Cisco Secure Firewall 1230, 1240, and 1250 Hardware Installation Guide

First Published: 2025-04-09

Last Modified: 2025-05-09

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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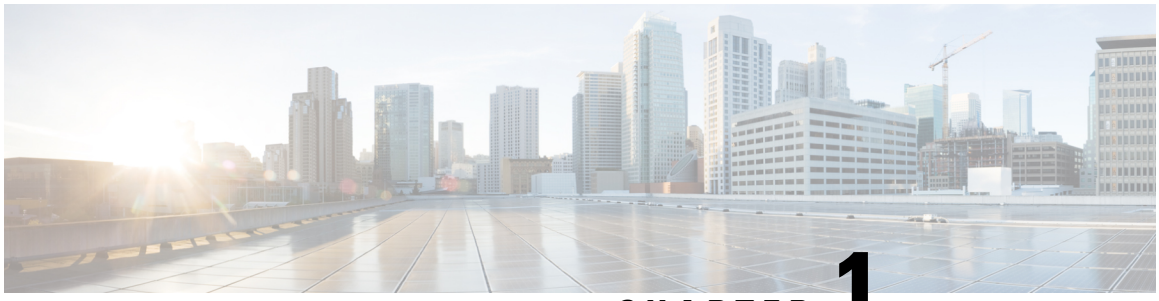


CHAPTER 1

Overview

Features

The Cisco Secure Firewall 1200 Series is a family of network security appliances for enterprise branches. The appliances are powered by a network processor that delivers high performance and power efficiency in modern branch security workloads. The 1200 Series includes three 1U rack-mount models: 1230, 1240 and 1250.

See Product ID Numbers, on page 15 for a list of the product IDs (PIDs) associated with the Secure Firewall 1200 series

The Secure Firewall 1200 series supports Cisco Firepower Threat Defense and Cisco Secure ASA software. See the Cisco Secure Firewall Threat Defense Compatibility Guide and the Cisco Secure Firewall ASA Compatibility guide, which provide Cisco software and hardware compatibility, including operating system and hosting environment requirements, for each supported version.

The following figure shows the Cisco Secure Firewall 1200 series chassis.

Figure 1: CSF-1230, CSF-1240, and CSF-1250

The following table lists the features for the Secure Firewall 1200 series.

Table 1: CSF-1230, CSF-1240, and CSF-1250 Features

Feature	CSF-1230	CSF-1240	CSF-1250
Form factor	1 RU		
Mounting	Rack mount EIA-310D (19-inch) rack (2-post mounting)		
Airflow	I/O side to non-I/O side with I/O side air intake Rear panel to front panel (cold aisle to hot aisle)		
System memory	16 GB	32 GB	32 GB
Management port	One 1-Gbps copper RJ-45 Gigabit Ethernet 10/100/1000 BaseT Restricted to network management access only; connect with an RJ-45 cable		
Console ports	One Cisco Serial (RS-232 on RJ-45) One USB Type C 3.0 Provides management access through an external system; you cannot use both ports at the same time.		
USB port	One USB 3.0 Type A Allows attachment of an external device such as mass storage		

Feature	CSF-1230	CSF-1240	CSF-1250
Network ports	Eight 1000BaseT[1]		Eight 1000/2500 BaseT[2]
Small form-factor pluggable (SFP) ports	Four SFP+ (1/10Gbps) Port numbering is left to right, top to bottom; ports are named Gigabit Ethernet 1/9 through 1/12. Each port includes a pair of LEDs, one each for connection status and link status.		
Supported SFPs	See Supported SFP/SFP+/QSFP+ Transceivers , on page 12 for a list of the supported SFPs.		
Power switch	Yes On rear panel; rocker-type power on/off switch **Note** The power switch controls system power and operates as a soft notification switch that supports the graceful shutdown of the system. Graceful shutdown reduces the risk of system software and data corruption. **Caution** If you accidentally push the power switch to ON while unpacking your chassis, make sure the power switch is set to OFF before you connect AC power for the first time. The chassis powers on and boots up as soon as the AC power is applied when the power button is in the ON position.		
Reset button	Small recessed button Push and hold with a pin for 5 seconds; resets the chassis to its default state following the next reboot. **Note** Configuration variables are reset to factory default, but the flash is not erased and no files are removed.		
AC power supply	One AC power supply Internal component only; not field-replaceable. You must return the chassis to Cisco for power supply replacement. See the Cisco Returns Portal for more information.		
Redundant power	No		
Fan	Two fixed fans The fans are internal; there is no user access. The fan is not field-replaceable; you must return the chassis to Cisco for fan replacement. See the Cisco Returns Portal for more information.		

Feature	CSF-1230	CSF-1240	CSF-1250
Storage	One slot 960-GB U.2 NVME The drive is field-replaceable. See Replace the SSD, on page 35 for more information.		
Flash	nternal 16 GB eMMC. Not field-replaceable.		

[1] Each RJ-45 (8P8C) copper port supports auto Medium Dependent Interface Crossover (MDI/X) as well as auto-negotiation for interface speed, duplex, and other negotiated parameters, and are MDI/X-compliant. Port numbering is left to right, top to bottom; ports are named Gigabit Ethernet 1/1 through 1/8. Each port includes a pair of LEDs, one each for connection status and link status.

[2] Each RJ-45 (8P8C) copper port supports auto Medium Dependent Interface Crossover (MDI/X) as well as auto-negotiation for interface speed, duplex, and other negotiated parameters, and are MDI/X-compliant. Port numbering is left to right, top to bottom; ports are named Gigabit Ethernet 1/1 through 1/8. Each port includes a pair of LEDs, one each for connection status and link status

Console Ports

The 1200 series has two external console ports, a Cisco RJ-45 serial port and a Type C USB serial port. Only one serial console port can be active at a time. When a cable is plugged into the USB console port, the RJ-45 port becomes inactive. Conversely, when the USB cable is removed from the USB port, the RJ-45 port becomes active. The console ports do not have any hardware flow control. You can use the CLI to configure the chassis through either serial console port by using a terminal server or a terminal emulation program on a computer.

- RJ-45 (8P8C) port—Supports RS-232 signaling to an internal UART controller. The RJ-45 console port does not support a remote dial-in modem. You can use an adapter to convert the RJ45-to-DB9 connection if necessary.
- Type C USB port—Lets you connect to a USB port on an external computer. You can plug and unplug the USB cable from the console port without affecting Windows HyperTerminal operations. We recommend shielded USB cables with properly terminated shields. The default setting is 9600 baud. Use this for the initial connection. Baud rates for the USB console port are 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200 bps.

External Flash Storage

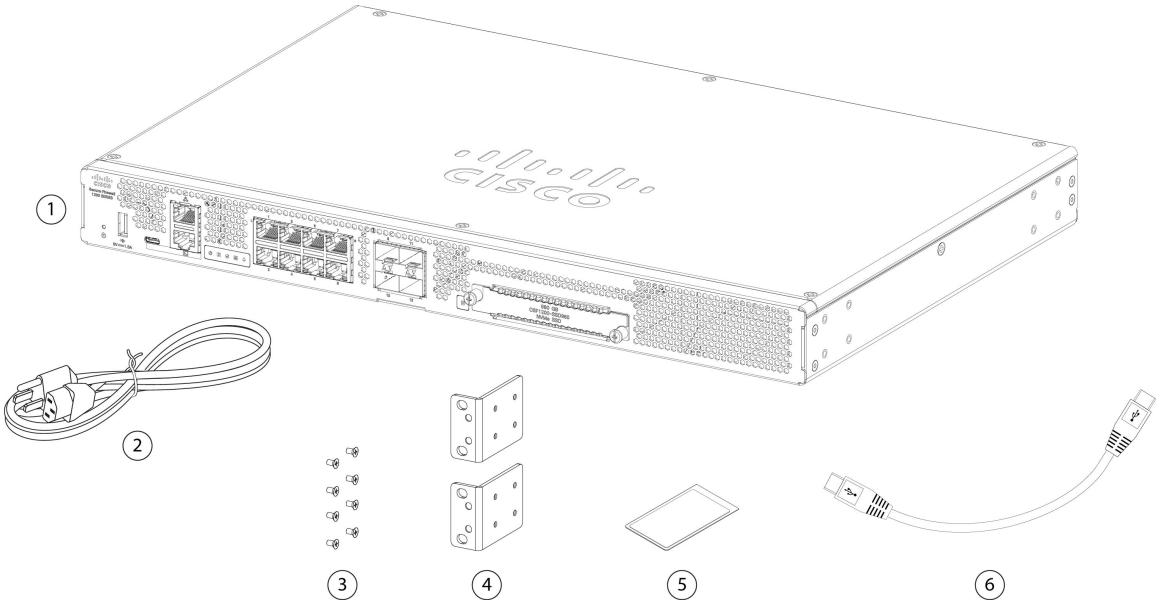
The chassis provides a USB Type A port that you can use to attach an external device. The USB port can provide output power of 5 volts and up to a maximum of 1 A (5 W of USB power).

- External USB drive (optional)—You can use the external USB Type A port to attach a data-storage device. The external USB drive identifier is *disk1*. When the chassis is powered on, a connected USB drive is mounted as disk1 and is available for you to use. Additionally, the file-system commands that are available to disk0 are also available to disk1, including **copy**, **format**, **delete**, **mkdir**, **pwd**, **cd**, and so on.
- FAT-32 File System—The 1200 series only supports FAT-32-formatted file systems for the external USB drive. If you insert an external USB drive that is not in FAT-32 format, the system mounting process fails, and you receive an error message. You can enter the command **format disk1:** to format the partition to FAT-32 and mount the partition to disk1 again; however, data might be lost.

Package Contents

The following figure shows the package contents for the Secure Firewall 1230, 1240, and 1250. Note that the contents are subject to change, and your exact contents might contain additional or fewer items depending on what you ordered.

Figure 2: CSF-1230, CSF-1240, and CSF-1250 Package Contents



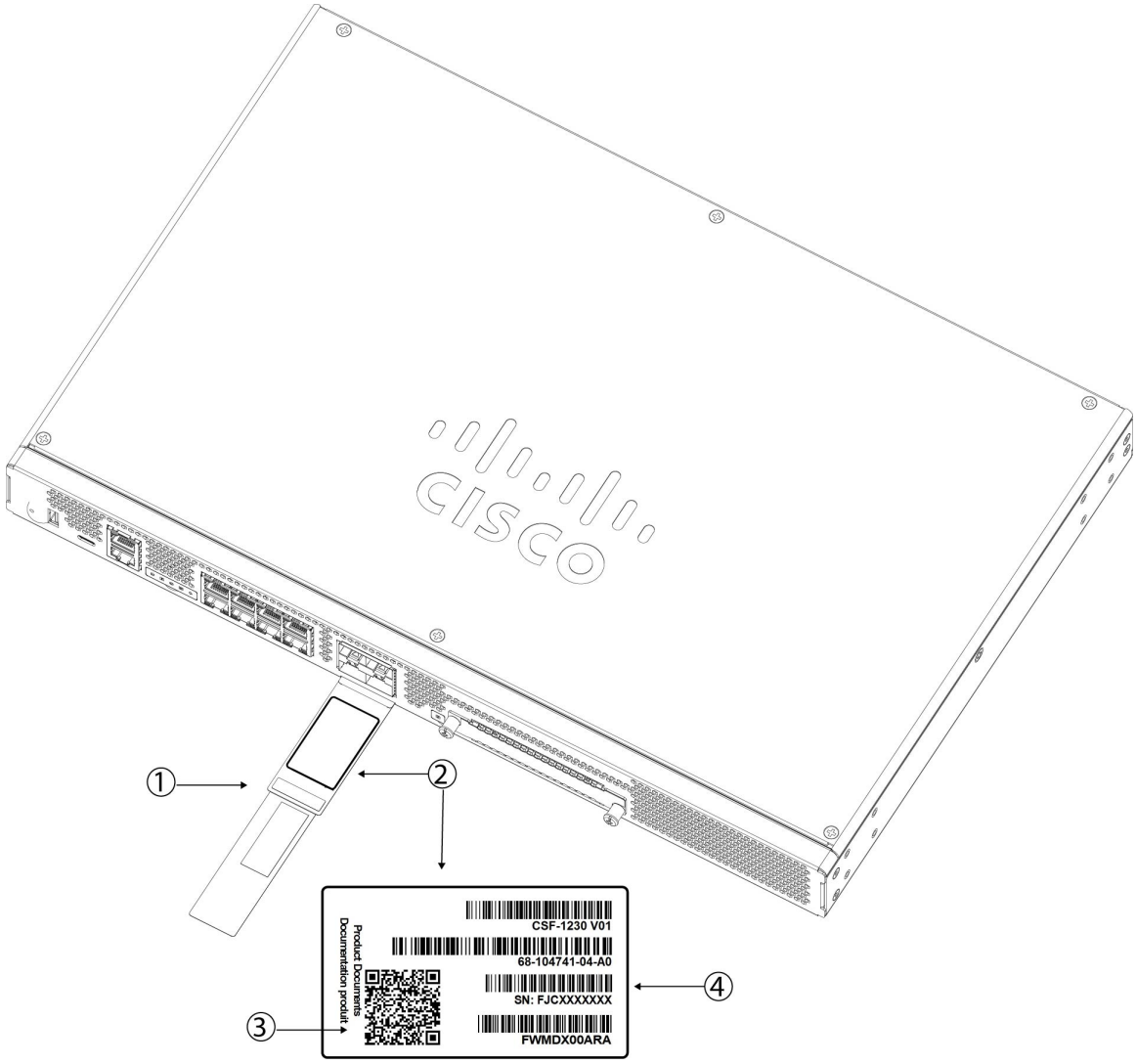
1	Chassis	**2**	Power cord Optional: in package if ordered
3	Eight 6-32 x 0.25-inch Phillips screws for securing the rack mount brackets to the chassis	**4**	Two rack-mount brackets
5	*Cisco Secure Firewall 1230, 1240, and 1250* This document has links to the hardware installation guide, regulatory and safety information guide, and warranty and licensing information. It also contains a QR code and URL that point to the Digital Documentation Portal. The portal contains links to the product information page, the hardware installation guide, the regulatory and safety information guide, the getting started guide, and the zero-touch provisioning guide.	**6**	USB console cable (Type C) PID: CAB-CONS-USB-C Optional: in package if ordered

Pullout Asset Tag and Compliance Label

The pullout asset card on the front panel of the chassis contains the chassis model name, part number, serial number, the common language equipment identifier (CLEI), and the Digital Documentation Portal QR code that points to the getting started guide, the regulatory and compliance guide, the zero-touch deployment guide, and the hardware installation guide.

The following figure shows an example pullout asset card on the front panel of the chassis.

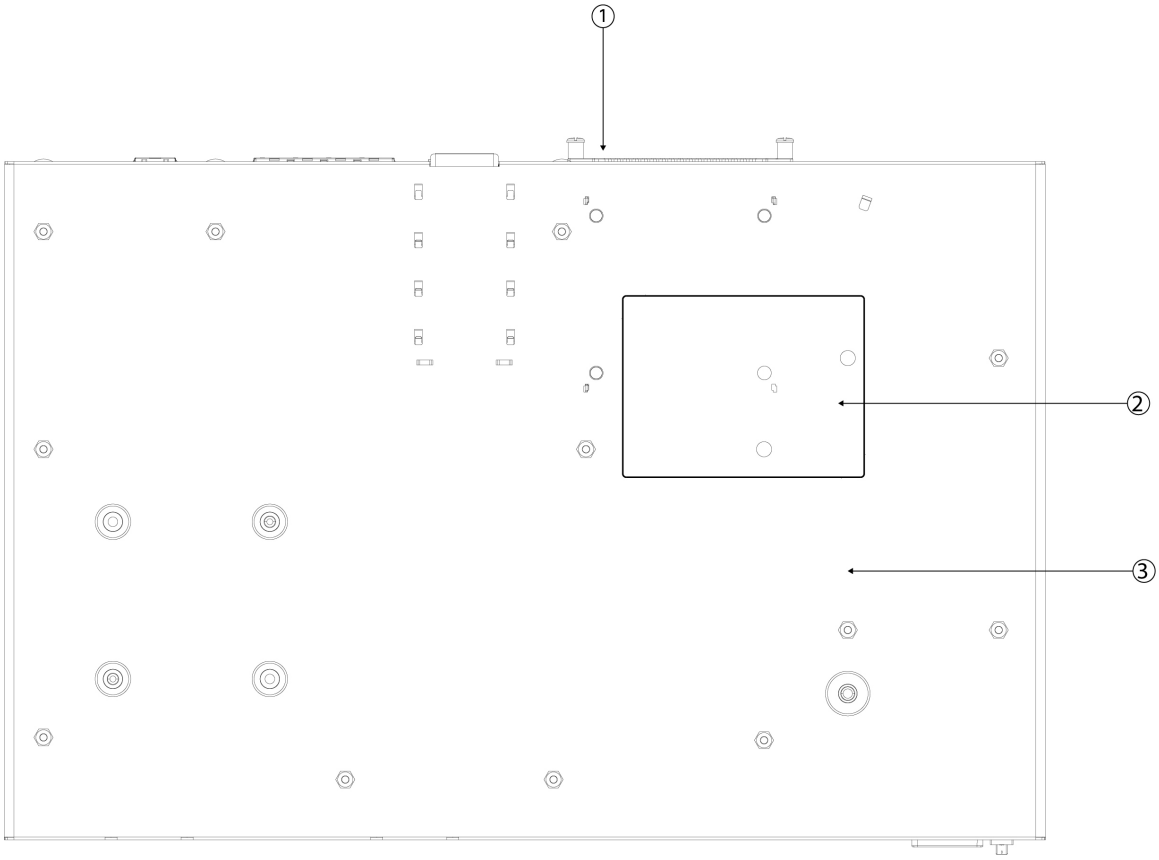
Figure 3: Pullout Asset Card on the Front Panel of the Chassis



1	Pullout asset tab	**2**	Label
3	Digital Documentation Portal QR code	**4**	Chassis serial number

The following figure shows the location of the compliance label on the bottom of the chassis.

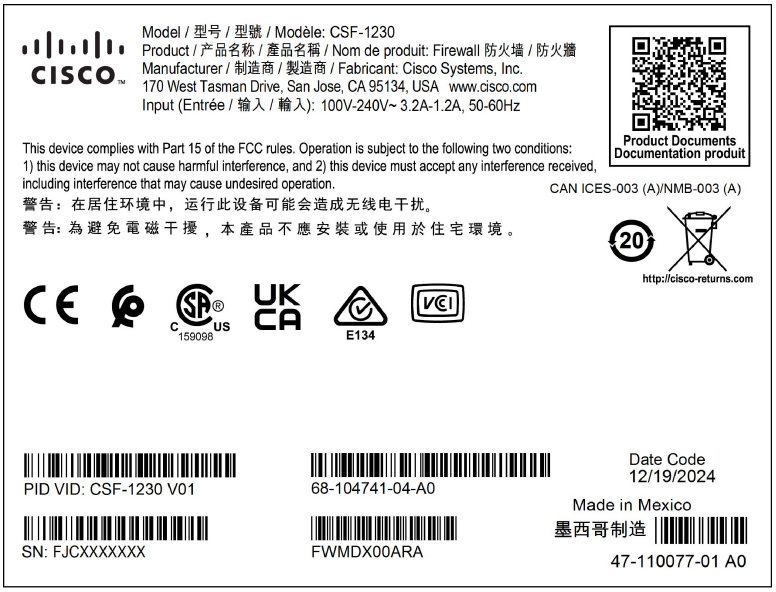
Figure 4: Compliance Label on the Bottom of the Chassis



1	Front panel (I/O side)	**2**	Compliance label
3	Bottom of the chassis		—

The following figure shows a sample compliance label found on the bottom of the chassis.

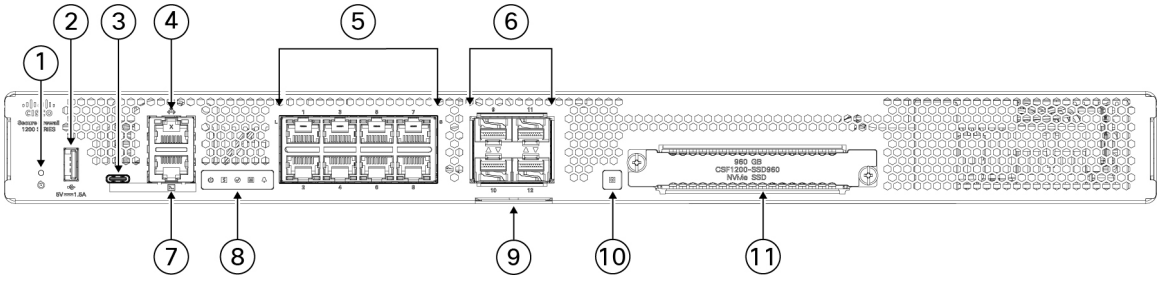
Figure 5: Sample Compliance Label



Front Panel

The following figure shows the front panel of the Secure Firewall 1230, 1240, and 1250. See Front Panel LEDs, on page 9 for descriptions of the front panel LEDs.

Figure 6: CSF-1230, CSF-1240, and CSF-1250 Front Panel



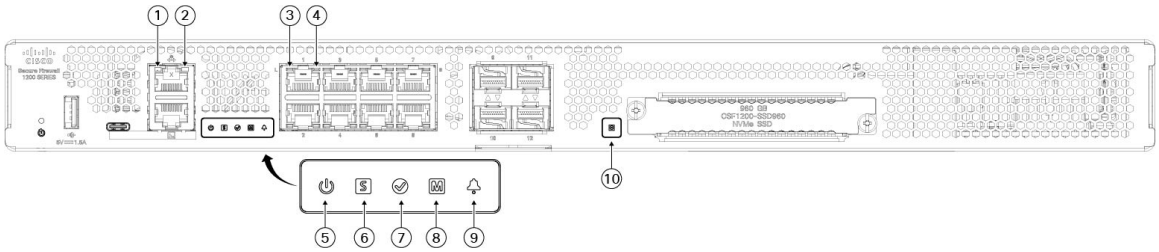
1	Reset button	**2**	USB Type A
3	USB Type C console	**4**	Management port RJ-45
5	Eight 1000BASE-T (CSF-1230 and CSF-1240) or 2.5 G BASE-T (CSF-1250) Ethernet ports (numbered 1 through 8)	**6**	Four SFP+ ports (numbered 9 through 12)
7	RJ-45 (8P8C) console port	**8**	Status LEDs

9	Pullout asset tag See Pullout Asset Tag and Compliance Label, on page 6 for more information.	**10**	SSD LED
11	SSD slot		—

Front Panel LEDs

The following figure shows the LEDs on the front panel of the Secure Firewall 1230, 1240, and 1250 and describes their states.

Figure 7: CSF-1230, CSF-1240, and CSF-1250 Front Panel LEDs



1	**Management** Status of the management ports: Link status (L): • Off—No link, or port is not in use. • Green—Link established. • Green, flashing—Link activity.	**2**	**Management** Status of the management ports: Connection-speed status (S): • Green, flashing—One flash every three seconds = 10 Mbps. • Green, flashing—Two rapid flashes = 100 Mbps. • Green, flashing—Three rapid flashes = 1000 Mbps.

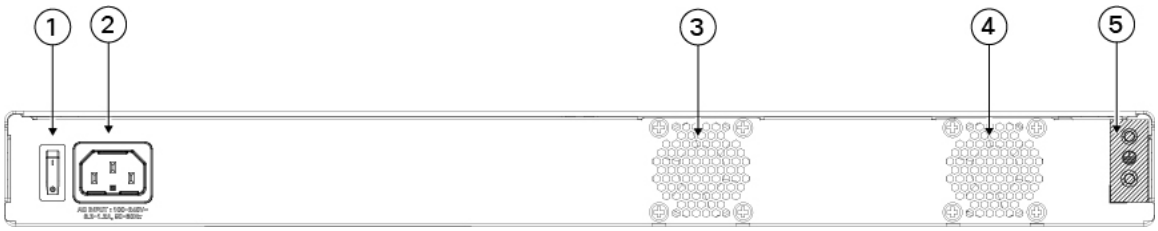
3	**Network** Status of the network ports (applies to CSF-1230 and CSG-1240): Link status (L): • Off—No link, or port is not in use. • Green—Link established. • Green, flashing—Link activity. Status of the network ports (applies to CSF-1250): Link status (L): • Off—No link, or port is not in use. • Green, flashing—Link activity.	4	**Network** Status of the network ports (applies to CSF-1230 and CAF-1240): Connection-speed status (S): • Green, flashing—One flash every three seconds = 10 Mbps. • Green, flashing—Two rapid flashes = 100 Mbps. • Green, flashing—Three rapid flashes = 1000 Mbps. Status of the network ports (applies to CSF-1250): Connection-speed status (S): • Off—No link, or port is not in use. • Green—Link established
5	**Power** Power supply status: • Off —Power supply off. • Green—Power supply on. • Amber—System is powering up or system firmware is updating. • Green, flashing—System in process of a graceful shutdown.	6	**System** System operating status: • Off—System has not booted up yet. • Green, flashing—System is booting up. • Green—System has booted up; normal system function. • Amber—System failed to boot. • Amber, flashing—Boot failed.
7	**Security Cloud Control** SCC status: • Green, flashing slowly (twice in five seconds)—Cloud connected. • Green and amber, flashing—Cloud connection failure. • Green—Cloud disconnected. **Note** The LED pattern applies to zero-touch provisioning (ZTP). See the Easy Deployment Guide for Cisco Secure Firewall Threat Defense with Cisco Security Cloud Control for more information.	8	**Active** Status of the failover pair: • Off—System is in standby mode. • Green—System is in active mode.

9	**Alarm** Status of the alarms: • Off—No alarms. • Yellow—Power supply, temperature too high, and/or fan failures.	**10**	**SSD** Status of the SSD: • Off— No SSD present. • Green—SSD detected. • Green, flashing—Activity on the SSD. **Note** See Replace the SSD, on page 35 for the procedure for replacing a failed SSD.

Rear Panel

The following figure shows the rear panel of the Secure Firewall 1230, 1240, and 1250. See Ground the Chassis, on page 30for the procedure for attaching the grounding lug.

Figure 8: CSF-1230, CSF-1240, and CSF-1250 Rear Panel



1	Power switch **Note** The power switch provides a way to gracefully shut down the system and place it in standby. The power supply and fan remain active and the fan may continue to spin at slow speed. To achieve total power shut down, unplug the power supply from the chassis. **Caution** If you accidentally push the power switch to ON while unpacking your chassis, make sure the power switch is set to OFF before you connect AC power for the first time. The chassis powers on and boots up as soon as the AC power is applied when the power button is in the ON position.	**2**	Power cord socket
3	Internal fan	**4**	Internal fan
5	Grounding lug pad		—

Hardware Specifications

The following table contains hardware specifications for the Secure Firewall CSF-1230, CSF-1240, and CSF-1250.

Table 2: Hardware Specifications

Specification	CSF-1230	CSF-1240	CSF-1250
Dimensions (H x W x D)	1.72 x 11.22 x 17.25 inches (4.37 x 28.49 x 43.81 cm)		
Weight	9.35 lb (4.24 kg)		9.52 lb (4.31 kg)
Temperature	Operating: 32 to 104°F (0 to 40°C) Nonoperating: -13 to 158°F (-25 to 70°C) maximum altitude is 15,000 ft		
Humidity	Operating: 5 to 85% noncondensing Nonoperating: 5 to 95% noncondensing		
Altitude	Operating: 0 to 10,000 ft (0 to 3048 m) Nonoperating: 0 to 15,000 ft (0 to 4572 m)		
Acoustic noise (10,000 ft and 40°C)	52.1 dBa (maximum) At highest system performance	57.8 dBa (maximum) At highest system performance	
Power consumption (maximum)	57 W	684 W	88 W

Supported SFP/SFP+/QSFP+ Transceivers

The SFP/SFP+/QSFP+ transceiver is a bidirectional device with a transmitter and receiver in the same physical package. It is a hot-swappable optical or electrical (copper) interface that plugs into the SFP/SFP+/QSFP+ ports on the fixed ports and the network module ports, and provides Ethernet connectivity.

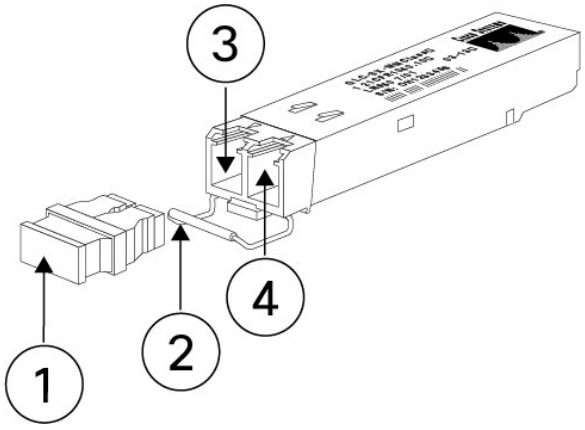
The 1-Gbps and 10-Gbps transceivers are supported on the fixed ports for the following models and software versions:

- CSF-1230, CSF-1240, CSF-1250
- Threat defense Version 7.7 and ASA Version 9.23.1

See Cisco SFP Modules for Gigabit Ethernet Applications Data Sheet for more information.

The following figure shows the components of a transceiver.

Figure 9: SFP Transceiver



1	Dust plug	**2**	Bail clasp
3	Receive optical bore	**4**	Transmit optical bore

Safety Warnings

Take note of the following warnings:

Warning **Statement 1055—**Class 1/1M Laser

Invisible laser radiation is present. Do not expose to users of telescopic optics. This applies to Class 1/1M laser products.

Warning **Statement 1056—**Unterminated Fiber Cable

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.

Warning **Statement 1057—**Hazardous Radiation Exposure

Use of controls, adjustments, or performance of procedures other than those specified may result in hazardous radiation exposure.

Warning Use appropriate ESD procedures when inserting the transceiver. Avoid touching the contacts at the rear, and keep the contacts and ports free of dust and dirt. Keep unused transceivers in the ESD packing that they were shipped in.

Caution Although non-Cisco SFPs are allowed, we do not recommend using them because they have not been tested and validated by Cisco. Cisco TAC may refuse support for any interoperability problems that result from using an untested third-party SFP transceiver.

The following table lists the supported 1-Gbps transceivers for the fixed ports (not supported for management port).

Table 3: Supported 1-Gbps SFP Transceivers

Optics Type	PID	Medium	Operating Wavelength (nm)	Maximum Operating Distance
1000Base-T	GLC-T	Cat 5e	—	328 ft (100 m)
1000Base-T	GLC-TE	Cat 5e	—	328 ft (100 m)
Multimode	GLC-SX-MMD	multimode	850	1804 ft (550 m)[3]
Single mode	GLC-LH-SMD	single mode	1310	32,821 ft (10 km)
SM extended	GLC-EX-SMD	single mode	1310	131, 234 ft (40 km)
SM	GLC-ZX-SMD	single mode	1550	229,659 ft (70 km)[4]

[3] Depending on fiber grade and core size, operating distance may vary.
[4] Depending on fiber grade and core size, operating distance may vary.

The following table lists the supported transceivers for the fixed ports (not supported for the management port).

Table 4: Supported 10-Gbps SFP Transceivers

Optics Type	PID	Medium	Operating Wavelength (nm)	Maximum Operating Distance
10G-SR	SFP-10G-SR	multimode	850	984 ft (300 m)[5]
10G-SR	SFP-10G-SR-S	multimode	1310	984 ft (300 m)
10G-LR	SFP-10G-LR	single mode	1310	32,821 ft (10 km)
10G-LR	SFP-10G-LR-S	single mode	850	32,821 ft (10 km)
10G-ER	SFP-10G-ER	single mode	850	131,234 ft (40 km)
10G-ER	SFP-10G-ER-S	single mode	1310	131,234 ft (40 km)

Optics Type	PID	Medium	Operating Wavelength (nm)	Maximum Operating Distance
10G-ZR	SFP-10G-ZR	single mode	1550	131,234 ft (40 km)
10G-ZR	SFP-10G-ZR-S	single mode	1550	262,467 ft (80 km)
10G DAC copper	SFP-H10GB-CUxM Length 1, 1.5, 2, 2.5, 3, 4, 5 m	Twinax cable, passive	—	—
10G DAC CU active	SFP-H10GB-ACUxM Length 7, 10 m	Twinax cable, active	—	—
10G AOC	SFP-10G-AOCxM Length 1, 2, 3, 5, 7, 10 m	Active optical cable	—	—

[5] Depending on fiber grade and core size, operating distance may vary.

Product ID Numbers

The following table lists the field-replaceable PIDs associated with the Secure Firewall 1230, 1240, and 1250. The spare components are ones that you can order separately from the appliance. If any internal components fail, you must get a return material authorization (RMA) for the entire chassis. See the Cisco Returns Portal for more information.

Note See the **show inventory** command in the Cisco Secure Firewall Threat Defense Command Reference or the Cisco Secure Firewall ASA Series Command Reference to display a list of the PIDs for your Secure Firewall 1230, 1240, and 1250.

Table 5: CSF-1230, CSF-1240, and CSF-1250 Series PIDs

PID	Description
CSF1230-ASA-K9	Secure Firewall 1230 appliance, ASA
CSF1240-ASA-K9	Secure Firewall 1240 appliance, ASA
CSF1250-ASA-K9	Secure Firewall 1250 appliance, ASA
CSF1230-TD-K9	Secure Firewall 1230 appliance, Threat Defense
CSF1240-TD-K9	Secure Firewall 1240 appliance, Threat Defense
CSF1250-TD-K9	Secure Firewall 1250 appliance, Threat Defense
CSF1200-SSD960	Secure Firewall 1230, 1240, and 1250 960-GB SSD

PID	Description
CSF1200-SSD960=	Secure Firewall 1230, 1240, and 1250 960-GB SSD (spare)
CSF1200-CBL-MGMT	Secure Firewall 1230, 1240, and 1250 cable-management brackets
CSF1200-CBL-MGMT=	Secure Firewall 1230, 1240, and 1250 cable-management brackets (spare)
FPR1K-RM=	Secure Firewall 1230, 1240, and 1250 rack-mount brackets (spare)

Power Cord Specifications

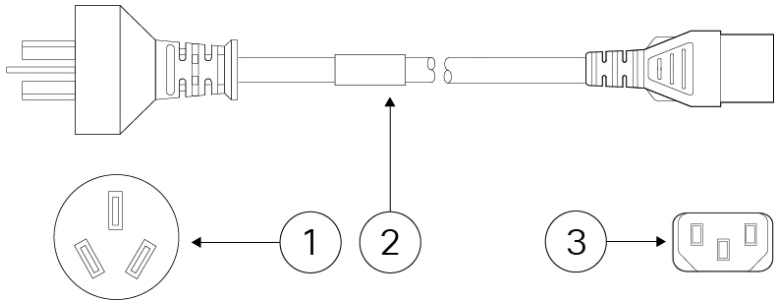
Standard power cords or jumper power cords are available for connection to the security appliance. The jumper power cords for use in racks are available as an optional alternative to the standard power cords.

If you do not order the optional power cord with the system, you are responsible for selecting the appropriate power cord for the product. Using a incompatible power cord with this product may result in electrical safety hazard. Orders delivered to Argentina, Brazil, and Japan must have the appropriate power cord ordered with the system.

Note Only the approved power cords or jumper power cords provided with the chassis are supported.

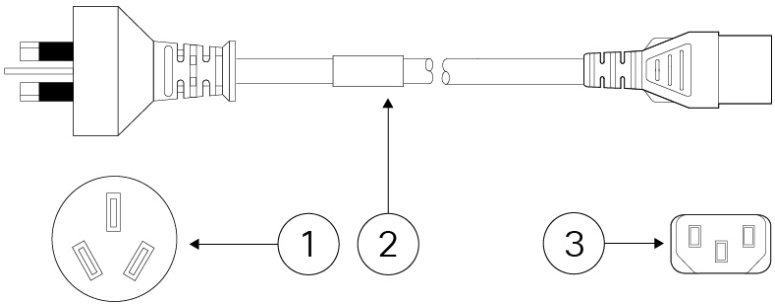
The following power cords are supported.

Figure 10: Argentina (CAB-ACR)



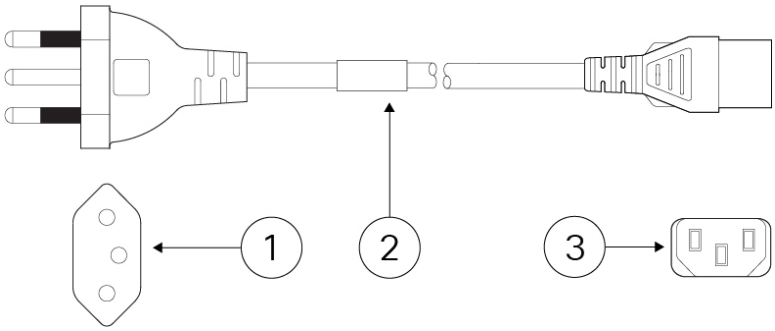
1	Plug: VA2073	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 11: Australia/New Zealand (CAB-ACA)



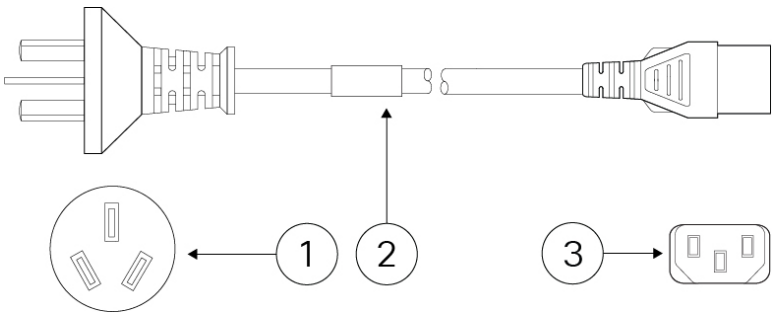
1	Plug: AU10LS3	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 12: Brazil (CAB-C13-ACB)



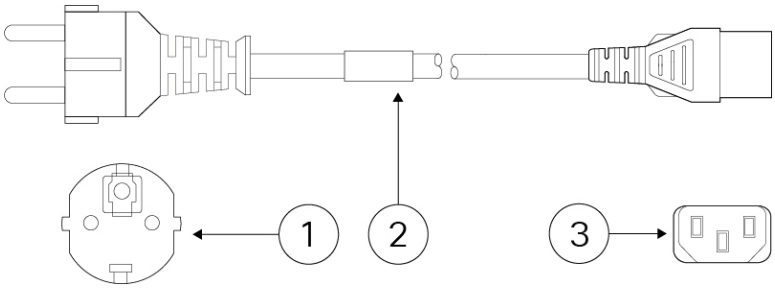
1	Plug: NBR 14136	**2**	Cord set rating: 10 A, 250 V
3	Connector: EL 701B (EN 60320/C13)		—

Figure 13: China (CAB-ACC)



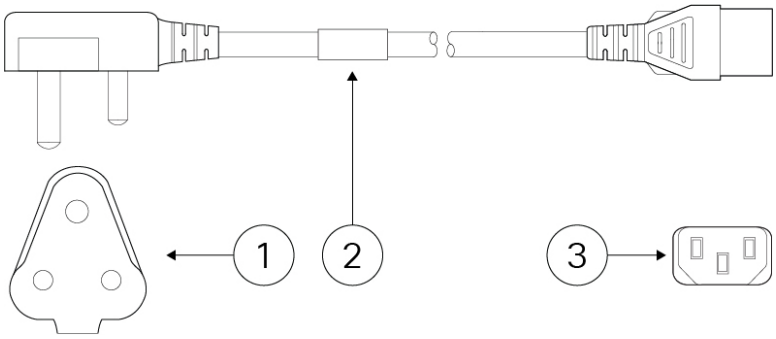
1	Plug: V3203C	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 14: Europe (CAB-ACE)



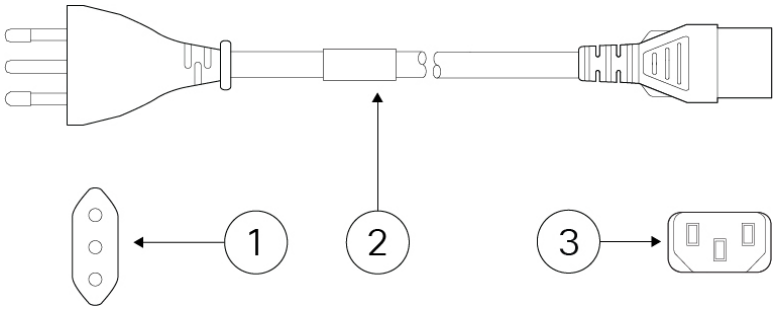
1	Plug: M2511	**2**	Cord set rating: 16 A, 250 V
3	Connector: V1625		—

Figure 15: India (CAB-IND-10A)



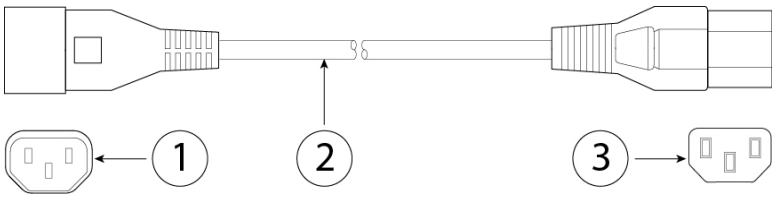
1	Plug: IA16A3-C	**2**	Cord set rating: 16 A, 250 V
3	Connector: V1625BS-E		—

Figure 16: Italy (CAB-ACI)



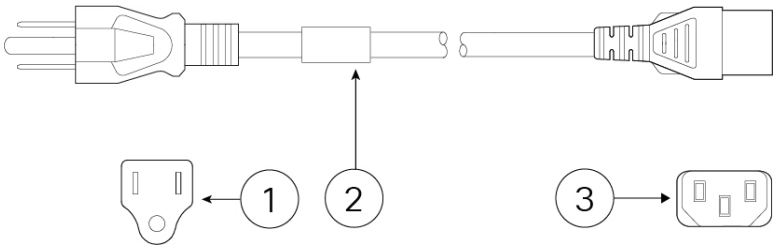
1	Plug: IT10S3	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 17: Japan (CAB-C13-C14-2M-JP) PSE Mark



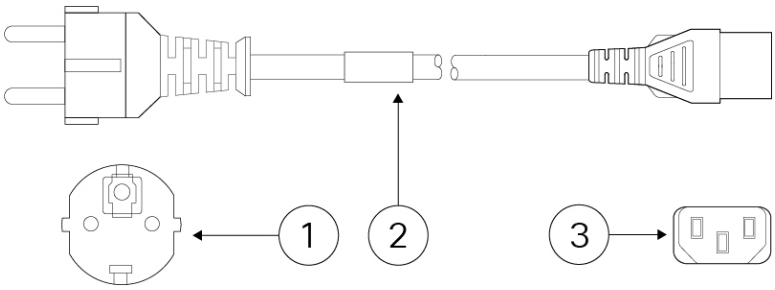
1	IEC 60320-2-2/E	**2**	Cord set rating: 10 A, 250 V
3	Connector: IEC 60320/C13		—

Figure 18: Japan (CAB-JPN-3PIN)



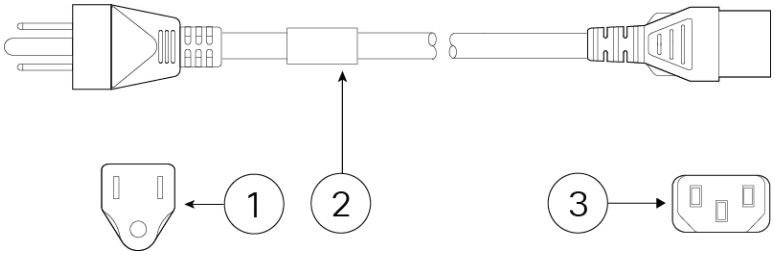
1	Plug: M744	**2**	Cord set rating: 12 A, 125 V
3	Connector: V1625		—

Figure 19: Korea (CAB-AC-C13-KOR)



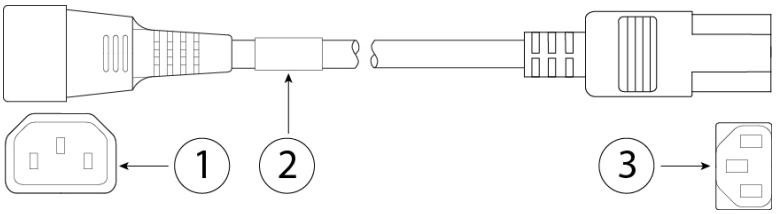
1	Plug: M2511	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 20: North America (CAB-AC)



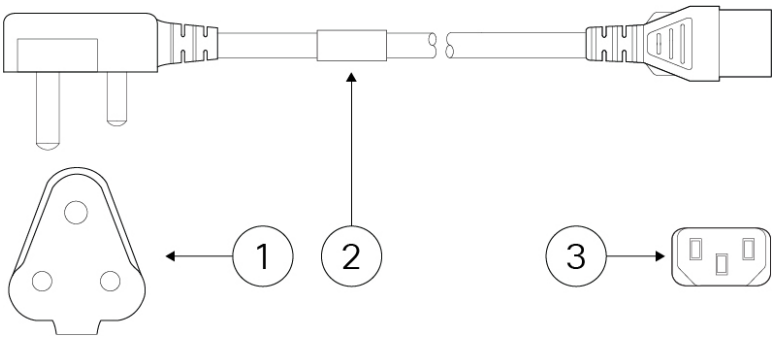
1	Plug: PS204	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 21: Jumper (CAB-C13-C14-2M)



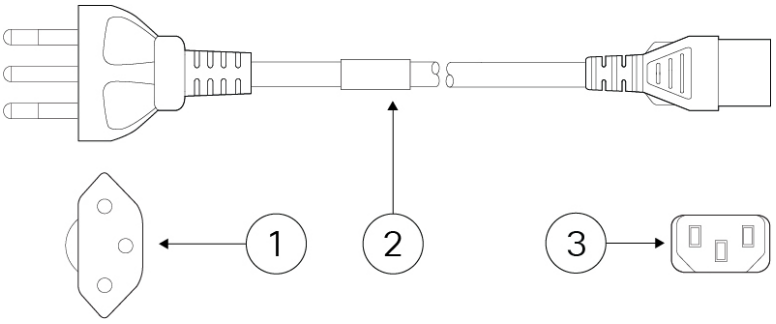
1	IEC 60320/C14G	**2**	Cord set rating: 10 A, 250 V
3	Connector: IEC 60320/C13		—

Figure 22: South Africa (AIR-PWR-CORD-SA)



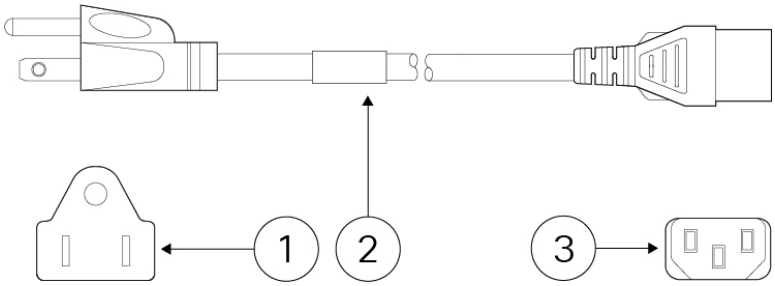
1	Plug: SA16A	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 23: Switzerland (CAB-ACS)



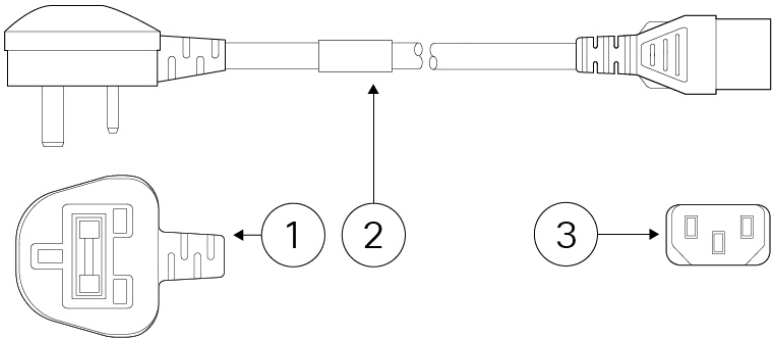
1	Plug: SW10ZS3	**2**	Cord set rating: 10 A, 250 V
3	Connector: V1625		—

Figure 24: Taiwan (CAB-ACTW)

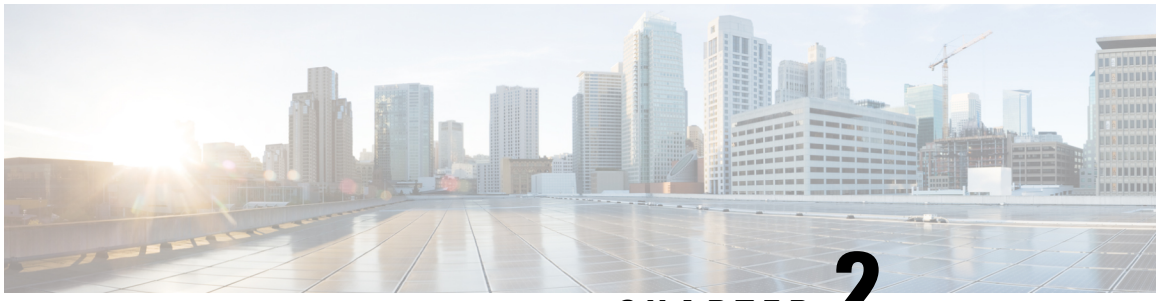


1	Plug: EL 302 (CNS10917)	**2**	Cord set rating: 10 A, 125 V
3	Connector: EL 701 (EN 60320/C13)		—

Figure 25: United Kingdom (CAB-ACU)



1	Plug: 3P BS 1363	**2**	Cord set rating: 10 A, 250 V
3	Connector: IEC 60320/C13		—



CHAPTER 2

Installation Preparation

Installation Warnings

Read the Regulatory Compliance and Safety Information document before installing the chassis.

Caution The CSF-1230, CSF-1240, and CSF-1250 security appliances are for indoor use only.

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 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: 20 A, 120 V, and 16 A, 250 V

Warning **Statement 1015**—Battery Handling

To reduce risk of fire, explosion or leakage of flammable liquid or gas:

- Replace the battery only with the same or equivalent type recommended by the manufacturer.
- Do not dismantle, crush, puncture, use a sharp tool to remove, short external contacts, or dispose of the battery in fire.
- Do not use if battery is warped or swollen.
- Do not store or use battery in a temperature > 140°F/60°C.
- Do not store or use battery in low air pressure environment < 69.7 kPa.

Warning **Statement 1017—**Restricted Area

This unit is intended for installation in restricted access areas. Only skilled, instructed, or qualified personnel can access a restricted access area.

Warning **Statement 1024—**Ground Conductor

This equipment must be grounded. To reduce the risk of electric shock, never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Warning **Statement 1029—**Blank Faceplates and Cover Panels

Blank faceplates and cover panels serve three important functions: they reduce the risk of electric shock and fire, they contain electromagnetic interference (EMI) that might disrupt other equipment, and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.

Warning **Statement 1051—**Laser Radiation

Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.

Warning **Statement 1055**—Class 1/1M Laser

Invisible laser radiation is present. Do not expose to users of telescopic optics. This applies to Class 1/1M laser products.

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 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.
- If an electrical accident occurs:
  - Use caution; do not become a victim yourself.
  - Disconnect power from the system.
  - If possible, send another person to get medical aid. Otherwise, assess the condition of the victim, and then call for help.
  - Determine whether the person needs rescue breathing or external cardiac compressions; then take appropriate action.
- Use the chassis within its marked electrical ratings and product usage instructions.
- The chassis is equipped with an AC-input power supply, which is shipped with a three-wire electrical cord with a grounding-type plug that fits into a grounding-type power outlet only. Do not circumvent this safety feature. Equipment grounding should comply with local and national electrical codes.

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 12 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

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.
- Several styles of AC-input power supply cords are available for the chassis; make sure that you have the correct style for your site.
- Install an uninterruptible power source for your site, if possible.

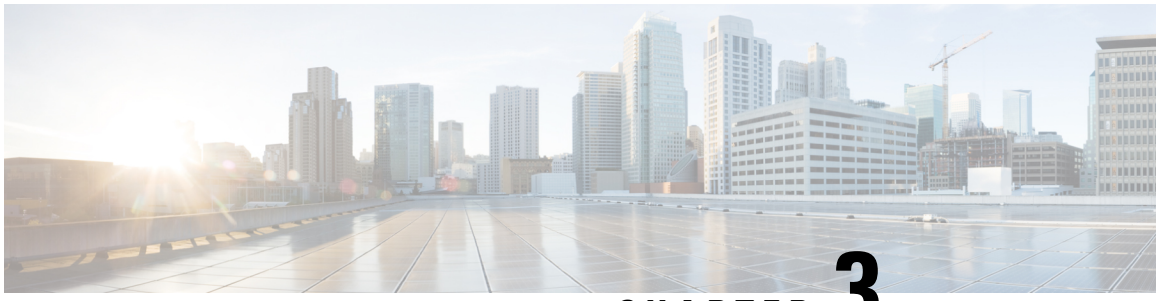
Rack Configuration Considerations

See Rack-Mount the Chassis, on page 32 for the procedure for rack-mounting the chassis.

Consider the following when planning a rack configuration:

- Standard 19-inch (48.3 cm) 4-post EIA rack with mounting rails that conform to English universal hole spacing according to section 1 of ANSI/EIA-310-D-1992.
- The rack-mounting posts need to be 2 to 3.5 mm thick to work with the slide rail rack mounting.
- 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

Rack-Mount the Chassis

Unpack and Inspect the Chassis

Note The chassis is thoroughly inspected before shipment. If any damage occurred during transportation or any items are missing, contact your customer service representative immediately. Keep the shipping container in case you need to send the chassis back due to damage.

See Package Contents, on page 5 for a list of what ships with the chassis.

Caution If you accidentally push the power switch to ON while unpacking your chassis, make sure the power switch is set to OFF before you connect AC power for the first time. The chassis powers on and boots up as soon as the AC power is applied when the power button is in the ON position. See Rear Panel, on page 11 for a description of the power switch and its position on the rear panel of the chassis.

Procedure

Step 1 Remove the chassis from its cardboard container and save all packaging material.

Step 2 Compare the shipment to the equipment list provided by your customer service representative. Verify that you have all items.

Step 3 Check for damage and report any discrepancies or damage to your customer service representative. Have the following information ready:

- Invoice number of shipper (see the packing slip)
- Model and serial number of the damaged unit
- Description of damage

• Effect of damage on the installation

Ground the Chassis

Note Grounding the chassis is required, even if the rack is already grounded. A grounding pad with two threaded M4 holes is provided on the chassis for attaching a grounding lug. The grounding lug must be Nationally Recognized Testing Laboratory (NRTL)-listed. In addition, a copper conductor (wires) must be used and the copper conductor must comply with National Electrical Code (NEC) code for ampacity.

You need the following items that you provide:

- Wire-striping tool
- Crimping tool
- Grounding cable
- Two star lock washers for the 10-32 x 0.375 inch-screws used to secure the ground lug
- You need the following items from the accessory kit:
  - Grounding lug #6 AWG, 90 degree, #10 post
  - Two 10-32 x 0.38-inch screws used to secure the grounding lug

Safety Warnings

Take note of the following warnings:

Warning **Statement 1024—**Ground Conductor

This equipment must be grounded. To reduce the risk of electric shock, never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Warning **Statement 1046—**Installing or Replacing the Unit

To reduce risk of electric shock, when installing or replacing the unit, the ground connection must always be made first and disconnected last.

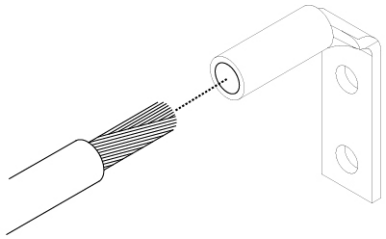
If your unit has modules, secure them with the provided screws.

Procedure

Step 1 Use a wire-stripping tool to remove approximately 0.75 inches (19 mm) of the covering from the end of the grounding cable.

Step 2 Insert the stripped end of the grounding cable into the open end of the grounding lug.

Figure 26: Insert the Cable into the Grounding Lug

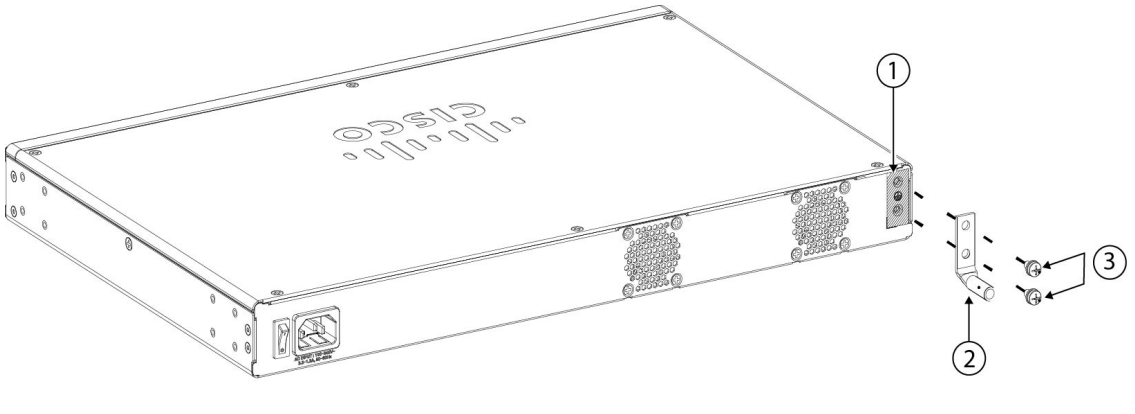


Step 3 Use the crimping tool to secure the grounding cable in the grounding lug.

Step 4 Remove the adhesive label from the grounding pad on the chassis.

Step 5 Place the grounding lug against the grounding pad so that there is solid metal-to-metal contact, and insert the two screws with washers through the holes in the grounding lug and into the grounding pad.

Figure 27: Attach the Grounding Lug



1	Grounding lug pad	**2**	Grounding lug
3	Two 10-32 x 0.38-inch screws		—

Step 6 Make sure that the lug and cable do not interfere with other equipment.

Step 7 Prepare the other end of the grounding cable and connect it to an appropriate grounding point in your site to ensure adequate earth ground.

What to do next

Install the cables according to your default software configuration as described in the getting started guide.

Rack-Mount the Chassis

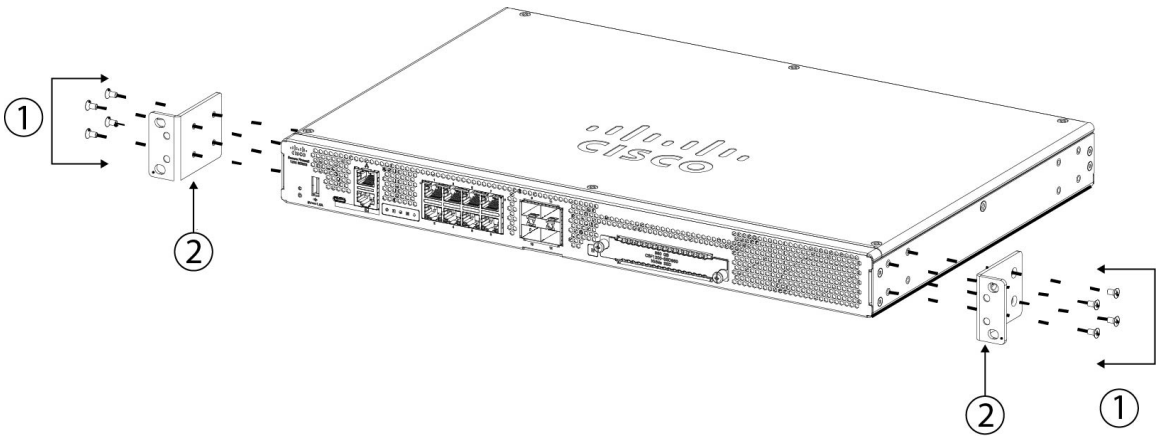
The chassis ships with rack-mount brackets and screws that you can install on the front or the rear of the chassis. We recommend that you install them on the I/O side of the chassis (the rear panel) and then have that side facing the cold aisle. See Package Contents, on page 5 for the rack-mount items in the accessory kit.

The rack is a standard Electronic Industries Association (EIA) rack. It is a 4-post-EIA-310-D, which is the current revision as specified by EIA. The vertical hole spacing alternates at .50 inches (12.70 mm) to .625 inches (15.90 mm) to .625 inches (15.90 mm) and repeats. The start and stop space is in the middle of the .50-inch holes. The horizontal spacing is 18.312 inches (465.1 mm), and the rack opening is specified as a minimum of 17.75 inches (450 mm).

Procedure

Step 1 Attach both rack-mount brackets to the sides of the chassis using the eight 6-32 x 0.25-inch Phillips screws (four for each side) that shipped with your chassis. After the rack-mount brackets are secured to the chassis, you can attach the cable guides.

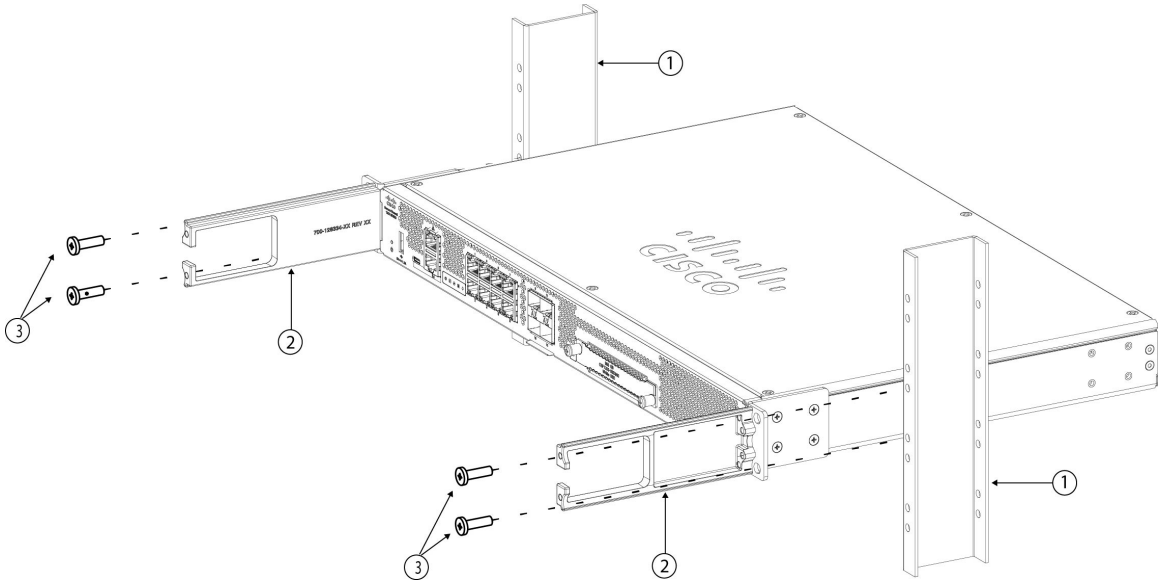
Figure 28: Attach the Rack-Mount Brackets to the Chassis



1	Four 6-32 x 0.25-inch Phillips screws	**2**	Rack-mount bracket

Step 2 (Optional) Attach the cable guides to the rack-mount brackets using the four 8-32 x 0.375-inch Phillips screws.

Figure 29: Attach the Cable Guides to the Rack-Mount Brackets

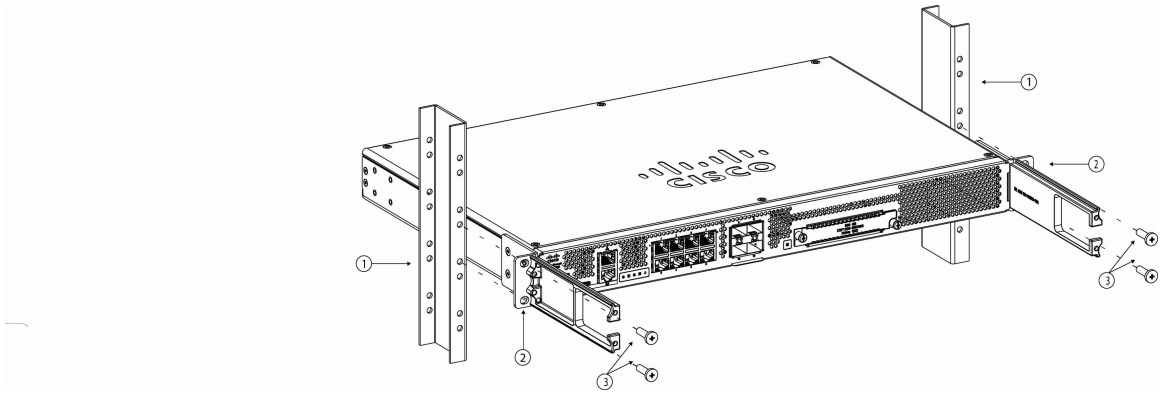


1	Rack	**2**	Cable management bracket
3	8-32 x 0.375-inch Phillips screws (two per bracket)		—

Step 3 Attach the chassis to the rack using the screws that you supply for your rack type.

We recommend that you install the chassis with the I/O side (rear panel) facing the cold aisle.

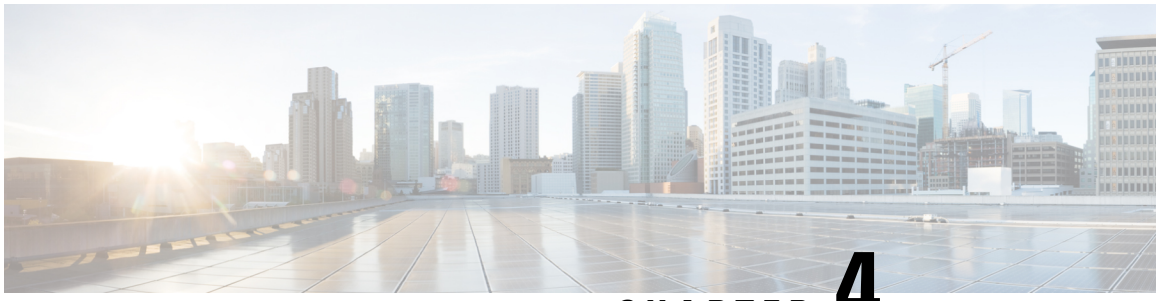
Figure 30: Install the Chassis in the Rack



1	Rack	**2**	Rack-mount bracket
3	Rack-mount screws Chassis I/O side (rear panel)		—

What to do next

You can now install the cables and power cord, as described in the getting started guide.



CHAPTER 4

Installation, Maintenance, and Upgrade

Replace the SSD

The Cisco Secure Firewall CSF-1230, CSF-1240, and CSF-1250 ship with an SSD installed. You can replace this SSD should it fail. The SSD is not hot-swappable. Before replacing the SSD, you must power off the chassis by pressing the power switch on the rear panel.

Caution You lose your configuration after you replace the existing SSD with a new SSD.

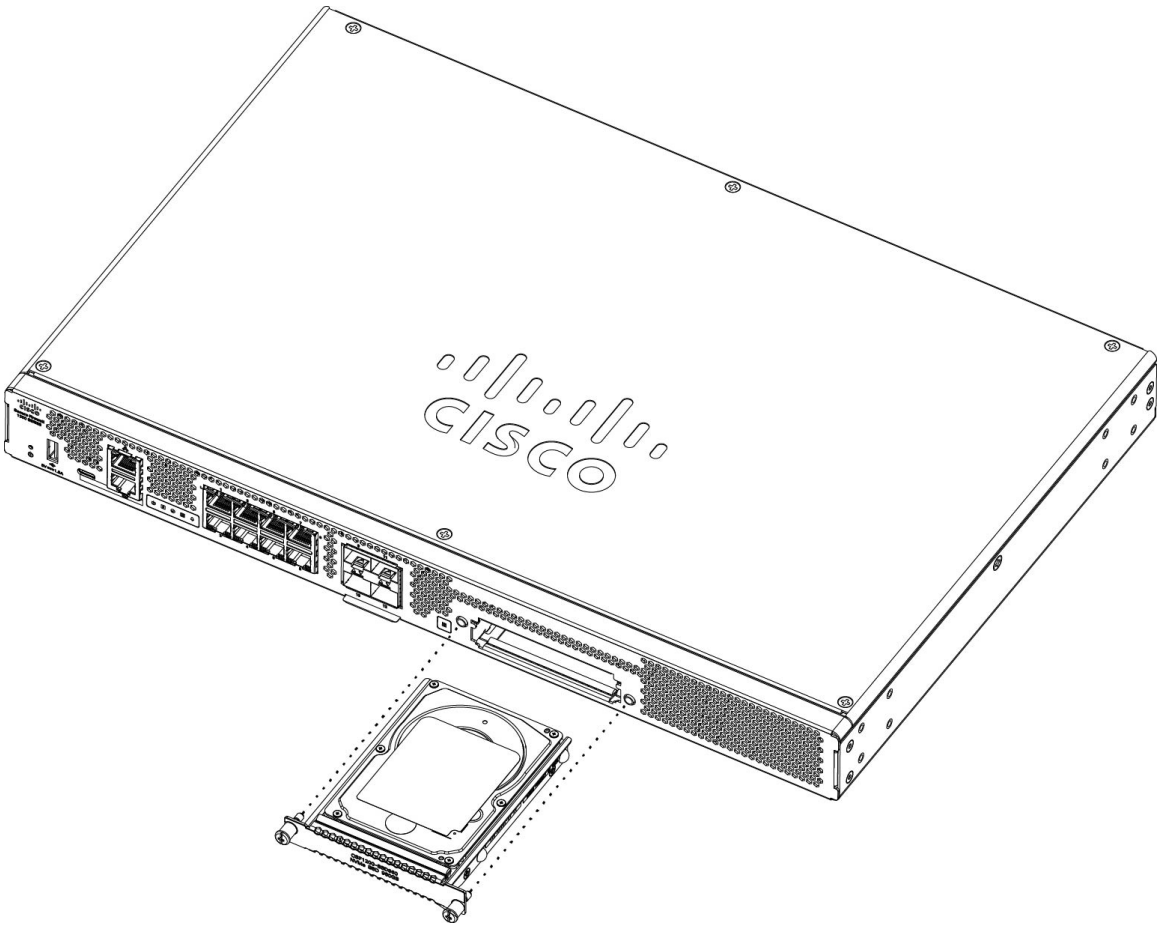
Follow these steps to replace an SSD in the chassis:

Procedure

Step 1 Loosen the thumb screws on both sides of the SSD bay and pull the existing SSD out of the bay.

Step 2 Insert the new SSD into the bay and push it in until it is seated.

Figure 31: Remove and Install the SSD



Step 3 Tighten the thumb screws on both sides of the SSD bay.

Step 4 Check the SSD LED to make sure the SSD is seated properly and functioning. See Front Panel LEDs, on page 9 for a description of the SSD LED.