



Product Documentation of Compliance Information for the Cisco IC3000 Industrial Compute Gateway

IMPORTANT! READ ALL THE SAFETY INFORMATION BEFORE INSTALLING THE HARDWARE

Cisco Part Number 78-101320-01A0

The purpose of this document is to provide the installer the necessary information for installing the Cisco IC3000. The documentation is on-line, and subject to change. Make sure that you are downloading or viewing on-line the latest version before beginning an installation.

This document also contains Product Compliance and Safety information as well as Declaration of Conformity.

- [Related Documentation](#)
- [Installing the IC3000](#)
- [Grounding the IC3000](#)
- [Connecting DC Power](#)
- [Connecting to the IC3000 Ports](#)
- [Hazardous Locations Standards and Marking Strings](#)
- [EMC Information](#)

Related Documentation

For basic installation and configuration information, refer to the installation and configuration guide:

- IC3000 product page
- <https://www.cisco.com/c/en/us/support/routers/3000-series-industrial-compute-gateways/tsd-products-support-series-home.html>
- Warranty and EULA Information: <https://www.cisco.com/c/en/us/products/warranty-listing.html>
- Cisco Marketplace: www.cisco.com/cgi-bin/marketplace/welcome.pl
- Cisco Support: www.cisco.com/cisco/web/support/index.html

Installing the IC3000

These sections explain how to install the device. See the [Cisco IC3000 Hardware Installation Guide](#) for more information.

Items Shipped with your Cisco IC3000

Unpack the box and verify that all items listed on the invoice were shipped with the Cisco IC3000.

The following items are shipped with your device:

- This document, Part Number 78-101320-01
- Alarm Connector
- Two Power Connectors

Equipment that You Supply

- For power and alarm connections, use UL- and CSA-rated style 1007 or 1569 twisted-pair copper appliance wiring material (AWM) wire
- ESD-preventive cord and wrist strap
- Wire crimper for chassis grounding
- Wire for connecting the chassis to an earth ground
- Ethernet cables for connecting 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
- Wire-stripping tool

Installation Warning and Caution Statements

Warning: IMPORTANT SAFETY INSTRUCTIONS

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

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

Warning: Exposure to some chemicals could degrade the sealing properties of materials used in the sealed relay device. Statement 381

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

Warning: This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. Statement 1017

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: To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 140° F (60° C). Statement 1047

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

Warning: Explosion Hazard—The area must be known to be nonhazardous before installing, servicing, or replacing the unit. Statement 1082

Warning: Use twisted-pair supply wires suitable for 86° F (30° C) above surrounding ambient temperature outside the enclosure. Statement 1067

Warning: Avoid using or servicing any equipment that has outdoor connections during an electrical storm. There may be a risk of electric shock from lightning. Statement 1088

Caution: Airflow around the device must be unrestricted. To prevent the device from overheating, ensure that a minimum of 1 inch of space exists around the device.

Contact your Cisco Technical Assistance Centre (TAC) if tighter spacings are required.

Caution: This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or only nonhazardous locations.

Caution: The equipment shall only be used in an area of not more than pollution degree 2 as defined by EN 60664-1. In addition, the equipment shall be installed in a certified enclosure that provides a degree of protection not less than IP 54 in accordance with EN 60079-15.

Note: This equipment is rated as follows:

– DC Input Voltage: Maximum Operating Range: 9.6VDC to 60VDC; Nominal: 12VDC to 48VDC

Note: The maximum ambient operating temperature range is -40 to 140° F (-40 to 60° C).

Grounding the IC3000

Make sure to follow any grounding requirements at your site. The device must be connected to a reliable earth ground. Install the ground wire in accordance with local electrical safety standards. The ground lug is not supplied with the device. You can use either a single ring terminal or two single ring terminals.

Note: The ground lug is not supplied with the device. You can use either a single ring terminal, two single ring terminals, or a double ring terminal.

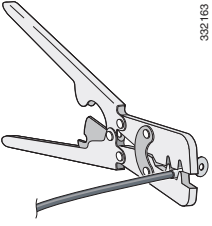
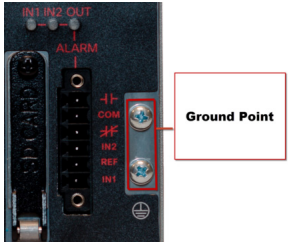
Warning: This equipment needs to be grounded. For NEC-compliant grounding, use size 16 AWG (1.5mm²) or larger copper wire and a ring terminal with an inner diameter of 1/4 in. (6 to 7 mm). Statement 242

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

Warning: This equipment is intended to be grounded to comply with emission and immunity requirements. Ensure that the device functional ground lug is connected to earth ground during normal use. Statement 1064

To ground the IC3000 to earth ground, 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.
Step 2	Use a wire stripping tool to strip the 16 AWG (1.5mm ²) grounding wire to 0.22 in. (5.56 mm).
	<p>Insert the ground wire into the ring terminal lug, and using a crimping tool, crimp the terminal to the wire.</p> 
Step 3	Slide the ground screw through the terminal.
Step 4	<p>Insert the ground screw into the functional ground screw opening on the front panel.</p> <p>Attach the ring terminal to the chassis using the screw set aside in step 1.</p> <p>The graphic to the right shows the proper ground connection points.</p> 
Step 5	Use a ratcheting torque screwdriver to tighten the ground screw and ring terminal to the IC3000 front panel to 3.5 in-lb (0.4 N-m).
Step 6	Attach the other end of the ground wire to a grounded bare metal surface, such as a ground bus, a grounded DIN rail, or a grounded bare rack.

Connecting DC Power

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: Explosion Hazard—Substitution of components may impair suitability for Class I, Division 2/Zone 2. Statement 1083

Warning: In device installations in a hazardous location, the DC power source could be located away from the vicinity of the device. Before performing any of the following procedures, locate the DC circuit to ensure that the power is removed and cannot be turned on accidentally, or verify that the area is nonhazardous before proceeding. Statement 1059

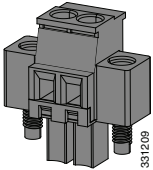

Warning: Installation of the equipment must comply with local and national electrical codes. Statement 1074

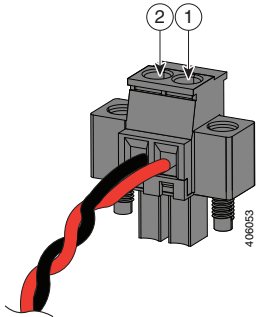
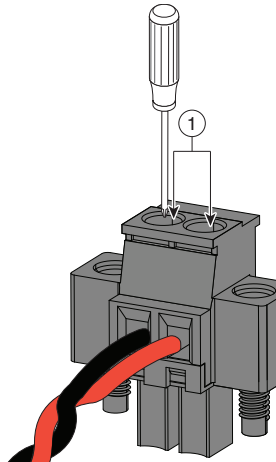
Warning: Before performing any of the following procedures, ensure that power is removed from the DC circuit. Statement 1003

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

To connect DC power:

Step 1	Locate the power connector on the IC3000 front panel.	
Step 2	Identify the connector positive and return DC power connections. The connections are: <ul style="list-style-type: none"> ■ + Positive DC power connection ■ - Return DC power connection 	
Step 3	Measure two strands of twisted-pair copper wire (18-to-20 AWG) (2.6mm) long enough to connect to the DC power source.	
Step 4	Using an 18-gauge (1.02mm) wire-stripping tool, strip each of the two twisted pair wires coming from each DC-input power source 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 wire. Stripping more than the recommended amount of wire can leave exposed wire from the power connector after installation.	
Step 5	Remove the two captive screws that attach the power connector to the IC3000, and remove the connector.	

<p>Step 6</p>	<p>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 “-”. Make sure that you cannot see any wire lead. Only wire with insulation should extend from the connector.</p>	 <p>1 - Power source positive connection. 2 - Power source return connection.</p>
<p>Step 7</p>	<p>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)</p>	 <p>1 - Power connector captive screws</p>
<p>Step 8</p>	<p>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.</p>	

Attaching the DC Power Connectors

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

To attach the power connectors:

Step 1	Insert the power connector into the receptacle on the IC3000 front panel.
Step 2	<p>Use a ratcheting torque flathead screwdriver to tighten the captive screws on both sides of the power connector to 5 in-lb (0.6 N-m).</p> <p>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).</p> <p>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.</p>

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

Connecting to the IC3000 Ports

For hazardous location environments, follow these warnings when connecting to the destination ports (Gigabit Ethernet and console ports).

Warning: Do not connect or disconnect cables to the ports while power is applied to the device or any device on the network because an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed from the device and cannot be accidentally be turned on, or verify that the area is nonhazardous before proceeding. Statement 1070

Warning: If you connect or disconnect the console cable with power applied to the device or any device on the network, 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 1080

Connecting to the USB Ports

Note: If you are connecting to the USB ports:

- A connection (to the USB ports) can only be made in a non-hazardous environment
- The USB port covers must be reinstalled before the IC3000 can be deployed in a hazardous environment

For more information about connecting to the USB port, see the [Cisco IC3000 Hardware Installation Guide](#) on Cisco.com.

Optional Procedures

For detailed instructions on installing the device in a hazardous environment, see the [Cisco IC3000 Hardware Installation Guide](#) on Cisco.com.

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.

Hazardous Locations Standards and Marking Strings

The following standards were used for the hazardous locations approvals and certifications:
UL 121201, Ed. 9
CAN/CSA C22.2 No. 60079-0-11 Ed. 2
CAN/CSA C22.2 No. 60079-15-12 Ed. 1
CSA C22.2 No. 213, Ed. 3
EN 60079-0:2012+A11:2013
EN 60079-15:2010
IEC 60079-0 6th Edition
IEC 60079-15 4th Edition
UL 60079-0, 5th Ed, 2009-10-21
UL 60079-15, 3rd Ed, 2009-7-17

The following hazardous locations strings are provided on the IC3000:
Class 1, Div 2, Groups A B C D
Class I, Zone 2, Ex nA nC IIC T4 Gc X
 II 3G, Ex nA nC IIC T4 Gc
DEMKO 15ATEX 1523X
Class I, Zone 2, AEx nA nC IIC T4 Gc

EMC Information

For EMC and safety information, see the Regulatory Compliance and Safety Information at this URL:

<https://www.cisco.com/c/dam/en/us/td/docs/security/Firewalls/ISA3000/regulatory/isa3000rcsi.pdf>

EMC Class A Notices and Warnings

Statement 340—Class A Warning for CISPR22

CISPR Class A statement

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Warning: Dies ist ein Produkt der Klasse A. Bei der Verwendung dieses Produkts im Haus- oder Wohnungsbereich kann es zu Funkstörungen kommen. In diesem Fall muss der Benutzer u. U. angemessene Maßnahmen ergreifen.

Statement CS-2017—Class A notice for FCC

Modifying the equipment without Cisco's authorization may result in the equipment no longer complying with FCC requirements for Class A digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense. **Statement 2017**

Statement CS-0438 - 台灣 RoHS

台灣 RoHS“ 限用物質含有情況標示聲明書 ” 網址 www.cisco.com/go/taiwanrohs

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产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
金属部件 (包括紧固件)	X	○	○	○	○	○
印刷电路板组件和元件	X	○	○	○	○	○
线缆和线缆组件	X	○	○	○	○	○
塑料和聚合物部件	○	○	○	○	○	○
显示器, 包含灯泡	X	X	○	○	○	○
除印刷电路板外的其他电子组件	X	○	○	○	○	○
光学玻璃材料	X	○	X (非玻璃)	○	○	○
干电池	○	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○: 表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。

以销售日期为准, 此表显示在“思科系统公司”的电子信息产品部件中何处存在这些有毒有害物质。请注意, 并非上列所有部件都有包含在内装产品中。

除非产品上另有标记, 所有内附产品及其部件的‘环保使用期限’均由此显示的符号表示。此环保使用期限只适用于产品手册中所规定的使用条件。



Note: This Table is a regulatory document required for products shipped to the People’s Republic of China.

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