



Cisco Provider Connectivity Assurance Module Dock Hardware Installation Guide

First Published: 2024-09-13

Last Modified: 2025-04-11

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CHAPTER 1

Overview

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- [Package Contents, on page 3](#)
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Features

The Cisco Provider Connectivity Assurance Module Dock (formerly Skylight module dock) is a quick and clientless way to pre-stage both the Cisco Provider Connectivity Assurance Sensor SFP (formerly Skylight sensor: SFP compute) and Cisco Provider Connectivity Assurance Sensor Modules (formerly Skylight sensor: module). Certain network topologies and operational workflows may favor preconfiguring modules such as the Sensor SFP and Sensor Modules to facilitate the discovery and control by the Cisco Provider Connectivity Assurance (formerly Accedian Skylight) Performance Platform. The Module Dock is a USB-powered configuration tool that connects to modules through its RJ45 or SFP port. Upon connection, the Module Dock uses secure authentication to ensure that only genuine Module Docks can communicate with the module. Once the necessary security keys have been exchanged, module configuration and firmware can be updated.

Figure 1: Cisco Provider Connectivity Assurance Module Dock



The following table lists the features for the Module Dock.

Table 1: Cisco Provider Connectivity Assurance Module Dock Features

Feature	Description
RJ-45 port	One RJ-45 connector for Sensor Modules (using an Ethernet cable)
SFP port	One SFP connect for Sensor SFP
USB 2.0 port	One USB connector for host computer (using a USB cable)

The following table lists the regulation and standard compliance features of the Module Dock.

Table 2: Regulation and Standard Compliance (Model: AMD)

Feature	Description
Safety	IEC 60950-1, IEC 62368-1, EN 62368-1, CSA/UL 62368-1, AS/NZS 62368.1, J62368-1, DS/EN 62368-1, CEI EN 62368-1
EMC - Emission (Class A)	CISPR 32, EN 55032, FCC (47 CFR 15, Subpart B), ICES-003, AS/NZS CISPR 32, VCCI-CISPR 32, KS C 9832
EMC - Immunity	EN 55035, KS C 9835
RoHS	IEC 63000, EN IEC 63000

Package Contents

The package contents for the Module Dock include:

- Assurance Module Dock (1x)
- Cable USB 2.0, 305 mm, One B to Two A Male Connectors (1x)
- *Cisco Provider Connectivity Assurance Module Dock*—This document contains URLs that point to the hardware installation guide, regulatory compliance and safety information guide, warranty, and licensing pages, and a QR code that points to the management center Documentation Portal

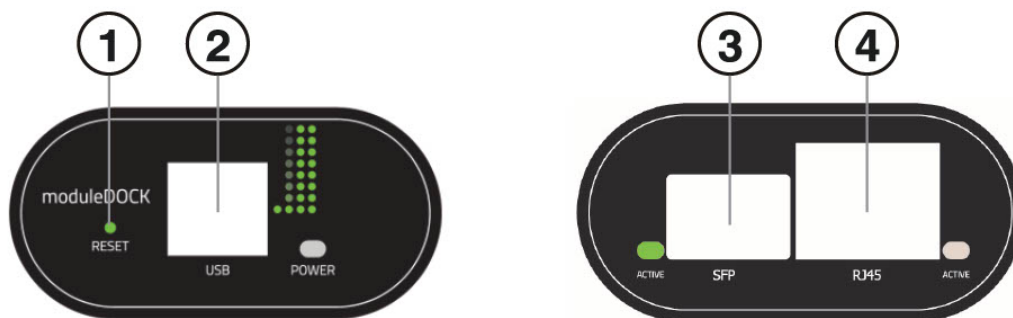
Serial Number Locations

The Serial Number (SN) and the Media Access Control (MAC) address are located at the bottom of the Module Dock.

Module Dock Components

The following figure shows the features of the Module Dock. See [Module Dock LEDs, on page 4](#) for a description of the LEDs.

Figure 2: Module Dock Components

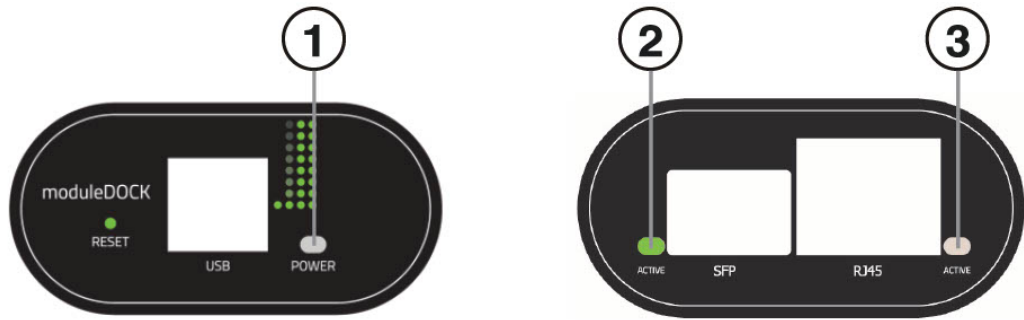


1 Reset button Used to restart the Module Dock or revert to factory default settings	2 USB 2.0 port Connect a USB cable between this port and a host computer
3 SFP port Insert the Sensor SFP directly into this port	4 RJ45 port Connect this port to the Sensor Module using an Ethernet cable

Module Dock LEDs

The following figure shows the LEDs and describes their states.

Figure 3: Module Dock LEDs and Their States



1	Power LED • Off—Device is unpowered • Green—Device is powered and ready • Orange—Device is powered but not ready	2	SFP LED • Off—Interface is inactive • Green—Interface is active
3	RJ-45 LED • Off—Interface is inactive • Green—Interface is active		—

Power Supply

The following table lists the specifications for each power supply used in the Module Dock.

Table 3: Power Specifications

Description	Specification
Input power ratings	USB: 5 V DC, 900 mA _{Max}
Output power ratings	SFP: 2.25 W _{Max}
Power consumption	4.5 W _{Max} (15.3 BTU/hr _{Max})

Hardware Specifications

The following table contains hardware specifications for the Module Dock.

Dimensions (H x W x D)	1.15 x 2.3 x 5.4 in. (3 x 5.8 x 13.7 cm)
Weight	0.25 lb (0.115 kg)
Temperature	Operating: 32 to 104°F (0 to 40°C) Nonoperating: -40 to 158°F (-40 to 70°C)
Humidity	Operating: 5 to 85 % RH, noncondensing Nonoperating: 5 to 95 % RH, noncondensing
Altitude	6562 ft (2000 m), above sea level

Product ID Numbers

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

Table 4: Module Dock PID

PID	Description
SKY-MODULE-DOCK	Cisco Provider Connectivity Assurance Module Dock



CHAPTER 2

Installation Preparation

- [Installation Warnings, on page 7](#)
- [Safety Recommendations, on page 9](#)
- [Maintain Safety with Electricity, on page 9](#)
- [Prevent ESD Damage, on page 9](#)
- [Site Environment, on page 10](#)
- [Site Considerations, on page 10](#)
- [Power Supply Considerations, on page 10](#)
- [Rack Configuration Considerations, on page 11](#)

Installation Warnings

Read the [Regulatory Compliance and Safety Information](#) document before installing the Module Dock.



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





Note **Statement 407**—Japanese Safety Instruction

You are strongly advised to read the safety instruction before using the product.

<https://www.cisco.com/web/JP/techdoc/pldoc/pldoc.html>

When installing the product, use the provided or designated connection cables/power cables/AC adapters.

〈製品仕様における安全上の注意〉
www.cisco.com/web/JP/techdoc/index.html

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Warning **Statement 1005**—Circuit Breaker

This product relies on the building's installation for short-circuit (overcurrent) protection. To reduce risk of electric shock or fire, ensure that the protective device is rated not greater than: AC 20 A/DC 40 A



Warning **Statement 1073**—No User-Serviceable Parts

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



Warning **Statement 1074**—Comply with Local and National Electrical Codes

To reduce risk of electric shock or fire, installation of the equipment must comply with local and national electrical codes.



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 9001—Product Disposal**

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

Safety Recommendations

Observe these safety guidelines:

- Keep the area clear and dust free before, during, and after installation.
- Keep tools away from walkways, where you and others might trip over them.
- Do not wear loose clothing or jewelry, such as earrings, bracelets, or chains that could get caught in the chassis.
- Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Never attempt to lift an object that is too heavy for one person.

Maintain Safety with Electricity

**Warning**

Before working on a chassis, be sure the power cord is unplugged.

Read the [Regulatory Compliance and Safety Information](#) document before installing the chassis.

Follow these guidelines when working on equipment powered by electricity:

- Before beginning procedures that require access to the interior of the chassis, locate the emergency power-off switch for the room in which you are working. Then, if an electrical accident occurs, you can act quickly to turn off the power.
- Do not work alone if potentially hazardous conditions exist anywhere in your work space.
- Never assume that power is disconnected; always check.
- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, frayed power cords, and missing safety grounds.
- Use the chassis within its marked electrical ratings and product usage instructions.

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.

Site Environment

See [Hardware Specifications, on page 5](#) for information about physical specifications.

To avoid equipment failures and reduce the possibility of environmentally caused shutdowns, plan the site layout and equipment locations carefully. If you are currently experiencing shutdowns or unusually high error rates with your existing equipment, these considerations may help you isolate the cause of failures and prevent future problems.

Site Considerations

Considering the following helps you plan an acceptable operating environment for the chassis, and avoid environmentally-caused equipment failures.

- Electrical equipment generates heat. Ambient air temperature might not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Make sure that the room in which you operate your system has adequate air circulation.
- Ensure that the chassis cover is secure. The chassis is designed to allow cooling air to flow effectively within it. An open chassis allows air leaks, which may interrupt and redirect the flow of cooling air from the internal components.
- Always follow ESD-prevention procedures to avoid damage to equipment. Damage from static discharge can cause immediate or intermittent equipment failure.

Power Supply Considerations

See [Power Supply, on page 4](#) for more detailed information about the power supply in the chassis.

When installing the chassis, consider the following:

- Check the power at the site before installing the chassis to ensure that it is free of spikes and noise. Install a power conditioner, if necessary, to ensure proper voltages and power levels in the appliance-input voltage.
- Install proper grounding for the site to avoid damage from lightning and power surges.
- The chassis does not have a user-selectable operating range. Refer to the label on the chassis for the correct appliance input-power requirement.
- Install an uninterruptible power source for your site, if possible.

Rack Configuration Considerations

Consider the following when planning a rack configuration:

- If you are mounting a chassis in an open rack, make sure that the rack frame does not block the intake or exhaust ports.
- If your rack includes closing front and rear doors, the doors must have 65 percent open perforated area evenly distributed from top to bottom to permit adequate airflow.
- Be sure enclosed racks have adequate ventilation. Make sure that the rack is not overly congested as each chassis generates heat. An enclosed rack should have louvered sides and a fan to provide cooling air.
- In an enclosed rack with a ventilation fan in the top, heat generated by equipment near the bottom of the rack can be drawn upward and into the intake ports of the equipment above it in the rack. Ensure that you provide adequate ventilation for equipment at the bottom of the rack.
- Baffles can help to isolate exhaust air from intake air, which also helps to draw cooling air through the chassis. The best placement of the baffles depends on the airflow patterns in the rack. Experiment with different arrangements to position the baffles effectively.



CHAPTER 3

Installation, Maintenance, and Upgrade

- [Connect to the Host Computer, on page 13](#)
- [Restart the Module Dock, on page 14](#)
- [Revert the Module Dock to Factory Settings, on page 14](#)

Connect to the Host Computer



Note

The following guidelines help ensure the safe and proper usage of the Module Dock:

- The Module Dock can be connected to a self-powered hub able to deliver 900 mA per port. Do not connect to a bus-powered hub.
- It is recommended to connect the Module Dock to the host computer using the 12" (30 cm) USB 2.0 Y-cable included in the package. If another cable is used, it must be a Type A to Type B cable no longer than 40" (1 m) with a minimum wire size of 24 AWG for the Power Only end.
- Do not connect the Module Dock to a USB extension cable.
- A Module Dock can be safely connected to a host computer concurrently with other USB devices; however, do not connect more than one Module Dock unit at a time to a host computer.
- Only connect a Sensor Module to the RJ-45 port; only connect a Sensor SFP to the SFP port. No other equipment is supported by the Module Dock.
- For faster restarts, it is recommended to unplug the Module Dock before rebooting the host computer.
- Although both a Sensor Module and a Sensor SFP can be connected to the Module Dock at the same time, system performance is improved when only one device is connected.
- For instructions on how to manage the Sensor SFP and Sensor Module using the Module Dock, refer to the User Guide.

To connect the Module Dock to the host computer:

Procedure

-
- Step 1** Connect the supplied USB 2.0 Y-cable from the Module Dock USB port to one of the following:
- One SuperSpeed USB 3.x port on the host computer, using the Power and Data end of the Y-cable. Leave the Power Only end of the Y-cable unplugged.
 - Two High-Speed USB 2.0 ports on the host computer, using both the Power and Data, and Power Only ends of the Y-cable.
- Step 2** Do one or both of the following actions:
- Insert a Sensor SFP into the Module Dock SFP port.
 - Connect a Sensor Module to the Module Dock RJ-45 port using an Ethernet (patch cord) cable.

The power LEDs on the Module Dock light up orange as the unit is booting. When the Power LED is lit green, you are ready to configure the active connected device.

Restart the Module Dock

To restart the Module Dock:

Procedure

-
- Step 1** Ensure that the Module Dock is not actively completing any firmware updates or other operations.
- Step 2** Press and release the **Reset** button located on the side of the unit (indicated by in the numbered diagram to the left).
- Step 3** Click **OK** when the confirmation message appears.
- The unit's power LEDs are lit orange as it restarts.
-

Revert the Module Dock to Factory Settings

To revert the Module Dock to factory settings:

Procedure

-
- Step 1** Ensure that the Module Dock is not actively completing any firmware updates or other operations.
- Step 2** Press and hold the **Reset** button for 10 seconds.

The unit's power LEDs begin to blink slowly as the factory default configuration is applied. The unit will reload the main page within approximately three minutes.
