



Safety Guidelines

Before you perform any procedure in this publication, you must review the safety guidelines in this section to avoid injuring yourself or damaging the equipment. Note that this section contains *guidelines*, and does not include every potentially hazardous situation. During any installation procedure, always use caution and common sense.

Review the complete list of safety warnings available at Regulatory Compliance and Safety Information for *Cisco NCS 1004 Series*.

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Standard Warning Statements



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



Warning An instructed person is someone who has been instructed and trained by a skilled person and takes the necessary precautions when working with equipment.

A skilled person or qualified personnel is someone who has training or experience in the equipment technology and understands potential hazards when working with equipment.



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



Warning Hazardous voltage or energy may be present on power terminals. Always replace cover when terminals are not in service. Be sure uninsulated conductors are not accessible when cover is in place. Statement 1086



Warning Mount the device on a rack that is permanently affixed to the building. Statement 1049



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

General Safety Guidelines for Personal Safety and Equipment Protection

Follow these safety guidelines:

- Never attempt to lift an object that might be too heavy for you to lift by yourself.
- Always unplug power cables when performing maintenance or working on the chassis, unless the replacement part is hot swappable and designed for online insertion and removal (OIR).
- Keep the work area clear and dust free during and after installation.
- Keep tools and chassis components away from walkways and equipment rack aisles.
- Do not wear loose clothing, jewelry (including rings and chains), or other items that could get caught in the equipment.
- Fasten your tie or scarf and sleeves.
- Operate Cisco equipment safely by using it in accordance with its electrical ratings and product usage instructions.
- Do not work alone if potentially hazardous conditions exist.
- Ensure that the installation of the router is in compliance with national and local electrical codes: in the United States, National Fire Protection Association (NFPA) 70, United States National Electrical Code; in Canada, Canadian Electrical Code, part I, CSA C22.1; in other countries, International Electrotechnical Commission (IEC) 364, part 1 through part 7.

Safety Precaution for Module Installation and Removal

Ensure to observe the following safety precautions when you are working with the chassis modules.



Warning Invisible laser radiations present. Statement 1016



Warning Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Statement 1051

Safety with Electricity



Warning Before working on a chassis or with power supplies, unplug the power cord on AC units. Disconnect the power at the circuit breaker on DC units. Statement 12



Warning Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals. Statement 43



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



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 This unit may have more than one power supply connection. All connections must be removed to de-energize the unit. Statement 1028



Warning When installing or replacing the unit, ensure the ground connection first and disconnected last. Statement 1046



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

Power Connection Guidelines

Check the power at your site to ensure you are receiving clean power (free of spikes and noise).

Ensure to observe the following safety guidelines while connecting the device power supplies.



Warning 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 Use copper conductors only. Statement 1025



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

Safety Precaution for Energy Hazard



Warning Do not reach into a vacant slot when installing or removing a module. Exposed circuitry is an energy hazard. Statement 206

The Cisco NCS 1004 can be configured for a DC power source. Do not touch terminals with body parts or conductive objects while they are energized.

Safety Precaution for Laser Radiation

Cisco NCS 1004 is classified as Hazard Level 1M as per IEC 60825-2 and Laser Class 1/1M as per IEC 60825-1, since it may include Class 1 or Class 1M Laser sources.

Figure 1: Class 1M Laser Product Label



Figure 2: Class 1M Laser Product Label

**Warning**

Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

Conforme à la norme 21 CFR 1040.10 et 1040.11, sauf conformité avec la norme IEC 60825-1 Ed. 3., comme décrit dans l'avis relatif au laser no. 56, daté du 8 Mai 2019.

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Statement 291

**Warning**

Invisible laser radiations present.Statement 1016

**Warning**

Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.Statement 1051

Prevent Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD may occur when electronic printed circuit cards are improperly handled and can cause complete or intermittent failures. When removing and replacing modules, always follow these ESD prevention procedures:

- Ensure that the device chassis is electrically connected to earth ground.
- Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact.
- Handle components by only their handles or edges; do not touch the printed circuit boards or connectors.
- Avoid contact between the printed circuit boards and clothing. The wrist strap only protects components from ESD voltages on the body; ESD voltages on clothing can still cause damage.

NEBS Regulatory Compliance Statements

The NEBS-GR-1089-CORE regulatory compliance statements and requirements are discussed in this section.



Note This equipment is designed to boot up in less than 30 minutes, depending on its neighboring devices be fully up and running.



Warning **The intra-building port(s) (Management Ethernet Ports) of the equipment or subassembly must use shielded intra-building cabling/wiring that is grounded at both ends.** Statement 7003



Warning **The intra-building port(s) (Management Ethernet Ports) of the equipment or subassembly is suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building port(s) of the equipment or subassembly must not be metallicly connected to interfaces that connect to the OSP or its wiring for more than 6 meters (approximately 20 feet). These interfaces are designed for use as intra-building interfaces only (Type 2, 4, or 4a ports as described in GR-1089) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metallicly to an OSP wiring system.** Statement 7005

Products that have AC power ports that are intended for deployments where an external Surge Protective Device (SPD) is utilized at the AC power service equipment (see definition in National Electric Code). Statement 7012

This product is designed for a Common Bonding Network (CBN) installation. Statement 7013

This product can be installed in network telecommunication facilities or locations where the National Electric Code applies. Statement 8015 and 8016

The DC return connection to this system should remain isolated from the system frame and chassis (DC-I). Statement 7016