



## **Cisco x90 Series Content Security Appliances Installation and Maintenance Guide**

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**Cisco Systems, Inc.**

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**About this Book**   vii

---

**CHAPTER 1**

**Install Cisco x90 Series Content Security Appliances**   1-1

Unpack and Inspect Cisco x90 Series Content Security Appliances   1-2

Prepare for Cisco x90 Series Content Security Appliances Installation   1-3

    Installation Guidelines   1-3

    Safety Recommendations   1-4

    Maintain Safety with Electricity   1-5

    Prevent ESD Damage   1-5

    Site Environment   1-6

    Power Supply Considerations   1-6

    Rack Requirements   1-6

    Equipment Requirements   1-7

    Slide Rail Adjustment Range   1-7

Install Cisco x90 Series Content Security Appliances In a Rack   1-7

    Use the Rack Kit to Install Cisco x90 Series Content Security Appliances   1-7

    Install the Cable Management Arm (Optional)   1-10

    Reverse the Cable Management Arm (Optional)   1-11

---

**CHAPTER 2**

**Cisco C190 Email Security Appliance**   2-1

    Rear Panel Ports   2-1

    Status LEDs and Buttons for Maintenance   2-2

        Front Panel LEDs   2-2

        Rear Panel LEDs and Buttons   2-4

    Summary of Features   2-4

---

**CHAPTER 3**

**Cisco C390 Email Security Appliance**   3-1

    Rear Panel Ports   3-1

    Status LEDs and Buttons for Maintenance   3-2

        Front Panel LEDs   3-2

        Rear Panel LEDs and Buttons   3-4

    Summary of Features   3-5

**CHAPTER 4**

**Cisco C690 Email Security Appliance 4-1**

- Available Models 4-1
- Rear Panel Ports 4-2
  - Models with Ethernet Ports 4-2
  - Models with Fiber Optic Ports 4-3
- Status LEDs and Buttons for Maintenance 4-4
  - Front Panel LEDs 4-4
  - Rear Panel LEDs and Buttons 4-6
- Summary of Features 4-7

**CHAPTER 5**

**Cisco M190 Content Security Management Appliance 5-1**

- Rear Panel Ports 5-1
- Status LEDs and Buttons for Maintenance 5-2
  - Front Panel LEDs 5-2
  - Rear Panel LEDs and Buttons 5-4
- Summary of Features 5-4

**CHAPTER 6**

**Cisco M390 Content Security Management Appliance 6-1**

- Available Models 6-1
- Rear Panel Ports 6-1
- Using Status LEDs and Buttons for Maintenance 6-2
  - Front Panel LEDs 6-2
  - Rear Panel LEDs and Buttons 6-4
- Summary of Features 6-5

**CHAPTER 7**

**Cisco M690 Content Security Management Appliance 7-1**

- Available Models 7-1
- Rear Panel Ports 7-2
  - Models with Ethernet Ports 7-2
  - Models with Fiber Optic Ports 7-3
- Using Status LEDs and Buttons for Maintenance 7-4
  - Front Panel LEDs 7-4
  - Rear Panel LEDs and Buttons 7-6
- Summary of Features 7-7

**CHAPTER 8**

**Cisco S190 Web Security Appliance 8-1**

- Rear Panel Ports 8-1

Using Status LEDs and Buttons for Maintenance	8-2
Front Panel LEDs	8-2
Rear Panel LEDs and Buttons	8-4
Summary of Features	8-5

**CHAPTER 9****Cisco S390 Web Security Appliance 9-1**

Rear Panel Ports	9-1
Using Status LEDs and Buttons for Maintenance	9-2
Front Panel LEDs	9-2
Rear Panel LEDs and Buttons	9-4
Summary of Features	9-5

**CHAPTER 10****Cisco S690 Web Security Appliance 10-1**

Available Models	10-1
Rear Panel Ports	10-2
Models with Ethernet Ports	10-2
Models with Fiber Optic Ports	10-3
Using Status LEDs and Buttons for Maintenance	10-4
Front Panel LEDs	10-4
Rear Panel LEDs and Buttons	10-6
Summary of Features	10-8

**CHAPTER 11****Maintain Cisco Content Security Appliances 11-1**

Monitor System Health	11-1
Prepare for Cisco Content Security Appliance Component Replacement	11-2
Required Equipment	11-2
Shut Down and Power Off the Appliance	11-2
Serial Number Location	11-3
Hot-Swap Replacement	11-3
Replace Cisco Content Security Appliance Components	11-3
Replace Hard Drives or Solid State Drives	11-4
Drive Population Guidelines	11-4
Drive Replacement Procedure	11-5
Replace Power Supplies	11-6
Install a DC Power Supply	11-7
Enable Remote Power Cycling	11-9
Remotely Reset Appliance Power	11-10
	11-10

---

**APPENDIX A**

**Appliance Specifications** A-1

Physical Specifications A-1

Environmental Specifications A-2

Power Specifications A-3

770 W AC Power Supply A-3

650 W AC Power Supply A-4

930W DC Power Supply A-5

---

**APPENDIX B**

**Power Cord Specifications** B-1

Supported Power Cords and Plugs B-1

AC Power Cord Illustrations B-4



## About this Book

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This preface describes the audience, organization, and conventions of the *Cisco x90 Series Content Security Appliances Installation and Maintenance Guide*. It also provides information about how to obtain related documentation.

## Audience

This guide is for experienced network administrators who configure and maintain Cisco Content Security Appliances.

## Conventions

This document uses the following conventions for notes, cautions, and safety warnings. Notes and cautions contain important information that you should know.



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**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material that are not covered in the publication.

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**Caution**

Means *reader be careful*. Cautions contain information about something you might do that could result in equipment damage or loss of data.

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Safety warnings appear throughout this guide in procedures that, if performed incorrectly, can cause physical injuries. A warning symbol precedes each warning statement.



Warning

## IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

### SAVE THESE INSTRUCTIONS

Waarschuwing

## BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

### BEWAAR DEZE INSTRUCTIES

Varoitus

## TÄRKEITÄ TURVALLISUUSOHJEITA

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelyyn liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

### SÄILYTÄ NÄMÄ OHJEET

Attention

## IMPORTANTES INFORMATIONS DE SÉCURITÉ

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

### CONSERVEZ CES INFORMATIONS

Warnung

## WICHTIGE SICHERHEITSHINWEISE

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

### BEWAHREN SIE DIESE HINWEISE GUT AUF.



**Avvertenza      IMPORTANTI ISTRUZIONI SULLA SICUREZZA**

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

**CONSERVARE QUESTE ISTRUZIONI**

**Advarsel      VIKTIGE SIKKERHETSINSTRUKSJONER**

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

**TA VARE PÅ DISSE INSTRUKSJONENE**

**Aviso      INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

**GUARDE ESTAS INSTRUÇÕES**

**¡Advertencia!      INSTRUCCIONES IMPORTANTES DE SEGURIDAD**

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

**GUARDE ESTAS INSTRUCCIONES**

**Varning!      VIKTIGA SÄKERHETSANVISNINGAR**

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

**SPARA DESSA ANVISNINGAR**

## Figyelem

### FONTOS BIZTONSÁGI ELOÍRÁSOK

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielott bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelte biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető meg.

### ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

## Предупреждение

### ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

### СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

## 警告

### 重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

## 警告

### 安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

## 警告

### 중요 안전 지침

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이 지시 사항을 보관하십시오.

**Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

**GUARDE ESTAS INSTRUÇÕES**

**Advarsel VIGTIGE SIKKERHEDSANVISNINGER**

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemeskade. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

**GEM DISSE ANVISNINGER**

**تحذير**

**إرشادات الأمان الهامة**

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض للإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في آخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز. قم بحفظ هذه الإرشادات

**Upozorenje VAŽNE SIGURNOSNE NAPOMENE**

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

**SAČUVAJTE OVE UPUTE**

**Upozornění DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY**

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

**USCHOVEJTE TYTO POKYNY**

Προειδοποίηση ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθεις πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.

ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ

הרהר

**הוראות בטיחות חשובות**

סימן הזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במגעלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

**שמור הוראות אלה**

предупреждение

**ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА**

Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот.

ЧУВАЈТЕ ГИ ОБИЕ НАПАТСТВИЈА

Ostrzeżenie

**WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA**

Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.

**NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ**

Upozornenie

**DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY**

Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.

**USCHOVAJTE SI TENTO NÁVOD**

## Opozorilo

### POMEMBNI VARNOSTNI NAPOTKI

Ta opozorilni simbol pomeni nevarnost. Nahajate se v situaciji, kjer lahko pride do telesnih poškodb. Preden pričnete z delom na napravi, se morate zavedati nevarnosti udara električnega toka, ter tudi poznati preventivne ukrepe za preprečevanje takšnih nevarnosti. Uporabite obrazložitevno številko na koncu posameznega opozorila, da najdete opis nevarnosti v priloženem varnostnem priročniku.

### SHRANITE TE NAPOTKE!

#### 警告

#### 重要安全性指示

此警告符號代表危險，表示可能造成人身傷害。使用任何設備前，請留心電路相關危險，並熟悉避免意外的標準作法。您可以使用每項警告後的聲明編號，查詢本裝置隨附之安全性警告譯文中的翻譯。請妥善保留此指示



#### Warning

**When installing the product, please use the provided or designated connection cables/power cables/AC adapters. Using any other cables/adapters could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL-certified cables (that have the "UL" shown on the code) for any other electrical devices than products designated by CISCO. The use of cables that are certified by Electrical Appliance and Material Safety Law (that have "PSE" shown on the code) is not limited to CISCO-designated products. Statement 371**



#### Warning

**Read the installation instructions before connecting the system to the power source. Statement 1004**



#### Warning

**Ultimate disposal of this product should be handled according to all national laws and regulations. Statement 1040**



#### Warning

**Class 1M laser radiation when open. Do not view directly with optical instruments. Statement 1053**



#### Warning

**Class I (CDRH) and Class 1M (IEC) laser products. Statement 1055**



#### Warning

**No user-serviceable parts inside. Do not open. Statement 1073**

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## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.



# Install Cisco x90 Series Content Security Appliances

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This chapter describes how to install Content Security Appliances, and includes the following sections:

- [Unpack and Inspect Cisco x90 Series Content Security Appliances, page 1-2](#)
- [Prepare for Cisco x90 Series Content Security Appliances Installation, page 1-3](#)
- [Install Cisco x90 Series Content Security Appliances In a Rack, page 1-7](#)



**Caution**

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Before you install, operate, or service an appliance, review the [Regulatory Compliance and Safety Information for 90-Series Cisco Content Security Appliances](#) for important safety information.

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**Warning**

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## IMPORTANT SAFETY INSTRUCTIONS

**This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.**  
Statement 1071

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# Unpack and Inspect Cisco x90 Series Content Security Appliances

**Caution**

When handling internal appliance components, wear an ESD strap and handle modules by the carrier edges only.

**Tip**

Keep the shipping container in case the appliance requires shipping in the future.

**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.

- 
- Step 1** Remove the appliance 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
-



# Prepare for Cisco x90 Series Content Security Appliances Installation

This section provides information about preparing for installation, and includes the following topics:

- [Installation Guidelines](#), page 1-3
- [Safety Recommendations](#), page 1-4
- [Maintain Safety with Electricity](#), page 1-5
- [Prevent ESD Damage](#), page 1-5
- [Site Environment](#), page 1-6
- [Power Supply Considerations](#), page 1-6
- [Rack Requirements](#), page 1-6
- [Equipment Requirements](#), page 1-7
- [Slide Rail Adjustment Range](#), page 1-7

## Installation Guidelines



**Warning**

**To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 35° C (95° F).**

Statement 1047



**Warning**

**The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device.**

Statement 1019



**Warning**

**This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 15 A.**

Statement 1005



**Warning**

**Installation of the equipment must comply with local and national electrical codes.**

Statement 1074



**Caution**

To ensure proper airflow it is necessary to rack content security appliances using rail kits. Physically placing the units on top of one another or stacking without the use of the rail kits blocks the air vents on top of the appliances, which can result in overheating, higher fan speeds, and higher power consumption. We recommend that you mount your appliances in rail kits when you are installing them into the rack because these rails provide the minimal spacing required between the appliances. No additional spacing between the appliances is required when you mount them using rail kits.

**Caution**

Avoid UPS types that use ferroresonant technology. These UPS types can become unstable with systems such as the Cisco Content Security Appliances, which can have substantial current draw fluctuations from fluctuating data traffic patterns.

When you are installing an appliance, use the following guidelines:

- Plan your site configuration and prepare the site before installing the appliance. See the [Quick Start Guides for the Cisco x90 Series Content Security Appliances](#) for the recommended site planning tasks.
- Ensure that there is adequate space around the appliance to allow for servicing the appliance and for adequate airflow. The airflow in the appliance is from front to back.
- Ensure that the air-conditioning meets the thermal requirements listed in the [Appliance Specifications, page A-1](#).
- Ensure that the cabinet or rack meets the requirements listed in the “[Rack Requirements](#)” section on [page 1-6](#).
- Ensure that the site power meets the power requirements listed in the [Appliance Specifications, page A-1](#). If available, you can use an uninterruptible power supply (UPS) to protect against power failures.

## Safety Recommendations

Use the information in the following sections to help ensure your safety and to protect the chassis. This information may not address all potentially hazardous situations in your working environment, so be alert and exercise good judgment at all times.

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



**Before working on a chassis, be sure the power cord is unplugged. Be sure to read the [Regulatory and Compliance Safety Information](#) document before installing the security appliance.**

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 appliances are 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, resulting in intermittent or complete failure.

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

When planning the site layout and equipment locations, consider the information in the next section to help avoid equipment failures and reduce the possibility of environmentally caused shutdowns. 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.

## Power Supply Considerations

See the [“Power Specifications” section on page A-3](#) for more detailed information about the power supplies.

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 appliance; make sure that you have the correct style for your site.
- If you are using dual redundant (1+1) power supplies, we recommend that you use independent electrical circuits for each power supply.
- Install an uninterruptible power source for your site, if possible.

## Rack Requirements

This section provides the requirements for the standard open racks.

- The rack must be of the following type:
  - A standard 19-in. (48.3-cm) wide, 4-post EIA rack, with mounting posts that conform to English universal hole spacing, per section 1 of ANSI/EIA-310-D-1992.
  - The rack post holes can be square 0.38-in. (9.6 mm), round 0.28-in. (7.1 mm), #12-24 UNC, or #10-32 UNC when you use the supplied slide rails.
  - For the Cisco C190, M190, S190, C390, M390, and S390 appliances, the minimum vertical rack space per appliance must be 1 RU, equal to 1.75 in. (44.45 mm).
  - For the Cisco C690, M690, and S690 appliances, the minimum vertical rack space per appliance must be 2 RUs, equal to 3.5 in. (88.9 mm).
- If you are mounting a chassis in an open rack, make sure that the rack frame does not block the intake or exhaust ports.
- 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

## Equipment Requirements

The slide rails supplied by Cisco Systems for the appliance do not require tools for installation if you install them in a rack that has square 0.38-in. (9.6 mm), round 0.28-in. (7.1 mm), or #12-24 UNC threaded holes.

## Slide Rail Adjustment Range

For 1-RU appliances, the slide rails for the appliance have an adjustment range of 24 to 36 in. (610 to 914 mm).

For 2-RU appliances, the slide rails for the appliance have an adjustment range of 26 to 36 in. (660 to 914 mm).

# Install Cisco x90 Series Content Security Appliances In a Rack

This section contains the following topics:

- [Use the Rack Kit to Install Cisco x90 Series Content Security Appliances, page 1-7](#)
- [Install the Cable Management Arm \(Optional\), page 1-10](#)
- [Reverse the Cable Management Arm \(Optional\), page 1-11](#)

## Use the Rack Kit to Install Cisco x90 Series Content Security Appliances

This section describes how to install Cisco x90 Series Content Security Appliances in a rack using the rack kits that are sold by Cisco.



**Warning**

**To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:**

**This unit should be mounted at the bottom of the rack if it is the only unit in the rack.**

**When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.**

**If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.**  
Statement 1006

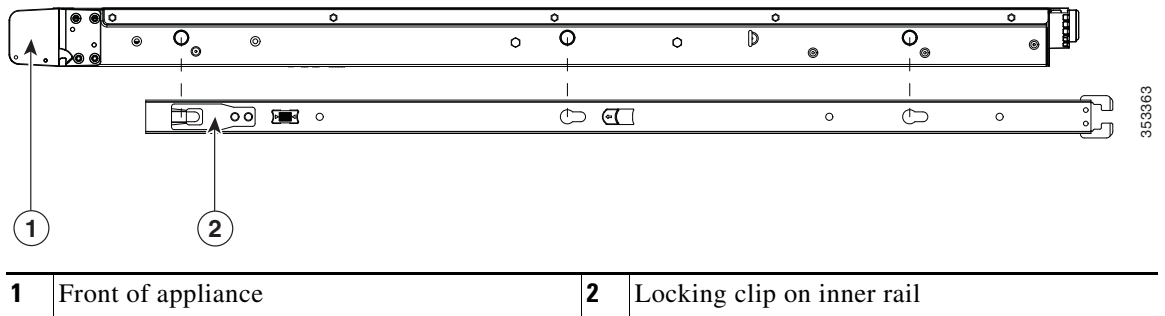
**Step 1**

Attach the inner rails to the sides of the appliance:

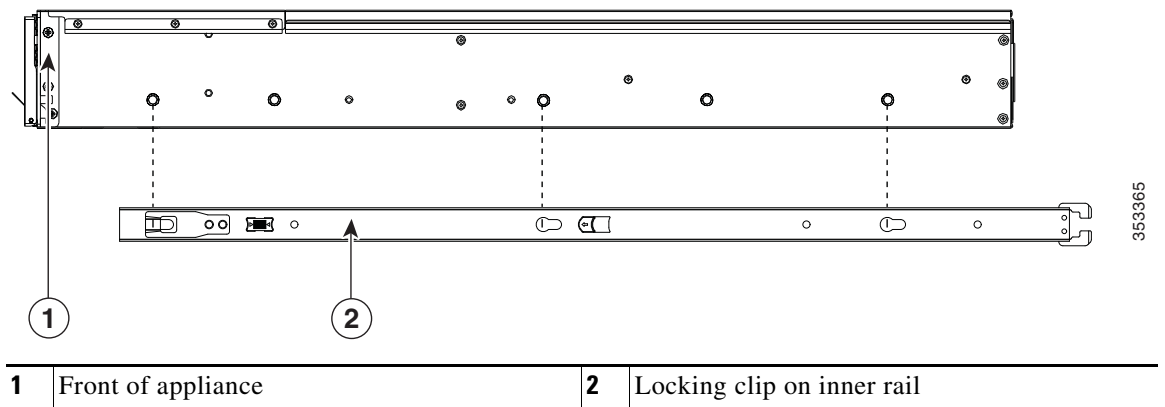
- a. Align an inner rail with one side of the appliance so that the 3 keyed slots in the rail align with the 3 pegs on the side of the appliance (see [Figure 1-1](#) and [Figure 1-2](#)).
- b. Set the keyed slots over the pegs, and then slide the rail toward the front to lock it in place on the pegs. The front slot has a metal clip that locks over the front peg.

- c. Install the second inner rail to the opposite side of the appliance.

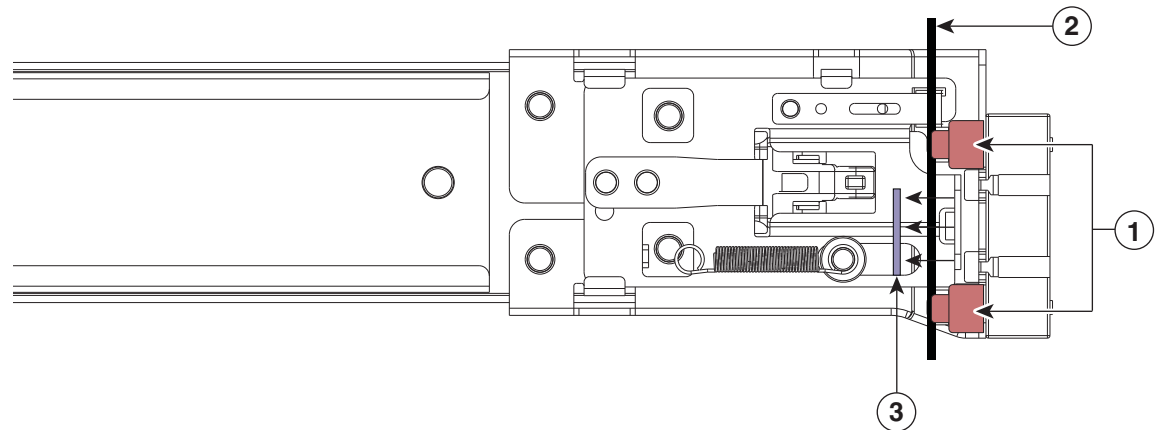
**Figure 1-1** Attach the Inner Rail to Side of 1-RU Appliances



**Figure 1-2** Attach the Inner Rail to Side of 2-RU Appliances



- Step 2** Open the front securing plate on both slide-rail assemblies. The front end of the slide-rail assembly has a spring-loaded securing plate that must be open before you can insert the mounting pegs into the rack-post holes (see [Figure 1-3](#)).
- On the outside of the assembly, push the green arrow button toward the rear to open the securing plate.

**Figure 1-3 Front Securing Mechanism, Inside of Front End**

<b>1</b>	Front mounting pegs	<b>3</b>	Securing plate shown pulled back to open position
<b>2</b>	Rack post		

**Step 3** Install the slide rails into the rack:

- a. Align one slide-rail assembly front end with the front rack-post holes that you want to use.

The slide rail front-end wraps around the outside of the rack post and the mounting pegs enter the rack-post holes from the outside-front (see [Figure 1-3](#)).



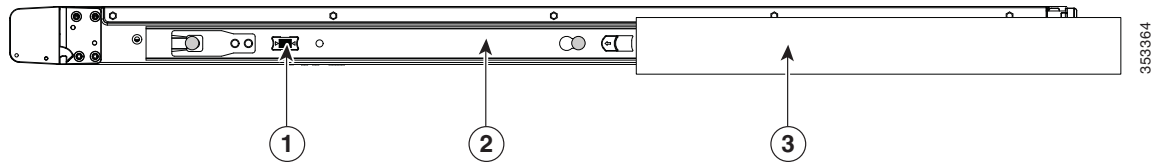
**Note** The rack post must be between the mounting pegs and the open securing plate.

- b. Push the mounting pegs into the rack-post holes from the front of the outside.
- c. Press the securing plate release button, marked “PUSH.” The spring-loaded securing plate closes to lock the pegs in place.
- d. Adjust the slide-rail length, and then push the rear mounting pegs into the corresponding rear rack-post holes. The slide rail must be level front-to-rear.  
The rear mounting pegs enter the rear rack-post holes from the inside of the rack post.
- e. Attach the second slide-rail assembly to the opposite side of the rack. Ensure that the two slide-rail assemblies are at the same height with each other and are level front-to-back.
- f. Pull the inner slide rails on each assembly out toward the rack front until they hit the internal stops and lock in place.

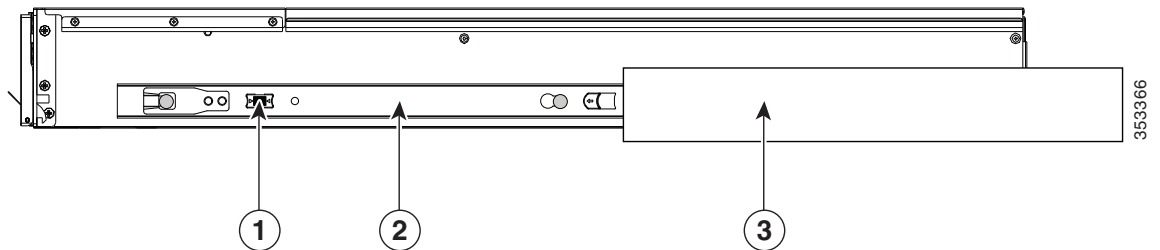
**Step 4** Insert the appliance into the slide rails:**Caution**

The appliance can weigh up to 67 pounds (59 kilograms) when fully loaded with components. We recommend that you use a minimum of two people or a mechanical lift when lifting the appliance. Attempting this procedure alone could result in personal injury or equipment damage.

- a. Align the rear of the inner rails that are attached to the appliance sides with the front ends of the empty slide rails on the rack.
- b. Push the inner rails into the slide rails on the rack until they stop at the internal stops.
- c. Slide the release clip toward the rear on both inner rails ([Figure 1-4](#) and [Figure 1-5](#)), and then continue pushing the appliance into the rack until its front slam latches engage with the rack posts.

**Figure 1-4** Inner Rail Release Clip for 1-RU Appliances

1	Inner rail release clip	3	Outer rail attached to rack post
2	Inner rail attached to appliance and inserted into outer rail		

**Figure 1-5** Inner Rail Release Clip for 2-RU Appliances

1	Inner rail release clip	3	Outer rail attached to rack post
2	Inner rail attached to appliance		

- Step 5** (Optional) Secure the appliance in the rack more permanently by using the two screws that are provided with the slide rails. Perform this step if you plan to move the rack with appliances installed.

With the appliance fully pushed into the slide rails, open a hinged slam latch lever on the front of the appliance and insert the screw through the hole that is under the lever. The screw threads into the static part of the rail on the rack post and prevents the appliance from being pulled out. Repeat for the opposite slam latch.

## Install the Cable Management Arm (Optional)



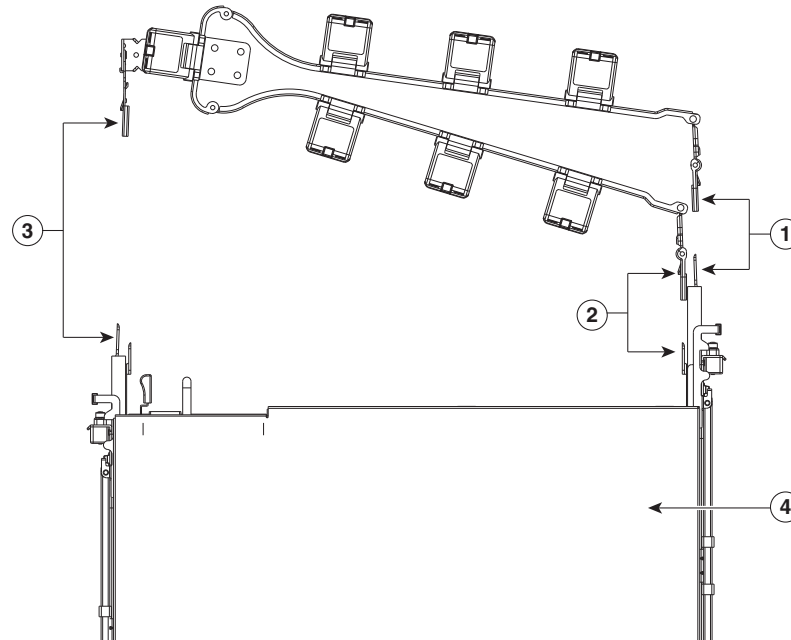
**Note** The Cable Management Arm (CMA) is reversible left to right. To reverse the CMA, see [Reverse the Cable Management Arm \(Optional\)](#), page 1-11 before installation.

- Step 1** With the appliance pushed fully into the rack, slide the CMA tab of the CMA arm that is farthest from the appliance onto the end of the stationary slide rail that is attached to the rack post (see [Figure 1-6](#)). Slide the tab over the end of the rail until it clicks and locks.
- Step 2** Slide the CMA tab that is closest to the appliance over the end of the inner rail that is attached to the appliance (see [Figure 1-6](#)). Slide the tab over the end of the rail until it clicks and locks.
- Step 3** Pull out the width-adjustment slider that is at the opposite end of the CMA assembly until it matches the width of your rack (see [Figure 1-6](#)).
- Step 4** Slide the CMA tab that is at the end of the width-adjustment slider onto the end of the stationary slide rail that is attached to the rack post (see [Figure 1-6](#)). Slide the tab over the end of the rail until it clicks and locks.



- Step 5** Open the hinged flap at the top of each plastic cable guide and route your cables through the cable guides as desired.

**Figure 1-6** Attach the Cable Management Arm to the Rear of the Slide Rails

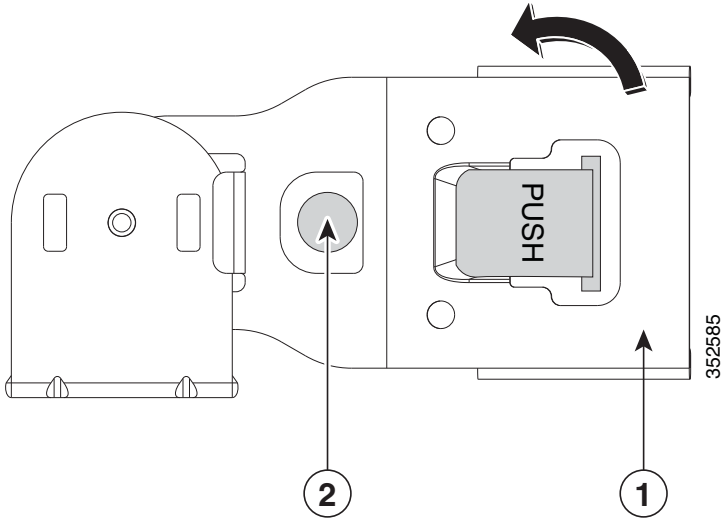


<b>1</b>	CMA tab on arm farthest from the appliance and end of stationary outer slide rail	<b>3</b>	CMA tab on width-adjustment slider and end of stationary outer slide rail
<b>2</b>	CMA tab on arm closest to the appliance and end of inner slide rail attached to the appliance	<b>4</b>	Rear of the appliance

## Reverse the Cable Management Arm (Optional)

- Step 1** Rotate the entire CMA assembly 180 degrees. The plastic cable guides must remain pointing upward.
- Step 2** Flip the tabs at the end of each CMA arm so that they point toward the rear of the appliance.
- Step 3** Pivot the tab that is at the end of the width-adjustment slider. Depress and hold the metal button on the outside of the tab and pivot the tab 180 degrees so that it points toward the rear of the appliance.

Figure 1-7 Reversing the CMA



<b>1</b>	CMA tab on end of width-adjustment slider	<b>2</b>	Metal button for rotating
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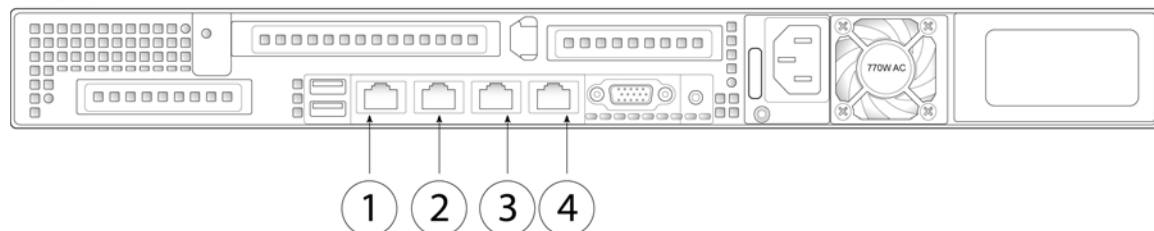
# Cisco C190 Email Security Appliance

- [Rear Panel Ports, page 2-1](#)
- [Status LEDs and Buttons for Maintenance, page 2-2](#)
- [Summary of Features, page 2-4](#)

## Rear Panel Ports

Figure 2-1 shows the rear panel ports of the Cisco C190 Email Security Appliance. The model shown below has one power supply, It is also available with an optional second power supply.

**Figure 2-1** Cisco C190 Email Security Appliance Rear Panel Ports



<b>1</b> RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	<b>2</b> Console port Directly connects a computer to the appliance
<b>3</b> Data 1 Gigabit Ethernet customer data interface; used as a management interface	<b>4</b> Data 2 Gigabit Ethernet customer data interface

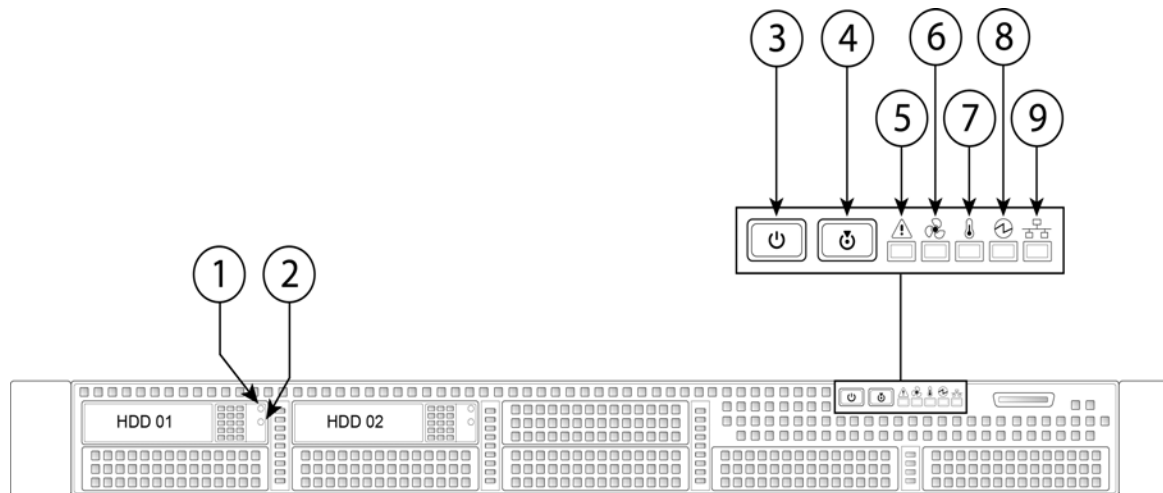
# Status LEDs and Buttons for Maintenance

- [Front Panel LEDs, page 2-2](#)
- [Rear Panel LEDs and Buttons, page 2-4](#)

## Front Panel LEDs

Figure 2-2 shows the front panel LEDs. Table 2-1 defines the LED states.

**Figure 2-2 Cisco C190 Email Security Appliance Front Panel LEDs**



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED
3	Power button/power status LED	8	Power supply status LED
4	Identification button/LED	9	Network link activity LED
5	System status LED		

**Table 2-1 Front Panel LEDs, Definitions of States**

LED Name	State
1 Hard drive fault	<ul style="list-style-type: none"> <li>• Off—The hard drive is operating properly.</li> <li>• Amber—Drive fault detected.</li> <li>• Amber, flashing—The device is rebuilding.</li> <li>• Amber, flashing with one-second interval—Drive locate function activated.</li> </ul>
2 Hard drive activity	<ul style="list-style-type: none"> <li>• Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>• Green—The hard drive is ready.</li> <li>• Green, flashing—The hard drive is reading or writing data.</li> </ul>

Table 2-1 Front Panel LEDs, Definitions of States (continued)

	LED Name	State
3	Power button/LED	<ul style="list-style-type: none"> <li>• Off—There is no AC power to the appliance.</li> <li>• Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>• Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
4	Unit identification	<ul style="list-style-type: none"> <li>• Off—The unit identification function is not in use.</li> <li>• Blue—The unit identification function is activated.</li> </ul>
5	System status	<ul style="list-style-type: none"> <li>• Green—The appliance is running in normal operating condition.</li> <li>• Green, flashing—The appliance is performing system initialization and memory check.</li> <li>• Amber—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>– Power supply redundancy is lost.</li> <li>– CPUs are mismatched.</li> <li>– At least one CPU is faulty.</li> <li>– At least one DIMM is faulty.</li> <li>– At least one drive in a RAID configuration failed.</li> </ul> </li> <li>• Amber, flashing—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>– Boot failed.</li> <li>– Fatal CPU and/or bus error is detected.</li> <li>– The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
6	Fan status	<ul style="list-style-type: none"> <li>• Green—All fan modules are operating properly.</li> <li>• Amber—One or more fan modules breached the critical threshold.</li> <li>• Amber, flashing—One or more fan modules breached the non-recoverable threshold.</li> </ul>
7	Temperature status	<ul style="list-style-type: none"> <li>• Green—The appliance is operating at normal temperature.</li> <li>• Amber—One or more temperature sensors breached the critical threshold.</li> <li>• Amber, flashing—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>
8	Power supply status	<ul style="list-style-type: none"> <li>• Green—All power supplies are operating normally.</li> <li>• Amber—One or more power supplies are in a degraded operational state.</li> <li>• Amber, flashing—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>• Off—The Ethernet link is idle.</li> <li>• Green—One or more Ethernet LAN-on-motherboard (LOM) ports are link-active, but there is no activity.</li> <li>• Green, flashing—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that you can use to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/management port link speed LED—Located to the left of each data or management port.
- Data/management port link status LED—Located to the right of each data or management port.
- Unit identification button/LED—Located to the right of the VGA video port (DB-15).

Table 2-2 defines the LED states.

**Table 2-2** Rear Panel LEDs, Definitions of States

LED Name	State
Power supply status	<ul style="list-style-type: none"> <li>• Off—No AC input (12 V main power off, 12 V standby power off).</li> <li>• Green, flashing—12 V main power off; 12 V standby power on.</li> <li>• Green—12 V main power on; 12 V standby power on.</li> <li>• Amber, flashing—Warning detected but 12 V main power on.</li> <li>• Amber—Critical error detected; 12 V main power off.</li> </ul>
Data/Management port link speed	<ul style="list-style-type: none"> <li>• Off—Link speed is 10 Mbps.</li> <li>• Amber—Link speed is 100 Mbps.</li> <li>• Green—Link speed is 1 Gbps.</li> </ul>
Data/management port link status	<ul style="list-style-type: none"> <li>• Off—No link is present.</li> <li>• Green—Link is active.</li> <li>• Green, flashing—Traffic is present on the active link.</li> </ul>
Rear unit identification	<ul style="list-style-type: none"> <li>• Off—The unit identification LED is not in use.</li> <li>• Blue—The unit identification LED is activated.</li> </ul>

## Summary of Features

Table 2-3 lists the features of the C190 Email Security Appliance.

**Table 2-3** Cisco C190 Email Security Appliance Features

Feature	Description
Chassis	One rack-unit (1RU) chassis
Processors	One E5-2609 v3 processor
Memory	One 8-GB DDR4-2133 DIMM
RPC	<p>Accessed through the 1-GB dedicated port</p> <p>The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.</p>
Data Ports	Two 1-GB BASE-T Ethernet LAN ports; also used as management ports

**Table 2-3 Cisco C190 Email Security Appliance Features (continued)**

<b>Feature</b>	<b>Description (continued)</b>
Management I/O	Supported connectors: <ul style="list-style-type: none"> <li>• One 1-Gb BASE-T Ethernet LAN ports</li> <li>• One RS-232 serial port</li> </ul>
Power	One or two 770 W AC power supplies
Power consumption	1313 BTU/hr or 2626 BTU/hr
Cooling	Six fan modules for front-to-rear cooling
Storage	Two 600-GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives.  <b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.
Disk management (RAID)	Dedicated internal riser for a PCIe-style Cisco modular RAID controller card







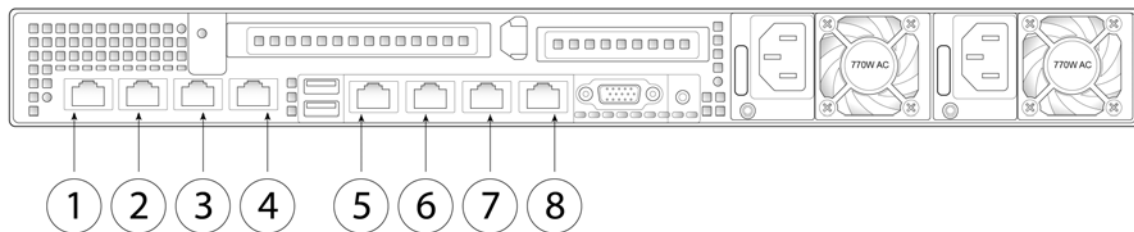
# Cisco C390 Email Security Appliance

- [Rear Panel Ports, page 3-1](#)
- [Status LEDs and Buttons for Maintenance, page 3-2](#)
- [Summary of Features, page 3-5](#)

## Rear Panel Ports

Figure 3-1 shows the rear panel features of the Cisco C390 Email Security Appliance.

**Figure 3-1** Cisco C390 Email Security Appliance Rear Panel Ports



<b>1</b>	Data 1 Gigabit Ethernet customer data interface	<b>2</b>	Data 2 Gigabit Ethernet customer data interface
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3	Data 3 Gigabit Ethernet customer data interface	4	Data 4 Gigabit Ethernet customer data interface
5	RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	6	Console port Directly connects a computer to the appliance
7	Data 5 Gigabit Ethernet customer data interface	8	Management interface Gigabit Ethernet interface restricted to management use only

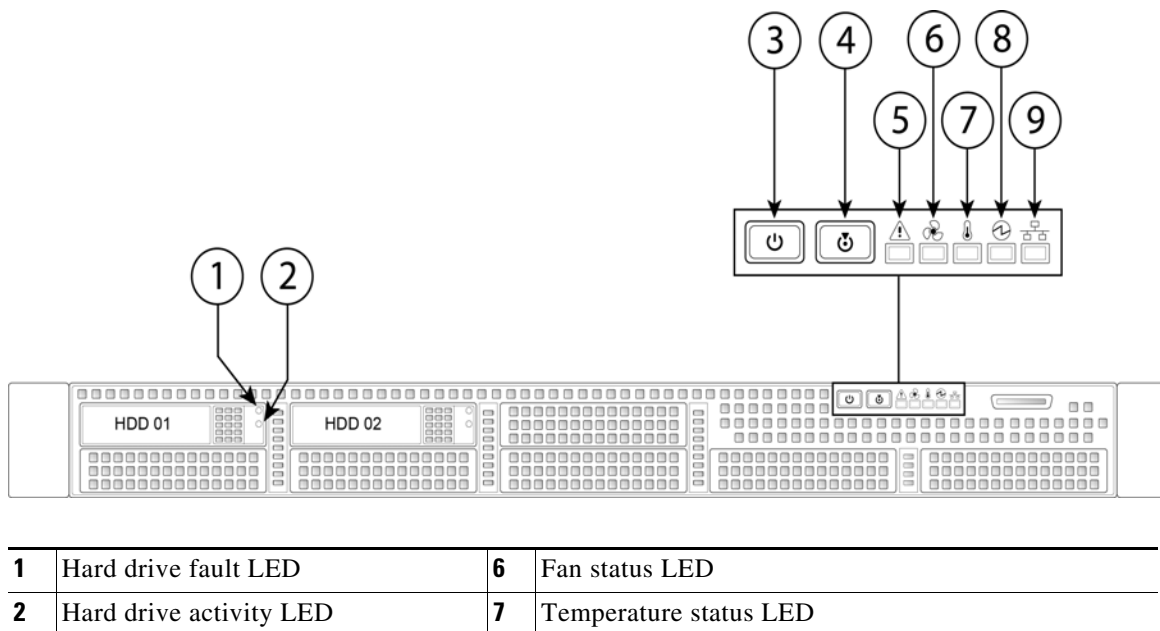
## Status LEDs and Buttons for Maintenance

- [Front Panel LEDs, page 3-2](#)
- [Rear Panel LEDs and Buttons, page 3-4](#)

### Front Panel LEDs

Figure 3-2 shows the front panel LEDs. Table 3-1 defines the LED states.

**Figure 3-2** Cisco C390 Email Security Appliance Front Panel LEDs



<b>3</b>	Power button/power status LED	<b>8</b>	Power supply status LED
<b>4</b>	Identification button/LED	<b>9</b>	Network link activity LED
<b>5</b>	System status LED		

**Table 3-1** Front Panel LEDs, Definitions of States

	LED Name	State
<b>1</b>	Hard drive fault	<ul style="list-style-type: none"> <li>Off—The hard drive is operating properly.</li> <li>Amber—Drive fault detected.</li> <li>Amber, flashing—The device is rebuilding.</li> <li>Amber, flashing with one-second interval—Drive locate function activated.</li> </ul>
<b>2</b>	Hard drive activity	<ul style="list-style-type: none"> <li>Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>Green—The hard drive is ready.</li> <li>Green, flashing—The hard drive is reading or writing data.</li> </ul>
<b>3</b>	Power button/LED	<ul style="list-style-type: none"> <li>Off—There is no AC power to the appliance.</li> <li>Amber—The appliance is in standby power mode. Power is supplied only to the BMC and some motherboard functions which enable you to use remote power commands.</li> <li>Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
<b>4</b>	Unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification function is not in use.</li> <li>Blue—The unit identification function is activated.</li> </ul>
<b>5</b>	System status	<ul style="list-style-type: none"> <li>Green—The appliance is running in normal operating condition.</li> <li>Green, flashing—The appliance is performing system initialization and memory check.</li> <li>Amber—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>Power supply redundancy is lost.</li> <li>CPUs are mismatched.</li> <li>At least one CPU is faulty.</li> <li>At least one DIMM is faulty.</li> <li>At least one drive in a RAID configuration failed.</li> </ul> </li> <li>Amber, flashing—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>Boot failed.</li> <li>Fatal CPU and/or bus error is detected.</li> <li>The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
<b>6</b>	Fan status	<ul style="list-style-type: none"> <li>Green—All fan modules are operating properly.</li> <li>Amber—One or more fan modules breached the critical threshold.</li> <li>Amber, flashing—One or more fan modules breached the non-recoverable threshold.</li> </ul>

**Table 3-1** Front Panel LEDs, Definitions of States (continued)

	LED Name	State
7	Temperature status	<ul style="list-style-type: none"> <li>Green—The appliance is operating at normal temperature.</li> <li>Amber—One or more temperature sensors breached the critical threshold.</li> <li>Amber, flashing—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>
8	Power supply status	<ul style="list-style-type: none"> <li>Green—All power supplies are operating normally.</li> <li>Amber—One or more power supplies are in a degraded operational state.</li> <li>Amber, flashing—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>Off—The Ethernet link is idle.</li> <li>Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>Green, flashing—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that you can use to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/management port link speed LED—Located to the left of each data or management port.
- Data/management port link status LED—Located to the right of each data or management port.
- Unit identification button/LED—Located to the right of the VGA video port (DB-15).

[Table 3-2](#) defines the LED states.

**Table 3-2** Rear Panel LEDs, Definitions of States

LED Name	State
Power supply status	<ul style="list-style-type: none"> <li>Off—No AC input (12 V main power off, 12 V standby power off).</li> <li>Green, flashing—12 V main power off; 12 V standby power on.</li> <li>Green—12 V main power on; 12 V standby power on.</li> <li>Amber, flashing—Warning detected but 12 V main power on.</li> <li>Amber—Critical error detected; 12 V main power off.</li> </ul>
Data/management port link speed	<ul style="list-style-type: none"> <li>Off—Link speed is 10 Mbps.</li> <li>Amber—Link speed is 100 Mbps.</li> <li>Green—Link speed is 1 Gbps.</li> </ul>
Data/management port link status	<ul style="list-style-type: none"> <li>Off—No link is present.</li> <li>Green—Link is active.</li> <li>Green, flashing—Traffic is present on the active link.</li> </ul>
Rear unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification LED is not in use.</li> <li>Blue—The unit identification LED is activated.</li> </ul>

# Summary of Features

Table 3-3 lists the features of the C390 Email Security Appliance.

**Table 3-3 Cisco C390 Email Security Appliance Features**

Feature	Description
Chassis	One rack-unit (1RU) chassis
Processors	One E5-2620 v3 processor
Memory	Two 8-GB DDR4-2133 DIMM
RPC	Accessed through the 1-Gb dedicated port  The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
Data ports	Five 1-Gb BASE-T Ethernet LAN ports
Management I/O	Supported connectors: <ul style="list-style-type: none"> <li>• One 1-Gb BASE-T Ethernet LAN ports</li> <li>• One RS-232 serial port</li> </ul>
Power	Two 770 W AC power supplies
Power consumption	2626 BTU/hr
Cooling	Six fan modules for front-to-rear cooling
Storage	Two 600-GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives.  <b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.
Disk management (RAID)	Dedicated internal riser for a PCIe-style Cisco modular RAID controller card





## Cisco C690 Email Security Appliance

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- [Available Models, page 4-1](#)
- [Rear Panel Ports, page 4-2](#)
- [Status LEDs and Buttons for Maintenance, page 4-4](#)
- [Summary of Features, page 4-7](#)

### Available Models

The Cisco C690 Email Security Appliance has the following models:

- C690—Ethernet data ports and four small form-factor (SFF) drives, with a 4-drive backplane
- C690X—Ethernet data ports and eight SFF drives, with 8-drive direct-connect backplane
- C690-1G—Two 1-Gigabit Fiber Optic data ports and eight SFF drives
- C690-10G—Two 10-Gigabit Fiber Optic data ports and eight SFF drives



**Note**

You cannot change the panel/backplane type after-factory. If you want a different front panel/backplane configuration, you must order a another model.

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# Rear Panel Ports

The Cisco C690 Email Security Appliance is available with either Ethernet ports or Fiber Optic ports, as described in separate sections below.

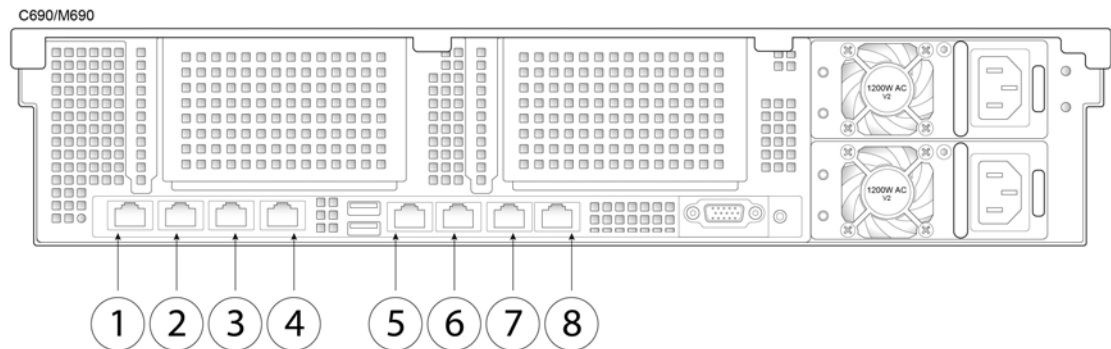
## Models with Ethernet Ports

The C690 and C690X models of the Cisco Email Security Appliance have Ethernet ports.

[Figure 4-1](#) shows the rear panel ports of Cisco Email Security Appliances with Ethernet ports.

For information about rear panel LEDs, see [Rear Panel LEDs and Buttons](#), page 4-6.

**Figure 4-1** Rear Panel Ports of the C690 and C690X Email Security Appliances



<b>1</b>	Data 1 1-Gigabit Ethernet customer data interface	<b>2</b>	Data 2 1-Gigabit Ethernet customer data interface
<b>3</b>	Data 3 1-Gigabit Ethernet customer data interface	<b>4</b>	Data 4 1-Gigabit Ethernet customer data interface
<b>5</b>	RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	<b>6</b>	Console Directly connects a computer to the appliance.
<b>7</b>	Data 5 1-Gigabit Ethernet customer data interface	<b>8</b>	Management interface 1-Gigabit Ethernet interface; restricted to management use only



## Models with Fiber Optic Ports

The C690-1G and C690-10G models of the Cisco Email Security Appliance have Fiber Optic ports.

Figure 4-2 shows the rear panel ports of Cisco Email Security Appliances with Fiber Optic ports.

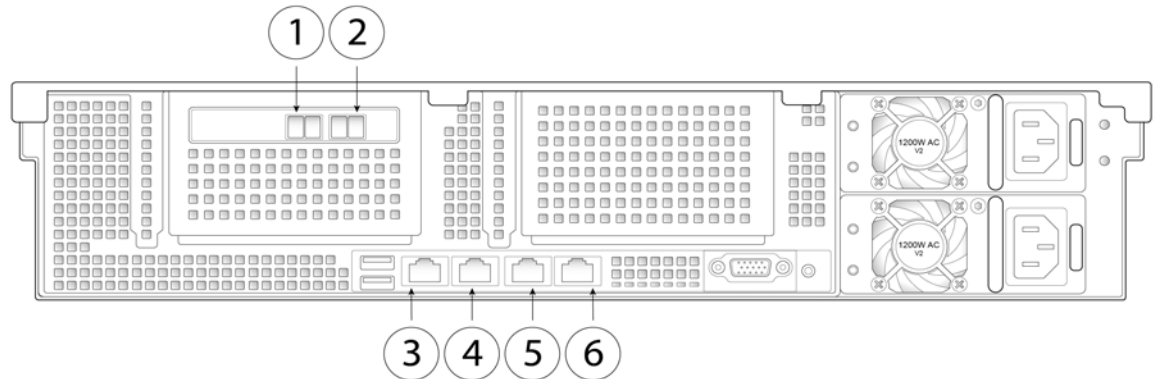
For information about rear panel LEDs, see [Rear Panel LEDs and Buttons](#), page 4-6.



### Caution

Use only the transceiver modules supplied with the 10-Gigabit fiber optic interfaces. The use of any other transceiver modules may damage the fiber optic interface card.

**Figure 4-2** Rear Panel Ports of the C690-1G and C690-10G Email Security Appliances



<b>1</b>	Data 2 1-Gigabit or 10-Gigabit fiber optic customer data interface	<b>2</b>	Data 3 1-Gigabit or 10-Gigabit fiber optic customer data interface
<b>3</b>	RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	<b>4</b>	Console port Directly connects a computer to the appliance
<b>5</b>	Data 1 1-Gigabit or 10-Gigabit fiber optic customer data interface	<b>6</b>	Management interface 1-Gigabit Ethernet customer data interface; restricted to management use only

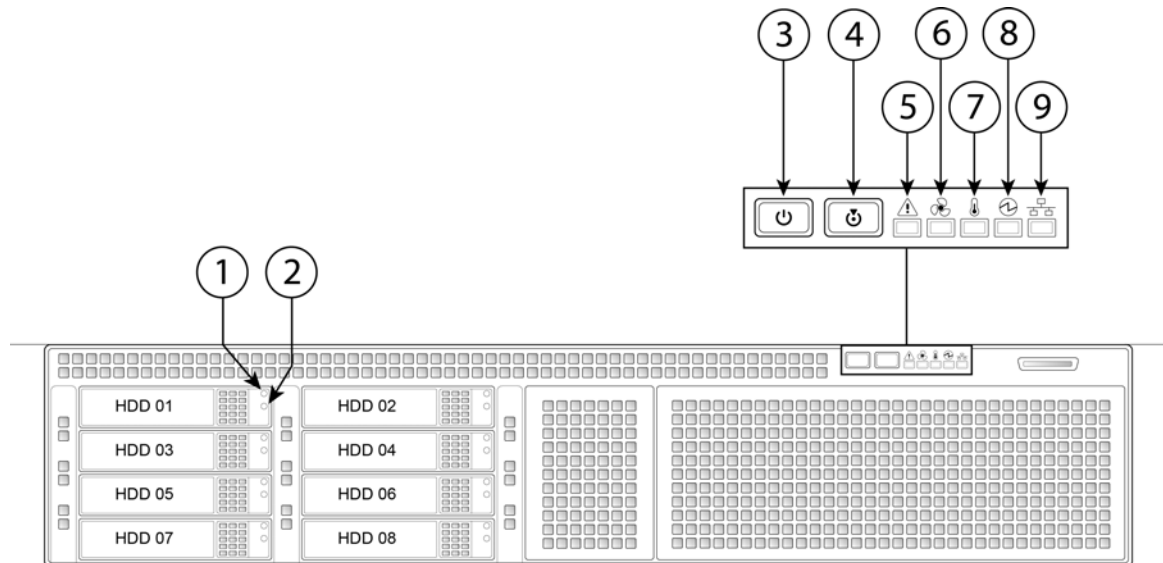
# Status LEDs and Buttons for Maintenance

- [Front Panel LEDs, page 4-4](#)
- [Rear Panel LEDs and Buttons, page 4-6](#)

## Front Panel LEDs

Figure 4-3 shows the front panel LEDs. Table 4-1 defines the LED states.

**Figure 4-3** Cisco C690 Email Security Appliance Front Panel LEDs



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED
3	Power button/power status LED	8	Power supply status LED
4	Identification button/LED	9	Network link activity LED
5	System status LED		

Table 4-1 Front Panel LEDs, Definitions of States

	LED Name	State
1	Hard drive fault	<ul style="list-style-type: none"> <li>• Off—The hard drive is operating properly.</li> <li>• Amber—Drive fault detected.</li> <li>• Amber, flashing—The device is rebuilding.</li> <li>• Amber, flashing with one-second interval—Drive locate function activated.</li> </ul>
2	Hard drive activity	<ul style="list-style-type: none"> <li>• Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>• Green—The hard drive is ready.</li> <li>• Green, flashing—The hard drive is reading or writing data.</li> </ul>
3	Power button/LED	<ul style="list-style-type: none"> <li>• Off—There is no AC power to the appliance.</li> <li>• Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>• Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
4	Unit identification	<ul style="list-style-type: none"> <li>• Off—The unit identification function is not in use.</li> <li>• Blue—The unit identification function is activated.</li> </ul>
5	System status	<ul style="list-style-type: none"> <li>• Green—The appliance is running in a normal operating condition.</li> <li>• Green, flashing—The appliance is performing system initialization and memory check.</li> <li>• Amber—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>– Power supply redundancy is lost.</li> <li>– CPUs are mismatched.</li> <li>– At least one CPU is faulty.</li> <li>– At least one DIMM is faulty.</li> <li>– At least one drive in a RAID configuration failed.</li> </ul> </li> <li>• Amber, flashing—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>– Boot failed.</li> <li>– Fatal CPU and/or bus error is detected.</li> <li>– The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
6	Fan status	<ul style="list-style-type: none"> <li>• Green—All fan modules are operating properly.</li> <li>• Amber—One or more fan modules breached the critical threshold.</li> <li>• Amber, flashing—One or more fan modules breached the non-recoverable threshold.</li> </ul>
7	Temperature status	<ul style="list-style-type: none"> <li>• Green—The appliance is operating at normal temperature.</li> <li>• Amber—One or more temperature sensors breached the critical threshold.</li> <li>• Amber, flashing—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>

**Table 4-1** Front Panel LEDs, Definitions of States (continued)

	LED Name	State
8	Power supply status	<ul style="list-style-type: none"> <li>Green—All power supplies are operating normally.</li> <li>Amber—One or more power supplies are in a degraded operational state.</li> <li>Amber, flashing—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>Off—The Ethernet link is idle.</li> <li>Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>Green, flashing—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that can be used to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/management port link speed LED—Located to the left of each data or management port.
- Data/management port link status LED—Located to the right of each data or management port.
- Unit identification button/LED—Located to the right of the VGA video port (DB-15).

[Table 4-2](#) defines the LED states.

**Table 4-2** Rear Panel LEDs, Definitions of States

LED Name	State
Power supply status  This is a summary; for advanced power supply LED information, see <a href="#">Table 4-3</a> .	AC power supplies: <ul style="list-style-type: none"> <li>Off—There is no AC power to the power supply.</li> <li>Green, flashing—AC power OK; DC output not enabled.</li> <li>Green—AC power OK; DC outputs OK.</li> </ul> DC power supplies: <ul style="list-style-type: none"> <li>Off—There is no DC power to the power supply.</li> <li>Green, flashing—DC power OK; DC output not enabled.</li> <li>Green—DC power OK; DC outputs OK.</li> </ul>
Data/Management port link speed	<ul style="list-style-type: none"> <li>Off—Link speed is 10 Mbps.</li> <li>Amber—Link speed is 100 Mbps.</li> <li>Green—Link speed is 1 Gbps.</li> </ul>
Data/Management port link status	<ul style="list-style-type: none"> <li>Off—No link is present.</li> <li>Green—Link is active.</li> <li>Green, flashing—Traffic is present on the active link.</li> </ul>
Unit Identification	<ul style="list-style-type: none"> <li>Off—The unit identification function is not in use.</li> <li>Blue—The unit identification function is activated.</li> </ul>

In [Table 4-3](#), read the status and fault LED states together in each row to determine the event that cause this combination.

**Table 4-3 Rear Power Supply LED States**

Green PSU Status LED State	Amber PSU Fault LED State	Event
• On	• Off	12 V main on (main power mode)
• Flashing	• Off	12 V main off (standby power mode)
• Off	• Off	No AC power input (all PSUs present)
• Off	• On	No AC power input (redundant supply active)
• Flashing	• On	12 V over-voltage protection (OVP)
• Flashing	• On	12 V under-voltage protection (UVP)
• Flashing	• On	12 V over-current protection (OCP)
• Flashing	• On	12 V short-circuit protection (SCP)
• On	• On	PSU fan fault/Lock (before OTP)
• Flashing	• On	PSU fan fault/Lock (after OTP)
• Flashing	• On	Over-temperature protection (OTP)
• On	• Flashing	OTP warning
• On	• Flashing	OCP warning
• Flashing	• Off	12 V main off (CR secondary PSU is in sleep mode)

## Summary of Features

Table 4-4 lists a summary of appliance features.

**Table 4-4 Cisco C690 Email Security Appliance Features**

Chassis	Two rack-unit (2RU) chassis
Processors	Two E5–2620 v3 processor.
Memory	Four 8-GB DDR4-2133 DIMM
RPC	You can access the RPC through the 1-Gb dedicated port. The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
Data ports	C690: Five 1-Gb BASE-T Ethernet LAN ports C690-1G and C690-10G: Two 1-Gb or 10-Gb fiber optic ports and one 1-Gb BASE-T Ethernet LAN port
Management I/O	Supported connectors: <ul style="list-style-type: none"> <li>• One 1-Gb BASE-T Ethernet LAN ports</li> <li>• One RS-232 serial port</li> </ul>
Power	Two 650 W AC power supplies
Power consumption	2216 BTU/hr
Cooling	Six fan modules for front-to-rear cooling

**Table 4-4 Cisco C690 Email Security Appliance Features (continued)**

Storage	Four or eight 600-GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives. <b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.
Disk management (RAID)	Dedicated internal socket for a PCIe-style RAID controller card.



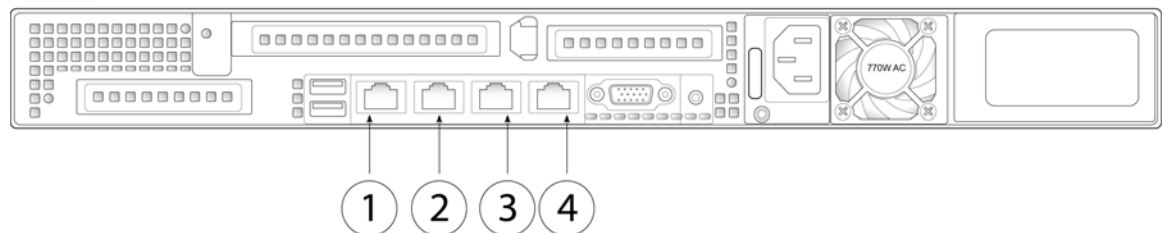
# Cisco M190 Content Security Management Appliance

- [Rear Panel Ports, page 5-1](#)
- [Status LEDs and Buttons for Maintenance, page 5-2](#)
- [Summary of Features, page 5-4](#)

## Rear Panel Ports

Figure 5-1 shows the rear panel ports of the Cisco M190 Content Security Management Appliance. The model shown below has one power supply. It is also available with an optional second power supply.

**Figure 5-1** Cisco M190 Content Security Management Appliance Rear Panel Ports



<p><b>1</b> RPC port</p> <p>The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.</p>	<p><b>2</b> Console port</p> <p>Directly connects a computer to the appliance</p>
<p><b>3</b> Data 1</p> <p>Gigabit Ethernet customer data interface; used as a management interface</p>	<p><b>4</b> Data 2</p> <p>Gigabit Ethernet customer data interface</p>

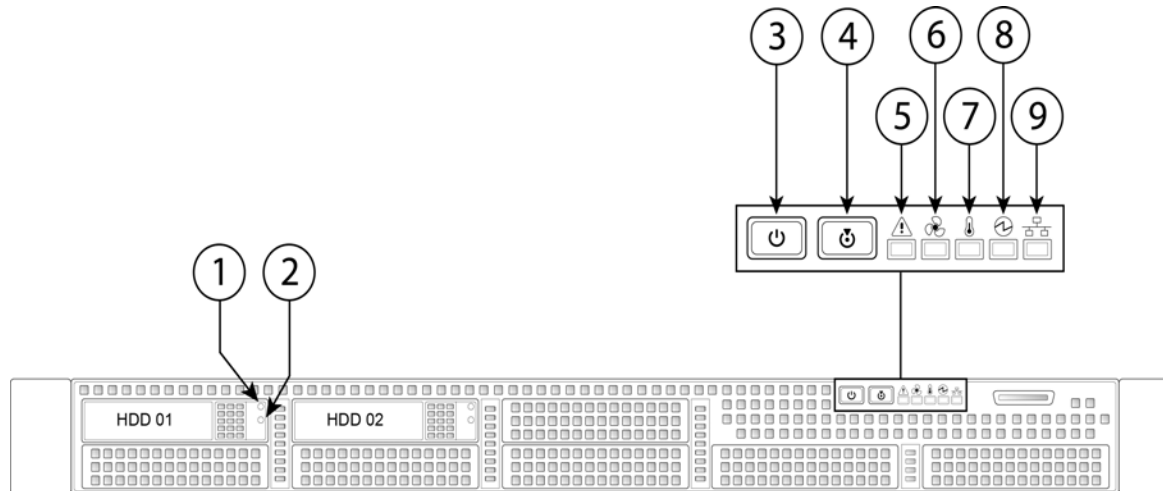
# Status LEDs and Buttons for Maintenance

- [Front Panel LEDs, page 5-2](#)
- [Rear Panel LEDs and Buttons, page 5-4](#)

## Front Panel LEDs

Figure 5-2 shows the front panel LEDs. Table 5-1 defines the LED states.

**Figure 5-2 Cisco M190 Content Security Management Appliance Front Panel LEDs**



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED
3	Power button/power status LED	8	Power supply status LED
4	Identification button/LED	9	Network link activity LED
5	System status LED		

**Table 5-1 Front Panel LEDs, Definitions of States**

LED Name	State
1 Hard drive fault	<ul style="list-style-type: none"> <li>• Off—The hard drive is operating properly.</li> <li>• Amber—Drive fault detected.</li> <li>• Amber, flashing—The device is rebuilding.</li> <li>• Amber, flashing with one-second interval—Drive locate function activated.</li> </ul>
2 Hard drive activity	<ul style="list-style-type: none"> <li>• Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>• Green—The hard drive is ready.</li> <li>• Green, flashing—The hard drive is reading or writing data.</li> </ul>



Table 5-1 Front Panel LEDs, Definitions of States (continued)

	LED Name	State
3	Power button/LED	<ul style="list-style-type: none"> <li>• Off—There is no AC power to the appliance.</li> <li>• Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>• Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
4	Unit identification	<ul style="list-style-type: none"> <li>• Off—The unit identification function is not in use.</li> <li>• Blue—The unit identification function is activated.</li> </ul>
5	System status	<ul style="list-style-type: none"> <li>• Green—The appliance is running in normal operating condition.</li> <li>• Green, flashing—The appliance is performing system initialization and memory check.</li> <li>• Amber—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>– Power supply redundancy is lost.</li> <li>– CPUs are mismatched.</li> <li>– At least one CPU is faulty.</li> <li>– At least one DIMM is faulty.</li> <li>– At least one drive in a RAID configuration failed.</li> </ul> </li> <li>• Amber, flashing—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>– Boot failed.</li> <li>– Fatal CPU and/or bus error is detected.</li> <li>– The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
6	Fan status	<ul style="list-style-type: none"> <li>• Green—All fan modules are operating properly.</li> <li>• Amber—One or more fan modules breached the critical threshold.</li> <li>• Amber, flashing—One or more fan modules breached the non-recoverable threshold.</li> </ul>
7	Temperature status	<ul style="list-style-type: none"> <li>• Green—The appliance is operating at normal temperature.</li> <li>• Amber, steady—One or more temperature sensors breached the critical threshold.</li> <li>• Amber, blinking—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>
8	Power supply status	<ul style="list-style-type: none"> <li>• Green—All power supplies are operating normally.</li> <li>• Amber—One or more power supplies are in a degraded operational state.</li> <li>• Amber, flashing—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>• Off—The Ethernet link is idle.</li> <li>• Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>• Green, flashing—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that can be used to maintain the appliance:

- Data/management port link speed LED—Located to the left of each data or management port.
- Data/management port link status LED—Located to the right of each data or management port.
- Unit identification button/LED—Located to the right of the VGA video port (DB-15).

Table 5-2 defines the LED states.

**Table 5-2** Rear Panel LEDs, Definitions of States

LED Name	State
Data/Management port link speed	<ul style="list-style-type: none"> <li>• Off—Link speed is 10 Mbps.</li> <li>• Amber—Link speed is 100 Mbps.</li> <li>• Green—Link speed is 1 Gbps.</li> </ul>
Data/management port link status	<ul style="list-style-type: none"> <li>• Off—No link is present.</li> <li>• Green—Link is active.</li> <li>• Green, flashing—Traffic is present on the active link.</li> </ul>
Rear unit identification	<ul style="list-style-type: none"> <li>• Off—The unit identification LED is not in use.</li> <li>• Blue—The unit identification LED is activated.</li> </ul>

## Summary of Features

Table 5-3 lists the features of the M190 Content Security Management Appliance.

**Table 5-3** Cisco M190 Content Security Management Appliance Features

Feature	Description
Chassis	One rack-unit (1RU) chassis
Processors	One E5-2609 v3 processor
Memory	One 8-GB DDR4-2133 DIMM
RPC	Accessed through the 1-Gb dedicated port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
Data ports	Two 1-Gb BASE-T Ethernet LAN ports; also used as management ports
Management I/O	Supported connectors: <ul style="list-style-type: none"> <li>• One 1-Gb BASE-T Ethernet LAN ports</li> <li>• One RS-232 serial port</li> </ul>
Power	One or two 770 W AC power supplies
Power consumption	1313 BTU/hr or 2626 BTU/hr
Cooling	Six fan modules for front-to-rear cooling

**Table 5-3** *Cisco M190 Content Security Management Appliance Features (continued)*

<b>Feature</b>	<b>Description (continued)</b>
Storage	Two 600-GB hard disk drives (2.5” 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives. <b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space
Disk management (RAID)	Dedicated internal riser for a PCIe-style Cisco modular RAID controller card





# Cisco M390 Content Security Management Appliance

- [Available Models, page 6-1](#)
- [Rear Panel Ports, page 6-1](#)
- [Using Status LEDs and Buttons for Maintenance, page 6-2](#)
- [Summary of Features, page 6-5](#)

## Available Models

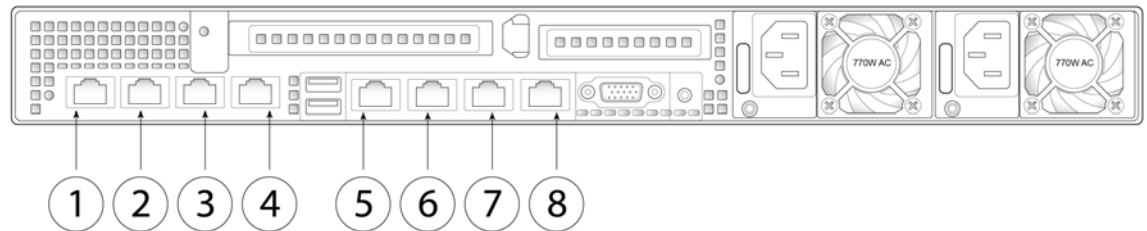
The M390 SMA is available in the following models:

- M390—Six 600-GB hard disk drives
- M390X—Eight 600-GB hard disk drives

## Rear Panel Ports

Figure 6-1 shows the rear panel ports of the Cisco M390 Content Security Management Appliance.

**Figure 6-1** Cisco M390 Content Security Management Appliance Rear Panel Ports



<b>1</b>	Data 1 Gigabit Ethernet customer data interface	<b>2</b>	Data 2 Gigabit Ethernet customer data interface
<b>3</b>	Data 3 Gigabit Ethernet customer data interface	<b>4</b>	Data 4 Gigabit Ethernet customer data interface
<b>5</b>	RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	<b>6</b>	Console port Directly connects a computer to the appliance
<b>7</b>	Data 5 Gigabit Ethernet customer data interface	<b>8</b>	Management interface Gigabit Ethernet interface restricted to management use only

## Using Status LEDs and Buttons for Maintenance

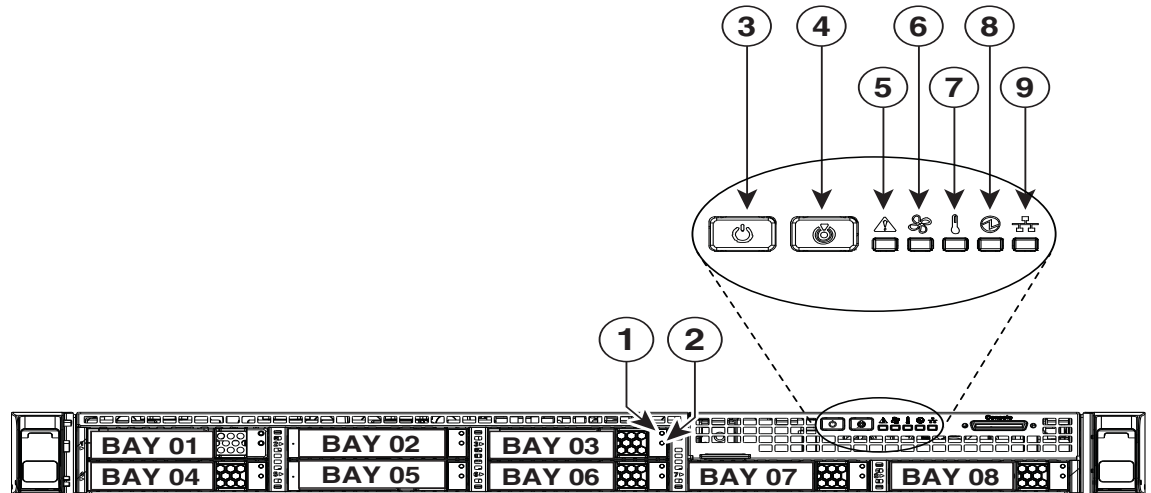
This section describes the location and meaning of LEDs and buttons and includes the following topics:

- [Front Panel LEDs, page 6-2](#)
- [Rear Panel LEDs and Buttons, page 6-4](#)

### Front Panel LEDs

[Figure 6-2](#) shows the front panel LEDs for the M390X model, with eight disk drives. [Table 6-1](#) defines the LED states.

Figure 6-2 Cisco M390 Content Security Management Appliance Front Panel LEDs



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED
3	Power button/power status LED	8	Power supply status LED
4	Identification button/LED	9	Network link activity LED
5	System status LED		

Table 6-1 Front Panel LEDs, Definitions of States

LED Name	State
1 Hard drive fault	<ul style="list-style-type: none"> <li>Off—The hard drive is operating properly.</li> <li>Amber—Drive fault detected.</li> <li>Amber, flashing—The device is rebuilding.</li> <li>Amber, flashing with one-second interval—Drive locate function activated.</li> </ul>
2 Hard drive activity	<ul style="list-style-type: none"> <li>Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>Green—The hard drive is ready.</li> <li>Green, flashing—The hard drive is reading or writing data.</li> </ul>
3 Power button/LED	<ul style="list-style-type: none"> <li>Off—There is no AC power to the appliance.</li> <li>Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
4 Unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification function is not in use.</li> <li>Blue—The unit identification function is activated.</li> </ul>

Table 6-1 Front Panel LEDs, Definitions of States (continued)

	LED Name	State
5	System status	<ul style="list-style-type: none"> <li>• Green—The appliance is running in normal operating condition.</li> <li>• Green, flashing—The appliance is performing system initialization and memory check.</li> <li>• Amber—The appliance is in a degraded operational state. For example:               <ul style="list-style-type: none"> <li>– Power supply redundancy is lost.</li> <li>– CPUs are mismatched.</li> <li>– At least one CPU is faulty.</li> <li>– At least one DIMM is faulty.</li> <li>– At least one drive in a RAID configuration failed.</li> </ul> </li> <li>• Amber, flashing—The appliance is in a critical fault state. For example:               <ul style="list-style-type: none"> <li>– Boot failed.</li> <li>– Fatal CPU and/or bus error is detected.</li> <li>– The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
6	Fan status	<ul style="list-style-type: none"> <li>• Green—All fan modules are operating properly.</li> <li>• Amber—One or more fan modules breached the critical threshold.</li> <li>• Amber, flashing—One or more fan modules breached the non-recoverable threshold.</li> </ul>
7	Temperature status	<ul style="list-style-type: none"> <li>• Green—The appliance is operating at normal temperature.</li> <li>• Amber—One or more temperature sensors breached the critical threshold.</li> <li>• Amber, flashing—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>
8	Power supply status	<ul style="list-style-type: none"> <li>• Green—All power supplies are operating normally.</li> <li>• Amber—One or more power supplies are in a degraded operational state.</li> <li>• Amber, flashing—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>• Off—The Ethernet link is idle.</li> <li>• Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>• Green, flashing—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that can be used to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/management port link speed LED—Located to the left of each data or management port.
- Data/management port link status LED—Located to the right of each data or management port.
- Unit identification button/LED—Located to the right of the VGA video port (DB-15).

Table 6-2 defines the LED states.



**Table 6-2** Rear Panel LEDs, Definitions of States

LED Name	State
Power supply status	<ul style="list-style-type: none"> <li>Off—No AC input (12 V main power off, 12 V standby power off).</li> <li>Green, flashing—12 V main power off; 12 V standby power on.</li> <li>Green—12 V main power on; 12 V standby power on.</li> <li>Amber, flashing—Warning detected but 12 V main power on.</li> <li>Amber—Critical error detected; 12 V main power off.</li> </ul>
Data/Management port link speed	<ul style="list-style-type: none"> <li>Off—Link speed is 10 Mbps.</li> <li>Amber—Link speed is 100 Mbps.</li> <li>Green—Link speed is 1 Gbps.</li> </ul>
Data/Management port link status	<ul style="list-style-type: none"> <li>Off—No link is present.</li> <li>Green—Link is active.</li> <li>Green, flashing—Traffic is present on the active link.</li> </ul>
Rear unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification LED is not in use.</li> <li>Blue—The unit identification LED is activated.</li> </ul>

## Summary of Features

Table 6-3 lists the features of the M390 Content Security Management Appliance.

**Table 6-3** Cisco M390 Content Security Management Appliance Features

Feature	Description
Chassis	One rack-unit (1RU) chassis
Processors	Two E5-2620 v3 processor
Memory	Two 8-GB DDR4-2133 DIMMs
RPC	<p>Accessed through the 1-Gb dedicated port</p> <p>The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.</p>
Data ports	Five 1-Gb BASE-T Ethernet LAN ports
Management I/O	<p>Supported connectors:</p> <ul style="list-style-type: none"> <li>One 1-Gb BASE-T Ethernet LAN ports</li> <li>One RS-232 serial port</li> </ul>
Power	Two 770 W AC power supplies
Power consumption	2626 BTU/hr
Cooling	Six fan modules for front-to-rear cooling

**Table 6-3** Cisco M390 Content Security Management Appliance Features (continued)

<b>Feature</b>	<b>Description (continued)</b>
Storage	Six or eight 600 GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives. <b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.
Disk management (RAID)	Dedicated internal riser for a PCIe-style Cisco modular RAID controller card



# Cisco M690 Content Security Management Appliance

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- [Available Models, page 7-1](#)
- [Rear Panel Ports, page 7-2](#)
- [Using Status LEDs and Buttons for Maintenance, page 7-4](#)
- [Summary of Features, page 7-7](#)

## Available Models

The Cisco M690 Content Security Management Appliance is available in the following models:

- M690—Ethernet data ports and ten small form-factor (SFF) drives, with a ten-drive backplane
- M690X—Ethernet data ports and sixteen SFF drives, with a sixteen-drive direct-connect backplane
- M690-1G—Two 1-Gigabit Fiber Optic ports and sixteen SFF drives
- M690-10G—Two 10-Gigabit Fiber Optic ports and sixteen SFF drives



**Note**

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You cannot change the panel/backplane type after-factory. If you want a different front panel/backplane configuration, you must order a another model.

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# Rear Panel Ports

The Cisco M690 Content Security Management Appliance is available with either Ethernet ports or Fiber Optic ports. The description of these ports are described in separate sections below.

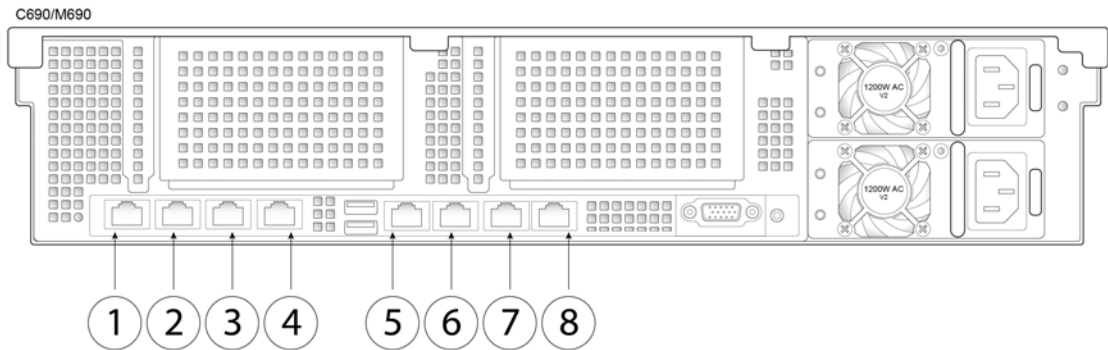
## Models with Ethernet Ports

The M690 and M690X models of the Cisco Content Security Management Appliance have Ethernet ports.

Figure 7-1 shows the rear panel ports of the Cisco M690 Content Security Management Appliance with Ethernet ports.

For information about rear panel LEDs, see [Rear Panel LEDs and Buttons](#), page 7-6.

**Figure 7-1** Rear Panel Ports of the M690 and M690X Content Security Management Appliances



<b>1</b>	Data 1 1-Gigabit Ethernet customer data interface	<b>2</b>	Data 2 1-Gigabit Ethernet customer data interface
<b>3</b>	Data 3 1-Gigabit Ethernet customer data interface	<b>4</b>	Data 4 1-Gigabit Ethernet customer data interface
<b>5</b>	RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	<b>6</b>	Console Directly connects a computer to the appliance
<b>7</b>	Data 5 1-Gigabit Ethernet customer data interface	<b>8</b>	Management interface 1-Gigabit Ethernet interface; management use only

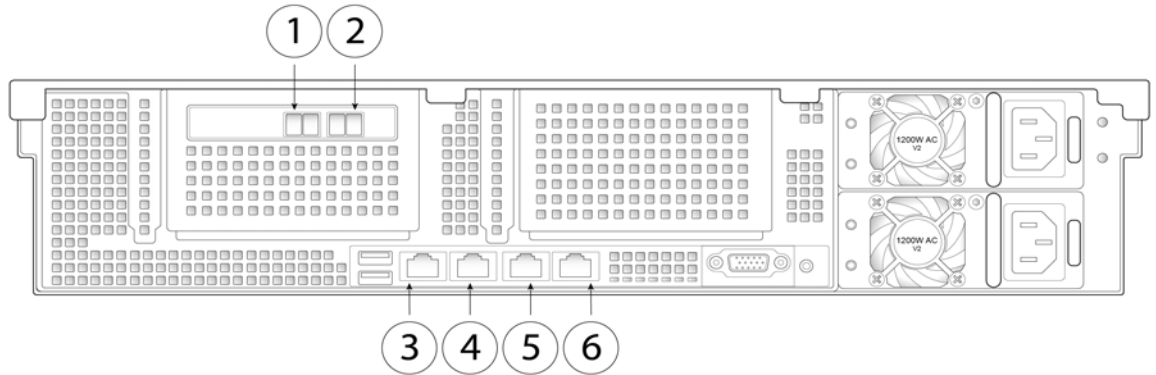
## Models with Fiber Optic Ports

The M690-1G and M690-10G models of the Cisco Content Security Management Appliance have Fiber Optic ports.

Figure 7-2 shows the rear panel ports of Cisco Content Security Management Appliances with Fiber Optic ports.

For information about rear panel LEDs, see [Rear Panel LEDs and Buttons](#), page 7-6.

**Figure 7-2** Rear Panel Ports of the M690-1G and M690-10G Models of Cisco 90-Series Content Security Management Appliances



<b>1</b>	Data 2 1-Gigabit or 10-Gigabit fiber optic customer data interface	<b>2</b>	Data 3 -Gigabit or 10-Gigabit fiber optic customer data interface
<b>3</b>	RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	<b>4</b>	Console Directly connects a computer to the appliance
<b>5</b>	Data 1 -Gigabit or 10-Gigabit fiber optic customer data interface	<b>6</b>	Management 1-Gigabit Ethernet interface; management use only

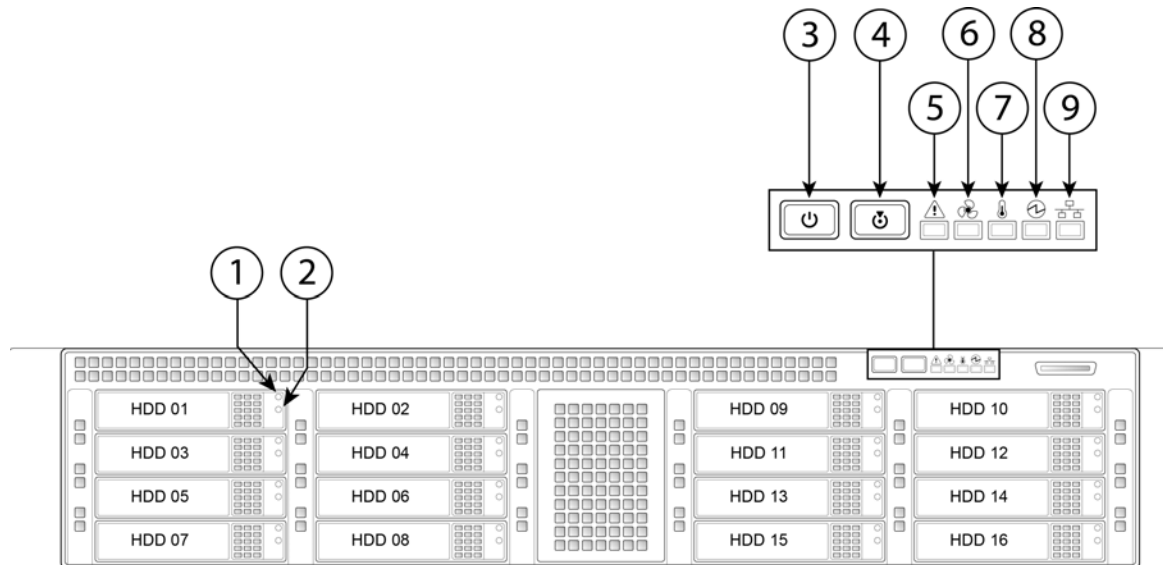
# Using Status LEDs and Buttons for Maintenance

- [Front Panel LEDs, page 7-4](#)
- [Rear Panel LEDs and Buttons, page 7-6](#)

## Front Panel LEDs

Figure 7-3 shows the front panel LEDs. Table 7-1 defines the LED states.

**Figure 7-3** Cisco M690 Content Security Management Appliance Front Panel LEDs



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED
3	Power button/power status LED	8	Power supply status LED
4	Identification button/LED	9	Network link activity LED
5	System status LED		

Table 7-1 Front Panel LEDs, Definitions of States

	LED Name	State
1	Hard drive fault	<ul style="list-style-type: none"> <li>• Off—The hard drive is operating properly.</li> <li>• Amber—Drive fault detected.</li> <li>• Amber, flashing—The device is rebuilding.</li> <li>• Amber, flashing with one-second interval—Drive locate function activated.</li> </ul>
2	Hard drive activity	<ul style="list-style-type: none"> <li>• Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>• Green—The hard drive is ready.</li> <li>• Green, flashing—The hard drive is reading or writing data.</li> </ul>
3	Power button/LED	<ul style="list-style-type: none"> <li>• Off—There is no AC power to the appliance.</li> <li>• Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>• Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
4	Unit Identification	<ul style="list-style-type: none"> <li>• Off—The unit identification function is not in use.</li> <li>• Blue—The unit identification function is activated.</li> </ul>
5	System status	<ul style="list-style-type: none"> <li>• Green—The appliance is running in a normal operating condition.</li> <li>• Green, flashing—The appliance is performing system initialization and memory check.</li> <li>• Amber—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>– Power supply redundancy is lost.</li> <li>– CPUs are mismatched.</li> <li>– At least one CPU is faulty.</li> <li>– At least one DIMM is faulty.</li> <li>– At least one drive in a RAID configuration failed.</li> </ul> </li> <li>• Amber, flashing—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>– Boot failed.</li> <li>– Fatal CPU and/or bus error is detected.</li> <li>– The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
6	Fan status	<ul style="list-style-type: none"> <li>• Green—All fan modules are operating properly.</li> <li>• Amber—One or more fan modules breached the critical threshold.</li> <li>• Amber, flashing—One or more fan modules breached the non-recoverable threshold.</li> </ul>
7	Temperature status	<ul style="list-style-type: none"> <li>• Green—The appliance is operating at normal temperature.</li> <li>• Amber—One or more temperature sensors breached the critical threshold.</li> <li>• Amber, flashing—One or more temperature sensors breached the unrecoverable threshold.</li> </ul>

**Table 7-1** Front Panel LEDs, Definitions of States (continued)

	LED Name	State
8	Power supply status	<ul style="list-style-type: none"> <li>Green—All power supplies are operating normally.</li> <li>Amber—One or more power supplies are in a degraded operational state.</li> <li>Amber, flashing—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>Off—The Ethernet link is idle.</li> <li>Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>Green, flashing—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that can be used to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/management port link speed LED—Located to the left of each data or management port.
- Data/management port link status LED—Located to the right of each data or management port.
- Unit identification button/LED—Located to the right of the VGA video port (DB-15).

[Table 7-2](#) defines the LED states.

**Table 7-2** Rear Panel LEDs, Definitions of States

LED Name	State
Power supply status  This is a summary; for advanced power supply LED information, see <a href="#">Table 7-3</a> .	AC power supplies: <ul style="list-style-type: none"> <li>Off—There is no AC power to the power supply.</li> <li>Green, flashing—AC power OK; DC output not enabled.</li> <li>Green—AC power OK; DC outputs OK.</li> </ul> DC power supplies: <ul style="list-style-type: none"> <li>Off—There is no DC power to the power supply.</li> <li>Green, flashing—DC power OK; DC output not enabled.</li> <li>Green—DC power OK; DC outputs OK.</li> </ul>
Data/Management port link speed	<ul style="list-style-type: none"> <li>Off—Link speed is 10 Mbps.</li> <li>Amber—Link speed is 100 Mbps.</li> <li>Green—Link speed is 1 Gbps.</li> </ul>
Data/Management port link status	<ul style="list-style-type: none"> <li>Off—No link is present.</li> <li>Green—Link is active.</li> <li>Green, flashing—Traffic is present on the active link.</li> </ul>
Unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification function is not in use.</li> <li>Blue—The unit identification function is activated.</li> </ul>

In [Table 7-3](#), read the status and fault LED states together in each row to determine the event that causes this combination.



**Table 7-3 Rear Power Supply LED States**

Green PSU Status LED State	Amber PSU Fault LED State	Event
• On	• Off	12 V main on (main power mode)
• Flashing	• Off	12 V main off (standby power mode)
• Off	• Off	No AC power input (all PSUs present)
• Off	• On	No AC power input (redundant supply active)
• Flashing	• On	12 V over-voltage protection (OVP)
• Flashing	• On	12 V under-voltage protection (UVP)
• Flashing	• On	12 V over-current protection (OCP)
• Flashing	• On	12 V short-circuit protection (SCP)
• On	• On	PSU fan fault/lock (before OTP)
• Flashing	• On	PSU fan fault/lock (after OTP)
• Flashing	• On	Over-temperature protection (OTP)
• On	• Flashing	OTP warning
• On	• Flashing	OCP warning
• Flashing	• Off	12 V main off (CR secondary PSU is in sleep mode)

## Summary of Features

Table 7-4 lists a summary of appliance features.

**Table 7-4 Cisco M690 Content Security Management Appliance Features**

Chassis	Two rack-unit (2RU) chassis
Processors	Two E5–2620 v3 processors
Memory	Four 8-GB DDR4-2133 DIMMs
RPC	Accessed through the 1-Gb dedicated port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
Data ports	M690: Five 1-Gb BASE-T Ethernet LAN ports M690-1G and M690-10G: Two 1-Gb or 10-Gb fiber optic ports and one 1-Gb BASE-T Ethernet LAN port
Management I/O	Supported connectors: <ul style="list-style-type: none"> <li>• One 1-Gb BASE-T Ethernet LAN ports</li> <li>• One RS-232 serial port</li> </ul>
Power	Two 650 W AC power supplies
Power consumption	2216 BTU/hr
Cooling	Six fan modules for front-to-rear cooling

**Table 7-4 Cisco M690 Content Security Management Appliance Features (continued)**

Storage	Ten or sixteen 600 GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives. <b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.
Disk management (RAID)	Dedicated internal socket for a PCIe-style RAID controller card



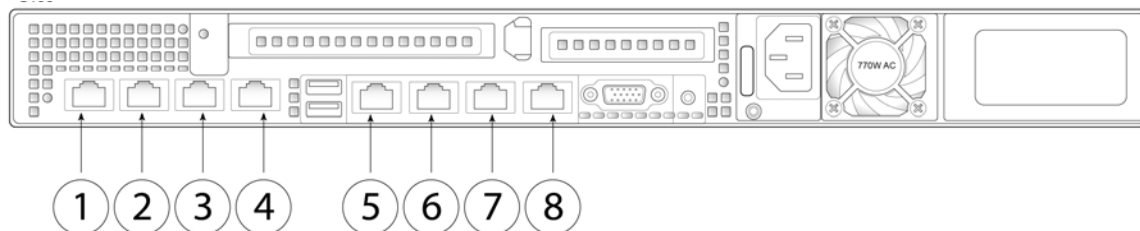
# Cisco S190 Web Security Appliance

- [Rear Panel Ports, page 8-1](#)
- [Using Status LEDs and Buttons for Maintenance, page 8-2](#)
- [Summary of Features, page 8-5](#)

## Rear Panel Ports

Figure 8-1 shows the rear panel ports of the Cisco S190 Web Security Appliance. The model shown below has one power supply. It is also available with an optional second power supply.

**Figure 8-1** Cisco S190 Web Security Appliance Rear Panel Ports



Item	Port	Description
1	Proxy port 1	Connect proxy port P1 to the network for both incoming and outgoing traffic.
2	Proxy port 2	When both proxy ports P1 and P2 are enabled, you must connect P1 to the internal network and P2 to the Internet. P1 and P2 can connect to L4 switch, WCCP router, or network switch.
3	TrafficMonitor port 1	Traffic monitor port T1 for Duplex Ethernet tap: One cable for all incoming and outgoing traffic.
4	TrafficMonitor port 2	Traffic monitor port for Simplex Ethernet tap: One cable for all packets destined for the internet (T1), and one cable for all packets coming from the Internet (T2).

Item	Port	Description
5	RPC	Port that is used for RPC.  The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
6	Console	Console port that directly connects a computer to the appliance.
7	Management interface 1	Gigabit Ethernet interface that is restricted to management use only.
8	Management interface 2	The secondary Management Port. This Gigabit Ethernet interface cannot be used.

## Using Status LEDs and Buttons for Maintenance

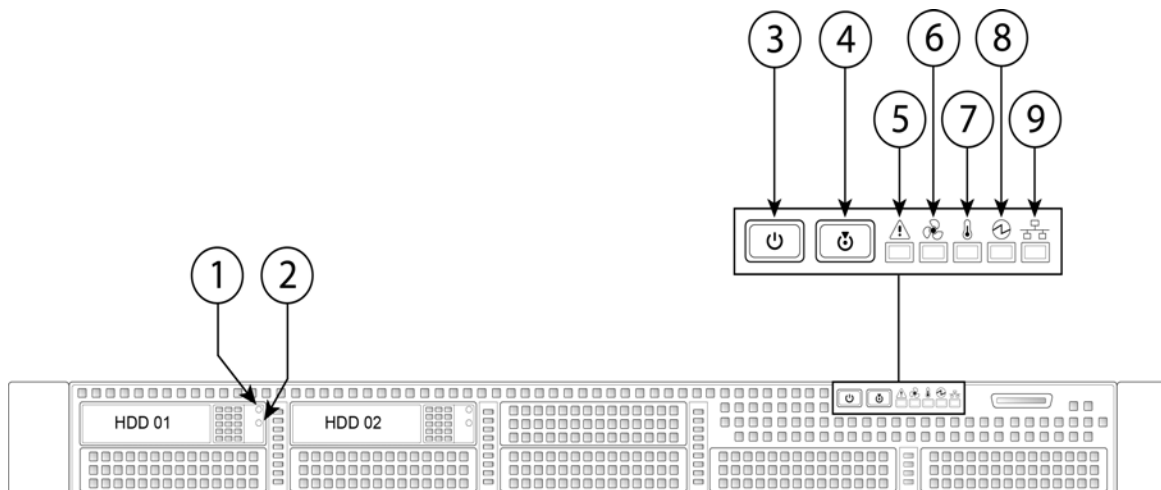
This section describes the location and meaning of LEDs and buttons and includes the following topics:

- [Front Panel LEDs, page 8-2](#)
- [Rear Panel LEDs and Buttons, page 8-4](#)

### Front Panel LEDs

Figure 8-2 shows the front panel LEDs. Table 8-1 defines the LED states.

**Figure 8-2** Cisco S190 Web Security Appliance Front Panel LEDs



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED
3	Power button/power status LED	8	Power supply status LED
4	Identification button/LED	9	Network link activity LED
5	System status LED		

**Table 8-1 Front Panel LEDs, Definitions of States**

LED Name	State
1 Hard drive fault	<ul style="list-style-type: none"> <li>Off—The hard drive is operating properly.</li> <li>Amber—Drive fault detected.</li> <li>Amber, blinking—The device is rebuilding.</li> <li>Amber, blinking with one-second interval—Drive locate function activated.</li> </ul>
2 Hard drive activity	<ul style="list-style-type: none"> <li>Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>Green—The hard drive is ready.</li> <li>Green, blinking—The hard drive is reading or writing data.</li> </ul>
3 Power button/LED	<ul style="list-style-type: none"> <li>Off—There is no AC power to the appliance.</li> <li>Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
4 Unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification function is not in use.</li> <li>Blue—The unit identification function is activated.</li> </ul>
5 System status	<ul style="list-style-type: none"> <li>Green—The appliance is running in normal operating condition.</li> <li>Green, blinking—The appliance is performing system initialization and memory check.</li> <li>Amber, steady—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>Power supply redundancy is lost.</li> <li>CPUs are mismatched.</li> <li>At least one CPU is faulty.</li> <li>At least one DIMM is faulty.</li> <li>At least one drive in a RAID configuration failed.</li> </ul> </li> <li>Amber, blinking—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>Boot failed.</li> <li>Fatal CPU and/or bus error is detected.</li> <li>The appliance is in an over-temperature condition.</li> </ul> </li> </ul>

**Table 8-1** Front Panel LEDs, Definitions of States (continued)

	LED Name	State
6	Fan status	<ul style="list-style-type: none"> <li>Green—All fan modules are operating properly.</li> <li>Amber, steady—One or more fan modules breached the critical threshold.</li> <li>Amber, blinking—One or more fan modules breached the non-recoverable threshold.</li> </ul>
7	Temperature status	<ul style="list-style-type: none"> <li>Green—The appliance is operating at normal temperature.</li> <li>Amber, steady—One or more temperature sensors breached the critical threshold.</li> <li>Amber, blinking—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>
8	Power supply status	<ul style="list-style-type: none"> <li>Green—All power supplies are operating normally.</li> <li>Amber, steady—One or more power supplies are in a degraded operational state.</li> <li>Amber, blinking—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>Off—The Ethernet link is idle.</li> <li>Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>Green, blinking—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that can be used to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/Management port link speed LED—Located to the left of each Data or Management port.
- Data/Management port link status LED—Located to the right of each Data or Management port.
- Unit Identification button/LED—Located to the right of the VGA video port (DB-15).

Table 8-2 defines the LED states.

**Table 8-2** Rear Panel LEDs, Definitions of States

LED Name	State
Power supply status	<ul style="list-style-type: none"> <li>Off—No AC input (12 V main power off, 12 V standby power off).</li> <li>Green, blinking—12 V main power off; 12 V standby power on.</li> <li>Green, solid—12 V main power on; 12 V standby power on.</li> <li>Amber, blinking—Warning detected but 12 V main power on.</li> <li>Amber, solid—Critical error detected; 12 V main power off.</li> </ul>
Data/Management port link speed	<ul style="list-style-type: none"> <li>Off—Link speed is 10 Mbps.</li> <li>Amber—Link speed is 100 Mbps.</li> <li>Green—Link speed is 1 Gbps.</li> </ul>

**Table 8-2** Rear Panel LEDs, Definitions of States (continued)

LED Name	State
Data/Management port link status	<ul style="list-style-type: none"> <li>Off—No link is present.</li> <li>Green—Link is active.</li> <li>Green, blinking—Traffic is present on the active link.</li> </ul>
Rear unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification LED is not in use.</li> <li>Blue—The unit identification LED is activated.</li> </ul>

## Summary of Features

Table 8-3 lists the features of the Cisco S190 Web Security Appliance.

**Table 8-3** Cisco S190 Web Security Appliance Features

Feature	Description
Chassis	One rack-unit (1RU) chassis
Processors	One E5–2609 v3 processor
Memory	One 8-GB DDR4-2133 DIMM
Multi-bit error protection	Multi-bit error protection is supported.
RPC	<p>You can access RPC through a 1-Gb dedicated port.</p> <p>The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.</p>
Proxy ports	Two 1-Gb BASE-T Ethernet LAN ports
Traffic monitoring ports	Two 1-Gb BASE-T Ethernet LAN port
Management I/O	<p>Supported connectors:</p> <ul style="list-style-type: none"> <li>One 1-Gb BASE-T Ethernet LAN ports</li> <li>One RS-232 serial port</li> </ul>
Power	One or two 770 W AC power supplies
Power consumption	1313 BTU/hr or 2626 BTU/hr
Cooling	Six fan modules for front-to-rear cooling
Storage	<p>Two 600-GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives.</p> <p><b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.</p>
Disk management (RAID)	Dedicated internal riser for a PCIe-style Cisco modular RAID controller card







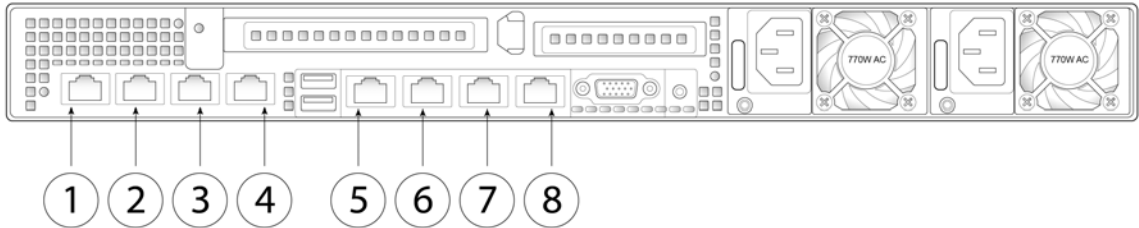
# Cisco S390 Web Security Appliance

- [Rear Panel Ports, page 9-1](#)
- [Using Status LEDs and Buttons for Maintenance, page 9-2](#)
- [Summary of Features, page 9-5](#)

## Rear Panel Ports

Figure 9-1 shows the rear panel ports of the Cisco S390 Web Security Appliance.

**Figure 9-1** Rear Panel Ports of Cisco S390 Web Security Appliances



Item	Port	Description
1	Proxy port 1	Connect proxy port P1 to the network for both incoming and outgoing traffic.
2	Proxy port 2	When both proxy ports P1 and P2 are enabled, you must connect P1 to the internal network and P2 to the Internet. P1 and P2 can connect to L4 switch, WCCP router, or network switch.
3	TrafficMonitor port 1	Traffic monitor port T1 for Duplex Ethernet tap: One cable for all incoming and outgoing traffic.
4	TrafficMonitor port 2	Traffic monitor port for Simplex Ethernet tap: One cable for all packets destined for the internet (T1), and one cable for all packets coming from the Internet (T2).

Item	Port	Description
5	RPC	Port used for RPC.  The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
6	Console	Console port that directly connects a computer to the appliance.
7	Management interface 1	Gigabit Ethernet interface that is restricted to management use only.
8	Management interface 2	The secondary Management Port. This Gigabit Ethernet interface cannot be used.

## Using Status LEDs and Buttons for Maintenance

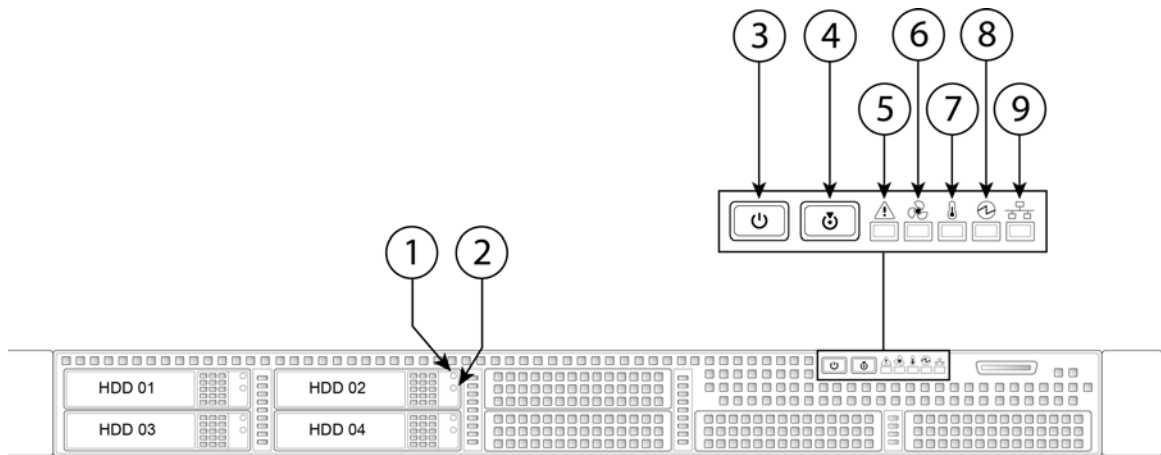
This section describes the location and meaning of LEDs and buttons and includes the following topics:

- [Front Panel LEDs, page 9-2](#)
- [Rear Panel LEDs and Buttons, page 9-4](#)

### Front Panel LEDs

Figure 9-2 shows the front panel LEDs. Table 9-1 defines the LED states.

**Figure 9-2** Cisco S390 Web Security Appliance Front Panel LEDs



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED

<b>3</b>	Power button/power status LED	<b>8</b>	Power supply status LED
<b>4</b>	Identification button/LED	<b>9</b>	Network link activity LED
<b>5</b>	System status LED		

**Table 9-1** Front Panel LEDs, Definitions of States

	LED Name	State
<b>1</b>	Hard drive fault	<ul style="list-style-type: none"> <li>Off—The hard drive is operating properly.</li> <li>Amber—Drive fault detected.</li> <li>Amber, blinking—The device is rebuilding.</li> <li>Amber, blinking with one-second interval—Drive locate function activated.</li> </ul>
<b>2</b>	Hard drive activity	<ul style="list-style-type: none"> <li>Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>Green—The hard drive is ready.</li> <li>Green, blinking—The hard drive is reading or writing data.</li> </ul>
<b>3</b>	Power button/LED	<ul style="list-style-type: none"> <li>Off—There is no AC power to the appliance.</li> <li>Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>
<b>4</b>	Unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification function is not in use.</li> <li>Blue—The unit identification function is activated.</li> </ul>
<b>5</b>	System status	<ul style="list-style-type: none"> <li>Green—The appliance is running in normal operating condition.</li> <li>Green, blinking—The appliance is performing system initialization and memory check.</li> <li>Amber, steady—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>Power supply redundancy is lost.</li> <li>CPUs are mismatched.</li> <li>At least one CPU is faulty.</li> <li>At least one DIMM is faulty.</li> <li>At least one drive in a RAID configuration failed.</li> </ul> </li> <li>Amber, blinking—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>Boot failed.</li> <li>Fatal CPU and/or bus error is detected.</li> <li>The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
<b>6</b>	Fan status	<ul style="list-style-type: none"> <li>Green—All fan modules are operating properly.</li> <li>Amber, steady—One or more fan modules breached the critical threshold.</li> <li>Amber, blinking—One or more fan modules breached the non-recoverable threshold.</li> </ul>

**Table 9-1** Front Panel LEDs, Definitions of States (continued)

	LED Name	State
7	Temperature status	<ul style="list-style-type: none"> <li>Green—The appliance is operating at normal temperature.</li> <li>Amber, steady—One or more temperature sensors breached the critical threshold.</li> <li>Amber, blinking—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>
8	Power supply status	<ul style="list-style-type: none"> <li>Green—All power supplies are operating normally.</li> <li>Amber, steady—One or more power supplies are in a degraded operational state.</li> <li>Amber, blinking—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>Off—The Ethernet link is idle.</li> <li>Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>Green, blinking—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that can be used to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/Management port link speed LED—Located to the left of each Data or Management port.
- Data/Management port link status LED—Located to the right of each Data or Management port.
- Unit Identification button/LED—Located to the right of the VGA video port (DB-15).

[Table 9-2](#) defines the LED states.

**Table 9-2** Rear Panel LEDs, Definitions of States

LED Name	State
Power supply status	<ul style="list-style-type: none"> <li>Off—No AC input (12 V main power off, 12 V standby power off).</li> <li>Green, blinking—12 V main power off; 12 V standby power on.</li> <li>Green, solid—12 V main power on; 12 V standby power on.</li> <li>Amber, blinking—Warning detected but 12 V main power on.</li> <li>Amber, solid—Critical error detected; 12 V main power off.</li> </ul>
Data/Management port link speed	<ul style="list-style-type: none"> <li>Off—Link speed is 10 Mbps.</li> <li>Amber—Link speed is 100 Mbps.</li> <li>Green—Link speed is 1 Gbps.</li> </ul>
Data/Management port link status	<ul style="list-style-type: none"> <li>Off—No link is present.</li> <li>Green—Link is active.</li> <li>Green, blinking—Traffic is present on the active link.</li> </ul>
Rear unit identification	<ul style="list-style-type: none"> <li>Off—The unit identification LED is not in use.</li> <li>Blue—The unit identification LED is activated.</li> </ul>

# Summary of Features

Table 9-3 lists the features of the S390 Web Security Appliance.

**Table 9-3 Cisco S390 Web Security Appliance Features**

Feature	Description
Chassis	One rack-unit (1RU) chassis
Processors	One E5–2620 v3 processor
Memory	Four 8-GB DDR4-2133 DIMM
RPC	You can access RPC through the 1-Gb dedicated port.  The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
Proxy Ports	Two 1-Gb BASE-T Ethernet LAN ports
Traffic monitoring ports	Two 1-Gb BASE-T Ethernet LAN ports
Management I/O	Supported connectors: <ul style="list-style-type: none"> <li>• One 1-Gb BASE-T Ethernet LAN ports</li> <li>• One RS-232 serial port</li> </ul>
Power	Two 770 W AC power supplies
Power consumption	2626 BTU/hr
Cooling	Six fan modules for front-to-rear cooling
Storage	Four 600-GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives.  <b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.
Disk management (RAID)	Dedicated internal riser for a PCIe-style Cisco modular RAID controller card





## Cisco S690 Web Security Appliance

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- [Available Models, page 10-1](#)
- [Rear Panel Ports, page 10-2](#)
- [Using Status LEDs and Buttons for Maintenance, page 10-4](#)
- [Summary of Features, page 10-8](#)

### Available Models

The Cisco S690 Web Security Appliance is available in the following models:

- S690—Ethernet data ports and eight small form-factor (SFF) drives, with an eight-drive backplane
- S690X—Ethernet data ports and sixteen SFF drives, with a sixteen-drive direct-connect backplane
- S690-1G—Six 1-Gigabit Fiber Optic Ethernet ports and sixteen SFF drives
- S690-10G—Six 10-Gigabit Fiber Optic Ethernet ports and sixteen SFF drives



**Note**

You cannot change the panel/backplane type after-factory. If you want a different front panel/backplane configuration, you must order a another model.

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# Rear Panel Ports

The Cisco S690 Web Security Appliance is available with either Ethernet ports or Fiber Optic ports. The description of these ports are described in separate sections below.

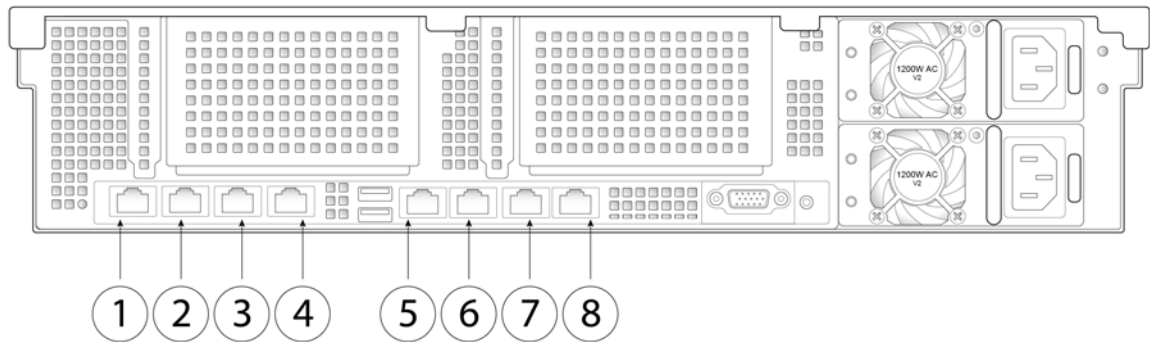
## Models with Ethernet Ports

The S690 and S690X models of the Cisco Web Security Appliance have Ethernet ports.

Figure 10-1 shows the rear panel ports of the Cisco S690 Web Security Appliance with Ethernet ports.

For more information about rear panel LEDs, see [Rear Panel LEDs and Buttons](#), page 10-6.

**Figure 10-1** Rear Panel Ports of Cisco S690 Web Security Appliances



<p><b>1</b> Proxy port 1</p> <p>Connect proxy port P1 to the network for both incoming and outgoing traffic.</p>	<p><b>2</b> Proxy port 2</p> <p>When both proxy ports P1 and P2 are enabled, you must connect P1 to the internal network and P2 to the Internet. P1 and P2 can connect to L4 switch, WCCP router, or network switch.</p>
<p><b>3</b> Traffic monitor port 1</p> <p>Traffic monitor port T1 for Duplex Ethernet tap: One cable for all incoming and outgoing traffic.</p>	<p><b>4</b> Traffic monitor port 2</p> <p>Traffic monitor port for Simplex Ethernet tap: One cable for all packets destined for the internet (T1), and one cable for all packets coming from the Internet (T2).</p>
<p><b>5</b> RPC port</p> <p>The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.</p>	<p><b>6</b> Console</p> <p>Directly connects a computer to the appliance</p>
<p><b>7</b> Management interface 1</p> <p>1-Gigabit Ethernet interface; management use only</p>	<p><b>8</b> Management interface 2</p> <p>The secondary Management port; not in use</p>



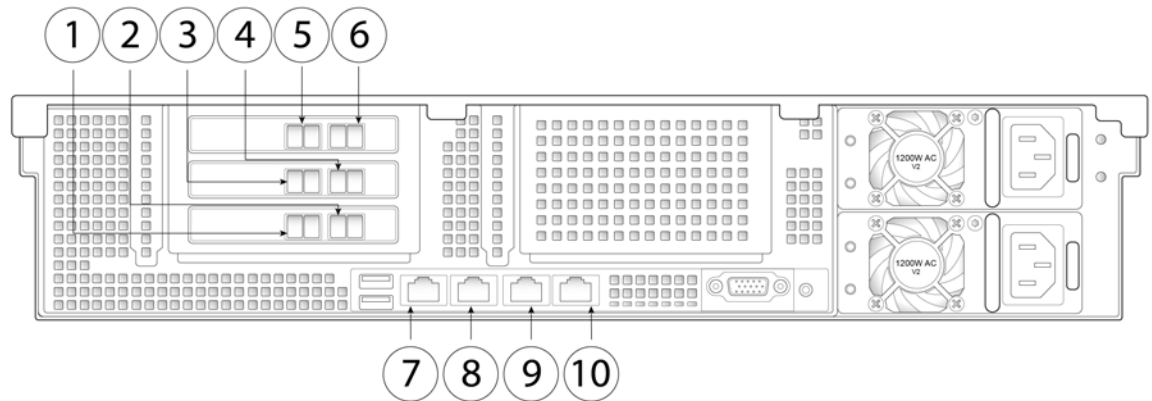
## Models with Fiber Optic Ports

The S690-1G and S690-10G models of the Cisco Web Security Appliance have Fiber Optic ports.

Figure 10-2 shows the rear panel ports of Cisco Security Appliances with Fiber Optic ports.

For information about rear panel LEDs, see [Rear Panel LEDs and Buttons](#), page 10-6.

**Figure 10-2** Rear Panel Ports of the S690-1G and S690-10G Web Security Appliances



Item	Port	Description
1	Management interface 1	A fiber optic interface that is restricted to management use only.
2	Management interface 2	A fiber optic interface that is restricted to management use only.
3	Traffic Monitor port 1	
4	Traffic Monitor port 2	
5		
6	Proxy port 2	
7	Remote Power Cycle	The port that is used for Remote Power Cycle (RPC). The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.
8	Console	The console port that
9		A
10		

<b>1</b>	Management interface 1 Fiber optic interface; management use only	<b>2</b>	Management interface 2 Fiber optic interface; management use only
<b>3</b>	Traffic Monitor port 1 The primary fiber optic port traffic monitor port T1 for Duplex Ethernet tap: One cable for all incoming and outgoing traffic.	<b>4</b>	Traffic Monitor port 2 Traffic monitor port for Simplex Ethernet tap: One cable for all packets destined for the internet (T1), and one cable for all packets coming from the Internet (T2).
<b>5</b>	Proxy port 1 The primary fiber optic port used to connect proxy port P1 to the network for both incoming and outgoing traffic.	<b>6</b>	Proxy port 2 When both proxy ports P1 and P2 are enabled, you must connect P1 to the internal network and P2 to the Internet. P1 and P2 can connect to L4 switch, WCCP router, or network switch.
<b>7</b>	RPC port The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.	<b>8</b>	Console Directly connects a computer to the appliance
<b>9</b>	Data 1-Gigabit Ethernet customer data interface	<b>10</b>	Management interface 3 1-Gigabit Ethernet management port; not in use

## Using Status LEDs and Buttons for Maintenance

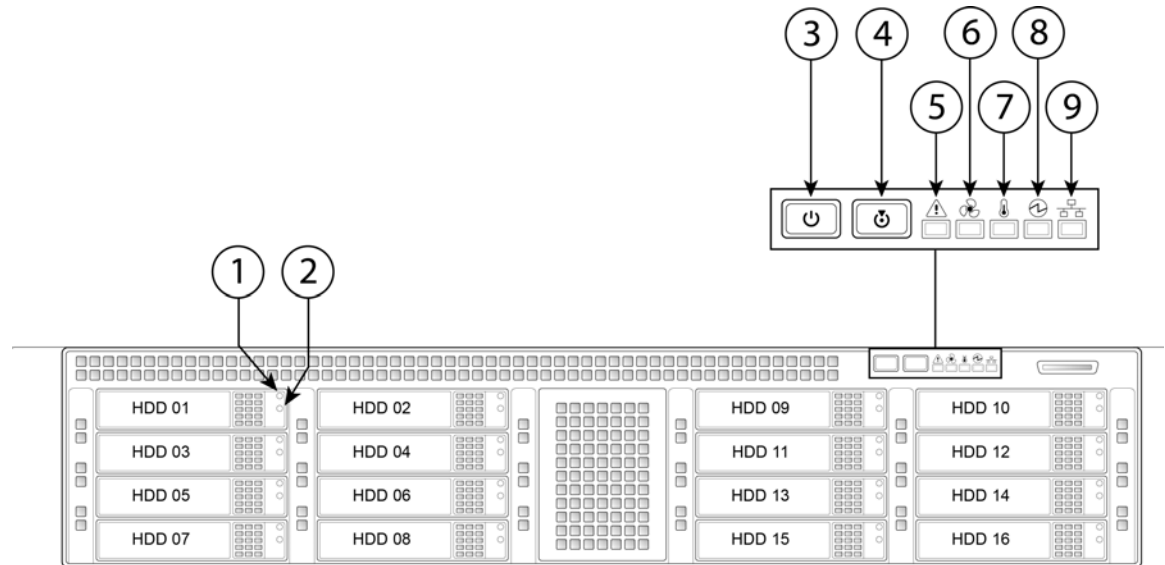
- [Front Panel LEDs, page 10-4](#)
- [Rear Panel LEDs and Buttons, page 10-6](#)

### Front Panel LEDs

Figure 10-3 shows the front panel LEDs. Table 10-1 defines the LED states.

The model with 16 drives is shown.

Figure 10-3 Cisco S690 Web Security Appliance Front Panel LEDs



1	Hard drive fault LED	6	Fan status LED
2	Hard drive activity LED	7	Temperature status LED
3	Power button/power status LED	8	Power supply status LED
4	Identification button/LED	9	Network link activity LED
5	System status LED		

Table 10-1 Front Panel LEDs, Definitions of States

LED Name	State
1 Hard drive fault	<ul style="list-style-type: none"> <li>Off—The hard drive is operating properly.</li> <li>Amber—Drive fault detected.</li> <li>Amber, blinking—The device is rebuilding.</li> <li>Amber, blinking with one-second interval—Drive locate function activated.</li> </ul>
2 Hard drive activity	<ul style="list-style-type: none"> <li>Off—There is no hard drive in the hard drive tray (no access, no fault).</li> <li>Green—The hard drive is ready.</li> <li>Green, blinking—The hard drive is reading or writing data.</li> </ul>
3 Power button/LED	<ul style="list-style-type: none"> <li>Off—There is no AC power to the appliance.</li> <li>Amber—The appliance is in standby power mode. Power is supplied only to the Baseboard Management Controller (BMC) and some motherboard functions which enable you to use remote power commands.</li> <li>Green—The appliance is in main power mode. Power is supplied to all appliance components.</li> </ul>

Table 10-1 Front Panel LEDs, Definitions of States (continued)

	LED Name	State
4	Unit Identification	<ul style="list-style-type: none"> <li>Off—The unit identification function is not in use.</li> <li>Blue—The unit identification function is activated.</li> </ul>
5	System status	<ul style="list-style-type: none"> <li>Green—The appliance is running in a normal operating condition.</li> <li>Green, blinking—The appliance is performing system initialization and memory check.</li> <li>Amber, steady—The appliance is in a degraded operational state. For example: <ul style="list-style-type: none"> <li>Power supply redundancy is lost.</li> <li>CPUs are mismatched.</li> <li>At least one CPU is faulty.</li> <li>At least one DIMM is faulty.</li> <li>At least one drive in a RAID configuration failed.</li> </ul> </li> <li>Amber, blinking—The appliance is in a critical fault state. For example: <ul style="list-style-type: none"> <li>Boot failed.</li> <li>Fatal CPU and/or bus error is detected.</li> <li>The appliance is in an over-temperature condition.</li> </ul> </li> </ul>
6	Fan status	<ul style="list-style-type: none"> <li>Green—All fan modules are operating properly.</li> <li>Amber, steady—One or more fan modules breached the critical threshold.</li> <li>Amber, blinking—One or more fan modules breached the non-recoverable threshold.</li> </ul>
7	Temperature status	<ul style="list-style-type: none"> <li>Green—The appliance is operating at normal temperature.</li> <li>Amber, steady—One or more temperature sensors breached the critical threshold.</li> <li>Amber, blinking—One or more temperature sensors breached the non-recoverable threshold.</li> </ul>
8	Power supply status	<ul style="list-style-type: none"> <li>Green—All power supplies are operating normally.</li> <li>Amber, steady—One or more power supplies are in a degraded operational state.</li> <li>Amber, blinking—One or more power supplies are in a critical fault state.</li> </ul>
9	Network link activity	<ul style="list-style-type: none"> <li>Off—The Ethernet link is idle.</li> <li>Green—One or more Ethernet LOM ports are link-active, but there is no activity.</li> <li>Green, blinking—One or more Ethernet LOM ports are link-active, with activity.</li> </ul>

## Rear Panel LEDs and Buttons

The rear panel has the following LEDs and buttons that can be used to maintain the appliance:

- Power supply AC status LED—Located on the bottom left of each power supply.
- Data/management port link speed LED—Located to the left of each data or management port.
- Data/management port link status LED—Located to the right of each data or management port.
- Unit identification button/LED—Located to the right of the VGA video port (DB-15).

Table 10-2 defines the LED states.

**Table 10-2 Rear Panel LEDs, Definitions of States**

LED Name	State
Power supply status This is a summary; for advanced power supply LED information, see Table 10-3.	AC power supplies: <ul style="list-style-type: none"> <li>• Off—There is no AC power to the power supply.</li> <li>• Green, flashing—AC power OK; DC output not enabled.</li> <li>• Green—AC power OK; DC outputs OK.</li> </ul> DC power supplies: <ul style="list-style-type: none"> <li>• Off—There is no DC power to the power supply.</li> <li>• Green, flashing—DC power OK; DC output not enabled.</li> <li>• Green—DC power OK; DC outputs OK.</li> </ul>
Data/management port link speed	<ul style="list-style-type: none"> <li>• Off—Link speed is 10 Mbps.</li> <li>• Amber—Link speed is 100 Mbps.</li> <li>• Green—Link speed is 1 Gbps.</li> </ul>
Data/management port link status	<ul style="list-style-type: none"> <li>• Off—No link is present.</li> <li>• Green—Link is active.</li> <li>• Green, flashing—Traffic is present on the active link.</li> </ul>
Unit identification	<ul style="list-style-type: none"> <li>• Off—The unit identification function is not in use.</li> <li>• Blue—The unit identification function is activated.</li> </ul>

In Table 10-3, read the status and fault LED states together in each row to determine the event that cause this combination.

**Table 10-3 Rear Power Supply LED States**

Green PSU Status LED State	Amber PSU Fault LED State	Event
• On	• Off	12V main on (main power mode)
• Blinking	• Off	12V main off (standby power mode)
• Off	• Off	No AC power input (all PSUs present)
• Off	• On	No AC power input (redundant supply active)
• Flashing	• On	12V over-voltage protection (OVP)
• Flashing	• On	12V under-voltage protection (UVP)
• Flashing	• On	12V over-current protection (OCP)
• Flashing	• On	12V short-circuit protection (SCP)
• On	• On	PSU fan fault/Lock (before OTP)
• Flashing	• On	PSU fan fault/Lock (after OTP)
• Flashing	• On	Over-temperature protection (OTP)
• On	• Flashing	OTP warning

**Table 10-3** Rear Power Supply LED States (continued)

Green PSU Status LED State	Amber PSU Fault LED State	Event
<ul style="list-style-type: none"> <li>On</li> </ul>	<ul style="list-style-type: none"> <li>Flashing</li> </ul>	OCP warning
<ul style="list-style-type: none"> <li>Flashing</li> </ul>	<ul style="list-style-type: none"> <li>Off</li> </ul>	12V main off (CR secondary PSU is in sleep mode)

## Summary of Features

Table 10-4 lists a summary of appliance features.

**Table 10-4** Cisco S690 Web Security Appliance Features

Chassis	Two rack-unit (2RU) chassis
Processors	Two E5-2680 v3 processor
Memory	Eight 8-GB DDR4-2133 DIMM
RPC	<p>Accessed through the 1-Gb dedicated port</p> <p>The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.</p>
Data ports	<p>C690: Five 1-Gb BASE-T Ethernet LAN ports</p> <p>C690-1G and C690-10G: Six 1-Gb or 10-Gb fiber optic ports and one 1-Gb BASE-T Ethernet LAN port</p>
Management I/O	<p>Supported connectors:</p> <ul style="list-style-type: none"> <li>One 1-Gb BASE-T Ethernet LAN ports</li> <li>One RS-232 serial port</li> </ul>
Power	Two 650 W AC power supplies
Power consumption	2216 BTU/hr
Cooling	Six fan modules for front-to-rear cooling
Storage	<p>Eight or sixteen 600-GB hard disk drives (2.5" 10K SAS 4Kn) are installed into front-panel drive bays that provide hot-swappable access for SAS drives.</p> <p><b>Note</b> The drives with the PID CCS-HDD-600GB-RV-A are 1.8 TB, but have been partitioned to 600 GB of usable space.</p>
Disk management (RAID)	Dedicated internal socket for a PCIe-style RAID controller card



# Maintain Cisco Content Security Appliances

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- [Monitor System Health, page 11-1](#)
- [Prepare for Cisco Content Security Appliance Component Replacement, page 11-2](#)
- [Replace Cisco Content Security Appliance Components, page 11-3](#)
- [Enable Remote Power Cycling, page 11-9](#)
- [Remotely Reset Appliance Power, page 11-10](#)

## Monitor System Health

Information about using SNMP to monitor system health is available in the user documentation for your AsyncOS release at the following URLs:

- <http://www.cisco.com/c/en/us/support/security/email-security-appliance/products-user-guide-list.html>
- <http://www.cisco.com/c/en/us/support/security/content-security-management-appliance/products-user-guide-list.html>
- <http://www.cisco.com/c/en/us/support/security/web-security-appliance/products-user-guide-list.html>

# Prepare for Cisco Content Security Appliance Component Replacement

- [Required Equipment, page 11-2](#)
- [Shut Down and Power Off the Appliance, page 11-2](#)
- [Serial Number Location, page 11-3](#)
- [Hot-Swap Replacement, page 11-3](#)

## Required Equipment

The following equipment is used to perform the procedures in this chapter:

- Number 2 Phillips-head screwdriver
- Electrostatic discharge (ESD) strap or other grounding equipment such as a grounded mat

## Shut Down and Power Off the Appliance

The appliance can run in two power modes:

- Main power mode—Power is supplied to all appliance components and the operating system.
- Standby power mode—Power is supplied only to the service processor and the cooling fans and it is safe to power off the appliance from this mode.

You can gracefully shut down the appliance by using the **shutdown** command or the Power button on the appliance front panel, as described in the following steps:

- 
- Step 1** Check the color of the Power Status LED.
- Green—The appliance is in main power mode and must be shut down before it can be safely powered off. Go to [Step 2](#).
  - Amber—The appliance is already in standby mode and can be safely powered off. Go to [Step 3](#).
- Step 2** Use one the following methods to shut down the appliance. If possible, invoke a graceful shutdown. Otherwise invoke a hard shutdown:



### Caution

To avoid data loss or damage to your operating system, you should always invoke a graceful shutdown of the operating system.

- Graceful shutdown using the CLI—Enter the **shutdown** command. The operating system performs a graceful shutdown and the appliance goes to standby mode, which is indicated by an amber Power Status LED.
- Graceful shutdown using the front panel—Press and release the Power button. The operating system performs a graceful shutdown and the appliance goes to standby mode, which is indicated by an amber Power Status LED.
- Emergency shutdown—Press and hold the Power button for 4 seconds to force the main power off and immediately enter standby mode.



- Step 3** Disconnect the power cords from the power supplies in your appliance to completely power off the appliance.
- 

## Serial Number Location

The serial number (SN) for the appliance is printed on a label on the top of the appliance, near the front.

## Hot-Swap Replacement

Some components can be removed and replaced without powering off and removing AC power from the appliance.

- Hot-swap replacement—You do not have to precondition or shut down the component using the GUI or CLI before you remove it for the following components:
  - SAS drives
  - Power supplies (when 1+1 redundant)

# Replace Cisco Content Security Appliance Components



### Warning

**Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; 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.**

Statement 1029

---



### Caution

When handling appliance components, wear an ESD strap to avoid damage.

---



### Tip

You can press the Unit Identification button on the front panel or rear panel to turn on a flashing Unit Identification LED on the front and rear panels of the appliance. This button allows you to locate the specific appliance that you are servicing when you go to the opposite side of the rack. See the [“Prepare for Cisco Content Security Appliance Component Replacement”](#) section on page 11-2 for locations of these LEDs.

---

This section describes how to replace appliance components, and it includes the following topics:

- [Replace Hard Drives or Solid State Drives, page 11-4](#)
- [Replace Power Supplies, page 11-6](#)

## Replace Hard Drives or Solid State Drives

- [Drive Population Guidelines](#), page 11-4
- [Drive Replacement Procedure](#), page 11-5

### Drive Population Guidelines

The 90-Series Cisco Content Security Appliances are available in the following models:

- Cisco C190, M190, S190, and C390 —Two small form-factor (SFF) drives
- Cisco S390 and C690 —Four SFF drives
- Cisco M390 —Six SFF drives
- Cisco M390X, C690X, C690-1G, and C690-10G —Eight SFF drives
- Cisco M690 —Ten SFF drives
- Cisco M690X, M690-1G, M690-10G, S690X, S690-1G, and S690-10G—Sixteen SFF drives



#### Note

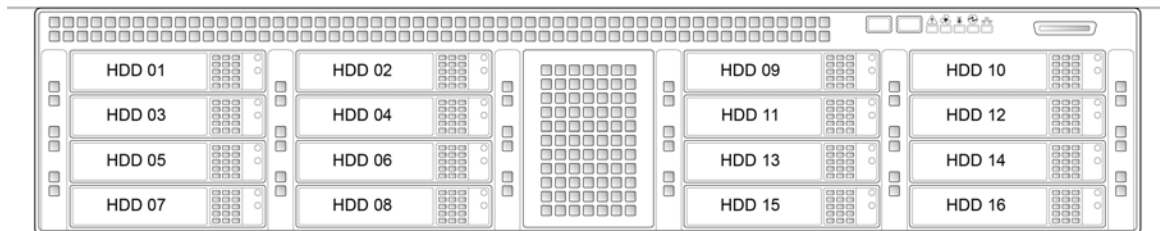
You cannot change the backplane type after-factory. To change a front panel/backplane configuration, a chassis replacement is required.

The drive-bay numbering for all versions is shown in [Figure 11-1](#) and [Figure 11-2](#).

**Figure 11-1** Drive Numbering for 1RU Appliances



**Figure 11-2** Drive Numbering for 2RU Appliances



Observe these drive population guidelines for optimal performance:

- When populating drives, add drives in the lowest numbered bays first.
- Keep an empty drive blanking tray in any unused bays to ensure optimal airflow and cooling.

## Drive Replacement Procedure

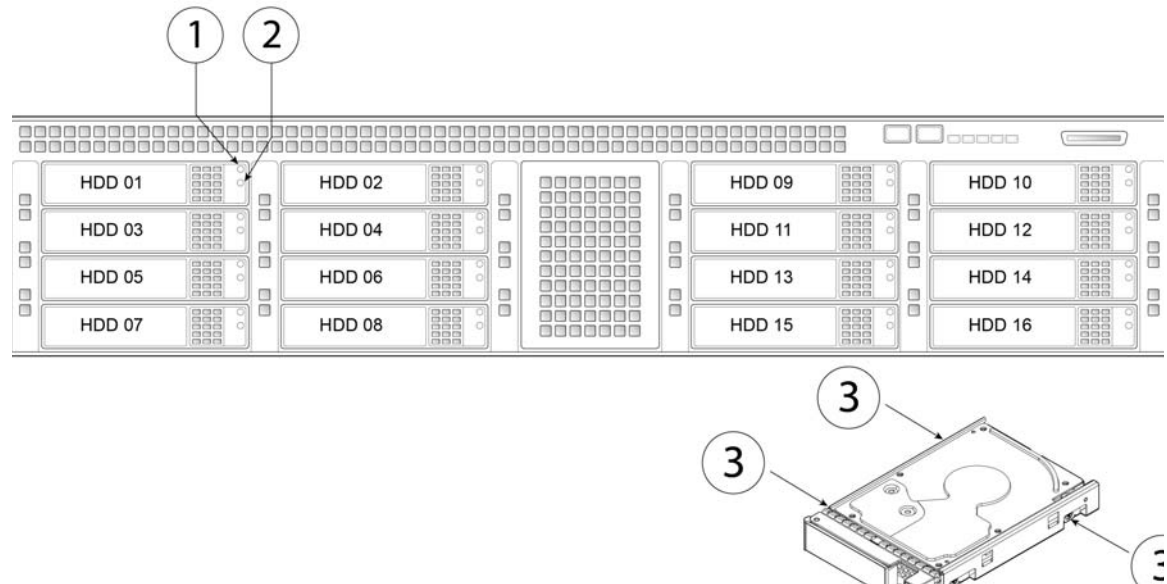


**Tip**

You do not have to shut down or power off the appliance to replace SAS hard drives because they are hot-swappable.

- Step 1** Remove the drive that you are replacing or remove a blank drive tray from an empty bay:
- a. Press the release button on the face of the drive tray. See [Figure 11-3](#).
  - b. Grasp and open the ejector lever and then pull the drive tray out of the slot.
  - c. If you are replacing an existing drive, remove the four drive-tray screws that secure the drive to the tray and then lift the drive out of the tray.
- Step 2** Install a new drive:
- a. Place a new drive in the empty drive tray and replace the four drive-tray screws.
  - b. With the ejector lever on the drive tray open, insert the drive tray into the empty drive bay.
  - c. Push the tray into the slot until it touches the backplane, and then close the ejector lever to lock the drive in place.

**Figure 11-3** Replace Drives on 1RU Appliances



<b>1</b>	Release button	<b>3</b>	Drive tray securing screws (four)
<b>2</b>	Ejector lever		

## Replace Power Supplies

The appliance can have one or two power supplies. When two power supplies are installed, they are redundant and hot-swappable, with one active power supply and one standby (1+1).

This appliance also supports cold redundancy. Depending on the power being drawn by the appliance, one power supply might actively provide all power to the system while the remaining power supply is put into a standby state. For example, if you have two supplies connected to AC power, but the power consumption can be satisfied by power supply 1, then power supply 2 is put into a standby state.

- See [Environmental Specifications, page A-2](#) for more information about the supported power supplies.
- See [Install a DC Power Supply, page 11-7](#) for information about wiring a DC power supply.



### Note

If you have ordered an appliance with power supply redundancy (two power supplies), you do not have to power off the appliance to replace power supplies because they are redundant as 1+1 and hot-swappable.



### Note

Do not mix power supply types in the appliance. Both power supplies must be the same wattage and Cisco product ID (PID).

### Step 1

Remove the power supply that you are replacing or a blank panel from an empty bay:

- Perform one of the following actions:
  - If your appliance has only one power supply, shut down and power off the appliance as described in [Shut Down and Power Off the Appliance, page 11-2](#).
  - If your appliance has two power supplies, you do not have to shut down the appliance.
- Remove the power cord from the power supply that you are replacing.
 

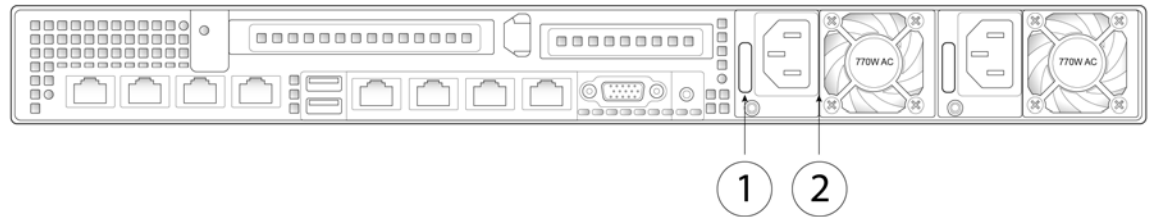
For a DC power supply, release the electrical connector block from the power supply by pushing the orange plastic button on the top of the connector inward toward the power supply (see [Figure 11-4](#)). Pull the connector block from the power supply.
- Grasp the power supply handle while pinching the green release lever towards the handle (see [Figure 11-5](#)).
- Pull the power supply out of the bay.

### Step 2

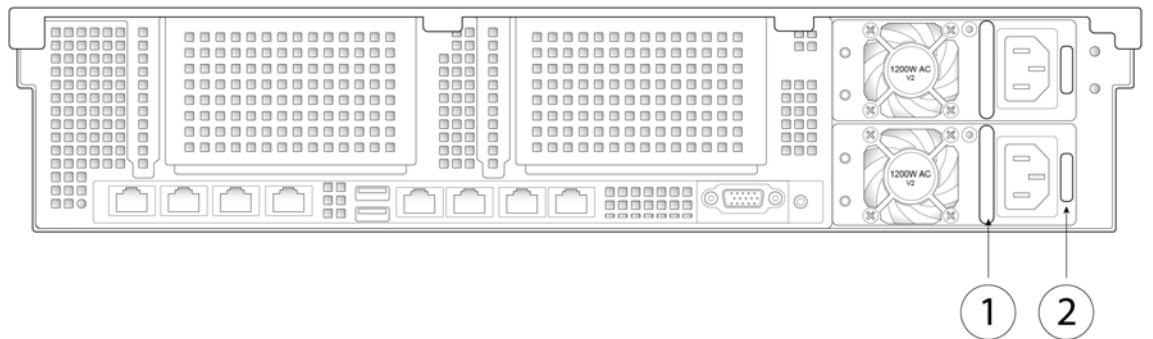
Install a new power supply:

- Grasp the power supply handle and insert the new power supply into the empty bay.
- Push the power supply into the bay until the release lever locks.
- Connect the power cord to the new power supply.
 

For a DC power supply, push the electrical connector block into the power supply.
- If you shut down the appliance, press the Power button to return the appliance to main power mode.

**Figure 11-4** Replace Power Supplies on 1RU Appliances

<b>1</b>	Power supply handle	<b>2</b>	Power supply release lever
----------	---------------------	----------	----------------------------

**Figure 11-5** Replace Power Supplies on 2RU Appliances

<b>1</b>	Power supply handle	<b>2</b>	Power supply release lever
----------	---------------------	----------	----------------------------

## Install a DC Power Supply

The x690 models of Cisco Content Security Appliances are available with optional 930W DC power supplies. The part number for the Version 2 930W DC power supply is CCS-PWR-DCV2-930W.

  
Warning

**A readily accessible two-poled disconnect device must be incorporated in the fixed wiring. Statement 1022**

  
Warning

**This product requires short-circuit (overcurrent) protection, to be provided as part of the building installation. Install only in accordance with national and local wiring regulations. Statement 1045**

  
Warning

**When installing or replacing the unit, the ground connection must always be made first and disconnected last. Statement 1046**

  
Warning

**Installation of the equipment must comply with local and national electrical codes. Statement 1074**

**Warning**

**Hazardous voltage or energy may be present on DC power terminals. Always replace cover when terminals are not in service. Be sure uninsulated conductors are not accessible when cover is in place. Statement 1075**

If you are using the Version 2 930W DC power supply, you connect power using a supplied 3-wire cable with a keyed connector that plugs into a fixed power input socket on the power supply.

**Warning**

**Before beginning this wiring procedure, turn off the DC power source from your facility's circuit breaker to avoid electric shock hazard.**

**Step 1** Turn off the DC power source from your facility's circuit breaker to avoid electric shock hazard.

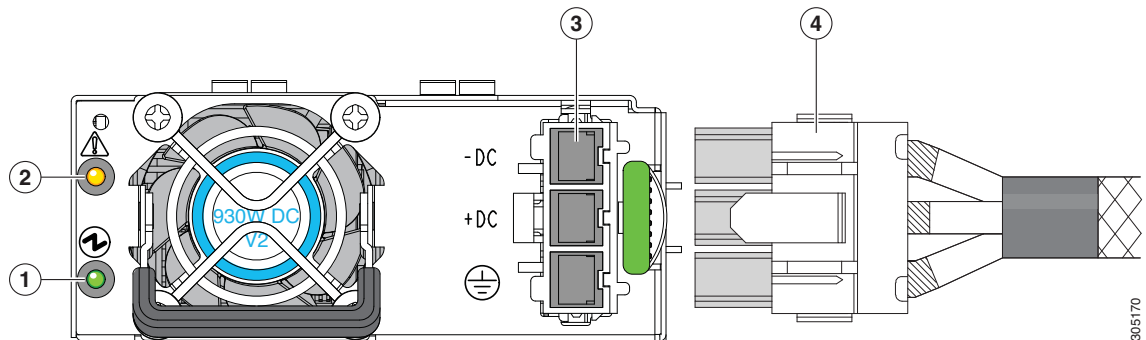
**Step 2** Wire the supplied 3-wire connector cable to your facility's DC power source. Attach the red wire to the negative lead of your facility's DC power source.

**Note**

The supplied connector cable contains 8 AWG gauge wires. The recommended facility wire gauge is 8 AWG. The minimum facility wire gauge is 10 AWG.

**Step 3** Plug the supplied connector cable into the power input socket on the power supply. [Figure 11-6](#) shows that the connector is keyed to the socket so that the polarity is aligned correctly.

**Figure 11-6** Version 2 930 W, -48 VDC Power Supply Connector Block



<b>1</b>	Power supply status LED	<b>3</b>	Fixed power input socket
<b>2</b>	Power supply fault LED	<b>4</b>	Supplied connector cable

**Step 4** Return power from your facility's DC power source at the circuit breaker.

**Step 5** Verify that power supply status LED is green.

# Enable Remote Power Cycling

If you want to be able to remotely reset appliance power, you must enable and configure this functionality in advance, using the procedure described in this section.

**Note**

---

The RPC port speed is configured statically to 100 mbps and full-duplex mode without autonegotiation. Without autonegotiation, the RPC port fails to connect properly and cannot be used.

---

**Before You Begin**

- Cable the dedicated RPC port directly to a secure network.
- Ensure that the appliance is accessible remotely; for example, open any necessary ports through the firewall.
- This feature requires a unique IPv4 address for the dedicated RPC interface. This interface is configurable only via the procedure described in this section; it cannot be configured using the **ipconfig** command.
- To cycle appliance power, you will need a third-party tool that can manage devices that support the Intelligent Platform Management Interface (IPMI) version 2.0. Ensure that you are prepared to use such a tool.
- For more information about accessing the CLI, see the CLI reference guide.

**Procedure**

- 
- Step 1** Use SSH or the serial console port to access the command-line interface.
- Step 2** Sign in using an account with Administrator access.
- Step 3** Enter the following commands:
- ```
remotepower
setup
```
- Step 4** Follow the prompts to specify the following:
- The dedicated IP address for this feature, plus netmask and gateway.
  - The username and password required to execute the power-cycle command.
- These credentials are independent of other credentials used to access your appliance.
- Step 5** Enter `commit` to save your changes.
- Step 6** Test your configuration to be sure that you can remotely manage appliance power.
- Step 7** Ensure that the credentials that you entered will be available to you in the indefinite future. For example, store this information in a safe place and ensure that administrators who may need to perform this task have access to the required credentials.
-

# Remotely Reset Appliance Power

If the appliance requires a hard reset, you can reboot the appliance chassis remotely using a third-party Intelligent Platform Management Interface (IPMI) tool.

## Restrictions

- If you want be able to use this feature, you must enable it in advance, before you need to use it. For details, see [Enable Remote Power Cycling, page 11-9](#).

- Only the following IPMI commands are supported:

**status, on, off, cycle, reset, diag, soft**

Issuing unsupported commands will produce an “insufficient privileges” error.

## Before You Begin

- Obtain and set up a utility that can manage devices using IPMI version 2.0.
- Understand how to use the supported IPMI commands. See the documentation for your IPMI tool.

## Procedure

- 
- Step 1** Use IPMI to issue a supported power-cycling command to the IP address assigned to the Remote Power Cycle port, which you configured earlier, along with the required credentials.

For example, from a UNIX-type machine with IPMI support, you might issue the command:

```
ipmitool -I lan -H 192.0.2.1 -U remoteresetuser -P password chassis power reset
```

where `192.0.2.1` is the IP address assigned to the Remote Power Cycle port and `remoteresetuser` and `password` are the credentials that you entered while enabling this feature.

- Step 2** Wait at least eleven minutes for the appliance to reboot.
-





# Appliance Specifications

This appendix includes the following sections and lists the technical specifications for the x90 Series Cisco Email Security Appliances (ESAs), Cisco Content Security Management Appliances (SMAs), and Cisco Web Security Appliances (WSAs):

- [Physical Specifications, page A-1](#)
- [Environmental Specifications, page A-2](#)
- [Power Specifications, page A-3](#)

## Physical Specifications

[Table A-1](#) lists the physical specifications for the following Cisco Content Security Appliances:

- C190 Email Security Appliances
- M190 Content Security Management Appliances
- S190 Web Security Appliances
- C390 Email Security Appliances
- M390 Content Security Management Appliances
- S390 Web Security Appliances

**Table A-1** Physical Specifications for Cisco Content Security Appliances with a 1 RU chassis

| Description                           | Specification                                                                                                                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Height                                | 1.7 in. (4.3 cm)                                                                                                                         |
| Width                                 | 16.9 in. (42.9 cm)                                                                                                                       |
| Depth                                 | 29.8 in. (75.8 cm)                                                                                                                       |
| Maximum weight (fully loaded chassis) | SFF 2-drive: 32.2 lb. (16.6 Kg)<br>SFF 4-drive: 34.1 lb. (16.8 Kg)<br>SFF 6-drive: 36.0 lb. (17.0 Kg)<br>SFF 8-drive: 37.9 lb. (17.2 Kg) |

Table A-2 lists the physical specifications for the following Cisco Content Security Appliances:

- C690 Email Security Appliances
- M690 Content Security Management Appliances
- S690 Web Security Appliances

**Table A-2 Physical Specifications for Cisco Content Security Appliances with a 2 RU chassis**

| Description                                            | Specification                                                                                                                              |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Height                                                 | 3.4 in. (8.7 cm)                                                                                                                           |
| Width                                                  | 19.0 in. (48.26 cm)                                                                                                                        |
| Depth                                                  | 29.0 in. (73.7 cm)                                                                                                                         |
| Depth, including slam latches and power supply handles | 31.5 in. (80.0 cm)                                                                                                                         |
| Maximum weight (fully loaded chassis)                  | SFF 4-drive: 49.9 lb. (23.6 Kg)<br>SFF 8-drive: 52.9 lb. (24.0 Kg)<br>SFF 10-drive: 55.9 lb. (24.2 Kg)<br>SFF 16-drive: 58.9 lb. (24.8 Kg) |

## Environmental Specifications

Table A-3 lists the environmental specifications for x90 series Cisco Content Security Appliances with both 1 RU and 2 RU chassis.

**Table A-3 Environmental Specifications**

| Description                                                                                                                                                       | Specification                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Temperature, operating                                                                                                                                            | 41 to 95°F (5 to 35°C)<br>Derate the maximum temperature by 1°C per every 305 meters of altitude above sea level. |
| Temperature, nonoperating<br>(when the appliance is stored or transported)                                                                                        | -40 to 149°F (-40 to 65°C)                                                                                        |
| Humidity (RH), noncondensing                                                                                                                                      | 10 to 90%                                                                                                         |
| Altitude, operating                                                                                                                                               | 0 to 10,000 feet                                                                                                  |
| Altitude, nonoperating<br>(when the appliance is stored or transported)                                                                                           | 0 to 40,000 feet                                                                                                  |
| Sound power level for x90 series Cisco Content Security Appliances with a 1 RU chassis.<br>Measure A-weighted per ISO7779 LwAd (Bels)<br>Operation at 73°F (23°C) | 5.4                                                                                                               |
| Sound power level for x90 series Cisco Content Security Appliances with a 2 RU chassis.<br>Measure A-weighted per ISO7779 LwAd (Bels)<br>Operation at 73°F (23°C) | 5.8                                                                                                               |

**Table A-3 Environmental Specifications**

| Description                                                                                                                                                         | Specification |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Sound pressure level for x90 series Cisco Content Security Appliances with a 1 RU chassis.<br>Measure A-weighted per ISO7779 LpAm (dBA)<br>Operation at 73°F (23°C) | 37            |
| Sound pressure level for x90 series Cisco Content Security Appliances with a 2 RU chassis.<br>Measure A-weighted per ISO7779 LpAm (dBA)<br>Operation at 73°F (23°C) | 43            |

## Power Specifications

The power specifications for the power supply options are listed in the following sections:

- [770 W AC Power Supply, page A-3](#)
- [650 W AC Power Supply, page A-4](#)


**Note**

Do not mix power supply types in the appliance. Both power supplies must be identical.

## 770 W AC Power Supply

[Table A-4](#) lists the specifications for each 770 W AC power supply (Cisco part number CCS-PWR-AC-770W) used in the x90 series Cisco Content Security Appliances with a 1 RU chassis.

**Table A-4 770 W AC Power Supply Specifications**

| Description                                | Specification                                             |
|--------------------------------------------|-----------------------------------------------------------|
| AC input voltage range                     | 90 to 264 V AC<br>(self-ranging, 100 to 264 V AC nominal) |
| AC input frequency                         | Range: 47 to 63 Hz<br>(single phase, 50 to 60 Hz nominal) |
| AC line input current (steady state)       | 9.5 A peak at 100 V AC<br>4.5 A peak at 208 V AC          |
| Maximum output power for each power supply | 770 W                                                     |
| Power supply output voltage                | Main power: 12 V DC<br>Standby power: 12 V DC             |

## 650 W AC Power Supply

Table A-5 lists the specifications for each 650 W AC power supply (Cisco part number CCS-PWR-ACV2-650W) used in the x90 series Cisco Content Security Appliances with a 2 RU chassis.

**Table A-5** 650 W AC Power Supply Specifications

| Description                                | Specification                                             |
|--------------------------------------------|-----------------------------------------------------------|
| AC input voltage range                     | 90 to 264 V AC<br>(self-ranging, 180 to 264 V AC nominal) |
| AC input frequency                         | Range: 47 to 63 Hz<br>(single phase, 50 to 60 Hz nominal) |
| AC line input current (steady state)       | 7.6 A peak at 100 V AC<br>3.65 A peak at 208 V AC         |
| Maximum output power for each power supply | 650 W                                                     |
| Power supply output voltage                | Main power: 12 V DC<br>Standby power: 12 V DC             |

## 930W DC Power Supply

Table A-6 lists the specifications for each 930 W DC power supply (Cisco part number UCSC-PSU-930WDC).

**Table A-6** 930 W DC Power Supply Specifications

| Description                          | Specification                                            |
|--------------------------------------|----------------------------------------------------------|
| Class                                | RSP1                                                     |
| <b>Input</b>                         |                                                          |
| DC input voltage range               | –48 to –60 VDC nominal<br>(self-ranging, –40 to –72 VDC) |
| DC line input current (steady state) | 23 A peak at –48 VDC                                     |
| <b>Output</b>                        |                                                          |
| 12 V main power output               | 930 W                                                    |
| 12 V standby power output            | 30 W                                                     |
| Power supply output voltage          | Main power: 12 VDC<br>Standby power: 12 VDC              |





# Power Cord Specifications

## Supported Power Cords and Plugs

Each power supply has a separate power cord. Standard power cords or jumper power cords are available for connection to the appliance. The jumper power cords, for use in racks, are available as an optional alternative to the standard power cords.



**Note**

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

Table B-1 lists the power cords for the appliance power supplies.

**Table B-1** Supported Power Cords for the Appliance

| Description                                                                               | Length<br>Feet/Meters | Amperage and<br>Voltage | Plug                              | Connector        |
|-------------------------------------------------------------------------------------------|-----------------------|-------------------------|-----------------------------------|------------------|
| CAB-AC-250V/13A<br>Power Cord (North America)<br>See <a href="#">Figure B-1</a>           | 6.6 ft/2.0 m          | 13A/250VAC              | NEMA L6-20<br>Molded<br>Twistlock | IEC<br>60320-C13 |
| CAB-N5K6A-NA<br>AC Type A Power Cord (North<br>America)<br>See <a href="#">Figure B-2</a> | 8.2 ft/2.5 m          | 13A/250VAC              | NEMA 6-15                         | IEC<br>60320-C13 |
| CAB-9K12A-NA<br>AC Type A Power Cord (North<br>America)<br>See <a href="#">Figure B-3</a> | 8.2 ft/2.5 m          | 13A/125VAC              | NEMA 5-15                         | IEC<br>60320-C15 |
| SFS-250V-10A-AR<br>AC power cord (Argentina)<br>See <a href="#">Figure B-4</a>            | 8.2 ft/2.5 m          | 10A/250VAC              | IRAM 2073                         | IEC<br>60320-C13 |
| CAB-9K10A-AU<br>AC power cord (Australia)<br>See <a href="#">Figure B-5</a>               | 8.2 ft/2.5 m          | 10A/250VAC              | A.S 3112-2000                     | IEC<br>60320-C15 |

**Table B-1** Supported Power Cords for the Appliance (continued)

| Description                                                                                                           | Length<br>Feet/Meters | Amperage and<br>Voltage  | Plug                      | Connector        |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------|---------------------------|------------------|
| SFS-250V-10A-CN<br>Power cord (China)<br>See <a href="#">Figure B-6</a>                                               | 8.2 ft/2.5 m          | 10A/250VAC               | CCC<br>GB2009.1<br>GB1002 | IEC<br>60320-C13 |
| CAB-9K10A-EU<br>Power cord (Europe)<br>See <a href="#">Figure B-7</a>                                                 | 8.2 ft/2.5 m          | 10A/250VAC               | M 2511                    | IEC<br>60320-C15 |
| SFS-250V-10A-ID<br>AC Power Cord (India, South<br>Africa, and United Arab Emirates)<br>See <a href="#">Figure B-8</a> | 8.2 ft/2.5 m          | 16A/250VAC               | EL-208                    | IEC<br>60320-C13 |
| SFS-250V-10A-IS<br>AC Power Cord (Israel)<br>See <a href="#">Figure B-9</a>                                           | 8.2 ft/2.5 m          | 10A/250VAC               | SI-32                     | IEC<br>60320-C13 |
| CAB-9K10A-IT<br>AC Power Cord (Italy)<br>See <a href="#">Figure B-10</a>                                              | 8.2 ft/2.5 m          | 10A/250VAC               | CEI 23-16/VII             | IEC<br>60320-C15 |
| CAB-9K10A-SW<br>AC Power Cord (Switzerland)<br>See <a href="#">Figure B-11</a>                                        | 8.2 ft/2.5 m          | 10A/250VAC               | MP232                     | IEC<br>60320-C15 |
| CAB-9K10A-UK<br>Power Cord (United Kingdom)<br>See <a href="#">Figure B-12</a>                                        | 8.2 ft/2.5 m          | 10A/250VAC<br>(13A fuse) | BS 1363A/<br>SS 145       | IEC<br>60320-C15 |
| CAB-C13-CBN<br>2.2-ft Cabinet Jumper Power Cord<br>See <a href="#">Figure B-13</a>                                    | 2.2 ft/0.68 m         | 10A/250VAC               | SS10A<br>C13              | HS10S<br>C14     |
| CAB-C13-C14-2M<br>6.6-ft Cabinet Jumper Power Cord<br>See <a href="#">Figure B-14</a>                                 | 6.6 ft/2.0 m          | 10A/250VAC               | SS10A<br>C13              | HS10S<br>C14     |
| CAB-C13-C14-AC<br>9.8-ft Cabinet Jumper Power Cord<br>See <a href="#">Figure B-15</a>                                 | 9.8 ft/3.0 m          | 10A/250VAC               | SS10A<br>C13              | HS10S<br>C14     |
| CAB-250V-10A-BR<br>AC Power Cord (Brazil)<br>See <a href="#">Figure B-16</a>                                          | 7.0 ft/2.1 m          | 10A/250VAC               | NBR 14136                 | IEC<br>60320-C13 |



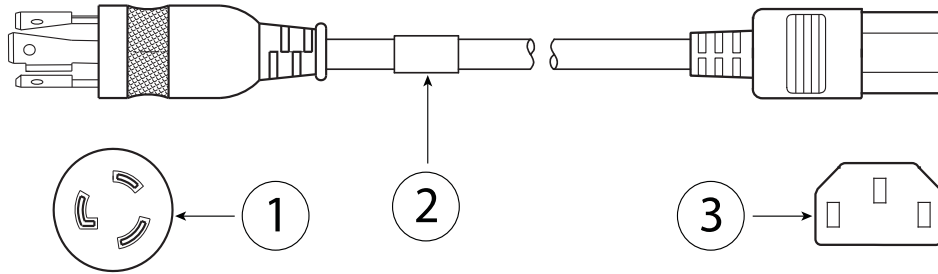
**Table B-1** Supported Power Cords for the Appliance (continued)

| Description                                                                                     | Length<br>Feet/Meters | Amperage and<br>Voltage | Plug                        | Connector        |
|-------------------------------------------------------------------------------------------------|-----------------------|-------------------------|-----------------------------|------------------|
| CAB-JPN-3PIN<br>AC Type A Power Cord (Japan)<br>See <a href="#">Figure B-17</a>                 | 7.9 ft/2.4 m          | 10A/250VAC              | NEMA5-15P/<br>JIS C8303     | IEC<br>60320-C13 |
| CAB-C13-C14-2M-JP<br>AC Cabinet Jumper Power Cord<br>(Japan)<br>See <a href="#">Figure B-18</a> | 6.6 ft/2.0 m          | 10A/250VAC              | EN<br>60320-2-2/E<br>(C14G) | IEC<br>60320-C13 |

# AC Power Cord Illustrations

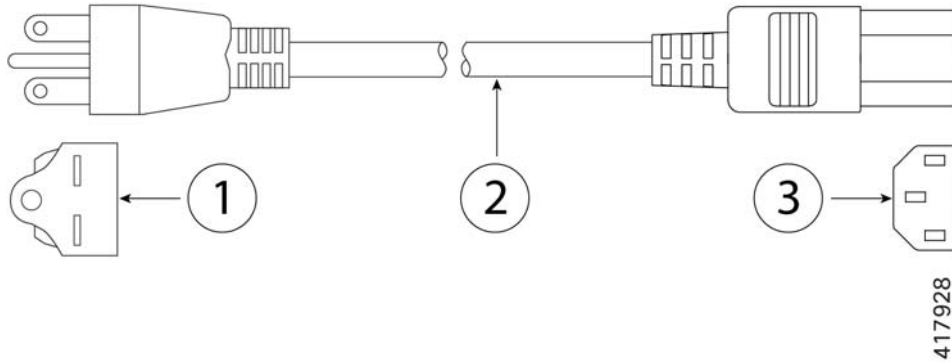
This section includes the AC power cord illustrations. See [Figure B-1](#) through [Figure B-18](#).

**Figure B-1 CAB-AC-250V/13A (North America)**



|          |                                     |          |                            |
|----------|-------------------------------------|----------|----------------------------|
| <b>1</b> | Plug: NEMA L6-20 (Molded Twistlock) | <b>3</b> | Cord set rating: 13A, 250V |
| <b>2</b> | Connector: IEC 60320-C13            |          | -                          |

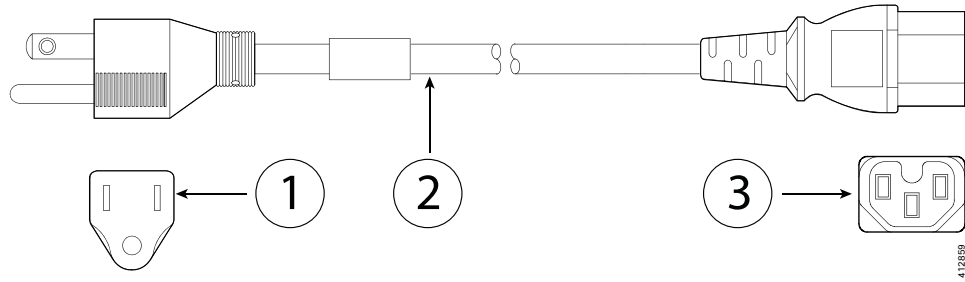
**Figure B-2 CAB-N5K6A-NA (North America)**



|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: NEMA6-15P          | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |

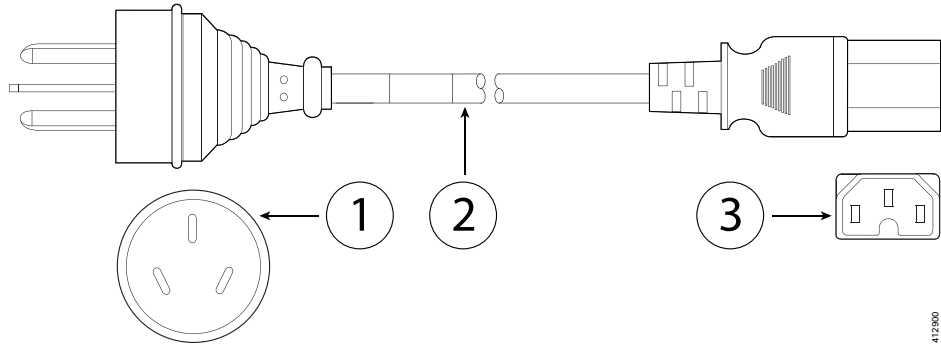
417928

**Figure B-3 CAB-9K12A-NA (North America)**



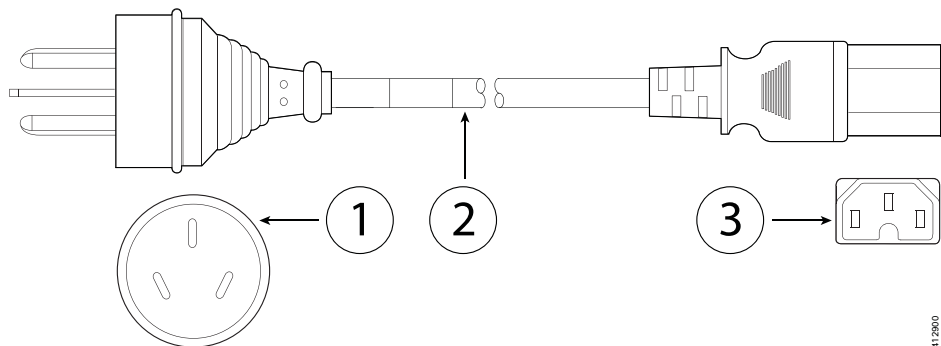
|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: NEMA5-15P          | <b>3</b> | Cord set rating: 13A, 250V |
| <b>2</b> | Connector: IEC 60320-C15 |          | -                          |

**Figure B-4 SFS-250V-10A-AR (Argentina)**



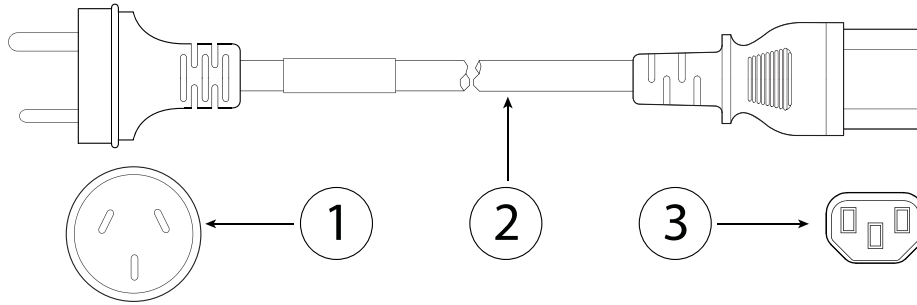
|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: IRAM 2073          | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |

**Figure B-5 CAB-9K10A-AU (Australia)**



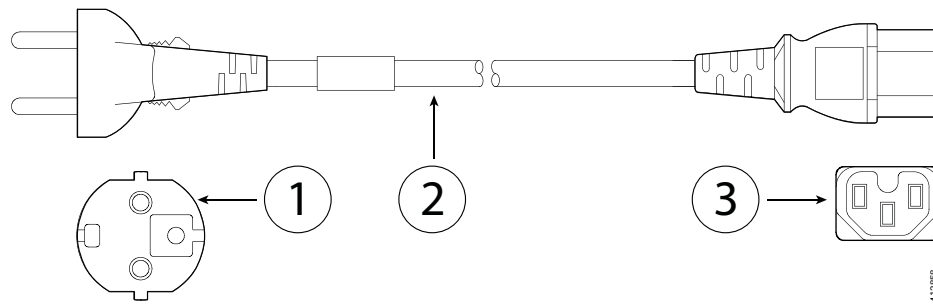
|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: A.S. 3112-2000     | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C15 |          | -                          |

**Figure B-6 SFS-250V-10A-CN (China)**



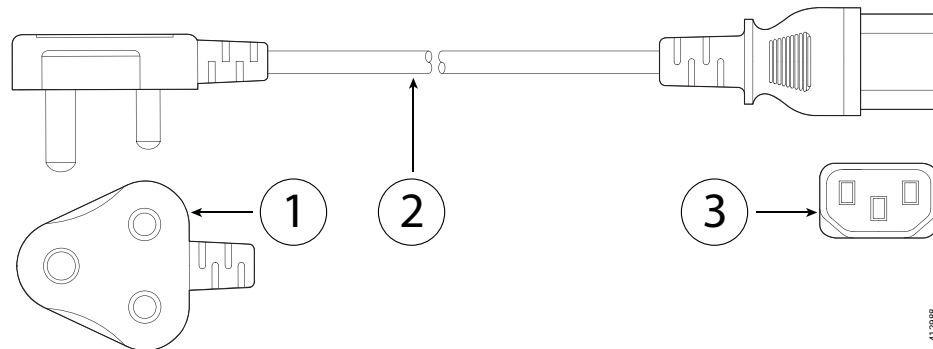
|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: CCEE GB2009        | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |

**Figure B-7 CAB-9K10A-EU (Europe)**



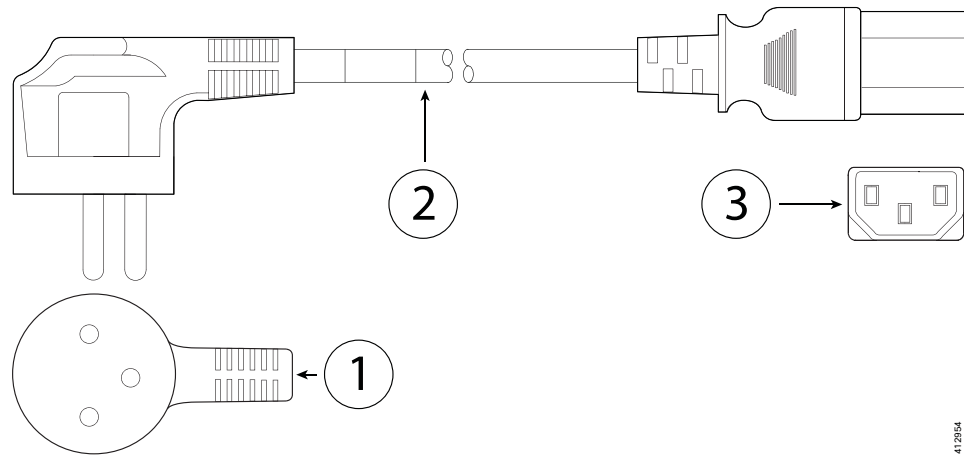
|          |                          |          |                                |
|----------|--------------------------|----------|--------------------------------|
| <b>1</b> | Plug: CEE 7/7 (M2511)    | <b>3</b> | Cord set rating: 10A/16A, 250V |
| <b>2</b> | Connector: IEC 60320-C15 |          | -                              |

**Figure B-8 SFS-250V-10A-ID (India, South Africa, and United Arab Emirates)**



|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: IS 6538-1971       | <b>3</b> | Cord set rating: 16A, 250V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |

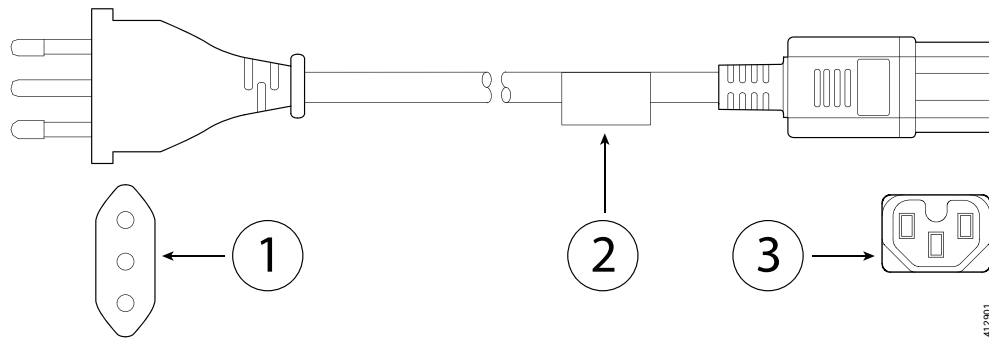
**Figure B-9 SFS-250V-10A-IS (Israel)**



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|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: SI-32              | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |

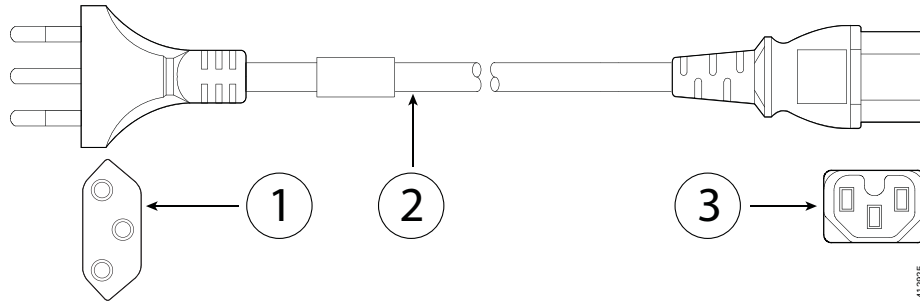
**Figure B-10 CAB-9K10A-IT (Italy)**



412801

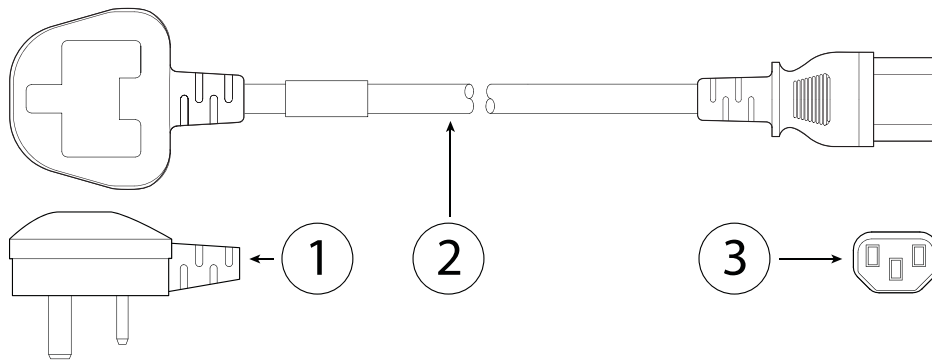
|          |                                |          |                            |
|----------|--------------------------------|----------|----------------------------|
| <b>1</b> | Plug: CEI 23-16/VII (I/3G)     | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: C15M (EN 60320-C15) |          | -                          |

**Figure B-11 CAB-9K10A-SW (Switzerland)**



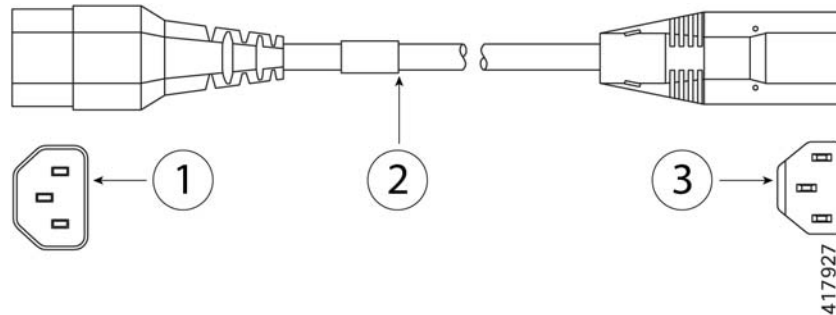
|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: MP232-R (SEV 1011) | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C15 |          | -                          |

**Figure B-12 CAB-9K10A-UK (United Kingdom)**



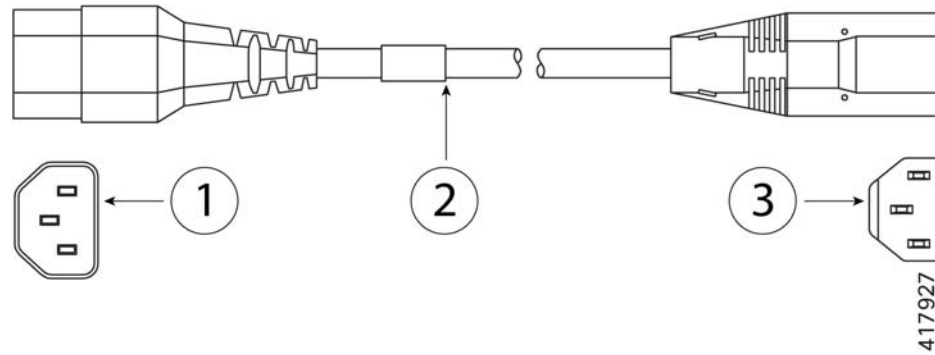
|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: BS1363A/SS145      | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C15 |          | -                          |

**Figure B-13 CAB-C13-CBN, Jumper Power Cord (0.68 m)**



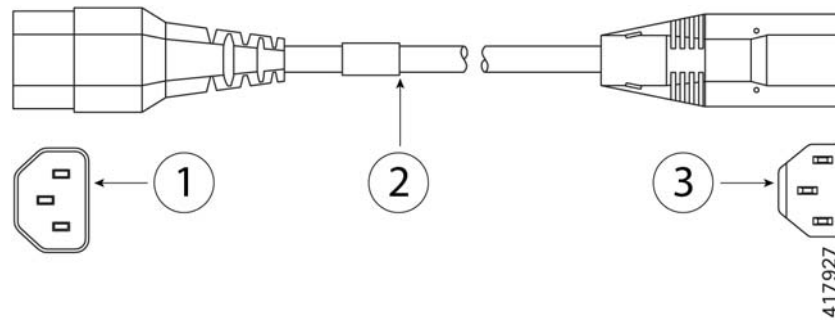
|          |                  |          |                            |
|----------|------------------|----------|----------------------------|
| <b>1</b> | Plug: SS10A      | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: HS10A |          | -                          |

**Figure B-14 CAB-C13-C14-2M, Jumper Power Cord (2 m)**



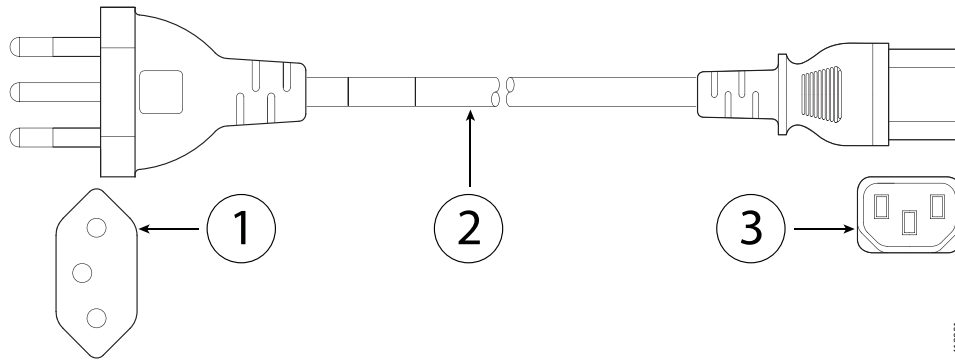
|          |                  |          |                            |
|----------|------------------|----------|----------------------------|
| <b>1</b> | Plug: SS10A      | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: HS10A |          | -                          |

**Figure B-15 CAB-C13-C14-AC, Jumper Power Cord (3 m)**



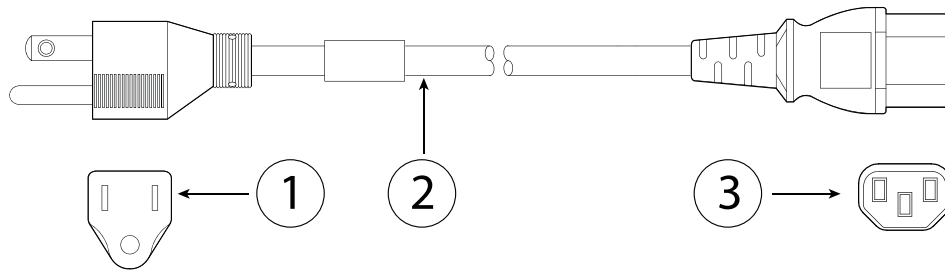
|          |                  |          |                            |
|----------|------------------|----------|----------------------------|
| <b>1</b> | Plug: SS10A      | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: HS10A |          | -                          |

**Figure B-16 CAB-250V-10A-BR (Brazil)**



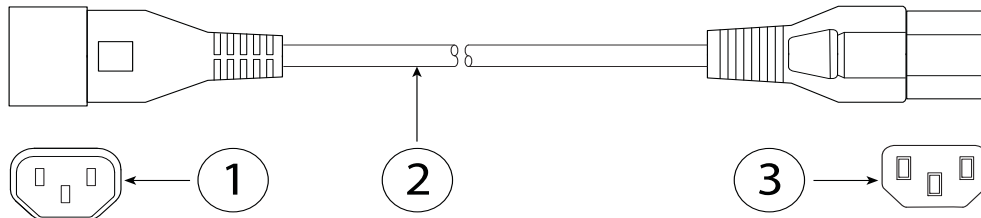
|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: NBR 14136          | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |

**Figure B-17 CAB-JPN-3PIN (Japan)**



|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: NEMA5-15P/JIS 8303 | <b>3</b> | Cord set rating: 12A, 125V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |

**Figure B-18 CAB-C13-C14-2M-JP (Japan)**



|          |                          |          |                            |
|----------|--------------------------|----------|----------------------------|
| <b>1</b> | Plug: EN 60320-2-2/E     | <b>3</b> | Cord set rating: 10A, 250V |
| <b>2</b> | Connector: IEC 60320-C13 |          | -                          |