Catalyst 6500 Series Power over Ethernet Daughter Cards Field-Upgrade Installation Note

This publication describes how to install and remove the following Catalyst 6500 series Power over Ethernet (PoE) daughter cards. The PoE daughter cards and a brief description are listed in Table 1.

Table 1 PoE Daughter Cards

PoE Daughter Card	Description
WS-F6K-VPWR=	Catalyst 6500 series prestandard PoE daughter card for 10/100 Ethernet modules.
WS-F6K-VPWR-GE=	Catalyst 6500 series prestandard PoE daughter card for 10/100/1000 Ethernet modules.
WS-F6K-GE48-AF=	Catalyst 6500 series IEEE 802.3af compliant PoE daughter card for 10/100/1000 Ethernet modules.
WS-F6K-FE48X2-AF=	Catalyst 6500 series IEEE 802.3af compliant PoE daughter card.
WS-F6K-48-AF=	Catalyst 6500 series IEEE 802.3af compliant PoE daughter card for 10/100 and 10/100/1000 Ethernet modules.

Note The WS-F6K-VPWR and WS-F6K-VPWR-GE PoE daughter cards are not interchangeable between Ethernet modules.

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Contents

This publication consists of these sections:

Note For translations of the warnings in this publication, see the "Translated Safety Warnings" section on page 47.

Overview

The PoE daughter cards can be installed on select 10/100 and 10/100/1000 Ethernet switching modules in the field to upgrade the Ethernet switching modules to provide inline power for IP phones and other devices. Table 2 lists the PoE daughter cards, the Ethernet modules they are supported on, and the port power and port speed. Table 3 lists feature of the PoE daughter cards.

Table 2 PoE Daughter Card Support

PoE Daughter Card	Supported on Ethernet Module	Maximum Power per Port (Watts)	Port Speed
WS-F6K-VPWR=	• WS-X6148-RJ-21	7	10/100
	• WS-X6148-RJ-45	7	10/100
	• WS-X6348-RJ-45	7	10/100
WS-F6K-VPWR-GE=	• WS-X6148-GE-TX	7	10/100/1000
	• WS-X6548-GE-TX	7	10/100/1000
WS-F6K-GE48-AF=	• WS-X6148-GE-TX	15.4	10/100/1000
	• WS-X6548-GE-TX	15.4	10/100/1000
WS-F6K-FE48X2-AF=	• WS-X6148X2-RJ-45	15.4	10/100
WS-F6K-48-AF=	• WS-X6148A-RJ-45	15.4	10/100
	• WS-X6148-GE-TX	15.4	10/100/1000
	• WS-X6148A-GE-TX	15.4	10/100/1000
	• WS-X6548-GE-TX	15.4	10/100/1000

Table 3 PoE Daughter Card Features

Feature	Description
Port inline power	Provides inline power on all ports of the Ethernet switching module.
Voltages and power	• Provides 48 VDC over Category 5, Category 5e, or Category 6 UTP cable up to 328 feet (100 meters). • Provides 6.3 W per port (WS-F6K-VPWR and WS-F6K-VPWR-GE). • Provides up to 15 W port (WS-F6K-GE48-AF and WS-F6K-48-AF).
Phone discovery	The Catalyst 6500 series switch automatically detects the presence of an IP phone and supplies inline power.
Auxiliary VLAN via IEEE 802.1Q	The Catalyst 6500 series switch automatically segments phones and data endpoints into separate logical networks.

Warning **Only trained and qualified personnel should be allowed to install, replace, or service this equipment.** Statement 1030

Safety Overview

Statement 1071—Warning Definition

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.

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 käsittelemiseen 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

FONTOS BIZTONSÁGI ELOÍRÁSOK

Ez a figyelmezeto jel veszélyre utal. Sérülésveszélyt rejto helyzetben van. Mielott bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplo figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján keresheto 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。

주의　중요 안전 지침

이 경고 기호는 위험을 나타냅니다. 작업자가 신체 부상을 일으킬 수 있는 위험한 환경에 있습니다. 장비에 작업을 수행하기 전에 전기 회로와 관련된 위험을 숙지하고 표준 작업 관례를 숙지하여 사고를 방지하십시오. 각 경고의 마지막 부분에 있는 경고문 번호를 참조하여 이 장치와 함께 제공되는 번역된 안전 경고문에서 해당 번역문을 찾으십시오.

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 legemesbeskadigelse. 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 لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في أخر 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

אזהרה

הוראות בטיחות חשובות

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

שמור הוראות אלה

Opomena

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 ОВИЕ 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

Warning **Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.** Statement 1034

Removing the Ethernet Switching Module

This section describes how to remove an Ethenet module from the switch chassis.

Required Tools

The following tools are required to perform the PoE daughter card removal and installation procedures:

- Number 2 Phillips screwdriver for the captive installation screws on the module on which the daughter card is to be removed or installed.

  Note We recommend that you use a Number 2 Phillips magnetic tip.

- Magnetic-tip Number 1 Phillips screwdriver for the screws and cap nuts that fasten the daughter card to the Ethernet module.
- Antistatic mat or antistatic foam.
- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares.

Removing the Ethernet Switching Module

Caution During this procedure, wear grounding wrist straps to avoid ESD damage to the card.

Warning **Before opening the unit, disconnect the telephone-network cables to avoid contact with telephone-network voltages.** Statement 1041

Warning **Do not work on the system or connect or disconnect cables during periods of lightning activity.** Statement 1001

Warning **To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.** Statement 1021

Warning **Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security.** Statement 1072

Caution To prevent ESD damage, handle switching modules by the carrier edges only.

To remove the Ethernet switching module from the chassis, perform these steps:

Step 1 Disconnect any network interface cables attached to the module.

Step 2 Verify that the captive installation screws on all of the other modules in the chassis are tight. This step ensures that the slot opening space created by the removed module is maintained.

Note If the captive installation screws are loose, the EMI gaskets on the installed modules will push the modules toward the open slot, reducing the opening size and making it difficult to reinstall the module.

Step 3 Loosen the two captive installation screws on the module to be removed.

Step 4 Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following two sets of steps:

Horizontal slots

a. Place your thumbs on the left and right ejector levers and simultaneously rotate the levers outward to unseat the module from the backplane connector. (See Figure 1.)

b. Grasp the front edge of the module and slide the module part of the way out of the slot. Place your other hand under the module to support the weight of the module. Do not touch the module circuitry. (See Figure 2.)

Figure 1 Opening the Ejector Levers (Horizontal Chassis Shown)

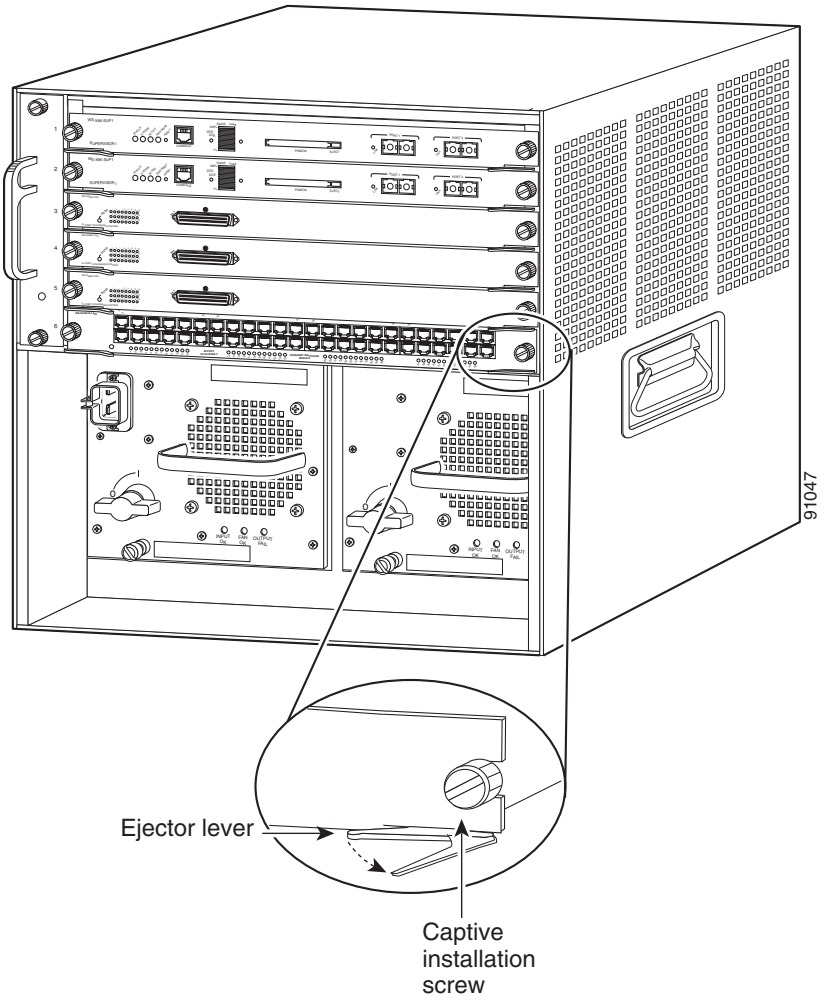
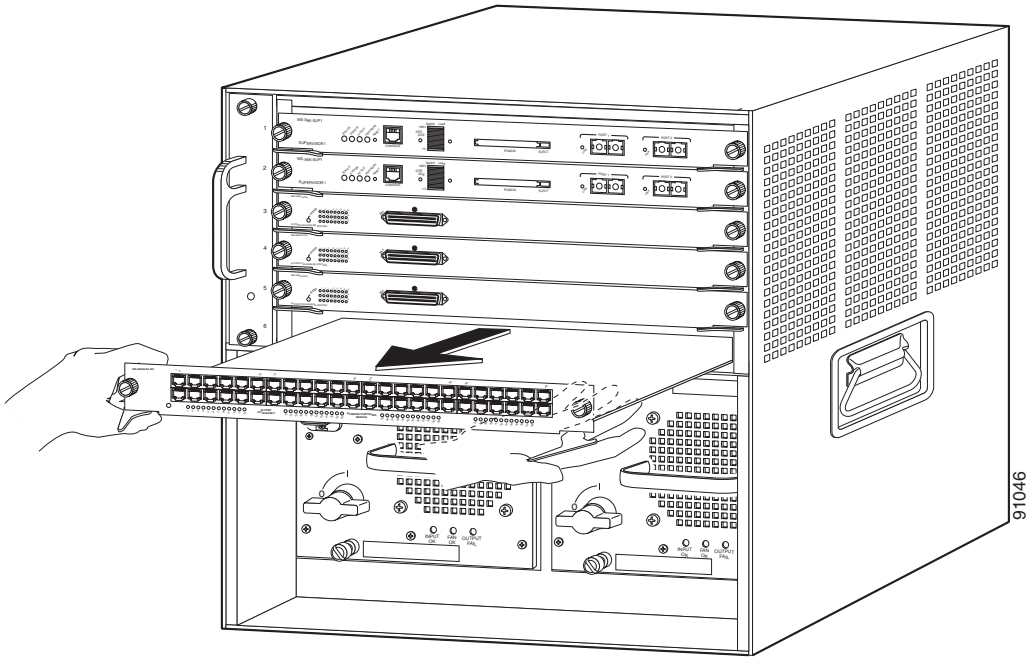


Figure 2 Removing the Module from the Chassis (Horizontal Chassis Shown)



Vertical slots

a. Place your thumbs on the ejector levers located at the top and bottom of the module, and simultaneously rotate the levers outward to unseat the module from the backplane connector.

b. Grasp the edges of the module, and slide the module straight out of the slot. Do not touch the module circuitry.

Step 5 Place the module on an antistatic mat or antistatic foam.

Step 6 You are now ready to remove or install your inline-power daughter card. Refer to Table 4 for a list of inline-power daughter cards and the related removal and installation procedures.

Table 4 Inline-Power Daughter Card Removal and Installation Procedures

Inline-Power Daughter Card	Removal and Installation Procedure Reference
WS-F6K-VPWR=	Removing and Installing the WS-F6K-VPWR Inline-Power Daughter Card, page 15
WS-F6K-VPWR-GE=	Removing and Installing the WS-F6K-VPWR-GE Inline-Power Daughter Card, page 19
WS-F6K-GE48-AF=	Removing and Installing the WS-F6K-GE48-AF Inline-Power Daughter Card, page 24
WS-F6K-FE48X2-AF=	Removing and Installing the WS-F6K-FE48X2-AF Inline-Power Daughter Card, page 29
WS-F6K-48-AF=	Removing and Installing the WS-F6K-48-AF Inline-Power Daughter Card, page 34

Step 7 After removing or installing your inline-power daughter card, go to the "Installing the Ethernet Switching Module" section on page 39.

Removing and Installing the WS-F6K-VPWR Inline-Power Daughter Card

The WS-F6K-VPWR inline-power daughter card is supported only on the following Ethernet modules:

- WS-X6148-RJ-21
- WS-X6148-RJ-45
- WS-X6348-RJ-45

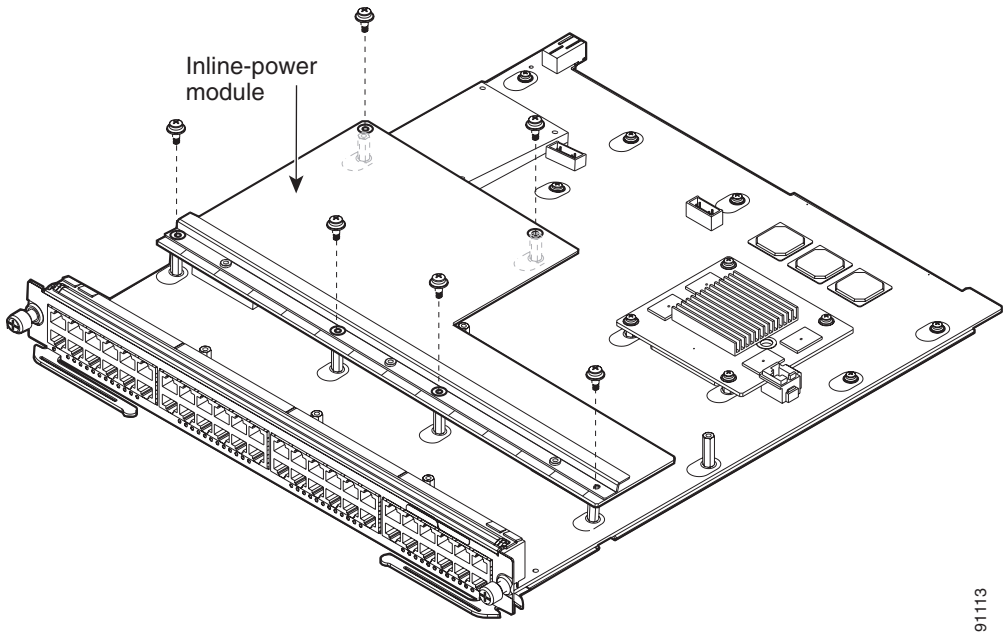
The WS-F6K-VPWR inline-power daughter card supports Cisco prestandard inline power; it does not support IEEE 802.3af.

Removing the WS-F6K-VPWR Inline-Power Daughter Card

To remove the WS-F6K-VPWR inline-power daughter card from the module, perform these steps:

Step 1 Remove the six screws as shown in Figure 3.

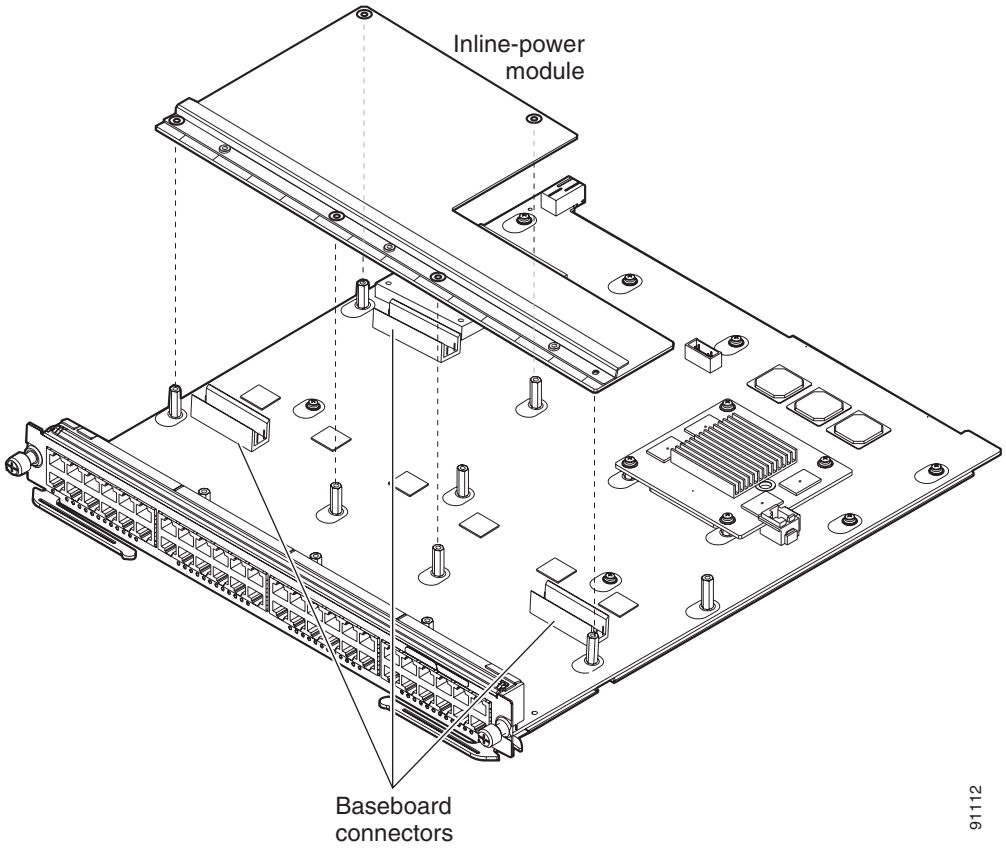
Figure 3 Removing the Mounting Screws (WS-F6K-VPWR)



Step 2 Grasp the inline-power daughter card at the edges and carefully lift up to disconnect the inline-power daughter card from the Ethernet module connectors.

Step 3 Carefully remove the inline-power daughter card from the module (see Figure 4) and set the inline-power daughter card on an antistatic mat or antistatic foam.

Figure 4 Removing the Inline-Power Daughter Card (WS-F6K-VPWR)



Step 4 If you are installing a replacement WS-F6K-VPWR inline-power daughter card, go to the "Installing the WS-F6K-VPWR Inline-Power Daughter Card" section on page 17. If you are installing the Ethernet module into the chassis, go to the "Installing the Ethernet Switching Module" section on page 39.

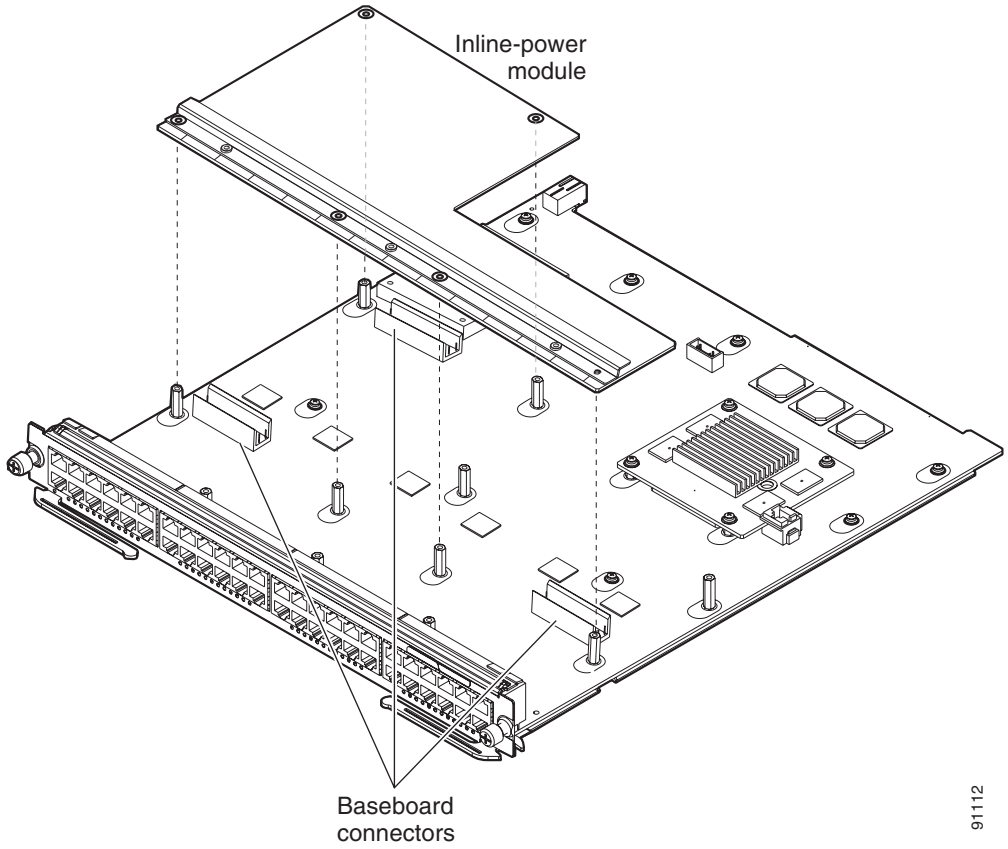
Installing the WS-F6K-VPWR Inline-Power Daughter Card

To install the WS-F6K-VPWR inline-power daughter card on the Ethernet baseboard, perform these steps:

Step 1 Remove the inline-power daughter card from its protective packaging.

Step 2 Position the inline-power daughter card over the module standoffs as shown in Figure 5.

Figure 5 Positioning the Inline-Power Daughter Card over the Module (WS-F6K-VPWR)



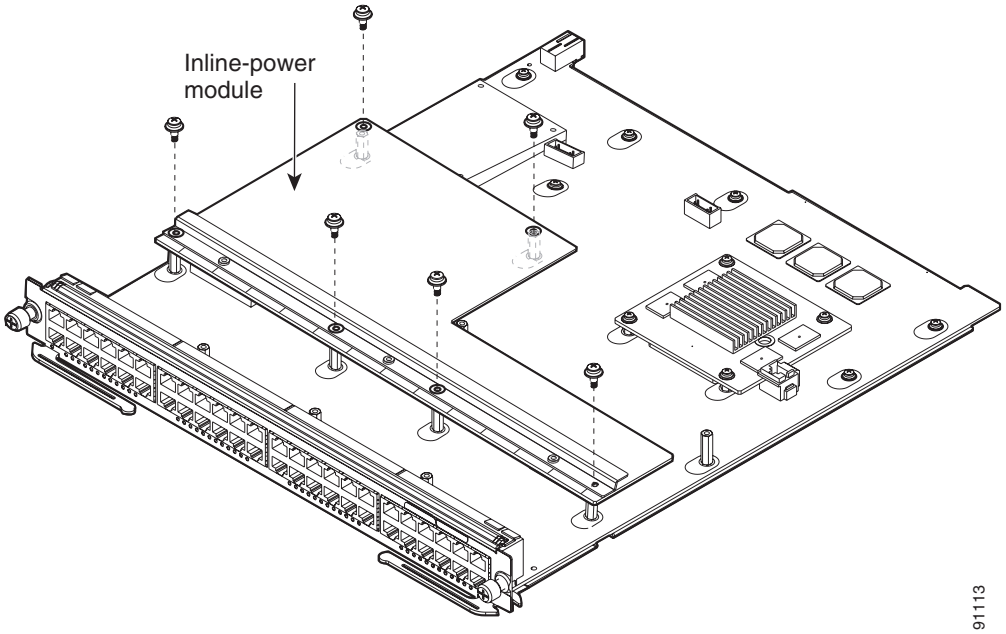
Step 3 Carefully press down on the edges of the inline-power daughter card to seat the daughter card connectors to the module connectors.

Note Make sure that you firmly seat the inline-power daughter card connectors to the module connectors.

Step 4 Install the six screws and carefully and evenly tighten the screws as shown in Figure 6.

Caution Do not overtighten the screws or you could damage the inline-power daughter card.

Figure 6 Installing the Mounting Screws (WS-F6K-VPWR)



Step 5 You are now ready to install the Ethernet module back into the chassis. Go to the "Installing the Ethernet Switching Module" section on page 39.

Removing and Installing the WS-F6K-VPWR-GE Inline-Power Daughter Card

The WS-F6K-VPWR-GE inline-power daughter card can be installed only on the following Ethernet modules:

- WS-X6148-GE-TX
- WS-X6548-GE-TX

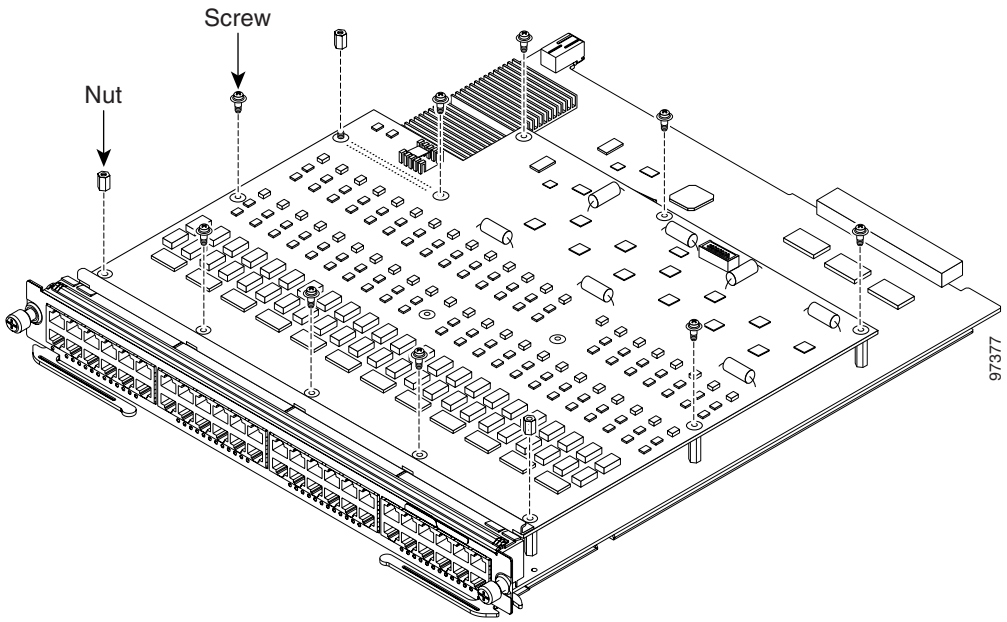
The WS-F6K-VPWR inline-power daughter card supports Cisco prestandard inline power; it does not support IEEE 802.3af.

Removing the WS-F6K-VPWR-GE Inline-Power Daughter Card

To remove the WS-F6K-VPWR-GE inline-power daughter card on the Ethernet module, perform these steps:

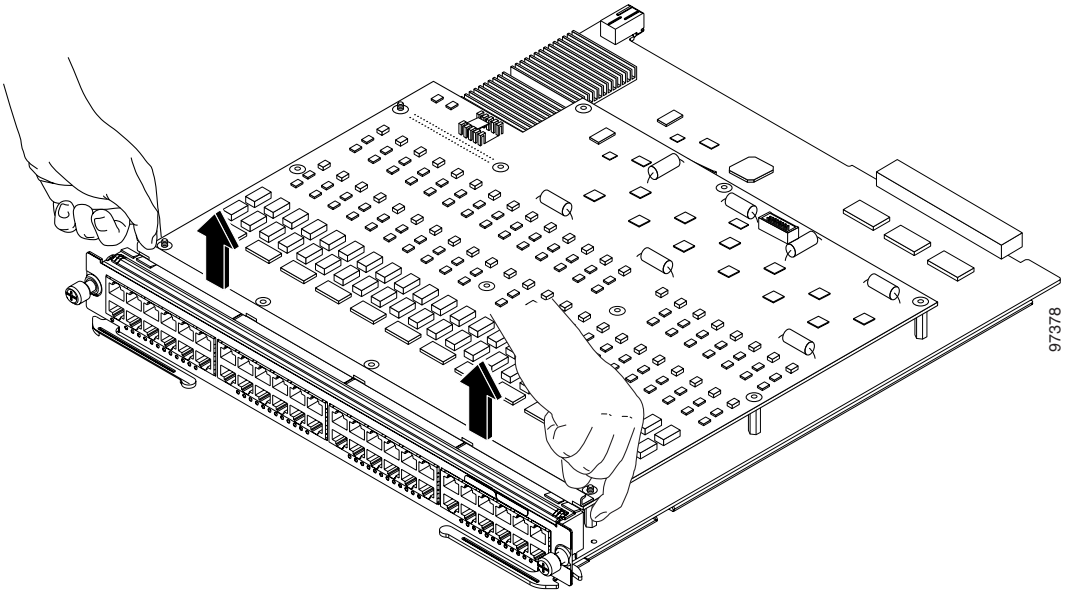
Step 1 Loosen and remove the nine screws and the three nuts securing the inline-power daughter card to the module. (See Figure 7.)

Figure 7 Removing the Inline-Power Daughter Card Mounting Screws and Nuts (WS-F6K-VPWR-GE)



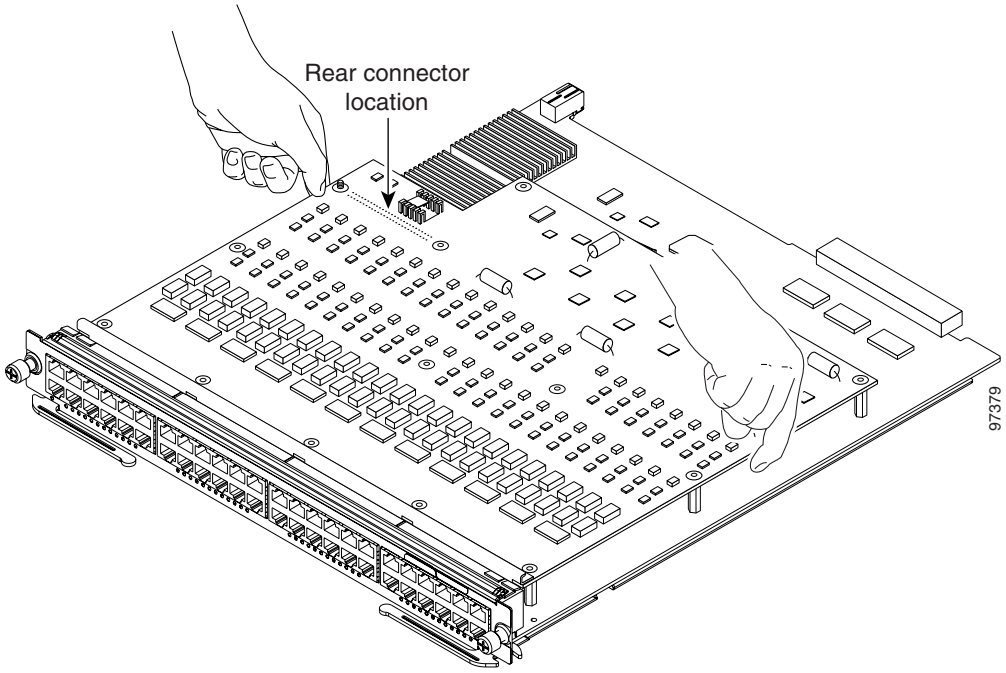
Step 2 Grasp the inline-power daughter card at the front edges and carefully lift up to disconnect the inline-power daughter card from the Ethernet module front connector. (See Figure 8.)

Figure 8 Disconnecting the Inline-Power Daughter Card Front Connector (WS-F6K-VPWR-GE)



Step 3 Grasp the inline-power daughter card near the back edges, as shown in Figure 9, and carefully lift up to disconnect the inline-power daughter card connector from the Ethernet module rear connector.

Figure 9 Disconnecting the Inline-Power Daughter Card Rear Connector (WS-F6K-VPWR-GE)



Step 4 Carefully remove the inline-power daughter card from the Ethernet module and set it on an antistatic mat or antistatic foam.

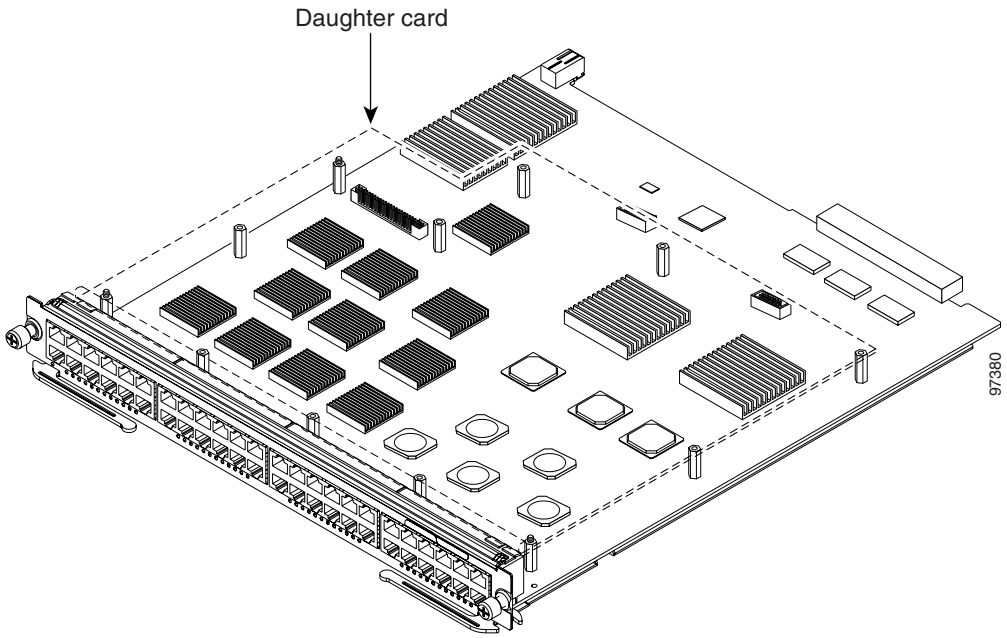
Step 5 If you are installing a replacement WS-F6K-VPWR-GE inline-power daughter card, go to the "Installing the WS-F6K-VPWR-GE Inline-Power Daughter Card" section on page 21. If you are installing the Ethernet module back into the chassis, go to the "Installing the Ethernet Switching Module" section on page 39.

Installing the WS-F6K-VPWR-GE Inline-Power Daughter Card

To install the WS-F6K-VPWR-GE inline-power daughter card on the module, perform these steps:

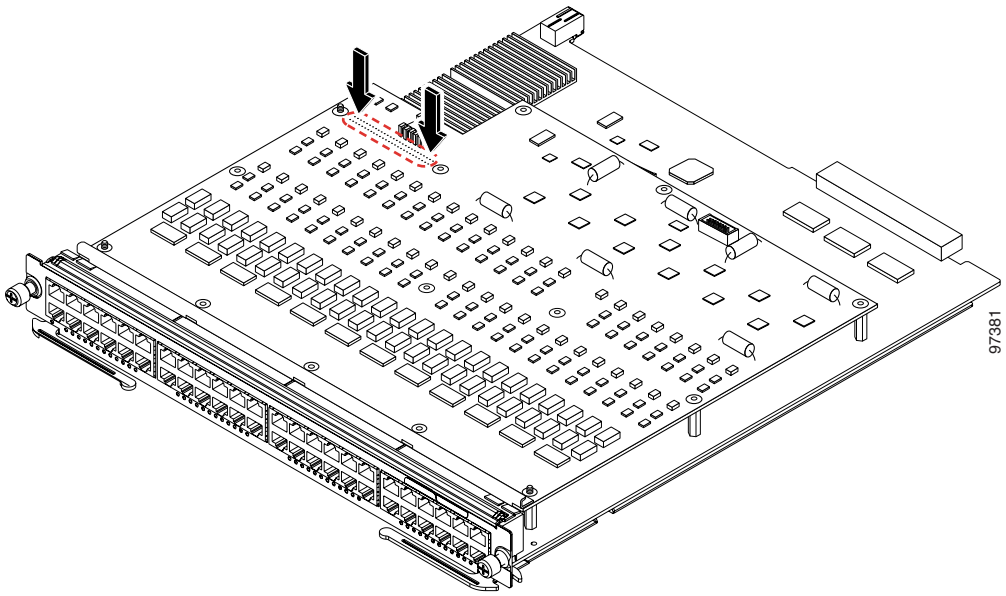
Step 1 Position the inline-power daughter card over the module and carefully align the three threaded studs on the module with the corresponding holes in the inline-power daughter card. (See Figure 10.). This step aligns the inline-power daughter card front and rear connectors with the module front and rear connectors.

Figure 10 Positioning the Inline-Power Daughter Card Over the Module (WS-F6K-VPWR-GE)



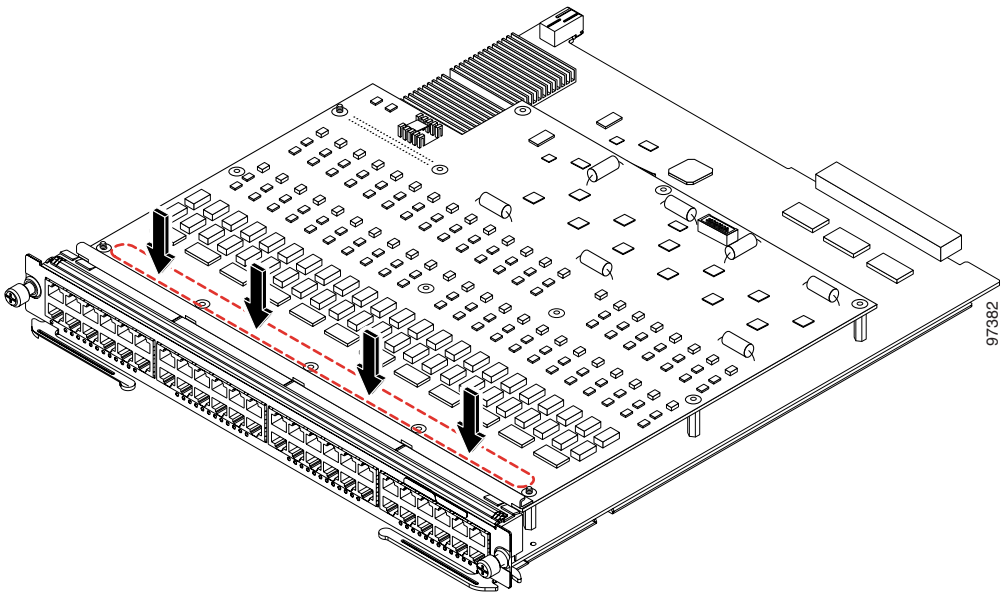
Step 2 Place your fingers on either side of the inline-power daughter card rear connector and press down to seat the inline-power daughter card on the Ethernet module rear connector. (See Figure 11.)

Figure 11 Seating the Inline-Power Daughter Card Rear Connector (WS-F6K-VPWR-GE)



Step 3 Position your fingers along the stiffener on the front edge of the inline-power daughter card and press down firmly to seat the inline-power daughter card on the Ethernet module front connector. (See Figure 12.)

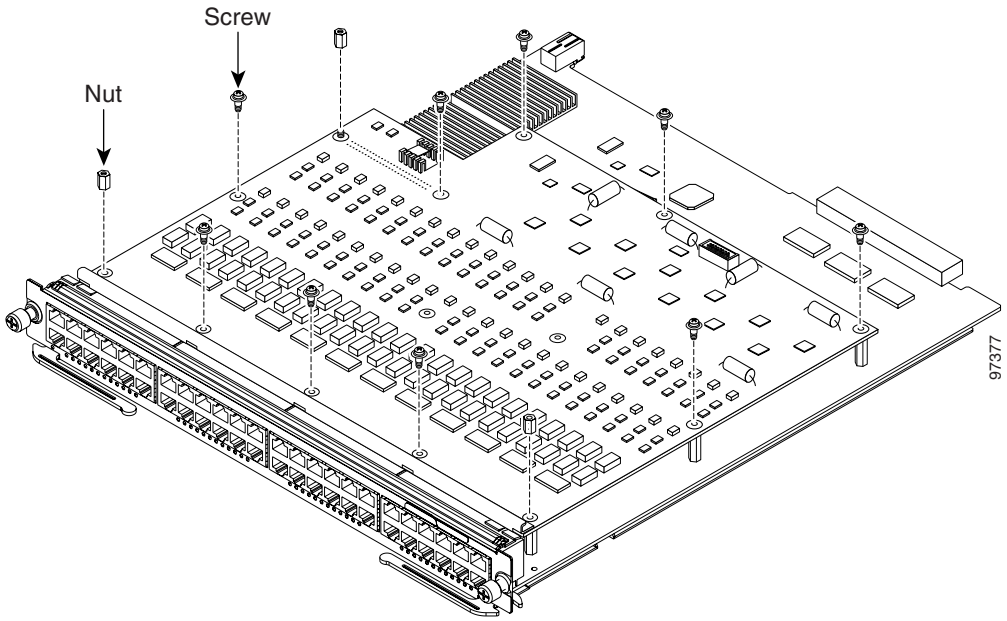
Figure 12 Seating the Inline-Power Daughter Card Front Connector (WS-F6K-VPWR-GE)



Step 4 Attach the inline-power daughter card to the Ethernet module with the nine screws and the three nuts. (See Figure 13.)

Caution Do not overtighten the screws and the nuts because you might damage the inline-power daughter card.

Figure 13 Attaching the Inline-Power Daughter Card to the Module (WS-F6K-VPWR-GE)



Step 5 You are now ready to install the Ethernet module back into the chassis. Go to the "Installing the Ethernet Switching Module" section on page 39.

Removing and Installing the WS-F6K-GE48-AF Inline-Power Daughter Card

The WS-F6K-GE48-AF inline-power daughter card can be installed only on the following Ethernet modules:

- WS-X6148-GE-TX
- WS-X6548-GE-TX

Note The WS-F6K-GE48-AF inline-power daughter card supports both IEEE 802.3af and the Cisco prestandard.

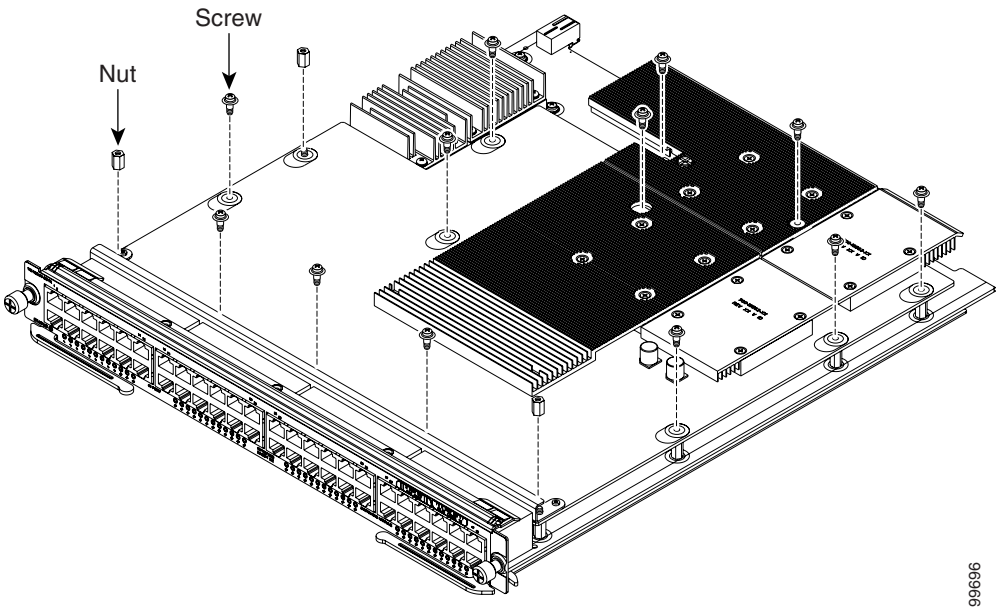
Removing the WS-F6K-GE48-AF Inline-Power Daughter Card

To remove the WS-F6K-GE48-AF inline-power daughter card on the Ethernet module, perform these steps:

Step 1 Loosen and remove the 12 screws and the 3 nuts securing the inline-power daughter card to the Ethernet module. (See Figure 14.)

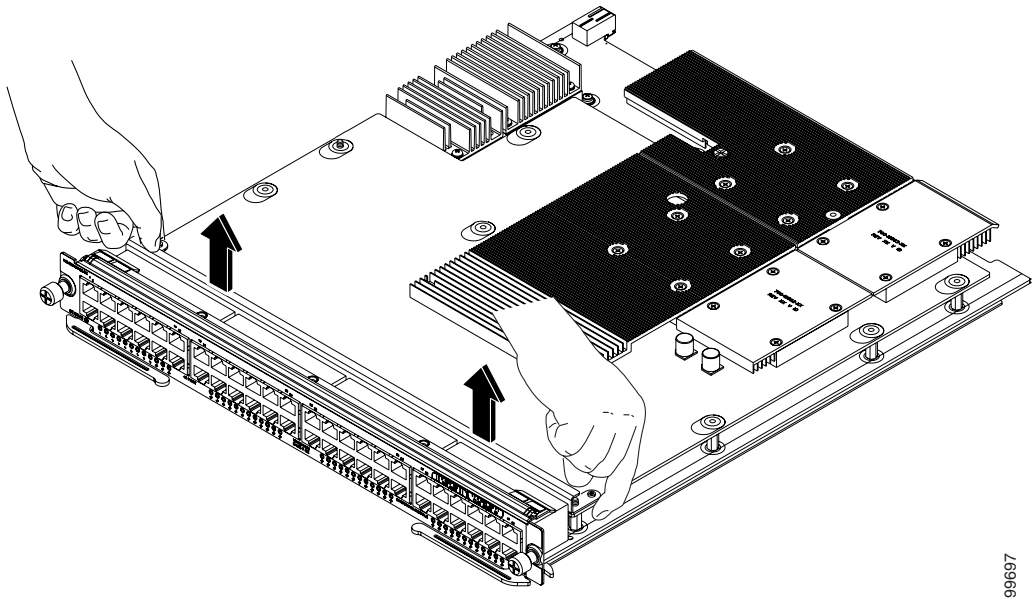
Tip Three screws that secure the daughter card to the module pass through openings in the daughter card heat sinks. We recommend that you use a No. 1 Phillips screwdriver equipped with a magnetic tip to remove the three screws.

Figure 14 Removing the Inline-Power Daughter Card Mounting Screws and Nuts (WS-F6K-GE48-AF)



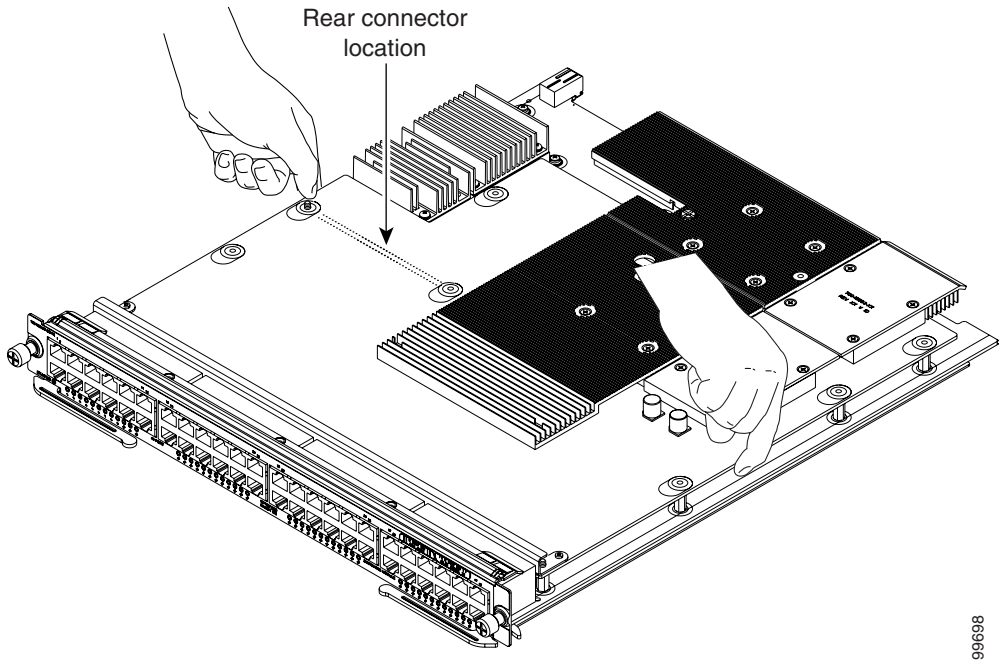
Step 2 Grasp the inline-power daughter card at the front edges and carefully lift up to disconnect the inline-power daughter card from the Ethernet module front connector. (See Figure 15.)

Figure 15 Disconnecting the Inline-Power Daughter Card Front Connector (WS-F6K-GE48-AF)



Step 3 Grasp the inline-power daughter card near the back edges, as shown in Figure 16, and carefully lift up to disconnect the inline-power daughter card connector from the Ethernet module rear connector.

Figure 16 Disconnecting the Inline-Power Daughter Card Rear Connector (WS-F6K-GE48-AF)



Step 4 Carefully remove the inline-power daughter card from the Ethernet module and set it on an antistatic mat or antistatic foam.

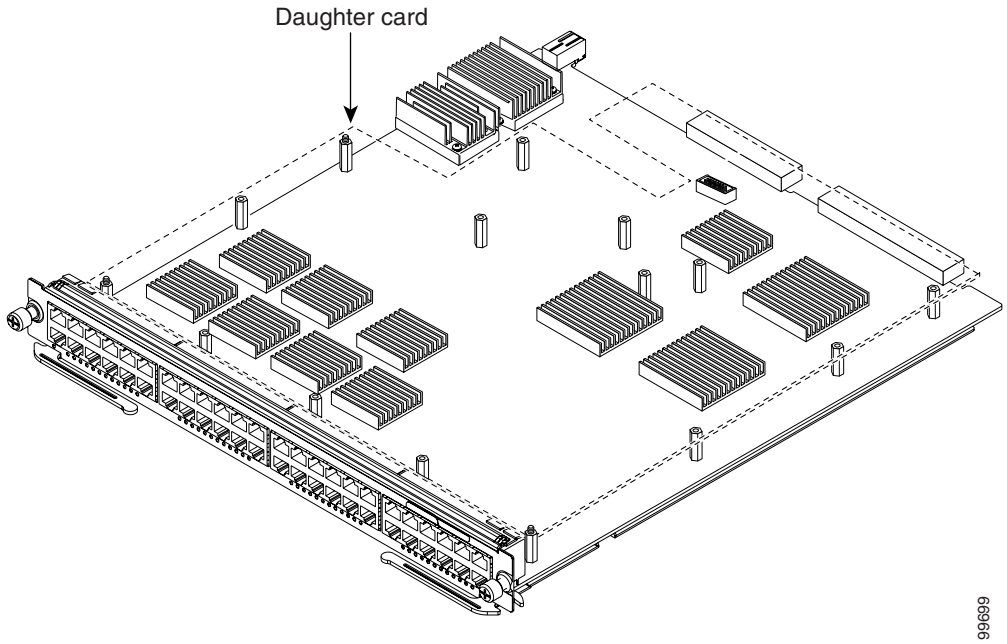
Step 5 If you are installing a replacement WS-F6K-GE48-AF inline-power daughter card, go to the "Installing the WS-F6K-GE48-AF Inline-Power Daughter Card" section on page 26. If you are installing the Ethernet module back into the chassis, go to the "Installing the Ethernet Switching Module" section on page 39.

Installing the WS-F6K-GE48-AF Inline-Power Daughter Card

To install the WS-F6K-GE48-AF inline-power daughter card on the Ethernet module, perform these steps:

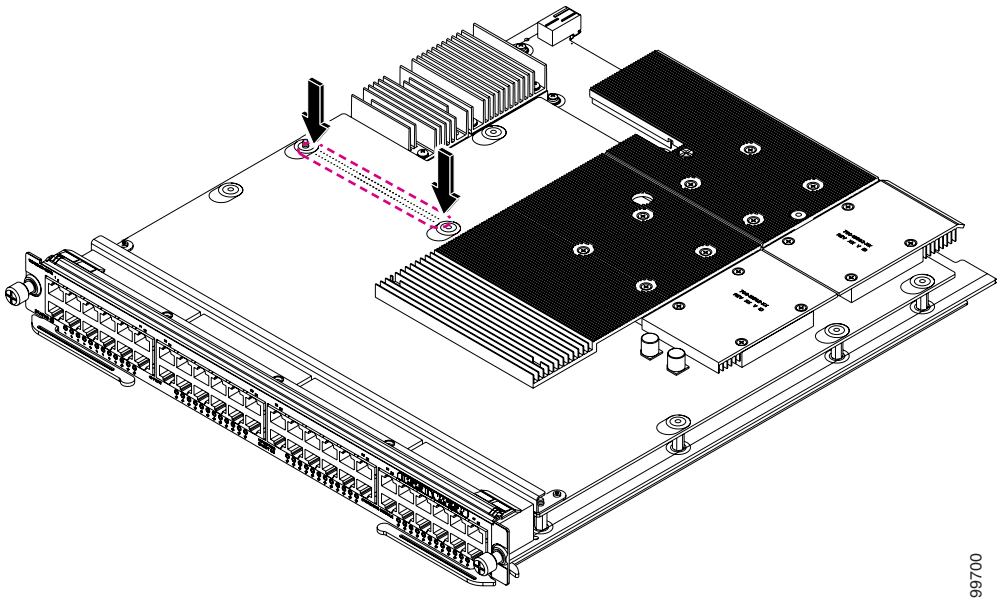
Step 1 Position the inline-power daughter card over the module and carefully align the three threaded studs on the module with the corresponding holes in the inline-power daughter card. (See Figure 17.) This step aligns the inline-power daughter card connectors with the module connectors.

Figure 17 Positioning the Inline-Power Daughter Card Over the Module (WS-F6K-GE48-AF)



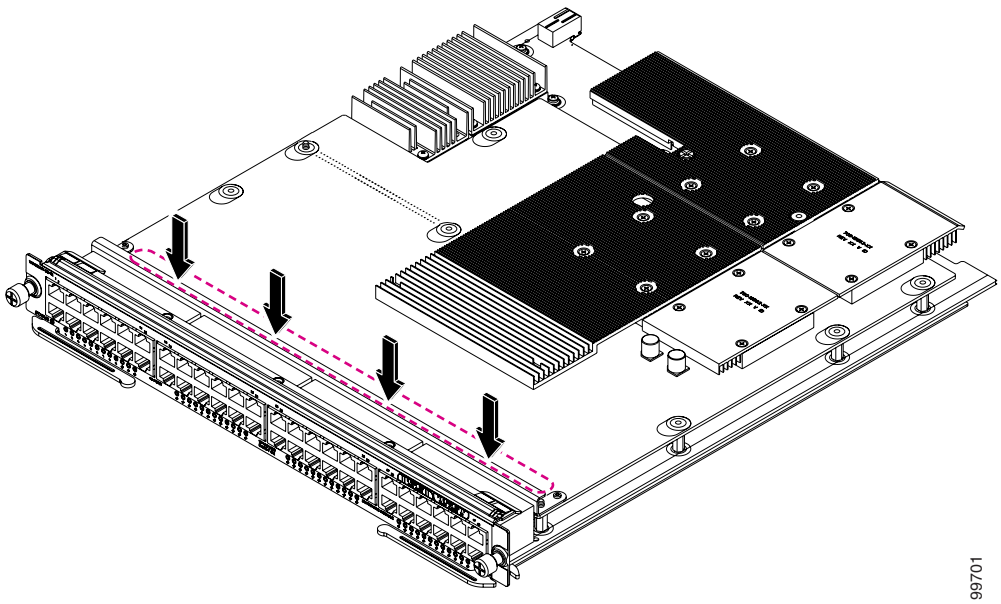
Step 2 Place your fingers on either side of the inline-power daughter card rear connector near the standoffs and press down to seat the inline-power daughter card on the module rear connector. (See Figure 18.)

Figure 18 Seating the Inline-Power Daughter Card Rear Connector (WS-F6K-GE48-AF)



Step 3 Position your fingers along the stiffener on the front edge of the inline-power daughter card and press down firmly to seat the inline-power daughter card on the module front connector. (See Figure 19.)

Figure 19 Seating the Inline-Power Daughter Card Front Connector (WS-F6K-GE48-AF)

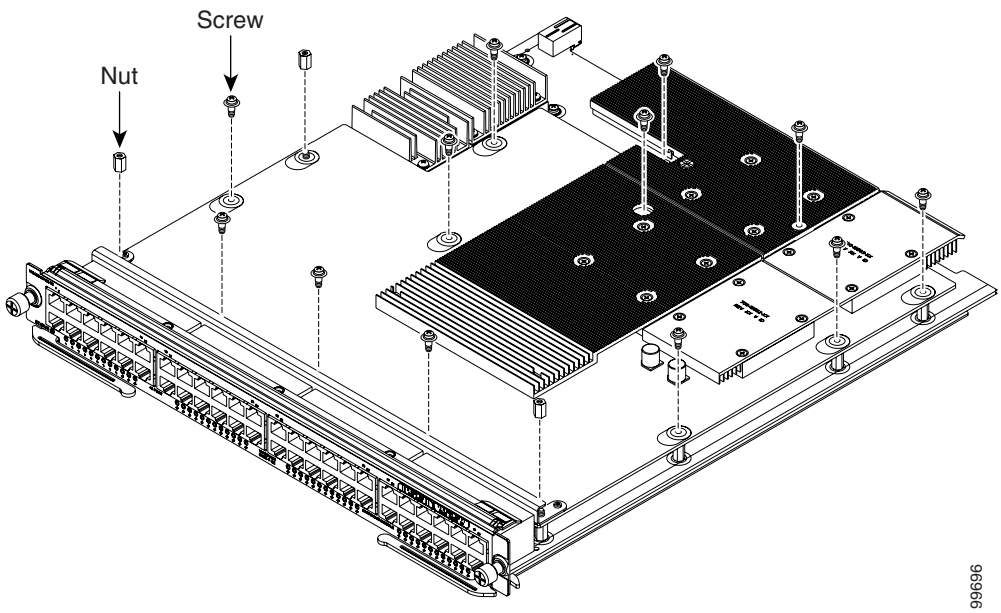


Step 4 Attach the inline-power daughter card to the module with the twelve screws and the three nuts. (See Figure 20.)

Tip Three screws that secure the daughter card to the module pass through openings in the daughter card heat sinks. We recommend that you use a No. 1 Phillips screwdriver equipped with a magnetic tip to install the three screws.

Caution Do not overtighten the screws and the nuts because you might damage the inline-power daughter card.

Figure 20 Securing the Inline-Power Daughter Card to the Module (WS-F6K-GE48-AF)



Step 5 You are now ready to install the Ethernet module back into the chassis. Go to the "Installing the Ethernet Switching Module" section on page 39.

Removing and Installing the WS-F6K-FE48X2-AF Inline-Power Daughter Card

The WS-F6K-FE48X2-AF inline-power daughter card is supported only on the WS-X6148X2-RJ-45 Ethernet module.

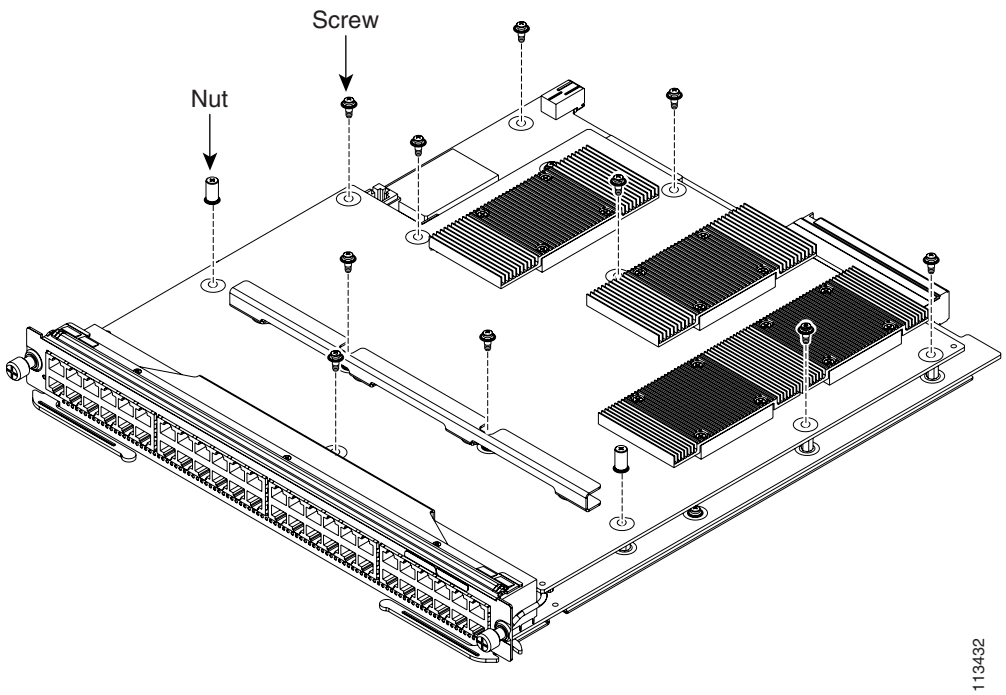
Note The WS-F6K-FE48X2-AF inline-power daughter card supports both IEEE 802.3af and the Cisco prestandard.

Removing the WS-F6K-FE48X2-AF Inline-Power Daughter Card

To remove the WS-F6K-FE48X2-AF inline-power daughter card on the module, perform these steps:

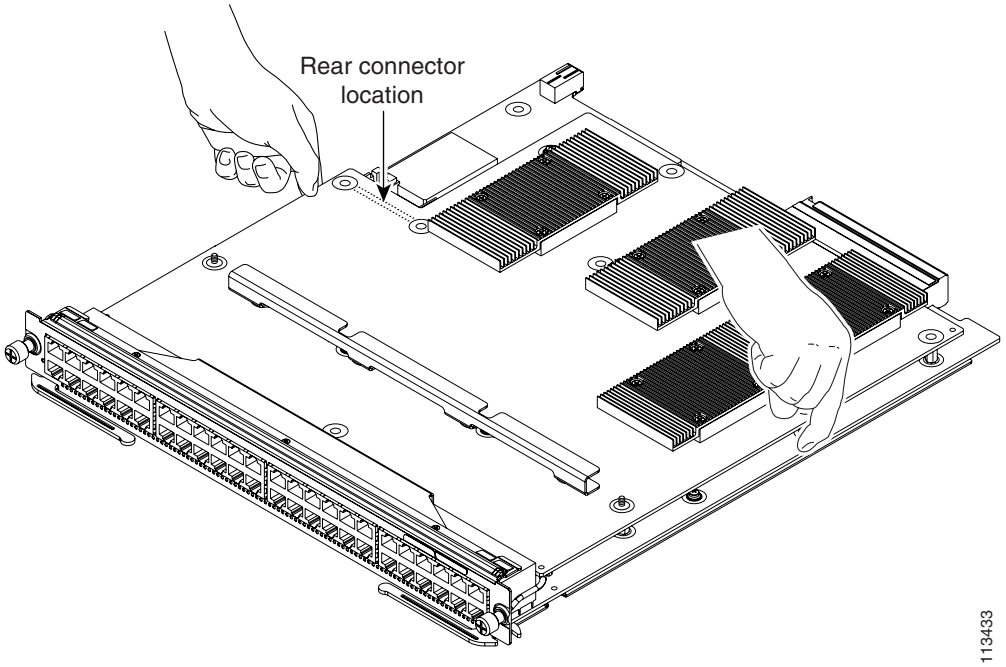
Step 1 Loosen and remove the 10 screws and the 2 nuts securing the inline-power daughter card to the module. (See Figure 21.)

Figure 21 Removing the Inline-Power Daughter Card Mounting Screws (WS-F6K-FE48X2-AF)



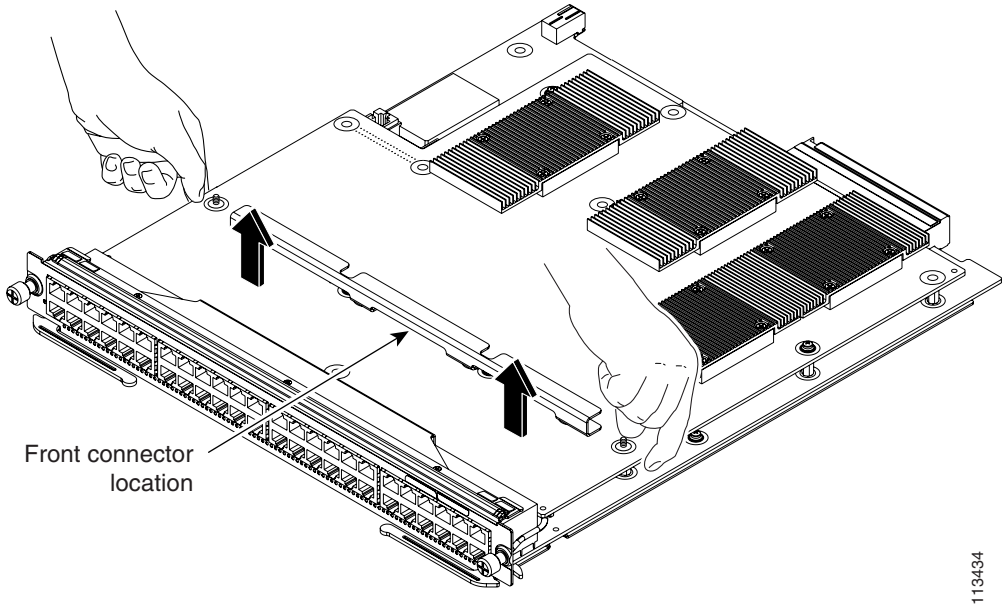
Step 2 Grasp the inline-power daughter card at the rear edge and carefully lift up to disconnect the inline-power daughter card from the module rear connector. (See Figure 22.)

Figure 22 Disconnecting the Inline-Power Daughter Card Rear Connector (WS-F6K-FE48X2-AF)



Step 3 Grasp the inline-power daughter card near the front edges, as shown in Figure 23, and carefully lift up to disconnect the inline-power daughter card connector from the module front connector.

Figure 23 Disconnecting the Inline-Power Daughter Card Front Connector (WS-F6K-FE48X2-AF)



Step 4 Carefully remove the inline-power daughter card from the module and set it on an antistatic mat or antistatic foam.

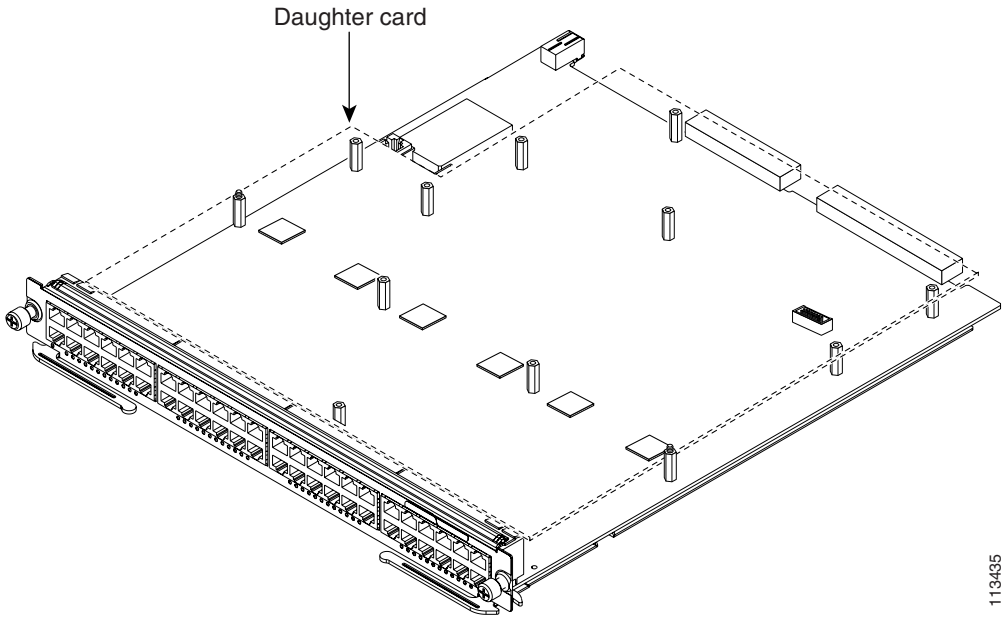
Step 5 If you are installing a replacement WS-F6K-FE48X2-AF inline-power daughter card, go to the "Installing the WS-F6K-FE48X2-AF Inline-Power Daughter Card" section on page 31. If you are installing the Ethernet module back into the chassis, go to the "Installing the Ethernet Switching Module" section on page 39.

Installing the WS-F6K-FE48X2-AF Inline-Power Daughter Card

To install the WS-F6K-FE48X2-AF inline-power daughter card on the module, perform these steps:

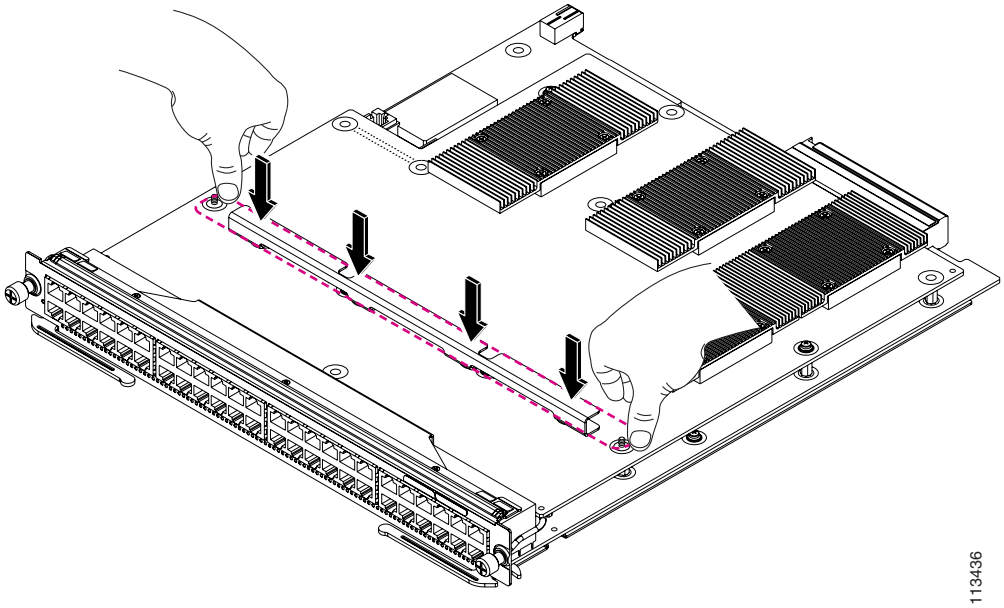
Step 1 Position the inline-power daughter card over the module and carefully align the two threaded studs on the module with the corresponding holes in the inline-power daughter card. (See Figure 24.) This step aligns the inline-power daughter card connectors with the module connectors.

Figure 24 Positioning the Inline-Power Daughter Card Over the Module (WS-F6K-FE48X2-AF)



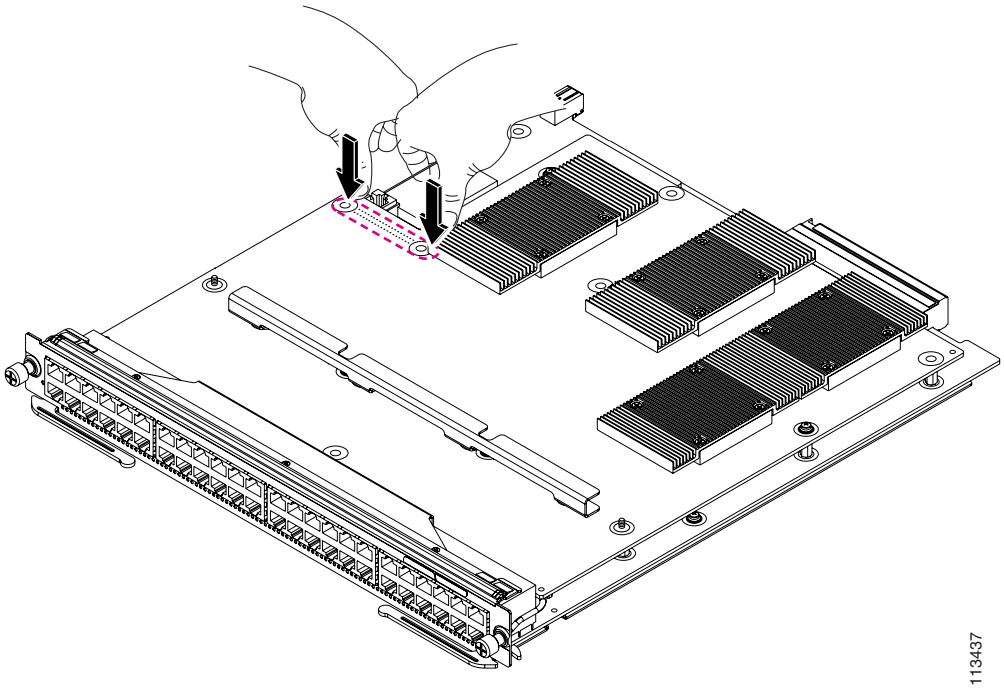
Step 2 Place your fingers on the stiffener bar and press down to seat the inline-power daughter card front connector on the module. (See Figure 25.)

Figure 25 Seating the Inline-Power Daughter Card Front Connector (WS-F6K-FE48X2-AF)



Step 3 Position your fingers over the inline-power daughter card rear connector and press down firmly to seat the inline-power daughter card on the module rear connector. (See Figure 26.)

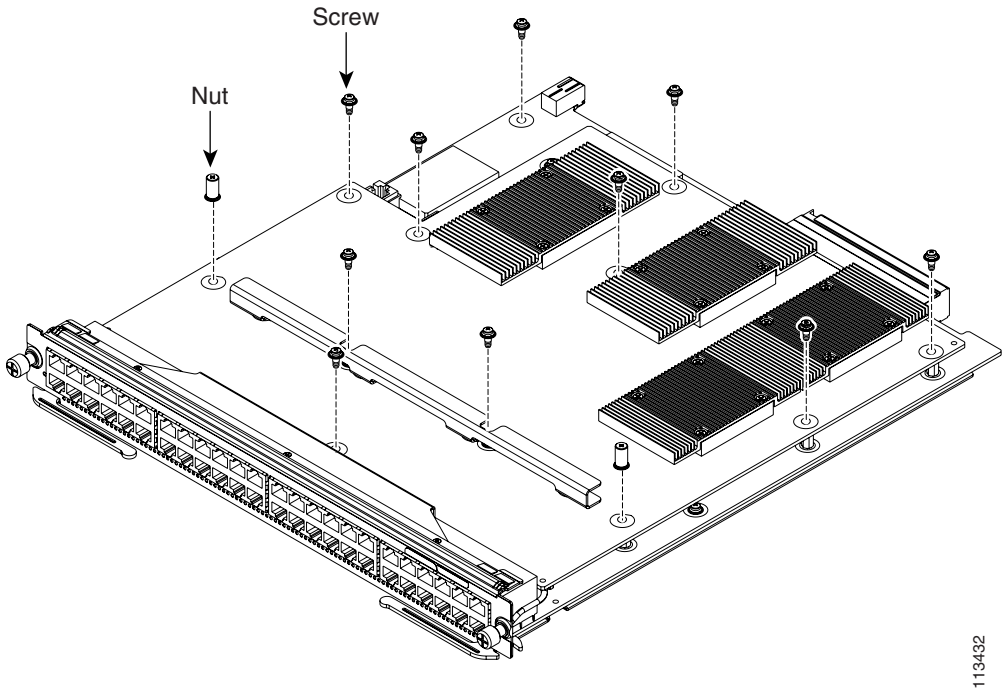
Figure 26 Seating the Inline-Power Daughter Card Rear Connector (WS-F6K-FE48X2-AF)



Step 4 Attach the inline-power daughter card to the module with the 10 screws and the 2 nuts. (See Figure 27.)

Caution Do not overtighten the screws and the nuts because you might damage the inline-power daughter card.

Figure 27 Securing the Inline-Power Daughter Card to the Module (WS-F6K-FE48X2-AF)



Step 5 You are now ready to install the Ethernet module back into the chassis. Go to the "Installing the Ethernet Switching Module" section on page 39.

Removing and Installing the WS-F6K-48-AF Inline-Power Daughter Card

The WS-F6K-48-AF inline-power daughter card can be installed only on the following Ethernet modules:

- WS-X6148-GE-TX
- WS-X6148A-GE-TX
- WS-X6148A-RJ-45
- WS-X6548-GE-TX

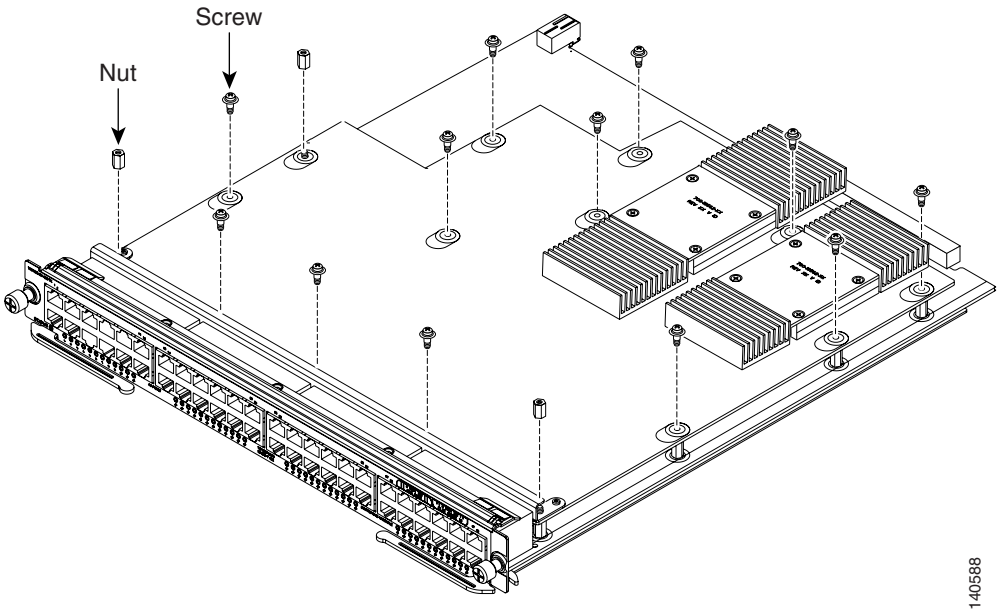
Note The WS-F6K-48-AF inline-power daughter card supports both IEEE 802.3af and the Cisco prestandard.

Removing the WS-F6K-48-AF Inline-Power Daughter Card

To remove the WS-F6K-48-AF inline-power daughter card on the Ethernet module, perform these steps:

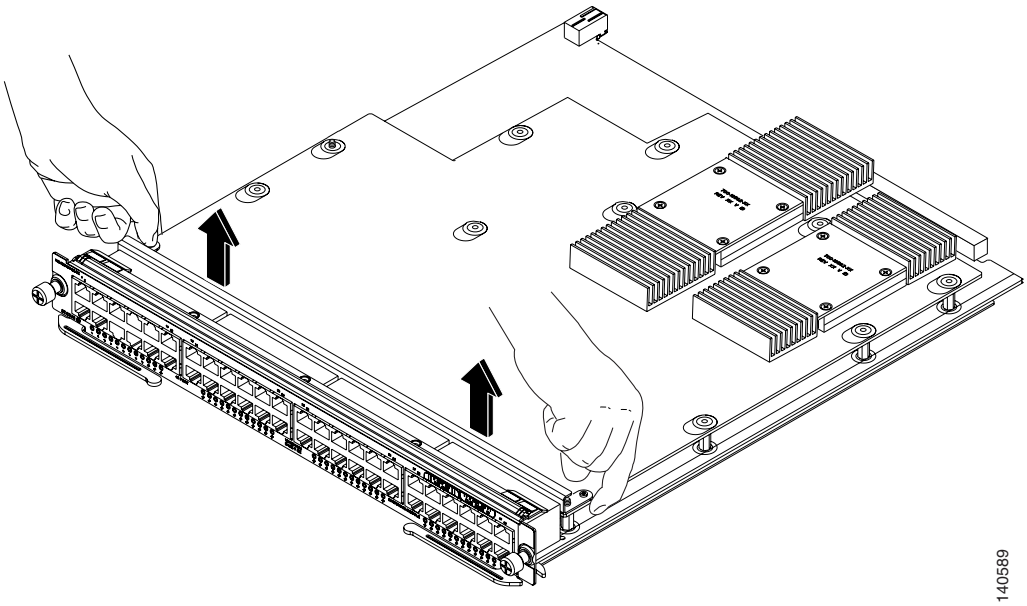
Step 1 Loosen and remove the 12 screws and the 3 nuts securing the inline-power daughter card to the module. (See Figure 28.)

Figure 28 Removing the Inline-Power Daughter Card Mounting Screws and Nuts (WS-F6K-48-AF)



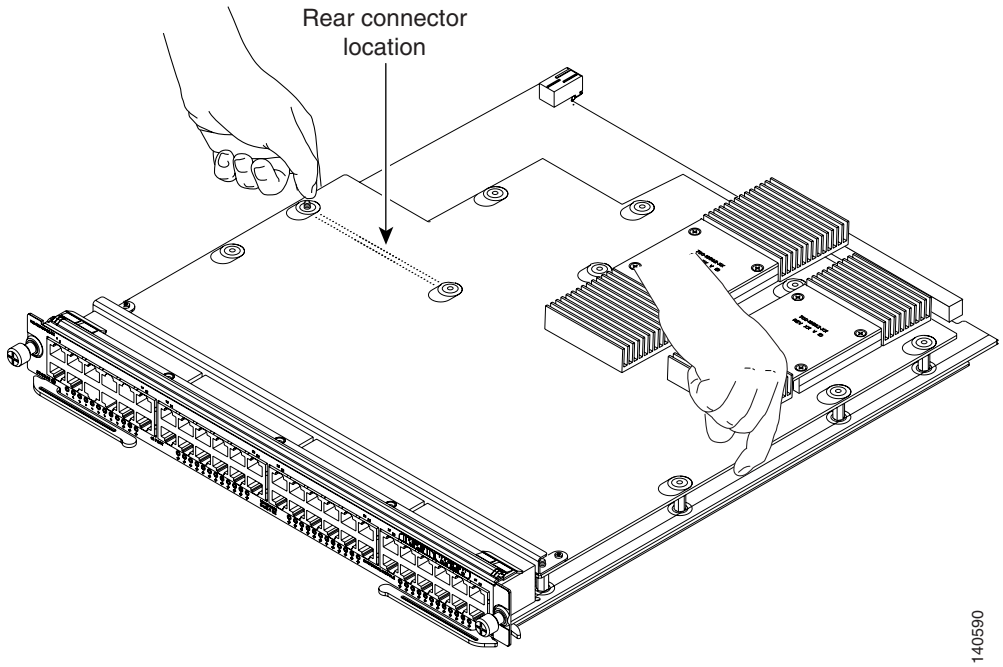
Step 2 Grasp the inline-power daughter card at the front edges and carefully lift up to disconnect the inline-power daughter card from the Ethernet module front connector. (See Figure 29.)

Figure 29 Disconnecting the Inline-Power Daughter Card Front Connector (WS-F6K-48-AF)



Step 3 Grasp the inline-power daughter card near the back edges, as shown in Figure 30, and carefully lift up to disconnect the inline-power daughter card connector from the Ethernet module rear connector.

Figure 30 Disconnecting the Inline-Power Daughter Card Rear Connector (WS-F6K-48-AF)



Step 4 Carefully remove the inline-power daughter card from the Ethernet module and set it on an antistatic mat or antistatic foam.

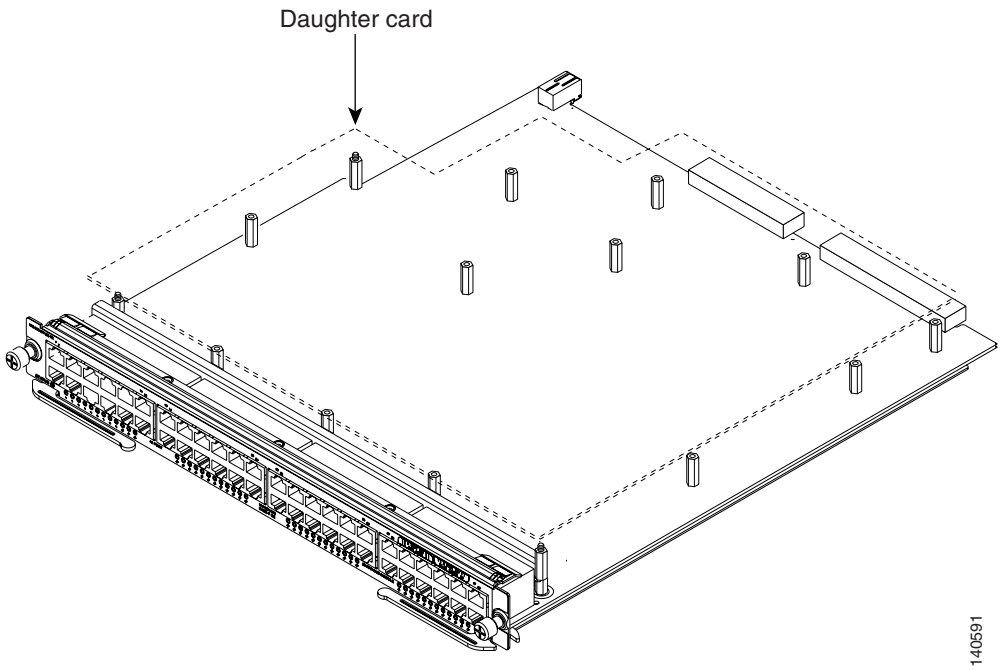
Step 5 If you are installing a replacement WS-F6K-48-AF inline-power daughter card, go to the "Installing the WS-F6K-48-AF Inline-Power Daughter Card" section on page 36. If you are installing the Ethernet module back into the chassis, go to the "Installing the Ethernet Switching Module" section on page 39.

Installing the WS-F6K-48-AF Inline-Power Daughter Card

To install the WS-F6K-48-AF inline-power daughter card on the Ethernet module, perform these steps:

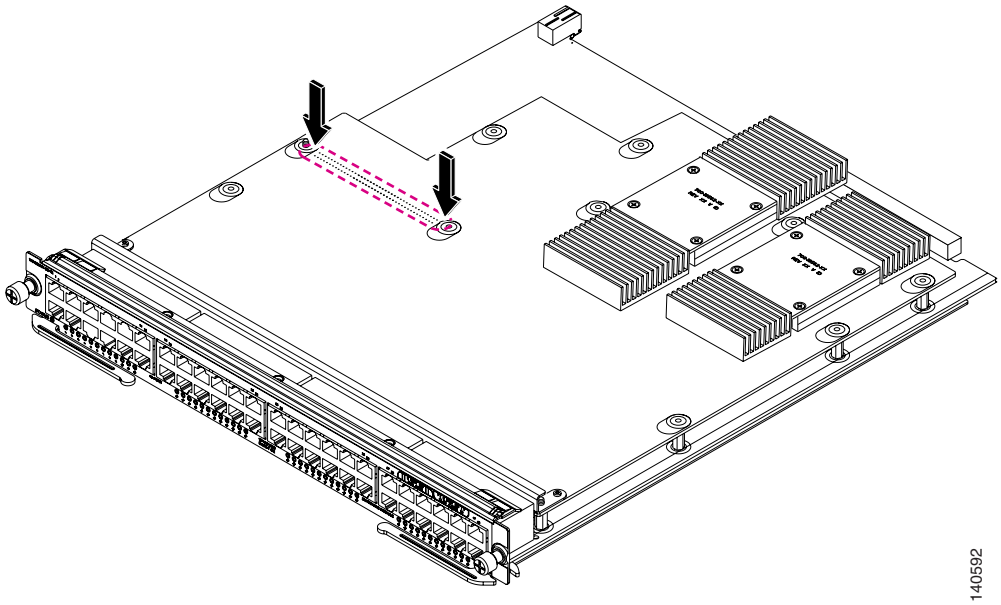
Step 1 Position the inline-power daughter card over the module and carefully align the three threaded studs on the module with the corresponding holes in the inline-power daughter card. (See Figure 31.) This step aligns the inline-power daughter card connectors with the module connectors.

Figure 31 Positioning the Inline-Power Daughter Card Over the Module (WS-F6K-48-AF)



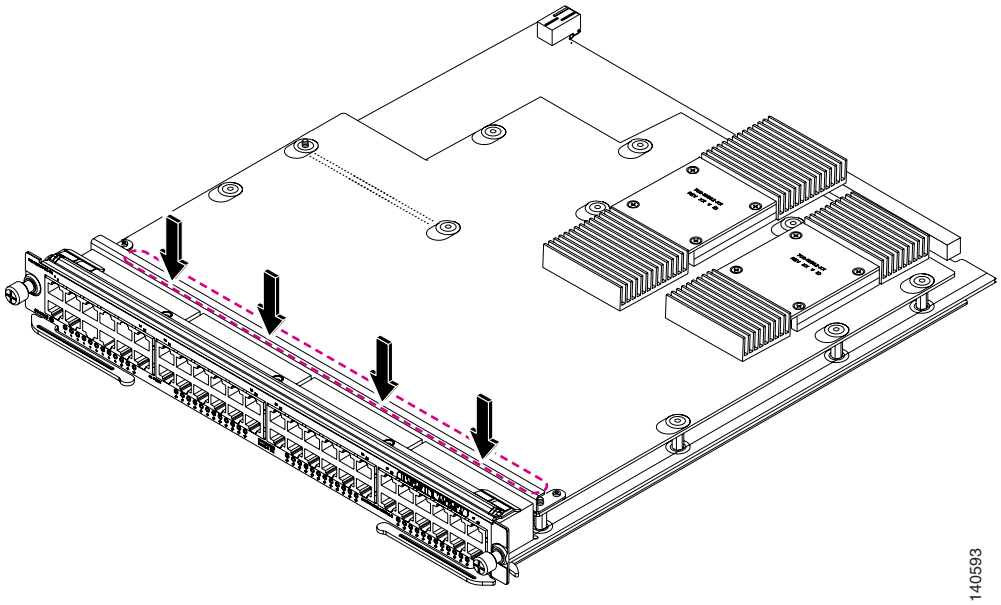
Step 2 Place your fingers on either side of the inline-power daughter card rear connector near the standoffs and press down to seat the inline-power daughter card on the module rear connector. (See Figure 32.)

Figure 32 Seating the Inline-Power Daughter Card Rear Connector (WS-F6K-48-AF)



Step 3 Position your fingers along the stiffener on the front edge of the inline-power daughter card and press down firmly to seat the inline-power daughter card on the Ethernet module front connector. (See Figure 33.)

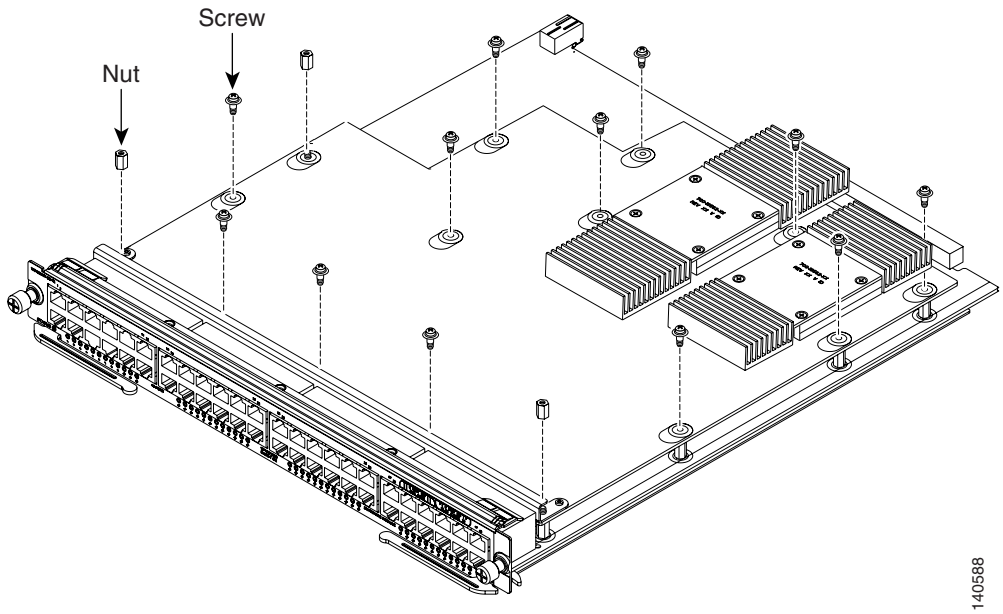
Figure 33 Seating the Inline-Power Daughter Card Front Connector (WS-F6K-48-AF)



Step 4 Attach the inline-power daughter card to the module with the 12 screws and the 3 nuts. (See Figure 34.)

Caution Do not overtighten the screws and the nuts because you might damage the inline-power daughter card.

Figure 34 Securing the Inline-Power Daughter Card to the Module (WS-F6K-48-AF)



Step 5 You are now ready to install the Ethernet module back into the chassis. Go to the "Installing the Ethernet Switching Module" section on page 39.

Installing the Ethernet Switching Module

Caution To prevent ESD damage, handle the modules by the carrier edges only.

Caution During this procedure, wear grounding wrist straps to avoid ESD damage to the card.

To reinstall the Ethernet switching module in the chassis, follow these steps:

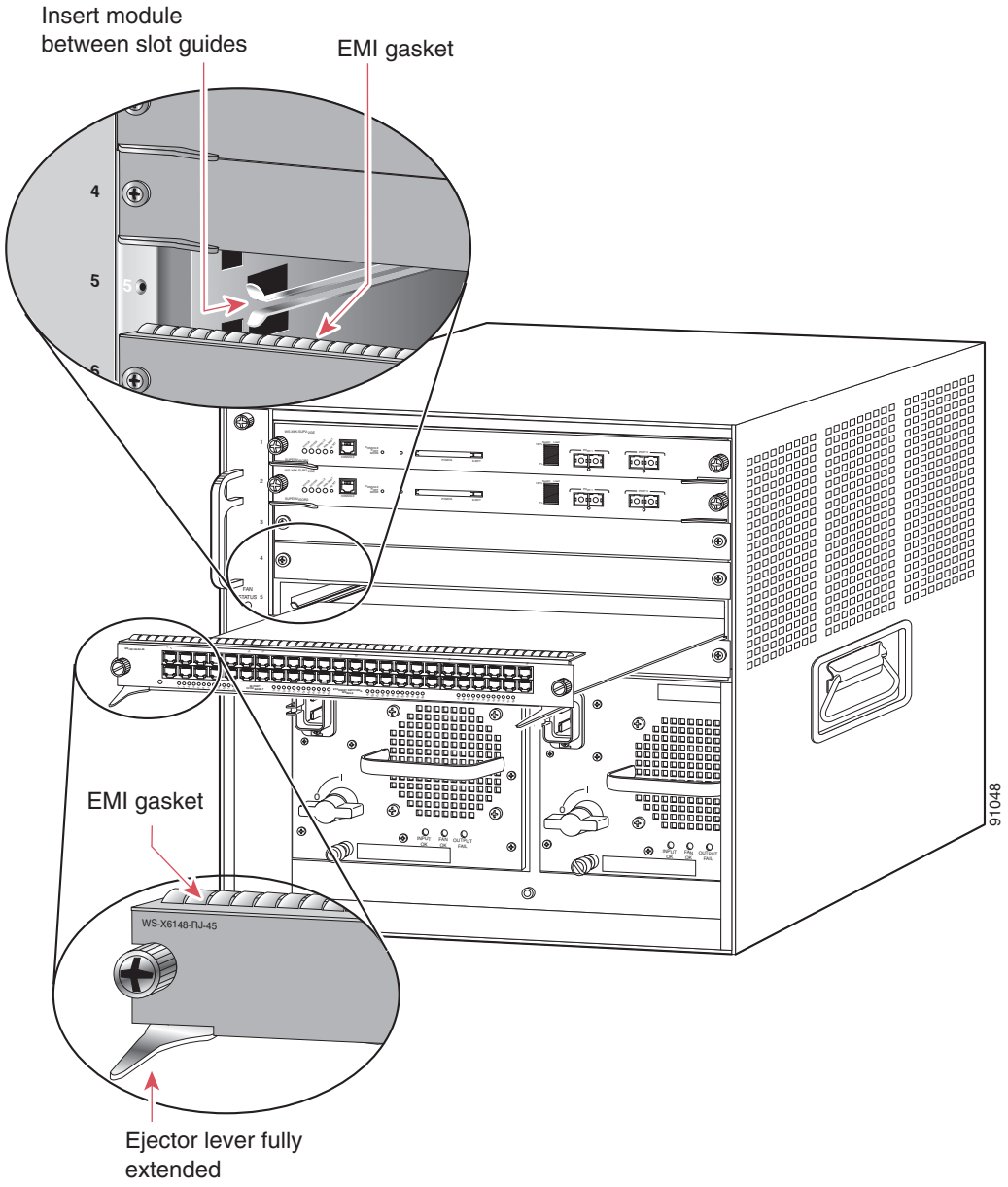
Step 1 Verify that the captive installation screws are tightened on all modules installed in the switch chassis.

This action ensures that the EMI gaskets on all modules are fully compressed in order to maximize the opening space for the removed module.

Note If the captive installation screws are loose, the EMI gaskets on the installed modules will push the adjacent modules toward the open slot, reducing the opening size and making it difficult to install the removed module.

Step 2 Fully open both ejector levers on the module being installed. (See Figure 35.)

Figure 35 Positioning the Module in a Horizontal Slot Chassis



Step 3 Depending on the orientation of the slots in the chassis (horizontal or vertical), perform one of the following two sets of steps:

Horizontal slots

a. Position the module in the slot. (See Figure 35.) Make sure that you align the sides of the module carrier with the slot guides on each side of the slot.

b. Carefully slide the module into the slot until the EMI gasket along the top edge of the module makes contact with the module in the slot above it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See Figure 36.)

c. Using the thumb and forefinger of each hand, grasp the two ejector levers and press down to create a small 0.040 inch (1 mm) gap between the module's EMI gasket and the module above it. (See Figure 36.)

Caution Do not press down too forcefully on the levers because they will bend and get damaged.

d. While pressing down, simultaneously close the left and right ejector levers to fully seat the module in the backplane connector. The ejector levers are fully closed when they are flush with the module faceplate. (See Figure 37.)

Note Failure to fully seat the module in the backplane connector can result in error messages.

e. Tighten the two captive installation screws on the module.

Note Make sure that the ejector levers are fully closed before tightening the captive installation screws.

f. Verify that the module STATUS LED is lit. Periodically check the STATUS LED. If the STATUS LED changes from orange to green, the module has successfully completed the boot process and is now online. If the STATUS LED remains orange or turns red, the module has not successfully completed the boot process and may have encountered an error.

Figure 36 Clearing the EMI Gasket in a Horizontal Slot Chassis

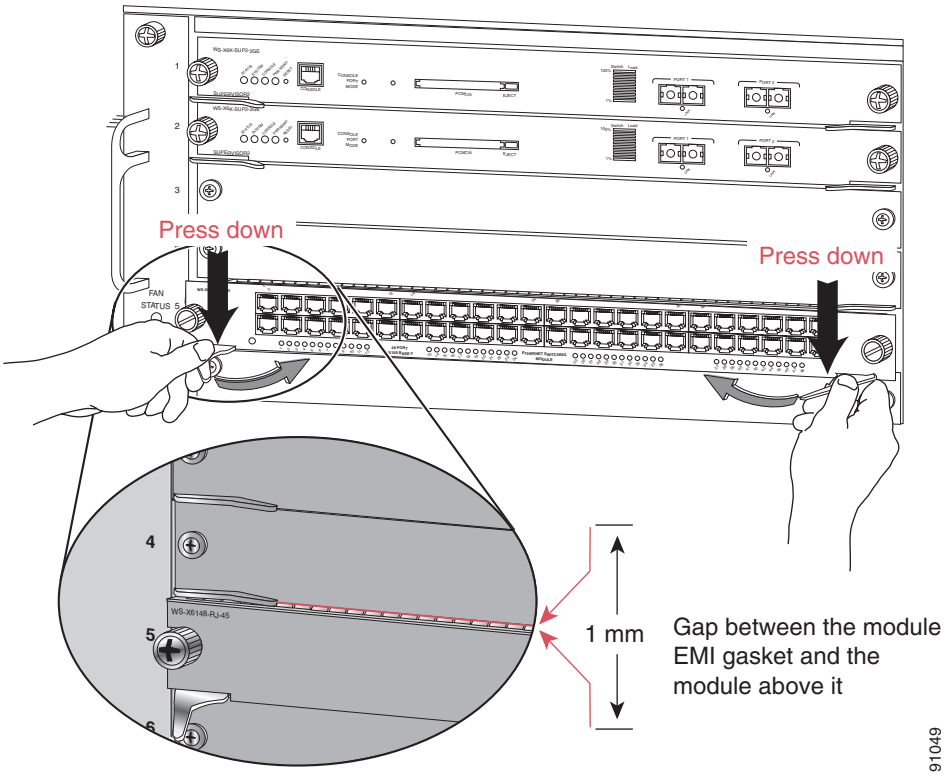
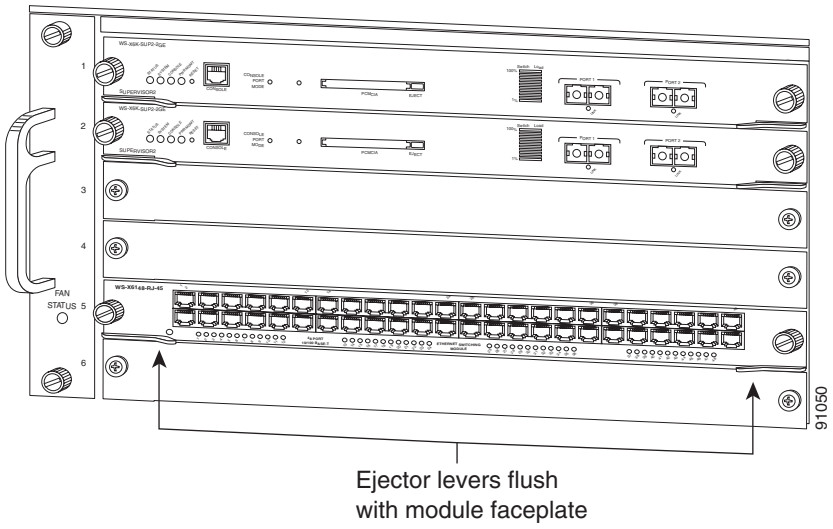


Figure 37 Closing the Ejector Levers in a Horizontal Slot Chassis



Vertical slots

a. Position the module in the slot. (See Figure 38.) Make sure that you align the sides of the module carrier with the slot guides on the top and bottom of the slot.

b. Carefully slide the module into the slot until the EMI gasket along the right edge of the module makes contact with the module in the slot adjacent to it and both ejector levers have closed to approximately 45 degrees with respect to the module faceplate. (See Figure 39.)

Figure 38 Positioning the Module in a Vertical Slot Chassis

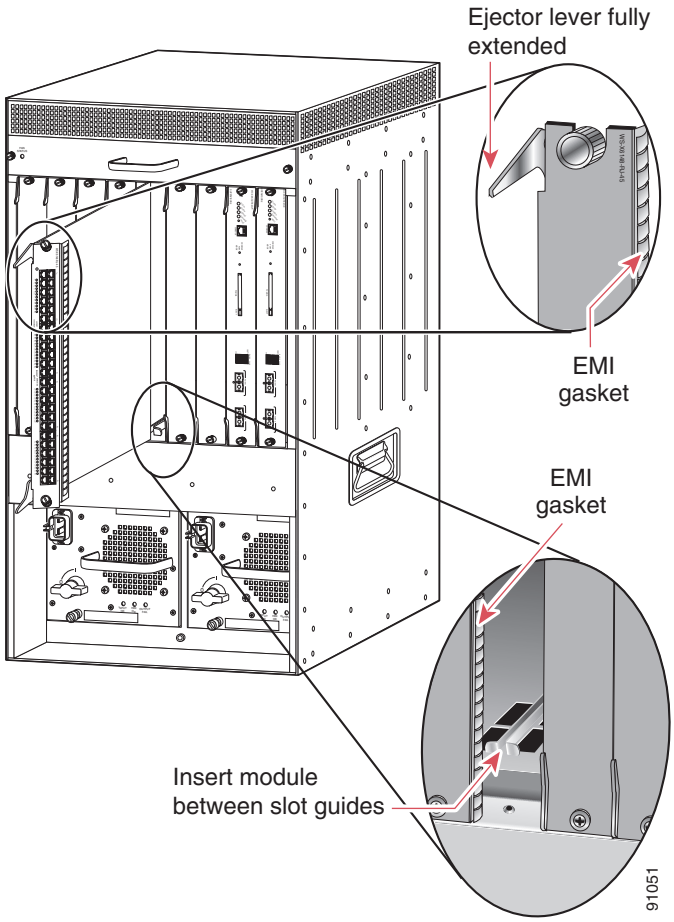
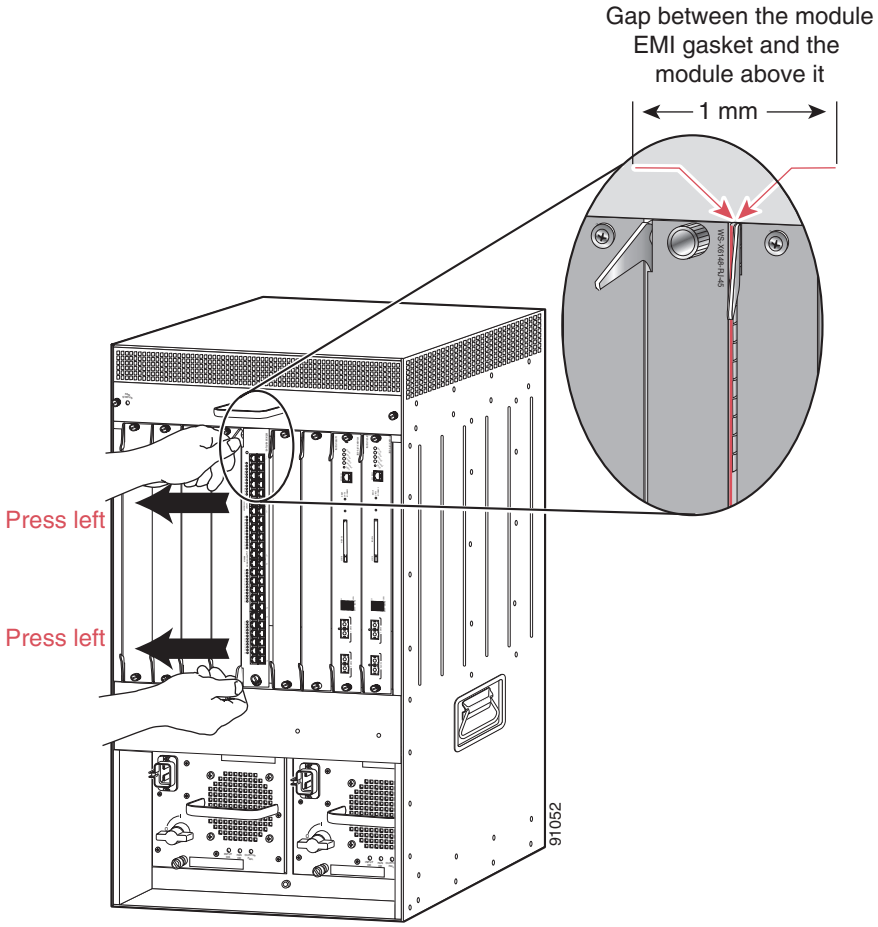


Figure 39 Clearing the EMI Gasket in a Vertical Slot Chassis



c. Using the thumb and forefinger of each hand, grasp the two ejector levers and exert a slight pressure to the left, deflecting it approximately 0.040 inches (1 mm) creating a small gap between the module's EMI gasket and the module adjacent to it. (See Figure 39.)

Caution Do not exert too much pressure on the ejector levers because they will bend and get damaged.

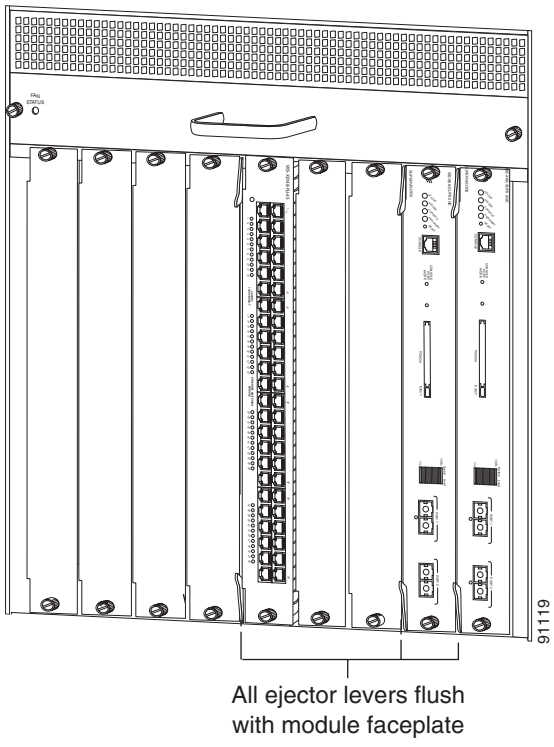
d. While pressing down on the ejector levers, simultaneously close the levers to fully seat the module in the backplane connector. The ejector levers are fully closed when they are flush with the module faceplate. (See Figure 40.)

e. Tighten the two captive installation screws on the module.

Note Make sure that the ejector levers are fully closed before tightening the captive installation screws.

f. Verify that the module STATUS LED is lit. Periodically check the STATUS LED. If the STATUS LED changes from orange to green, the module has successfully completed the boot process and is now online. If the STATUS LED remains orange or turns red, the module has not successfully completed the boot process and may have encountered an error.

Figure 40 Closing the Ejector Levers in a Vertical Slot Chassis



Configuring the Module

Refer to the *Catalyst 6500 Series Switch Software Configuration Guide* or *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide* for information on configuring a Voice-over-IP (VoIP) network.

Regulatory Standards Compliance

When installed in a system, the Catalyst 6500 series switch modules comply with the standards listed in Table 5.

Table 5 Catalyst 6500 Series Switch Regulatory Compliance Specifications

Agency Approvals	Specification
Compliance	CE[1] Marking
Safety	UL[2] 60950, CSA[3]-C22.2 No. 60950, EN[4] 60950, IEC[5] 60950, AS/NZS 60950
EMC[6]	FCC[7] Part 15 (CFR[8] 47) Class A, ICES[9]-003 Class A, EN55022 Class A, CISPR22 Class A, AS/NZS 3548 Class A, and VCCI Class A, EN 55024, EN 50082-1, EN 61000-6-1, EN 300386, EN 61000-3-2, EN 61000-3-3

1. CE = European Compliance.
2. UL = Underwriters Laboratory.
3. CSA = Canadian Standards Association.
4. EN = European Norm.
5. IEC = International Electrotechnical Commission.
6. EMC = electromagnetic compatibility.
7. FCC = Federal Communications Commission.
8. CFR = Code of Federal Regulations.
9. ICES = Interference-Causing Equipment Standard.

Translated Safety Warnings

This section repeats in multiple languages the basic warnings that appear in this publication.

Statement 1001—Work During Lightning Activity

Warning **Do not work on the system or connect or disconnect cables during periods of lightning activity.** Statement 1001

Waarschuwing **Tijdens onweer dat gepaard gaat met bliksem, dient u niet aan het systeem te werken of kabels aan te sluiten of te ontkoppelen.**

Varoitus **Älä työskentele järjestelmän parissa äläkä yhdistä tai irrota kaapeleita ukkosilmalla.**

Attention **Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.**

Warnung **Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.**

Avvertenza **Non lavorare sul sistema o collegare oppure scollegare i cavi durante un temporale con fulmini.**

Advarsel **Utfør aldri arbeid på systemet, eller koble kabler til eller fra systemet når det tordner eller lyner.**

Aviso **Não trabalhe no sistema ou ligue e desligue cabos durante períodos de mau tempo (trovoada).**

¡Advertencia! **No operar el sistema ni conectar o desconectar cables durante el transcurso de descargas eléctricas en la atmósfera.**

Varning! **Vid åska skall du aldrig utföra arbete på systemet eller ansluta eller koppla loss kablar.**

Villámlás közben ne dolgozzon a rendszeren, valamint ne csatlakoztasson és ne húzzon ki kábeleket!

Предупреждение Не следует работать с устройством, а также подключать или отключать кабели во время грозы.

警告 请勿在发生雷电时操作系统，也不要在此期间连接或断开电缆。

警告 雷が発生しているときは、システムに手を加えたり、ケーブルの接続や取り外しを行わないでください。

Statement 1021—SELV Circuit

Warning **To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.** Statement 1021

Waarschuwing **Om elektrische schokken te vermijden, mogen veiligheidscircuits met extra lage spanning (genaamd SELV = Safety Extra-Low Voltage) niet met telefoonnetwerkspanning (TNV) circuits verbonden worden. LAN (Lokaal netwerk) poorten bevatten SELV circuits en WAN (Regionaal netwerk) poorten bevatten TNV circuits. Sommige LAN en WAN poorten gebruiken allebei RJ-45 connectors. Ga voorzichtig te werk wanneer u kabels verbindt.**

Varoitus **Jotta vältyt sähköiskulta, älä kytke pienjännitteisiä SELV-suojapiirejä puhelinverkkojännitettä (TNV) käyttäviin virtapiireihin. LAN-portit sisältävät SELV-piirejä ja WAN-portit puhelinverkkojännitettä käyttäviä piirejä. Osa sekä LAN- että WAN-porteista käyttää RJ-45-liittimiä. Ole varovainen kytkiessäsi kaapeleita.**

Attention **Pour éviter une électrocution, ne raccordez pas les circuits de sécurité basse tension (Safety Extra-Low Voltage ou SELV) à des circuits de tension de réseau téléphonique (Telephone Network Voltage ou TNV). Les ports du réseau local (LAN) contiennent des circuits SELV et les ports du réseau longue distance (WAN) sont munis de circuits TNV. Certains ports LAN et WAN utilisent des connecteurs RJ-45. Raccordez les câbles en prenant toutes les précautions nécessaires.**

Warnung **Zur Vermeidung von Elektroschock die Sicherheits-Kleinspannungs-Stromkreise (SELV-Kreise) nicht an Fernsprechnetzspannungs-Stromkreise (TNV-Kreise) anschließen. LAN-Ports enthalten SELV-Kreise, und WAN-Ports enthalten TNV-Kreise. Einige LAN- und WAN-Ports verwenden auch RJ-45-Steckverbinder. Vorsicht beim Anschließen von Kabeln.**

Avvertenza **Per evitare scosse elettriche, non collegare circuiti di sicurezza a tensione molto bassa (SELV) ai circuiti a tensione di rete telefonica (TNV). Le porte LAN contengono circuiti SELV e le porte WAN contengono circuiti TNV. Alcune porte LAN e WAN fanno uso di connettori RJ-45. Fare attenzione quando si collegano cavi.**

Advarsel **Unngå å koble lavspenningskretser (SELV) til kretser for telenettspenning (TNV), slik at du unngår elektrisk støt. LAN-utganger inneholder SELV-kretser og WAN-utganger inneholder TNV-kretser. Det finnes både LAN-utganger og WAN-utganger som bruker RJ-45-kontakter. Vær forsiktig når du kobler kabler.**

Aviso **Para evitar choques eléctricos, não conecte os circuitos de segurança de baixa tensão (SELV) aos circuitos de tensão de rede telefónica (TNV). As portas LAN contêm circuitos SELV e as portas WAN contêm circuitos TNV. Algumas portas LAN e WAN usam conectores RJ-45. Tenha o devido cuidado ao conectar os cabos.**

¡Advertencia! **Para evitar la sacudida eléctrica, no conectar circuitos de seguridad de voltaje muy bajo (safety extra-low voltage = SELV) con circuitos de voltaje de red telefónica (telephone network voltage = TNV). Los puertos de redes de área local (local area network = LAN) contienen circuitos SELV, y los puertos de redes de área extendida (wide area network = WAN) contienen circuitos TNV. En algunos casos, tanto los puertos LAN como los WAN usan conectores RJ-45. Proceda con precaución al conectar los cables.**

Varning! **För att undvika elektriska stötar, koppla inte säkerhetskretsar med extra låg spänning (SELV-kretsar) till kretsar med telefonnätspänning (TNV-kretsar). LAN-portar innehåller SELV-kretsar och WAN-portar innehåller TNV-kretsar. Vissa LAN- och WAN-portar är försedda med RJ-45-kontakter. laktta försiktighet vid anslutning av kablar.**

Az áramütés elkerülése érdekében ne csatlakoztasson biztonságos törpefeszültségű (SELV) áramköröket telefonhálózati feszültségű (TNV) áramkörökhöz. A LAN portok SELV áramköröket, a WAN portok TNV áramköröket tartalmaznak. Bizonyos LAN és WAN portok egyaránt RJ-45 csatlakozókkal vannak felszerelve. Óvatosan járjon el a kábelek csatlakoztatásakor!

Предупреждение Во избежание поражения электрическим током не подключайте цепи безопасного низковольтного напряжения (SELV) к цепям с напряжением телефонной сети (TNV). Порты LAN подключены к цепям SELV, а порты WAN — к цепям TNV. Для некоторых портов LAN и WAN используются одинаковые разъемы — RJ-45. При подключении кабелей будьте внимательны.

警告 为避免电击，请勿将安全特低电压 (SELV) 电路连接到电话网电压 (TNV) 电路上。LAN 端口属 SELV 电路，而 WAN 端口属 TNV 电路。某些 LAN 和 WAN 端口都使用 RJ-45 接头。连接电缆时请务必小心。

警告 感電事故を防ぐため、Safety Extra-low Voltage（SELV）回路をTelephone-Network Voltage（TNV;電話網電圧）回路に接続しないでください。LANポートにはSELV回路、WANポートにはTNV回路が使用されています。LANポートおよびWANポートによっては、どちらもRJ-45コネクタが使用されている場合があります。ケーブルを接続するときは注意してください。

Statement 1030—Equipment Installation

Warning **Only trained and qualified personnel should be allowed to install, replace, or service this equipment.** Statement 1030

Waarschuwing **Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door bevoegd geschoold personeel.**

Varoitus **Tämän laitteen saa asentaa, vaihtaa tai huoltaa ainoastaan koulutettu ja laitteen tunteva henkilökunta.**

Attention **Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.**

Warnung **Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.**

Avvertenza **Questo apparato può essere installato, sostituito o mantenuto unicamente da un personale competente.**

Advarsel **Bare opplært og kvalifisert personell skal foreta installasjoner, utskiftninger eller service på dette utstyret.**

Aviso **Apenas pessoal treinado e qualificado deve ser autorizado a instalar, substituir ou fazer a revisão deste equipamento.**

¡Advertencia! **Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.**

Varning! **Endast utbildad och kvalificerad personal bör få tillåtelse att installera, byta ut eller reparera denna utrustning.**

A berendezést csak szakképzett személyek helyezhetik üzembe, cserélhetik és tarthatják karban.

Предупреждение Установку, замену и обслуживание этого оборудования может осуществлять только специально обученный квалифицированный персонал.

警告 只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告 この装置の設置、交換、保守は、訓練を受けた相応の資格のある人が行ってください。

주의 교육을 받고 자격을 갖춘 사람만 이 장비를 설치, 교체, 또는 서비스를 수행해야 합니다.

Aviso **Somente uma equipe treinada e qualificada tem permissão para instalar, substituir ou dar manutenção a este equipamento.**

Advarsel **Kun uddannede personer må installere, udskifte komponenter i eller servicere dette udstyr.**

تحذير **يسمح للفنيين المتخصصين فقط بتركيب المعدة أو استبدالها أو إجراء الصيانة عليها.**

Upozorenje **Uređaj smije ugrađivati, mijenjati i servisirati samo za to obučeno i osposobljeno servisno osoblje.**

Upozornění **Instalaci, výměnu nebo opravu tohoto zařízení smějí provádět pouze proškolené a kvalifikované osoby.**

Προειδοποίηση Η τοποθέτηση, η αντικατάσταση και η συντήρηση του εξοπλισμού επιτρέπεται να γίνονται μόνο από καταρτισμένο προσωπικό με τα κατάλληλα προσόντα.

אזהרה	רק עובדים מיומנים ומוסמכים רשאים להתקין, להחליף, או לטפל בציד זה.
Opomena	Местењето, заменувањето и сервисирањето на оваа опрема треба да му биде дозволено само на обучен и квалификуван персонал.
Ostrzeżenie	**Do instalacji, wymiany i serwisowania tych urządzeń mogą być dopuszczone wyłącznie osoby wykwalifikowane i przeszkolone.**
Upozornenie	**Inštaláciu, výmenu alebo opravu tohto zariadenia smú vykonávať iba vyškolené a kvalifikované osoby.**

Statement 1034—Backplane Voltage

Warning	**Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.** Statement 1034
Waarschuwing	**Er is gevaarlijke spanning of energie aanwezig op de achterplaat wanneer het systeem bediend wordt. Wees voorzichtig bij het onderhoud.**
Varoitus	**Kun laite on toiminnassa, taustalevyyn muodostuu vaarallista jännitettä. Ole varovainen huoltaessasi laitetta.**
Attention	**Lorsque le système est en fonctionnement, des tensions électriques circulent sur le fond de panier. Prendre des précautions lors de la maintenance.**
Warnung	**Wenn das System in Betrieb ist, treten auf der Rückwandplatine gefährliche Spannungen oder Energien auf. Vorsicht bei der Wartung.**
Avvertenza	**Quando il sistema è in funzione, il pannello posteriore è sotto tensione pericolosa. Prestare attenzione quando si lavora sul sistema.**
Advarsel	**Farlig spenning er til stede på bakpanelet når systemet kjøres. Utvis forsiktighet under service.**
Aviso	**Há presença de voltagem perigosa ou de energia na placa traseira quando o sistema está em operação. Tenha cuidado ao fazer a manutenção.**
¡Advertencia!	**Cuando el sistema está en funcionamiento, el voltaje del plano trasero es peligroso. Tenga cuidado cuando lo revise.**
Varning!	**Farlig spänning föreligger på bakplattan när systemet körs. Var försiktig vid service.**

A rendszer működése közben veszélyes feszültség vagy energia van jelen a hátlapon. Karbantartás közben óvatosan járjon el!

Предупреждение При работе оборудования на разъемах задней панели присутствует высокое напряжение. Будьте внимательны при работе с оборудованием.

警告 当系统正在运行时，背板上有很危险的电压或能量。进行维修时务必小心。

警告 システムの稼働中は、バックプレーンに危険な電圧またはエネルギーがかかっています。保守作業を行うときは注意してください。

주의 시스템이 가동 중일 때 뒷면에서 위험한 전압 또는 에너지가 발생합니다. 서비스 수행시 주의하십시오.

Aviso **O sistema em funcionamento emite tensão ou energia elétrica perigosa no painel traseiro. Seja cauteloso ao fazer a manutenção.**

Advarsel **Der er farlig spænding og energi på bagpladen når systemet er i brug. Vær forsigtig under servicering.**

تحذير **عند تشغيل النظام، يوجد قدر كبير من الجهد الكهربائي الخطير في الجزء الخلفي. كن حريصاً عند إجراء الصيانة.**

Upozorenje **Kad sustav radi, na stražnjoj je ploči prisutan opasan visoki napon ili energija. Budite oprezni kod servisiranja.**

Upozornění **Při provozu systému je na zadní desce nebezpečné napětí nebo energie. Při opravě dbejte opatrnosti.**

Προειδοποίηση Όταν το σύστημα λειτουργεί, στην πίσω πλάκα συνδέσεων είναι παρούσα επικίνδυνη τάση ή ενέργεια. Να είστε προσεκτικοί κατά τις εργασίες συντήρησης.

אזהרה מתח מסוכן וחשמל קיימים בלוח האחורי כאשר המערכת פעילה. נקוט זהירות בעת הטיפול.

Opomena На задната плоча има ризичен напон или енергија кога системот работи. Бидете претпазливи при сервисирањето.

Ostrzeżenie **Podczas pracy systemu na płycie interfejsu magistrali występują niebezpieczne napięcia lub energia elektryczna. Przy wykonywaniu czynności serwisowych należy zachować ostrożność.**

Upozornenie **Počas prevádzky systému je na zadnej doske nebezpečné napätie alebo energia. Pri oprave buďte opatrní.**

Statement 1041—Disconnecting Telephone-Network Cables

Warning **Before opening the unit, disconnect the telephone-network cables to avoid contact with telephone-network voltages.** Statement 1041

Waarschuwing **Voordat u de eenheid opent, dient u de verbinding met het telefoonnetwerk te verbreken door de kabels te ontkoppelen om zo contact met telefoonnetwerk-spanning te vermijden.**

Varoitus **Vältä joutumista kosketuksiin puhelinverkkojännitteiden kanssa irrottamalla puhelinverkoston kaapelit ennen yksikön aukaisemista.**

Attention **Pour éviter tout risque de choc électrique (tensions présentes dans l'unité), débranchez les câbles du réseau téléphonique AVANT d'ouvrir l'unité.**

Warnung **Bevor Sie das Gerät öffnen, ziehen Sie die Telefonnetzkabel aus der Verbindung, um Kontakt mit Telefonnetzspannungen zu vermeiden.**

Avvertenza **Prima di aprire l'unità, scollegare i cavi della rete telefonica per evitare di entrare in contatto con la tensione di rete.**

Advarsel **Før enheten åpnes, skal kablene for telenettet kobles fra for å unngå å komme i kontakt med spenningen i telenettet.**

Aviso **Antes de abrir a unidade, desligue os cabos da rede telefónica para evitar contacto com a tensão da respectiva rede.**

¡Advertencia! **Antes de abrir la unidad, desconectar el cableado dirigido a la red telefónica para evitar contacto con voltajes de la propia red.**

Varning! **Koppla loss ledningarna till telefonnätet innan du öppnar enheten så att kontakten med telefonnätsspänningen bryts.**

Mielőtt kinyitná a készüléket, a telefonhálózati feszültséggel való érintkezés elkerülése érdekében távolítsa el a csatlakozókból a telefonhálózati kábeleket.

Предупреждение Прежде чем открывать устройство, отключите кабели телефонной сети, чтобы избежать контакта с элементами, находящимися под напряжением.

警告 打开该部件之前，请断开电话网电缆，以避免接触电话网电压。

警告 装置を開くときは、電話網電圧との接触を防ぐため、事前に電話回線を取り外してください。

Statement 1072—Shock Hazard from Interconnections

Warning **Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security.** Statement 1072

Waarschuwing **Voltages kunnen elektrische schokken veroorzaken in PoE (Power over Ethernet)-circuits als er verbindingen worden gemaakt met blootliggende metalen contactpunten, geleiders of aansluitingspunten die niet zijn geïsoleerd. Gebruik dit type verbinding niet tenzij de blootliggende metalen onderdelen zich bevinden op een locatie met beperkte toegang en de gebruikers en onderhoudstechnici die toegang tot deze locatie hebben, op het gevaar worden gewezen. De locatie met beperkte toegang kan alleen worden geopend met speciaal gereedschap, slot en sleutel of een andere beveiligingsmethode.**

Varoitus **Sisäisissä Ethernet (PoE) -virtapiireissä voi olla sähköiskun vaaran aiheuttavia jännitteitä, jos kytkentöihin käytetään eristämättömiä paljaita metalliliittimiä tai -johtimia. Vältä tällaisia kytkentöjä, elleivät paljaat metalliosat ole rajatussa paikassa. Ilmoita valtuutetuille käyttäjille ja huoltohenkilöille vaarasta. Rajattuun alueeseen pääsee käsiksi ainoastaan erityistyökalua, lukkoa ja avainta tai muuta turvallista menetelmää käyttämällä.**

Attention **Les tensions existant sur les alimentations utilisant la technologie PoE (Power over Ethernet) peuvent constituer un risque d'électrocution si les interconnexions sont effectuées en utilisant des terminaux, conducteurs ou contacts métalliques exposés non isolés. Évitez d'utiliser de telles méthodes d'interconnexion à moins que les pièces métalliques exposées ne se trouvent dans un emplacement d'accès restreint et que les utilisateurs et les responsables du service autorisés dans cet emplacement d'accès restreint ne soient conscients du danger. Une zone d'accès restreint peut être accédée uniquement à l'aide d'une clé, d'un outil et d'un verrou spécial, ou d'autres moyens de sécurité.**

Warnung **Bei Power-over-Ethernet-(PoE-)Schaltkreisen besteht u.U. Stromschlaggefahr, wenn Verbindungen unter Verwendung nicht isolierter, freiliegender Metallkontakte, Leiter oder Anschlussklemmen hergestellt werden. Vermeiden Sie das Herstellen solcher Verbindungen, es sei denn, die freiliegenden Metallteile befinden sich an Orten mit beschränktem Zugang, und Personen, die Zugang dazu haben, sind ausdrücklich über diese Gefahr informiert worden. Ein Ort mit beschränktem Zugang ist nur mit Hilfe eines speziellen Werkzeugs, Schloss und Schlüssels oder anderen Sicherheitseinrichtungen zugänglich.**

Avvertenza **Nei circuiti con alimentazione via Ethernet (PoE) possono verificarsi pericoli di scosse elettriche se si creano connessioni con contatti metallici, conduttori o terminali scoperti. Evitare di utilizzare i metodi di connessione sopraelencati a meno che le parti metalliche esposte non si trovino in una zona riservata e gli utenti e il personale di assistenza, che sono autorizzati ad accedere nella suddetta zona, siano stati messi al corrente del pericolo. È possibile accedere alla zona riservata solamente utilizzando gli appositi elementi di sicurezza.**

Advarsel **I strømkretser med PoE (Power over Ethernet) kan det være spenninger som kan utgjøre støtfare hvis det blir foretatt sammenkoblinger med uisolerte, eksponerte kontakter, ledere eller terminaler av metall. Unngå å bruke slike sammenkoblingsmetoder med mindre de eksponerte metalldelene er i et område med begrenset tilgang, og brukere og servicepersonell som har tilgang til det begrensede området, blir gjort oppmerksom på faren. Et område med begrenset tilgang kan bare åpnes ved hjelp av spesialverktøy, nøkkel eller andre sikkerhetstiltak.**

Aviso **Pode haver voltagens que representam perigo de choque em circuitos PoE (Power over Ethernet) se as interconexões forem feitas utilizando-se terminais, condutores ou contatos de metal exposto e sem isolamento. Evite utilizar tais métodos de interconexão a não ser que as partes de metal expostas estejam em um local de acesso restrito e os usuários e o pessoal de serviço com acesso autorizado a este local restrito estejam cientes do perigo. Uma área de acesso restrito só pode ser acessada com o uso de uma ferramenta, fechadura e chave especial ou de outros meios de segurança.**

¡Advertencia! **Puede haber voltajes con riesgo de shock en circuitos de alimentación sobre el cableado Ethernet (PoE), si para las interconexiones se utilizan contactos, conductores o terminales metálicos descubiertos. Evite tales métodos de interconexión, a menos que las partes metálicas descubiertas se encuentren en un lugar de acceso restringido y tanto los usuarios como el personal de servicios en dicho lugar sean conscientes de la existencia de tal riesgo. Sólo se puede tener acceso a una zona de acceso restringido mediante el uso de una herramienta especial, un candado y una llave u otros medios de seguridad.**

Varning! **Det kan finnas spänningar på PoE-kretsarna (Power over Ethernet) som utgör risk för stötar om sammankopplingarna görs med ej isolerade, exponerade kontakter, ledare och/eller terminaler av metall. Undvik att använda sådana sammankopplingsmetoder, såvida inte de exponerade metalldelarna finns i en plats med begränsad åtkomst. Användare och servicepersonal som tillåts inom platsen med begränsad åtkomst måste vara medvetna om risken. Ett begränsat område kan bara nås med ett speciellt verktyg eller lås, en speciell nyckel eller någon annan säkerhetsmetod.**

Áramütést okozó feszültség keletkezhet a feszültség alatt lévő Ethernet (Power over Ethernet, PoE) áramkörökben, amennyiben összeköttetés jön létre a szigeteletlen fém érintkezők, vezetékek vagy csatlakozók között. Ne alkalmazzon ilyen összeköttetéseket, kivéve, ha az érintésnek kitett fém alkatrészek korlátozottan hozzáférhető területen találhatók, és a terület elérésére felhatalmazott felhasználók és szervizszakemberek tudatában vannak az áramütés veszélyének. A korlátozottan hozzáférhető területekhez csak speciális szerszám, zár és kulcs, vagy más biztonsági berendezés segítségével lehet hozzáférni.

Предупреждение **При выполнении соединений с использованием неизолированных металлических контактов, проводников или разъемов в электроцепях Power over Ethernet (PoE) могут возникать напряжения, представляющие опасность поражения электрическим током. Старайтесь не использовать такие способы соединений, если только неизолированные металлические части не находятся в местах, доступ к которым разрешен для ограниченного круга лиц, а пользователи и специалисты по обслуживанию, уполномоченные выполнять работы в таких местах, предупреждены о наличии такой опасности. При работе в местах, доступ к которым разрешен для ограниченного круга лиц, следует использовать только специальные инструменты, закрывать их на ключ или предпринимать другие меры безопасности.**

警告　如果使用不绝缘、暴露的金属接头、导体或终端进行互联、在以太网供电（PoE）电路中就会产生导致电击危险的电压。只有暴露的金属部件处于限制进入的位置、并且被授权进入此位置的用户和服务人员意识到此危险、才能使用这样的互联方式。要进入受限区域、仅能使用特殊的工具、锁和密钥或其他安全方法。

警告　絶縁処理が施されていない金属製の部品、コンダクタ、またはターミナルを使用して内部接続されている場合、感電を引き起こす電圧が Power over Ethernet（PoE）回路に存在する可能性があります。絶縁処理が施されていない金属製の部品がアクセス制限区域にのみ存在する場合や、アクセス制限区域への立ち入りが認められているユーザおよびサービス担当者が感電の可能性について熟知している場合を除き、そのような内部接続の方法は避けてください。アクセス制限区域には、特殊な工具、施錠などのセキュリティ手段を使用しなければアクセスできません。

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