the transceiver module.

Removing a Transceiver Module

To remove an optical transceiver module from a transceiver cage, follow these steps:

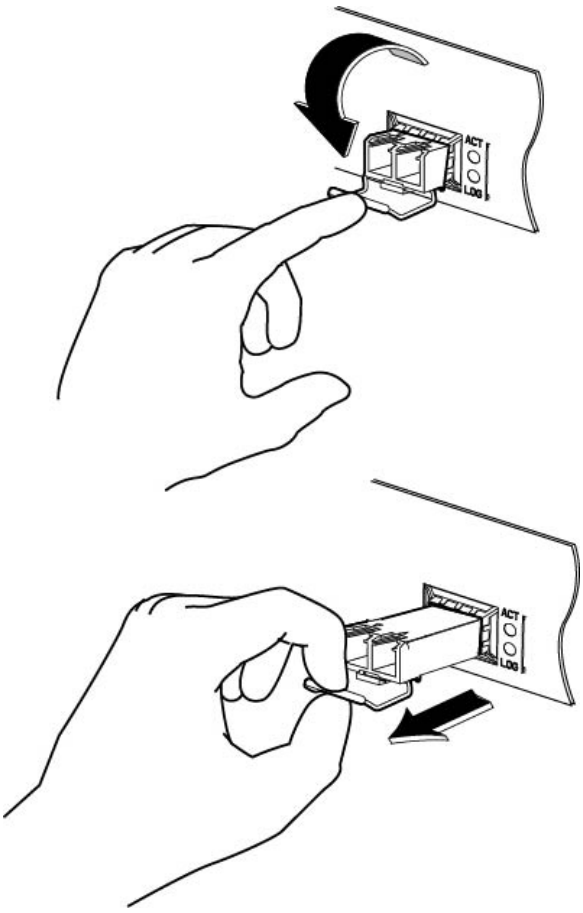
Procedure

Step 1 Disconnect the cable connector from the transceiver module.

Step 2 Reinstall the dust cap onto each cable connector.

Step 3 Open the bail latch by rotating it 90 degrees, grasp the transceiver module, and then carefully pull the module from the cage.

Figure 8: Removing a Transceiver Module



Step 4 Close the bail latch.

Step 5 Reinstall the dust cap into the transceiver module.