



Cisco ISA 3000 Industrial Security Appliance Hardware Installation Guide

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CHAPTER 1

Cisco Information

This preface describes the objectives, audience, organization, and conventions of this guide and describes related documents that have additional information.

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Objective

This guide provides an overview and explains how to install, connect, and perform initial configuration for the Cisco ISA 3000 Industrial Security Appliance.

Audience

This guide is intended for people who have a high level of technical ability, although they may not have experience with Cisco software.



Note The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Conventions

This section describes the conventions used in this guide.



Note Means reader take note. Notes contain helpful suggestions or references to additional information and material.



Caution This symbol means reader be careful. In this situation, you might do something that could result in equipment damage or loss of data



Tip Means the following information will help you solve a problem. The tip information might not be troubleshooting or even an action, but could be useful information.

Safety Warnings

Warning	This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the number provided at the end of each warning to locate its translation in the translated safety warnings that accompany Statement 1071
Waarschuwing	BELANGRIJKE VEILIGHEIDSINSTRUCTIES Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan elektrische apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u bekend te raken met 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 laitteistoja, tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löydät 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 corporelles. 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, consultez les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à côté de l'avertissement. CONSERVEZ CES INFORMATIONS

Warnung	<p>WICHTIGE SICHERHEITSHINWEISE</p> <p>Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Bei der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung von Unfällen. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung der Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.</p> <p>BEWAHREN SIE DIESE HINWEISE GUT AUF.</p>
Avvertenza	<p>IMPORTANTI ISTRUZIONI SULLA SICUREZZA</p> <p>Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima dell'installazione, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard di prevenzione degli incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni riportate in questo documento.</p> <p>CONSERVARE QUESTE ISTRUZIONI</p>
Advarsel	<p>VIKTIGE SIKKERHETSINSTRUKSJONER</p> <p>Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med dette produktet.</p> <p>TA VARE PÅ DISSE INSTRUKSJONENE</p>
Aviso	<p>INSTRUÇÕES IMPORTANTES DE SEGURANÇA</p> <p>Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de utilizar qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada tradução nos avisos de segurança traduzidos que acompanham este dispositivo.</p> <p>GUARDE ESTAS INSTRUÇÕES</p>
¡Advertencia!	<p>INSTRUCCIONES IMPORTANTES DE SEGURIDAD</p> <p>Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo eléctrico, familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada traducción encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.</p> <p>GUARDE ESTAS INSTRUCCIONES</p>
Varning!	<p>VIKTIGA SÄKERHETSANVISNINGAR</p> <p>Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du använder utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som följer med denna anordning.</p> <p>SPARA DESSA ANVISNINGAR</p>
Figyelem	<p>FONTOS BIZTONSÁGI ELOÍRÁSOK</p> <p>Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielőtt bármely berendezésen munkát végezne, 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.</p> <p>ORIZZTE MEG EZEKET AZ UTASÍTÁSOKAT!</p>

Предупреждение	<p>ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ</p> <p>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.</p> <p>СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ</p>
警告	<p>重要的安全性说明</p> <p>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，并熟悉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。</p> <p>请保存这些安全性说明</p>
警告	<p>安全上の重要な注意事項</p> <p>「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。</p> <p>これらの注意事項を保管しておいてください。</p>
주의	<p>중요 안전 지침</p> <p>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.</p> <p>이 지시 사항을 보관하십시오.</p>
Aviso	<p>INSTRUÇÕES IMPORTANTES DE SEGURANÇA</p> <p>Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. A qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de que acompanham o dispositivo.</p> <p>GUARDE ESTAS INSTRUÇÕES</p>
Advarsel	<p>VIGTIGE SIKKERHEDSANVISNINGER</p> <p>Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemesbeskadigelse. Før du berører udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind på til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler til denne enhed.</p> <p>GEM DISSE ANVISNINGER</p>
تحذير	<p>إرشادات الأمان العامة</p> <p>يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للشدات الكهربائية وكن على علم بالإجراءات القياسية للحيولة 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</p>
Upozorenje	<p>VAŽNE SIGURNOSNE NAPOMENE</p> <p>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 upoznat sa standardnim načinima izbjegavanja nesreća. U preveđenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.</p> <p>SAČUVAJTE OVE UPUTE</p>
Upozornění	<p>DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY</p> <p>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 zařízením.</p> <p>USCHOVEJTE TYTO POKYNY</p>

Προειδοποίηση	<p>ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ</p> <p>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 συνήθειες 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.</p> <p>ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ</p>
אזהרה	<p>הראות בטיחות חשובות</p> <p>סימן אזהרה זה מסמל סכנה. אתם נמצאים במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע ליכנות הכרוכות במעגלים חשמליים ולהכיר את הנחלים המקובלים למניעת תאונות. השתמש במספר הראות המסופק בסופה של כל אזהרה כדי לאתר את התרגום באהרות הבטיחות המתורגמות שמצורפות להלן.</p> <p>שמור הראות אלה</p>
Opomena	<p>ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА</p> <p>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.</p> <p>ЧУВАЈТЕ ГИ ОБИЕ НАПАТСТВИЈА</p>
Ostrzeżenie	<p>WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA</p> <p>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.</p> <p>NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ</p>
Upozornenie	<p>DŮLEŽITÉ BEZPEČNOSTNÉ POKYNY</p> <p>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.</p> <p>USCHOVAJTE SI TENTO NÁVOD</p>
Opozorilo	<p>Ta naprava mora biti ozemljena. Nikoli ne odklapljajte ozemljitve oz. upravljajte naprave, ki ni primerno ozemljena. V primeru, da niste sigurni, ali imate primerno ozemljitev, nemudoma pokličite pooblaščen električni servis ali električarja.</p>
警告	<p>重要安全性指示</p> <p>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，請讀心電路相關危險。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。</p> <p>請妥善保留此指示</p>



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 wall-mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation to people and damage to the system.

Statement 378



Warning

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



Warning Class 1 laser product. **Statement 1008**



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 This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. **Statement 1024**



Warning Connect the unit only to DC power source that complies with the safety extra-low voltage (SELV) requirements in IEC 62368 and IEC 60950 based safety standards. **Statement 1033**



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



Warning Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, because they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes (for example, U.S.:NFPA 70, National Electrical Code, Article 810, Canada: Canadian Electrical Code, Section 54). **Statement 1052**



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



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



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



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



Warning The covers are an integral part of the safety design of the product. Do not operate the unit without the covers installed. **Statement 1077**



Warning Hot surface. **Statement 1079**



Warning Intended for installation in a restricted access location.

Related Documentation

- [ISA 3000 product page](#)

ASA documentation

- [Compatibility Matrix](#)
- [Navigating the Cisco ASA Series Documentation](#)

CSM Documentation

[Cisco Security Manager Documentation Roadmaps](#)

FirePOWER Documentation

[Navigating the Cisco Firepower Documentation](#)

Other Cisco Documentation

- [Warranty Information](#)
- [Cisco Information Packet, consisting of Cisco Limited Warranty, Disclaimer of Warranty, End User License Agreement, and United States Federal Communications Commission Notice](#)
- [Cisco Support](#)

Searching Cisco Documents

To search an HTML document using a web browser, press **Ctrl-F** (Windows) or **Cmd-F** (Apple). In most browsers, the option to search whole words only, invoke case sensitivity, or search forward and backward is also available.

To search a PDF document in Adobe Reader, use the basic Find toolbar (**Ctrl-F**) or the Full Reader Search window (**Shift-Ctrl-F**). Use the Find toolbar to find words or phrases within a specific document. Use the

Full Reader Search window to search multiple PDF files simultaneously and to change case sensitivity and other options. Adobe Reader's online help has more information about how to search PDF documents.



CHAPTER 2

Product Overview

This chapter provides an overview of the features available for the Cisco ISA 3000

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General Description

The Cisco ISA 3000 is a DIN Rail mounted ruggedized industrial security appliance that provides firewall, threat defense, and VPN services. The term DIN Rail describes a metal rail of a standard type widely used for mounting circuit breakers and industrial control equipment inside equipment racks. The term derives from the original specifications published by Deutsches Institut für Normung (DIN) in Germany. The device can run either the ASA or Firepower Threat Defense operating system.

The Cisco ISA 3000 is low-power, fan-less, with Gigabit Ethernet and a dedicated management port. There are two SKUs:

- ISA3000-4C-K9 — Copper SKU with 4x10/100/1000Base-T with a management port.
- ISA3000-2C2F-K9 — Fiber SKU with 2x1GbE SFP and 2x10/100/1000Base-T with a management port.

The following figures show the front panel details of the two SKUs

Figure 1: Cisco ISA 3000 Copper SKU

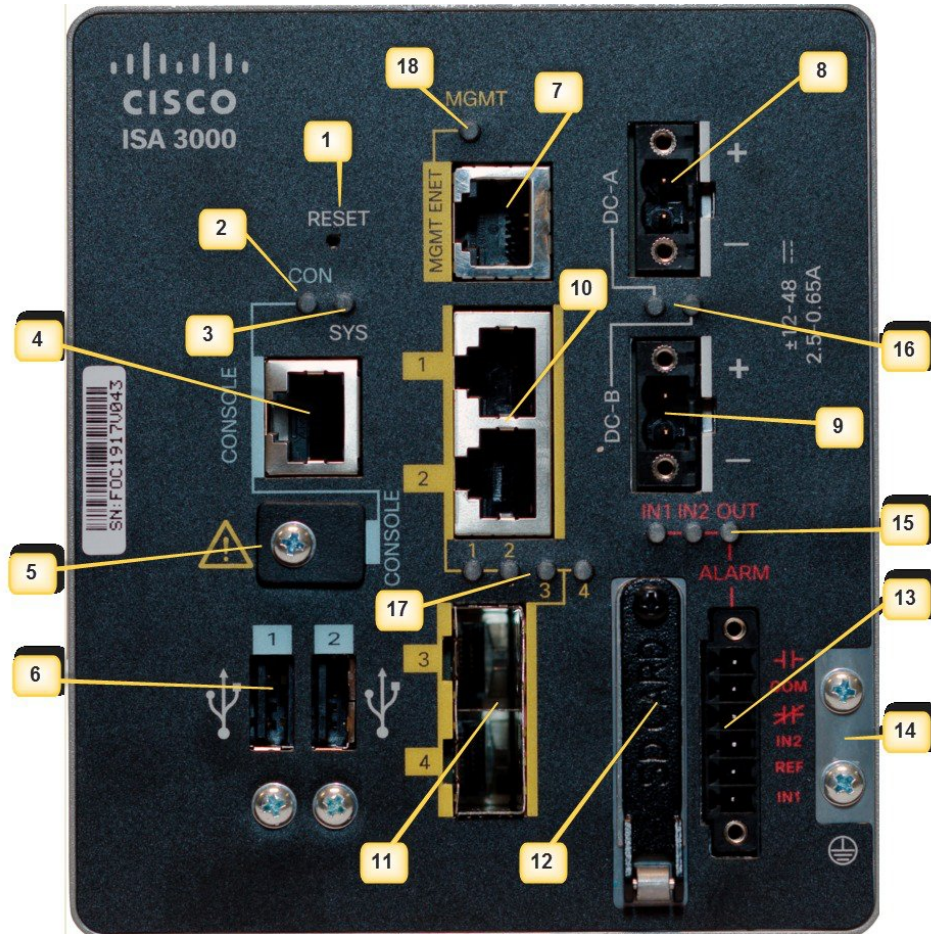


The following figure describes the front panel features:

Figure 2: Cisco ISA 3000 Fiber SKU



Figure 3: Cisco ISA 3000 Front Panel



PIN	Description	PIN	Description
1	Reset Pinhole Access	10	RJ45 10/100/100 BaseT Connectors 1&2
2	Console LED	11	On the ISA-3000-2C2F SKU, these are the SFP On the ISA-3000-4C SKU, these are RJ45 10/100 Connectors 3&4
3	System LED	12	1GB removable SD flash memory card slot
4	Console connector (RJ-45)	13	Alarm Connectors
5	Console connector (mini-USB)	14	Grounding Point
6	USB connectors	15	Alarm LEDs
7	Management Interface	16	DC Power LEDs
8	DC power connection A	17	Gigabit Ethernet LEDs
9	DC power connection B	18	Management LED

ISA 3000 Shutdown

There is a new graceful shutdown option supported for Firepower Threat Defense as of 7.0.2/7.2. There is also an LED change new for 7.0.5/7.3. Use shutdown when you intend to remove the device from the network, for example to replace it, or for any scheduled maintenance.

There is no change to procedures with ASA.



Note It is recommended to wait for 10 seconds after the System LED is switched OFF to unplug the power from the device.

After shutting down the device, you can turn it back on only by Power cycling the device. There is no hardware On/Off switch for the device on the chassis. Power up the device to restart the device again.

LEDs

The following table describes the LEDs for the Cisco ISA 3000.

Table 1: LED Descriptions

LED	Activity	Description
System	Power Status	Off — No power Green Steady on — Normal operation Green Flashing — Boot up phase Red Flashing — BIOS and POST Red — System is not functioning properly.
MGMT	Management Port Status	Off — No link (default) Green Steady on — Port link with no activity Green Flashing — Transmitting and Receiving data
DC_A DC_B	DC Power Status	Off — Power is not present Green Steady on — Power is present on the associated circuit. (Hardware controlled) Red Steady on — Power is not present on the associated circuit, and the system is configured for dual-input power
Alarm Out	Alarm monitoring	Off — Alarm Out not configured or the system is off (Default) Green Steady on — Alarm Out is configured, no alarm detected. Red Steady on — Minor alarm detected Red Flashing — Major alarm detected

LED	Activity	Description
Alarm In 1&2	Alarm monitoring	Off — Alarm In not configured or the system is off (Default) Green Steady on — Alarm In is configured, no alarm detected. Red Steady on — Minor alarm detected Red Flashing — Major alarm detected
Ethernet Ports	Link Status	Off — No link Green Steady on — Link is up Green Flashing — Transmitting and Receiving data Amber — Fault, check log Port 1&2 and in the copper SKU, 3&4 LEDs fast blink amber together — Those two ports are in bypass mode.
Console	Console connection Status	Off — RJ-45 is being used for console Green — Mini USB is being used for console

Memory and Storage

The Cisco ISA 3000 has the following:

- 8-GB DRAM (soldered down).
- 16-GB onboard flash memory
- 64-GB mSATA solid state drive (SSD)
- 1-GB removable SD flash memory card - industrial temp

USB Ports

The Cisco ISA 3000 has two externally accessible Type-A USB (4-pin) connectors. Each USB port will support output powering of 5 volts and up to a maximum of 500 mA.

Management Ethernet Port

A management-only 10/100/1000 BaseT Ethernet port is provided. This port will be the only port able to be used for booting over the network, or for initial setup and management of the system. This port is Management 1/1 in the configuration.

Console Port

The Cisco ISA 3000 can be configured through a web interface, or through the console port. The console port is either a RJ45 or a Mini USB connector. A standard management cable (Part number 72-3383-01) can be used to convert the RJ45 to DB9 connector.

The default configuration settings for the RJ45 console port are:

- 9600 baud, 8 data bits, no parity, 1 stop bit, no flow control.
- If the USB Console Port is active (cable inserted and remote PC drivers are enabled) by default the console will switch from RJ45 to USB when the USB cable is detected. If both ports are connected, the Mini USB console port is used.

If your laptop or PC warns you that you do not have the proper drivers to communicate with the device, you can obtain them from your computers manufacturer, or go here:

<https://software.cisco.com/download/home/282774227/type/282855122/release/3.1>

The following table shows the pin-outs for the CON/AUX RJ-45 connector:

Table 2: RJ-45 Pinouts

Pin	Signal	Direction
1	DTR	Output
2	3.3	Output
3	TXD	Output
4	GND	-
5	GND	-
6	RXD	Input
7	-	NC
8	-	NC



Note The console port will not support a remote dial-in modem.

Hardware Features

This section provides an overview of the following hardware features for the Cisco ISA 3000.

Platform Features for the Cisco ISA 3000

The following lists the hardware platform features.

- CPU Intel 4 Core 1.25Ghz
- 8 GB of 1333MHz DDR3 Memory
- Dedicated management-only Gigabit Ethernet port

- Mini-USB and RJ45 Console port
- +/- 12 to 48VDC Rated (9.6 to 60VDC Maximum) redundant power connectors with 24-12 AWG screw cage terminals
- Two external USB-A ports for addition of memory cards, security tokens, modems, or other USB 2.0 compliant devices
- DIN Rail mount incorporated into the chassis
- Fan-less design
- Fault relay outputs and 2 alarm inputs
- Industrial temperature SDHC card support
- Redundant power inputs
- Secure boot support
- Bypass Relay (only available on copper ports)

Reset Button

The Reset button resets the security appliance configuration to the default configuration set by the factory. To restore the security appliance configuration to the default configuration set by the factory, use a standard size #1 paper clip with wire gauge 0.033 inch or smaller and simultaneously press the reset button while applying power to the security appliance.

When depressed the push-button follows these actions:

- Depressed 0 to < 3 seconds or > 15 seconds — No action is taken.
- Depressed > 3 seconds < 15 seconds — ASA: After reboot, the unit will be running the original factory default configuration, including ROMMON variables.
- Depressed > 3 seconds < 15 seconds — FTD (7.0+) using Firepower Management Center: If you have a backup configuration on an SD card, a zero-touch restore is initiated.

Power Supply

The Cisco ISA 3000 comes with redundant external power connector. the connector supports 12 - 48 VDC. The connectors are Molex 5.00mm Pitch Eurostyle™ Horizontal Plug, with Retention Screws.

The power supply does not support reverse polarity, but does have reverse polarity protection. This means if you reverse + & - connections, the system will not power on but there will be no damage.

The + terminal always has to be greater than the - terminal for the system to operate. The difference is in the system grounding scheme used.

The ISA 3000 supports 3 basic schemes:

- Isolated DC in, neither + nor - terminal is tied to chassis GND
- Positive DC in, negative (-) terminal is tied to chassis GND
- Negative DC in, positive (+) terminal is tied to chassis GND



Note To ensure uninterrupted operation the redundant power connections must be connected to independently separated power sources.

1GB Removable SD Flash Memory Card

The Cisco ISA 3000 has a removable SD flash memory slot (referred to as SD). This is primarily to allow easy updates, copying of logs and crash-dumps. The device does not come with a removable SD flash memory card installed, this is an optional spare item, Cisco part number SD-IE-1GB=. Contact your Cisco Marketing Representative for ordering information.



Note Check the software guide for the operating system you are running for information on SD memory support.

Installing or Removing the SD Card (Optional)



Warning Do not insert or remove the SD card while power is on; an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding. Statement 379

The SD card is hidden under a protective cover:

Figure 4: SD Card Cover



1	Phillips screw
2	Door pivot point

For hazardous locations environments, if you are installing or removing the flash card or alarm wiring, follow these warnings:



Warning When you connect or disconnect the power and/or alarm connector with power applied, an electrical arc can occur. This could cause an explosion in hazardous area installations. Be sure that all power is removed from the device and any other circuits. Be sure that power cannot be accidentally turned on or verify that the area is nonhazardous before proceeding. Statement 1058



Warning Do not insert or remove the flash card while power is on; an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding. Statement 379



Caution Use a ratcheting torque flathead screwdriver to torque the power connector captive screws to 5 in-lb (0.6 N-m), the maximum recommended torque.

To install or replace the SD card, follow these steps:

1. On the front of the device, locate the door that protects the SD card slot. Loosen the captive screw at the top of the door using a Phillips screwdriver to open the door.
 - To install a card, slide it into the slot, and press it in until it clicks in place. The card is keyed so that you cannot insert it the wrong way.
 - To remove the card, push it in until it releases for it to pop out. Place it in an antistatic bag to protect it from static discharge.
2. After the card is installed, close the guard door and fasten the captive screw using a Phillips screwdriver to keep the door in place.

Alarm Ports

The Cisco ISA 3000 has alarm ports. There are two conditions that generate an alarm:

- When dual power supply is configured, and there is a failed or missing power supply.
- When the CPU temperature is in critical condition (below -40°C or above 105°C)

When either condition is met, the alarm LED turns red, and a syslog message and SNMP trap is triggered.



Note Check the software guide for the operating system you are running for information on alarm port support.

Power Supply

The device can be configured to run dual power supplies. When set, the system expects to see both power supplies functioning properly.



Note Check the software guide for the operating system you are running for information on dual power supply configuration and support.

When configured for dual power supply, and a failure occurs, the Alarm Out LED turns red. The alarm relay is also energized. A syslog message is generated:

```
Syslog: %ASA-1-735006: Power Supply Unit Redundancy Lost
```

When configured for dual power supply, and a failure recovers, the Alarm Out LED turns off. A syslog message is generated:

```
Syslog: %ASA-1-735005: Power Supply Unit Redundancy OK
```

Temperature Sensor

The operating system monitors the CPU temperature when it is running.

If the CPU temperature is in a critical condition (below -40°C or above 105°C), the Alarm Out LED turns red.

When the CPU temperature returns to a normal condition, the Alarm Out LED turns off.



Note The critical range of temperature is not configurable. It is hard coded as below -40°C or above 105°C .



CHAPTER 3

Installing the Cisco ISA 3000 Industrial Security Appliance

This chapter describes the equipment and the procedures for successfully installing the Cisco ISA 3000.

- [Items Shipped with your Cisco ISA 3000, on page 21](#)
- [Additional Items, on page 21](#)
- [Ethernet Devices, on page 22](#)
- [Installing the Cisco ISA 3000, on page 22](#)

Items Shipped with your Cisco ISA 3000

Unpack the box and verify that all items listed on the invoice were shipped with the Cisco ISA 3000.

The following items are shipped with your device:

- Product Document Of Compliance (PDOC) Part Number 78-100733-01
- Two Power Connectors
- Alarm Connector

Additional Items

The following items are not shipped with the router but are required for installation:

- ESD-preventive cord and wrist strap.
- Wire crimper for chassis grounding.
- Wire for connecting the chassis to an earth ground.
- AWG 14 (2 mm²) or larger wire for NEC-compliant chassis grounding.
- Ethernet cables for connecting devices to the Gigabit Ethernet ports.
- Fiber optic cables and SFP transceivers for connecting to fiber LAN ports.
- Ratcheting torque flathead screwdriver that exerts up to 15 in-lb (1.69 N-m) of pressure.

- A number-2 Phillips screwdriver.

Ethernet Devices

Identify the Ethernet devices that you will connect to the router: hub, servers, and workstations or PCs. Ensure that each device has a network interface card (NIC) for connecting to Ethernet ports.

If you plan to configure the software through the console port, provide an ASCII terminal or a PC that is running terminal emulation software to connect to the console port.

Installing the Cisco ISA 3000

This section describes how to install the Cisco ISA 3000. This device can be installed on a table top or other flat horizontal surface mounted on a wall or DIN rail.



Caution Airflow around the device must be unrestricted. To prevent the device from overheating, ensure these minimum clearances:

- Top and bottom: 1.0 inches (25 mm)
Exposed side (not connected to the module): 1.0 inches (25 mm)
- Front: 1.0 inches (25 mm)

When installing the device, ensure the temperature surrounding the unit does not exceed 140°F (60°C). When the device is installed in an industrial enclosure, the temperature within the enclosure is greater than normal room temperature outside the enclosure.

Other guidelines to consider:

- Cabling is away from sources of electrical noise, such as radios, power lines, and fluorescent lighting fixtures.
- Connect the unit only to a Class 2 DC power source.
- Contact your Cisco TAC if tighter spacings are required.

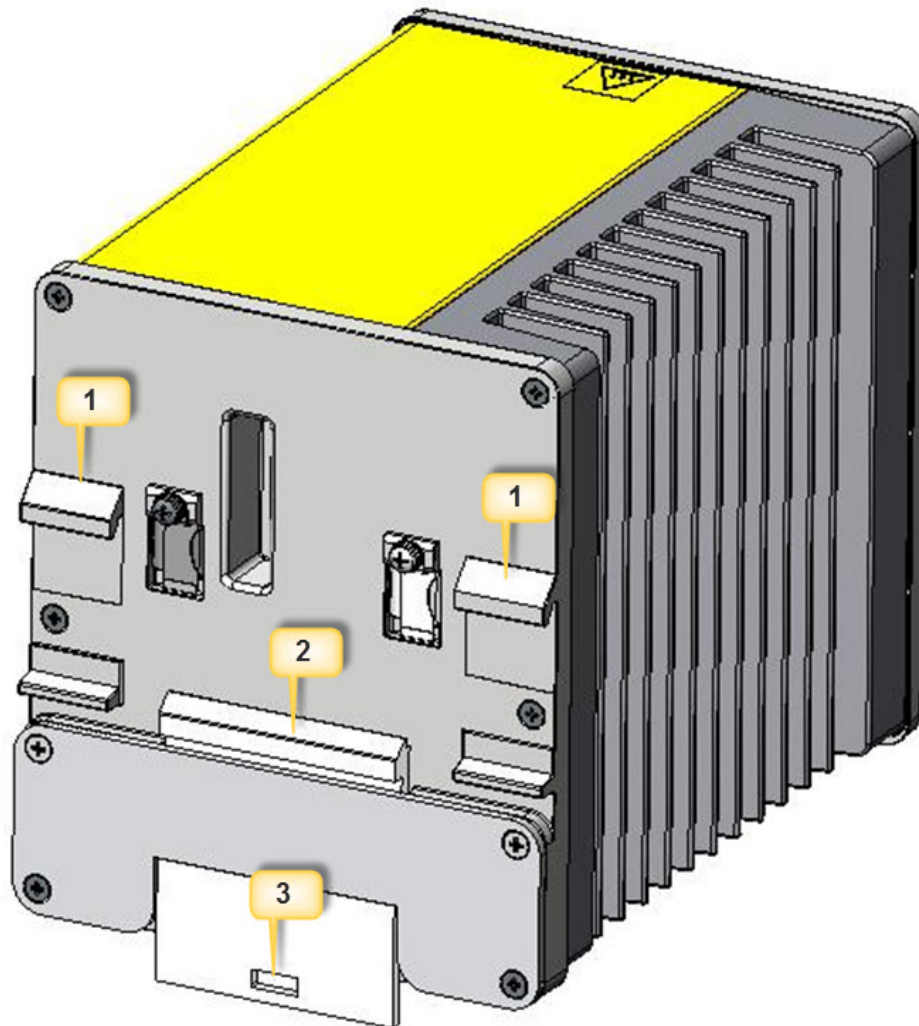
This section contains the following topics:

Installing a DIN Rail

You can use either the 7.5-mm or the 15-mm thick DIN rail for the Cisco ISA 3000. Secure the DIN rail to the mounting surface approximately every 7.8 inches (200 mm) and use end-anchors appropriately.

The device ships with a spring-loaded latch on the rear panel for a mounting on a DIN rail. Refer to the following figure:

Figure 5: ISA 3000 Rear Din Mount



Caution Do not stack any equipment on the device.

To attach the Cisco ISA 3000 to a DIN rail, follow these steps.

1. Position the rear panel of the device directly in front of the DIN rail, making sure that the DIN rail fits in the space between the two hooks near the top of the device and the spring-loaded latch near the bottom.
2. Holding the bottom of the device away from the DIN rail, place the two hooks (1) on the back of the device over the top of the DIN rail.
3. Push the device toward the DIN rail to cause the spring-loaded latch (2) at the bottom rear of the device to move down, and snap into place.

Removing the Device from a DIN Rail

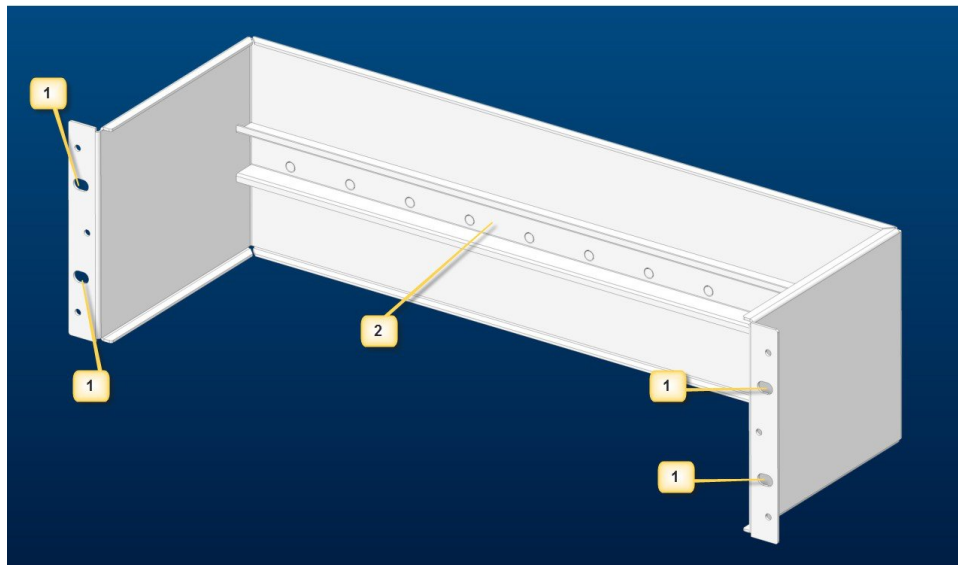
To remove the device from a DIN rail, follow these steps:

1. Ensure that power is removed from the device, and disconnect all cables and connectors from the front panel of the device.
2. Insert a tool such as a flathead screwdriver in the slot at the bottom of the spring-loaded latch (3) and use it to release the latch from the DIN rail.
3. Pull the bottom of the device away from the DIN rail, and lift the hooks off the top of the DIN rail.
4. Remove the device from the DIN rail.

Mounting the ISA 3000 in a Rack

The ISA 3000 can be mounted in a 19" cabinet/rack with the optional kit part number STK-RACKMNT-2955. This kit includes a bracket and mounting screws.

Figure 6: Mounting Bracket



To install the ISA 3000 in a cabinet or rack, perform the following steps:

1. Install the bracket in the cabinet or rack using the 4 front screws included in the kit. Place the screws through the mounting holes (#1).
2. Attach The device to the DIN rail built into the mounting bracket (#2) in the same manner as described in [Installing a DIN Rail, on page 22](#).

Installing the Cisco ISA 3000 Ground Connection

The device must be connected to a reliable earth ground. Install the ground wire in accordance with local electrical safety standards.

- For NEC-compliant grounding, use size 14 AWG (2 mm²) or larger copper wire and a ring terminal with an inner diameter of 1/4 in. (5 to 7 mm).
- The ground lug is not supplied with the device. You can use either a single ring terminal or two single ring terminals.



Warning This equipment needs to be grounded. Use a green and yellow 14 to 16 AWG ground wire to connect the host to earth ground during normal use. Statement 242



Warning This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. Statement 1024

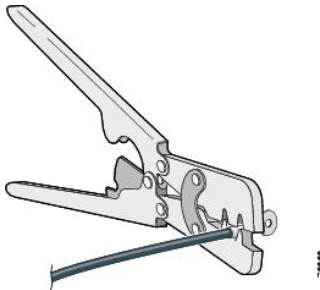


Warning When installing or replacing the unit, the ground connection must always be made first and disconnected last. Statement 1046

To install the ground connection, follow these steps:

- Step 1** Use a standard Phillips screwdriver or a ratcheting torque screwdriver with a Phillips head to remove the ground screw from the front panel of the device. Store the ground screw for later use.
- Step 2** Use a wire stripping tool to strip the 14-to-16 AWG grounding wire to 0.22 in. (5.56 mm).
- Step 3** Crimp the ground wire to the ring terminal using the wire crimper. See the following figure.

Figure 7: Crimping the Ring Terminal



- Step 4** Slide the ground screw through the terminal.
- Step 5** Insert the ground screw into the functional ground screw opening on the front panel.
- Step 6** Attach the ring terminal to the chassis using the screw set aside in step 1. Use a ratcheting torque screwdriver to tighten the ground screws and ring terminal to the device front panel to 3.5 in-lb (0.4 N-m). See the following figure.

Figure 8: Grounding Location



Step 7 Connect the other end of the ground wire to a known reliable earth ground point at your site.



CHAPTER 4

Connecting the Cisco ISA 3000

This chapter describes how to connect the Cisco ISA 3000 to Ethernet devices and a network.

- [Preparing to Connect the Cisco ISA 3000, on page 27](#)
- [Preventing Damage to the Cisco ISA 3000, on page 27](#)
- [Connecting a PC to the Cisco ISA 3000 For Configuration, on page 28](#)
- [Connecting to DC Power, on page 29](#)
- [Attaching the DC Power Connectors to the Device, on page 32](#)
- [Verifying Connections, on page 33](#)
- [Connecting Alarm Circuits, on page 34](#)
- [Wiring the External Alarms, on page 35](#)
- [Attaching the Alarm Connector to the Device, on page 37](#)

Preparing to Connect the Cisco ISA 3000

Before you connect the Cisco ISA 3000 to the devices, install the ISA 3000 according to the instructions in [Installing the Cisco ISA 3000 Industrial Security Appliance, on page 21](#).



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



Caution

If this product will be installed in a hazardous location, read the Getting Started/Printed Document of Compliance included in the package.

Preventing Damage to the Cisco ISA 3000

Before installation, observe these general guidelines:

- Proper ESD protection should be observed
- Ensure the device is properly grounded

- Ensure there is proper airflow around the device

Connecting a PC to the Cisco ISA 3000 For Configuration

The console connection of the ISA 3000 is not available for configuration. It is only used for troubleshooting when directed by a support person. All configuration of the device is done through Cisco IoT Field Network Director (FND) version 4.3 or greater.

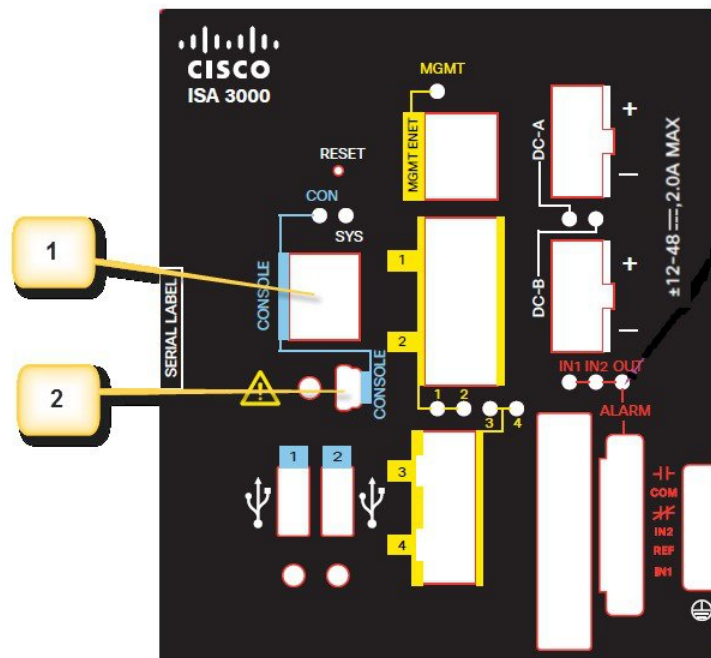
There are two methods of connecting to the Cisco ISA 3000 in case of troubleshooting:

- Connect a PC to the console connector of the Cisco ISA 3000 and launch a console terminal to use the CLI. ASA has a full CLI set, however, FTD only supports a setup script plus a few commands.
- Connect the PC to the Cisco ISA 3000 management sub-network which will then receive an IP address through DHCP.

Step 1

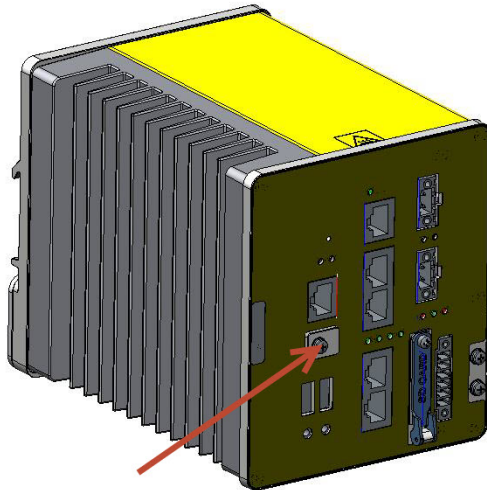
Choose which console connection will be used. In the following figure, Item 1 is the RJ-45 console connector, and item 2 is the mini-USB connector.

Figure 9: Console Connection Ports



- Step 2** If the mini-USB connector is being used, the protective cover will need to be removed first. The red arrow in the following figure shows the location of the cover. Remove the cover with a Phillips screw driver and set it aside to be reinstalled after completing the configuration.

Figure 10: mini-USB Cover



- Step 3** Connect the mini-USB side of a cable to the USB Console port on the Cisco ISA 3000.
- Step 4** Connect the opposite end of the mini-USB cable to the USB port on your PC. If your PC warns you that you do not have the proper drivers to communicate with the device, you can obtain them from your computers manufacturer, or go here: <https://software.cisco.com/download/home/282774227/type/282855122/release/3.1>
- Step 5** Start up a console terminal.
- Step 6** See the initial configuration section for more details.

Connecting to DC Power

Before you begin



Warning This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than 60 VDC minimum, 5A maximum. Statement 1005



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



Warning Before performing any of the following procedures, ensure that power is removed from the DC circuit. Statement 1003



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



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

You connect DC power to the device through the front panel connectors. The device has a dual-feed DC power supply; two connectors provide primary and secondary DC power (DC-A and DC-B).

Each power connector has an LED status indicator. The device power connectors are attached to the device chassis. Each power connector has screw terminals for terminating the DC power. All connectors are attached to the device front panel with the provided captive screws.

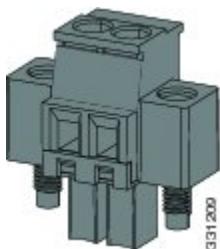
The power connector labeling is on the panel. The positive DC power connection is labeled “+”, and the return connection is labeled “-”.

The device can operate with a single power source or with dual power sources. When both power sources are operational, the device draws power from the DC source with the higher voltage. If one of the two power sources fail, the other continues to power the device.

To connect DC power to your Cisco ISA 3000, follow these steps:

Step 1 Locate the two power connectors on the device front panel labeled DC-A and DC-B.

Figure 11: Power Connector



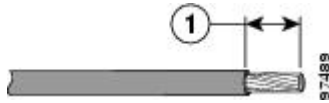
Step 2 Identify the connector positive and return DC power connections. The "+" is the Positive DC power connection, and the "-" is the Return DC power connection.

Step 3 Measure two strands of twisted-pair copper wire long enough to connect the power converter to the DC power source. For DC connections from the power converter to the DC source, use 18 to 20 AWG (2.6mm) twisted-pair copper wire.

Step 4 Using a 18-gauge (1.02mm) wire-stripping tool, strip the ground wire and both ends of the twisted pair wires to 0.25 inch (6.3 mm) ± 0.02 inch (0.5 mm). See the following figure, number 1. Do not strip more than 0.27 inch (6.8 mm) of insulation

from the wires. Stripping more than the recommended amount of wire can leave exposed wire from the power and relay connector after installation.

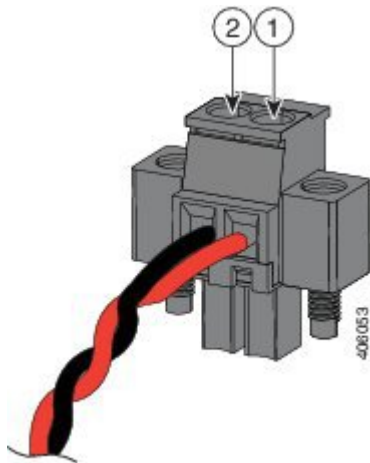
Figure 12: Stripping the Power Connection Wire



Step 5 Remove the two captive screws that attach the power connector to the device, and remove the power connector. Remove both connectors if you are connecting to two power sources.

Step 6 On the power connector, insert the exposed part of the positive wire into the connection labeled “+” and the exposed part of the return wire into the connection labeled “-”. The “+” is the Power source positive connection, and the “-” is the Power source return connection. See the following figure.

Figure 13: Inserting Wires into the Power Connector



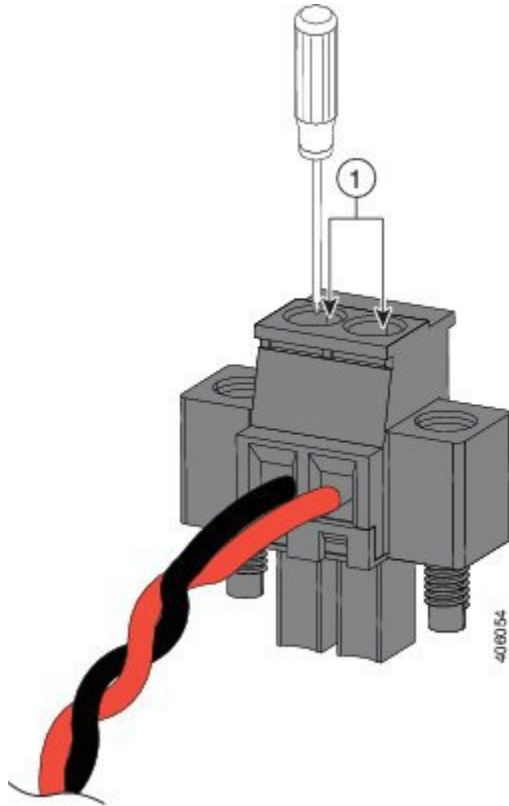
1	Power source positive connection
2	Power source return connection

Note Ensure that you cannot see any wire lead. Only wire with insulation should extend from the connector.

Step 7 Use a ratcheting torque flathead screwdriver to torque the power connector captive screws (above the installed wire leads) to 2 in-lb (0.23 N-m). See the following figure.

Note Do not over-torque the power connector’s captive screws. The torque should not exceed 2 inch-lbs (0.23 N-m).

Figure 14: Torquing the Power Connector Captive Screws



1	Power connector captive screws
---	--------------------------------

Warning An exposed wire lead from a DC-input power source can conduct harmful levels of electricity. Be sure that no exposed portion of the DC-input power source wire extends from the power and relay connector. Statement 122

Step 8 Connect the other end of the positive wire to the positive terminal on the DC power source, and connect the other end of the return wire to the return terminal on the DC power source.

When you are testing the device, one power connection is sufficient. If you are installing the device and are using a second power source, repeat steps 4 through 8 using the second power connector.

Attaching the DC Power Connectors to the Device

To attach the power connectors to the front panel of the device, follow these steps:



Warning Failure to securely tighten the captive screws can result in an electrical arc if the connector is accidentally removed. Statement 397

**Warning**

When you connect or disconnect the power and/or alarm connector with power applied, an electrical arc can occur. This could cause an explosion in hazardous area installations. Be sure that all power is removed from the device and any other circuits. Be sure that power cannot be accidentally turned on or verify that the area is nonhazardous before proceeding. Statement 1058

1. Insert one power connector into the DC-A receptacle on the device front panel, and the other into the DC-B receptacle.
2. Use a ratcheting torque flathead screwdriver to tighten the captive screws on the sides of the power connectors to 2 in-lb (0.23 N-m).
3. When you are testing the device, one power source is sufficient. If you are installing the device and are using a second power source, repeat this procedure for the second power connector (DC-B), which installs just below the primary power connector (DC-A).
4. When you are installing the device, secure the wires coming from the power connector so that they cannot be disturbed by casual contact. For example, use tie wraps to secure the wires to the rack.

Verifying Connections

To verify that all devices are properly connected to the Cisco ISA 3000, first turn on all the connected devices, then check the LEDs. To verify Cisco ISA 3000 operation, refer to the following table:

LED	Activity	Description
System	Power Status	Off — No power Green Steady on — Normal operation Green Flashing — Boot up phase and POST Red Flashing — BIOS Red — System is not functioning properly.
MGMT	Management Port Status	Off — No link (default) Green Steady on — Port link with no activity Green Flashing — Transmitting and Receiving data
DC_A DC_B	DC Power Status	Off — Power is not present Green Steady on — Power is present on the associated circuit. (Hardware controlled) Red Steady on — Power is not present on the associated circuit, and the system is configured for dual-input power.

LED	Activity	Description
Alarm Out	Alarm monitoring	Off — Alarm Out not configured or the system is off (Default) Green Steady on — Alarm Out is configured, no alarm detected. Red Steady on — Minor alarm detected Red Flashing — Major alarm detected
Alarm In 1&2	Alarm monitoring	Off — Alarm Out not configured or the system is off (Default) Green Steady on — Alarm Out is configured, no alarm detected. Red Steady on — Minor alarm detected Red Flashing — Major alarm detected
Ethernet Ports	Link Status	Off — No link Green Steady on — Link is up Green Flashing — Transmitting and Receiving data Amber — Fault, check log. Port 1&2 or 3&4 LEDs flashing amber together — Those two ports are in bypass mode and the system is up.
Console	Console connection status	Off — RJ-45 is being used for console Green — Mini USB is being used for console
BYPASS	Bypass Mode Indicator	The Ethernet LAN Ports pairs 1&2 or 3&4 (copper sku only) will blink amber together every 100ms (fast blink), when there is system power.

Connecting Alarm Circuits

After the device is installed, you are ready to connect the DC power and alarm connections.

The device has two alarm input and one alarm output relay circuits for external alarms. The alarm input circuits are designed to sense if the alarm input is open or closed relative to the alarm input reference pin. Each alarm input can be configured as an open or closed contact. The alarm output relay circuit has a normally open and a normally closed contact.

Alarm signals are connected to the device through the six-pin alarm connector. Three connections are dedicated to the two alarm input circuits: alarm input 1, alarm input 2, and a reference ground. An alarm input and the reference ground wiring connection are required to complete a single alarm input circuit. The three remaining connections are for the alarm output circuit: a normally open output, a normally closed output, and a common

signal. An alarm output and the common wiring connection are required to complete a single alarm output circuit.

The alarm connectors are on the device panel and are detailed in the following table:

Pin	Connection
1	Alarm Output Normally Open (NO) connection
2 (COM)	Alarm Output Common connection
3	Alarm Output Normally Closed (NC) connection
4 (IN2)	Alarm Input 2
5 (REF)	Alarm Input Reference Ground connection
6 (IN1)	Alarm Input 1



Warning Explosion Hazard—Do not connect or disconnect wiring while the field-side power is on; an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or that the area is nonhazardous before proceeding. Statement 1081



Caution The input voltage source of the alarm output relay circuit must be an isolated source and limited to less than or equal to 24 VDC, 1.0 A or 48 VDC, 0.5 A.

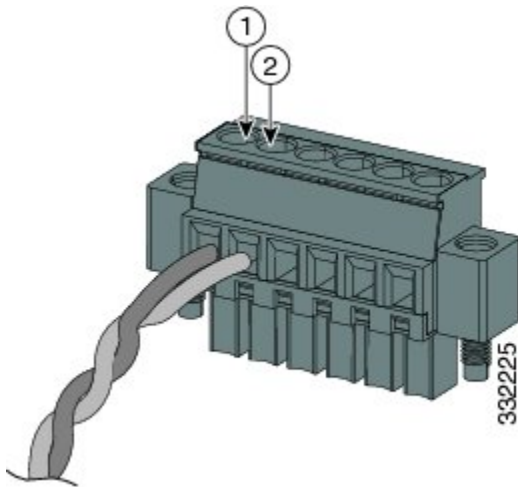


Note Wire connections to the power and alarm connectors must be UL- and CSA-rated, style 1007 or 1569 twisted-pair copper appliance wiring material (AWM) wire (such as Belden part number 9318).

Wiring the External Alarms

To wire the device to an external alarm device, follow these steps:

- Step 1** Remove the captive screws that hold the alarm connector on the device, and remove the connector from the device chassis.
- Step 2** Measure two strands of twisted-pair wire (18-to-20 AWG) long enough to connect to the external alarm device.
You can choose between setting up an external alarm input or output circuit.
- Step 3** Use a wire stripper to remove the casing from both ends of each wire to 0.25 inch (6.3 mm) ± 0.02 inch (0.5 mm).
Do not strip more than 0.27 inch (6.8 mm) of insulation from the wires. Stripping more than the recommended amount of wire can leave exposed wire from the alarm connector after installation.
- Step 4** Insert the exposed wires for the external alarm device into the connections based on an alarm input or output circuit setup.
For example, to wire an alarm input circuit, complete the IN1 and REF connections as shown in the following figure:



1	IN1 - External device connection 1
2	REF - External device connection 2

Step 5 Use a ratcheting torque flathead screwdriver to tighten the alarm connector captive screw (above the installed wire leads) to 2 in-lb (0.23 N-m).

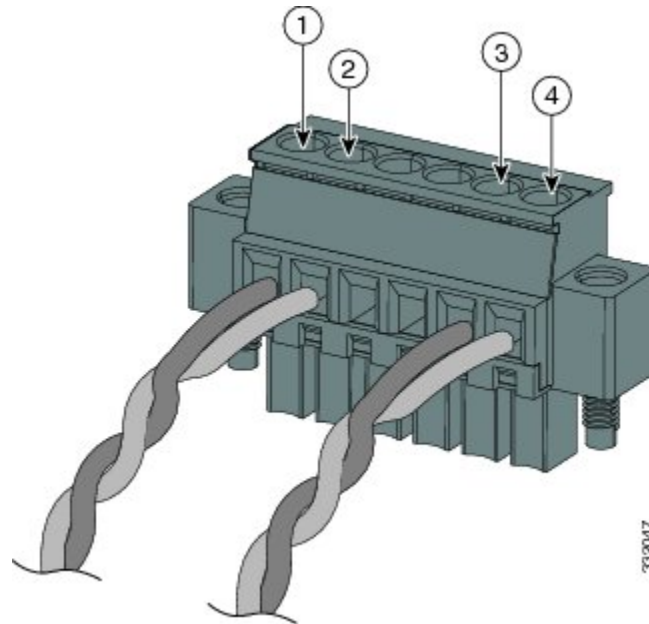
Note Do not over-torque the power and alarm connectors' captive screws. Do not exceed 2 inch-lbs (0.23 N-m) torque.

Step 6 Repeat the above steps to insert the input and output wires of one additional external alarm device into the alarm connector.

What to do next

The following figure shows the completed wiring for two external alarm devices. The first alarm device circuit is wired as an alarm input circuit; the IN1 and REF connections complete the circuit. The second alarm device circuit is wired as an alarm output circuit that works on a normally open contact basis; the NO and COM connections complete the circuit.

Figure 15: Completed Connections for Two External Alarm Devices on the Alarm Connector



1	IN1 wired connection
2	REF wired connection
3	COM wired connection
4	NO wired connection

Attaching the Alarm Connector to the Device



Warning Failure to securely tighten the captive screws can result in an electrical arc if the connector is accidentally removed. Statement 397



Warning When you connect or disconnect the power and/or alarm connector with power applied, an electrical arc can occur. This could cause an explosion in hazardous area installations. Be sure that all power is removed from the device and any other circuits. Be sure that power cannot be accidentally turned on or verify that the area is nonhazardous before proceeding. Statement 1058

To attach the alarm connector to the front panel of the device:

Step 1 Insert the alarm connector into the receptacle on the device front panel.

- Step 2** Use a ratcheting torque flathead screwdriver to tighten the captive screws on the sides of the alarm connector. Torque to 2 in-lb (0.23 N-m).
-



CHAPTER 5

Hardware Bypass

This chapter contains the following sections:

- [Overview, on page 39](#)
- [Port Bypass LEDs, on page 40](#)

Overview

The ISA 3000 is able to operate in bypass mode for ASA or Firepower Threat Defense. Bypass mode is defined as the copper ports are able to continue with an end to end connection, bypassing the Cisco ISA 3000 in the event of loss of power. This functionality is programmable. The Software will be responsible for turning off bypass mode once the system has booted up.

The hardware bypass feature lets traffic pass freely between the following interface pairs in the event of a power outage:

- Gigabitethernet 1/1 and 1/2
- Gigabitethernet 1/3 and 1/4



Note The Hardware Bypass feature is only available on the copper ports.

You can configure the hardware bypass behavior for each pair of interfaces for the following events:

- Power down
- Power up to system operational

Power down means reloading or restarting the Cisco ISA 3000 via power cycle or a complete loss of power. This will bypass the ISA data ports if it has been configured to do so. If you configure the hardware bypass to continue after power up, all the traffic can pass from the internal port to the external port and vice versa. When power is restored, the system software will monitor the boot up progress and only disable the bypass when the system is ready (Firewall is ready to process packets).

Power up means after power is restored, the system will continue in bypass mode in the data ports according to the user configuration. All the traffic can pass from internal port to external port and vice versa until the user manually disables the bypass. An event/trap will be sent to the management system to indicate the system still continues in bypass mode after power is restored.

If you manually enable hardware bypass, the system will enable bypass mode and all Firewall/VPN or IPS function will not take effect until the user issues a command to disable the bypass. A critical event will be sent to the management system to indicate no protection will be provided by the system. The user has to consider whether bypass feature is enabled or not while configuring other features.

For configuration information, please see all of the software guides for Firepower Threat Defense and ASA here: <https://www.cisco.com/c/en/us/support/security/industrial-security-appliance-isa/products-installation-and-configuration-guides-list.html>

Port Bypass LEDs

Each port is equipped with a bi-colored (Green and Amber) LED which indicates the port status. The LED states are shown below:

Table 3: LED Descriptions

LED	Activity	Description
Ethernet Ports	Bypass Mode Indicator	<p>Off — No link</p> <p>Green Steady on — Link is up</p> <p>Green Flashing — Transmitting and Receiving data</p> <p>Amber — Fault, implies no link</p> <p>Port 1&2 or 3&4 LEDs flashing amber together — Those two ports are in bypass mode and the system is up.</p>



CHAPTER 6

Technical Specifications

This chapter contains the following sections:

- [Device Specifications, on page 41](#)
- [MIB Information, on page 42](#)

Device Specifications

This section provides device, port, cabling specifications, and power adapters for the Cisco ISA 3000.



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

Table 4: Cisco ISA 3000 Specifications

Description	Technical Specification
Dimensions (H x W x D)	(height x width x depth x) are 5.13 x 4.42 x 6.31 in. (13 cm x 11.2 x 16 cm).
Weight	4.75 lbs
Operating Temperature	-40C to 60C (0 LFM) -40C to 70C (40 LFM) -34C to 75C (200 LFM)
Humidity	0 to 95% RH, non condensing
Ingress Protection Rating	IP30
Transportation/Storage Conditions	15K ft. altitude; -40C to 85C temperature

Description	Technical Specification
Shock/Vibration	<ul style="list-style-type: none"> • IEC60068-2-6 and IEC60068-2-27 MIL-STD-810, Method 514.4 Marine EN60945 Industrial EN61131-2/IEC61131-2 Railway EN50155 Smart Grid EN61850-3 IEEE 1613
DC input voltage	<ul style="list-style-type: none"> • Maximum operating range: 9.6 to 60 VDC • Rated: +/- 12 to 48 VDC • The DC-input power supply is an SELV circuit, and it can only be connected to another
Maximum DC input current	<ul style="list-style-type: none"> • 0.5A @ 48VDC • 1.0A @ 24VDC • 2.0A @ 12VDC
Power consumption	24 Watts

MIB Information

MIBs supported for the device can be seen in the network management MIBS
 URL: <https://snmp.cloudapps.cisco.com/Support/SNMP/do/BrowseMIB.do?local=en>