

Mounting the Cisco NCS 2002 Shelf

This chapter explains how to mount the the NCS 2002 Shelf.

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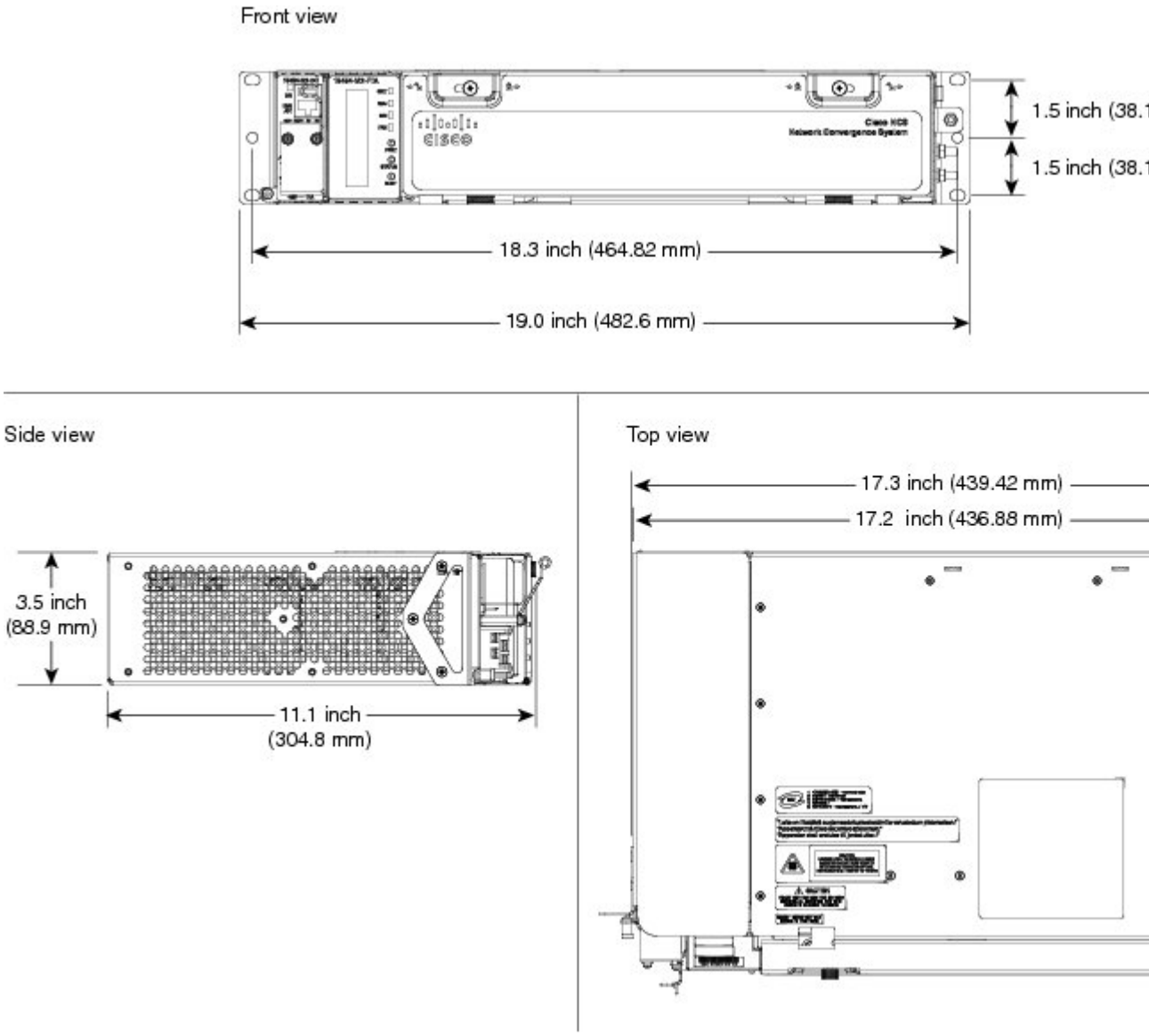
ANSI Rack Installation

The NCS 2002 shelf is mounted on a 19-inch (482.6-mm) or 23-inch (584.2-mm) equipment rack. Make sure that the correct type of 19-inch ANSI rack is used for mounting the NCS 2002 shelf. If the shelf is mounted in the front position, then it projects 1.7 inches (43.18 mm) from the front of the rack. If the shelf is mounted in the middle position, then it projects 5.1 inches (129.54 mm) from the front of the rack. The shelf mounts in both Electronic Industries Alliance (EIA) standard and Telcordia-standard racks. The shelf is a total of 17.2 inches (431.8 mm) wide with no mounting ears attached. Ring runs are not provided by Cisco and might hinder side-by-side installation of shelves where space is limited.

The NCS 2002 shelf measures 3.5 inches (88.9 mm) high, 19 or 23 inches (482.6 or 584.2 mm) wide (depending on which way the mounting ears are attached), and 11.1 inches (304.8 mm) deep.

The figure below shows the dimensions of the NCS 2002 shelf on a 19-inch (482.6 mm) ANSI rack configuration with brackets mounted in the front position.

Figure 1: Cisco NCS 2002 Shelf Dimensions for a 19-inch ANSI Rack Configuration



Mounting a Single Node

Mounting the NCS 2002 shelf on a rack requires a minimum of 3.5 inches (88.9 mm) of vertical rack space. To ensure that the mounting is secure, use two to three #12-24 mounting screws for each side of the shelf. For an ANSI rack, the brackets can be mounted in the front or middle position. The shelf should be empty for easier lifting.

The NCS 2002 shelves can be mounted above each other without any space between the shelves. This method of mounting does not restrict the air flow because the air vents are on either sides of the NCS 2002 shelves.

ETSI Rack Installation

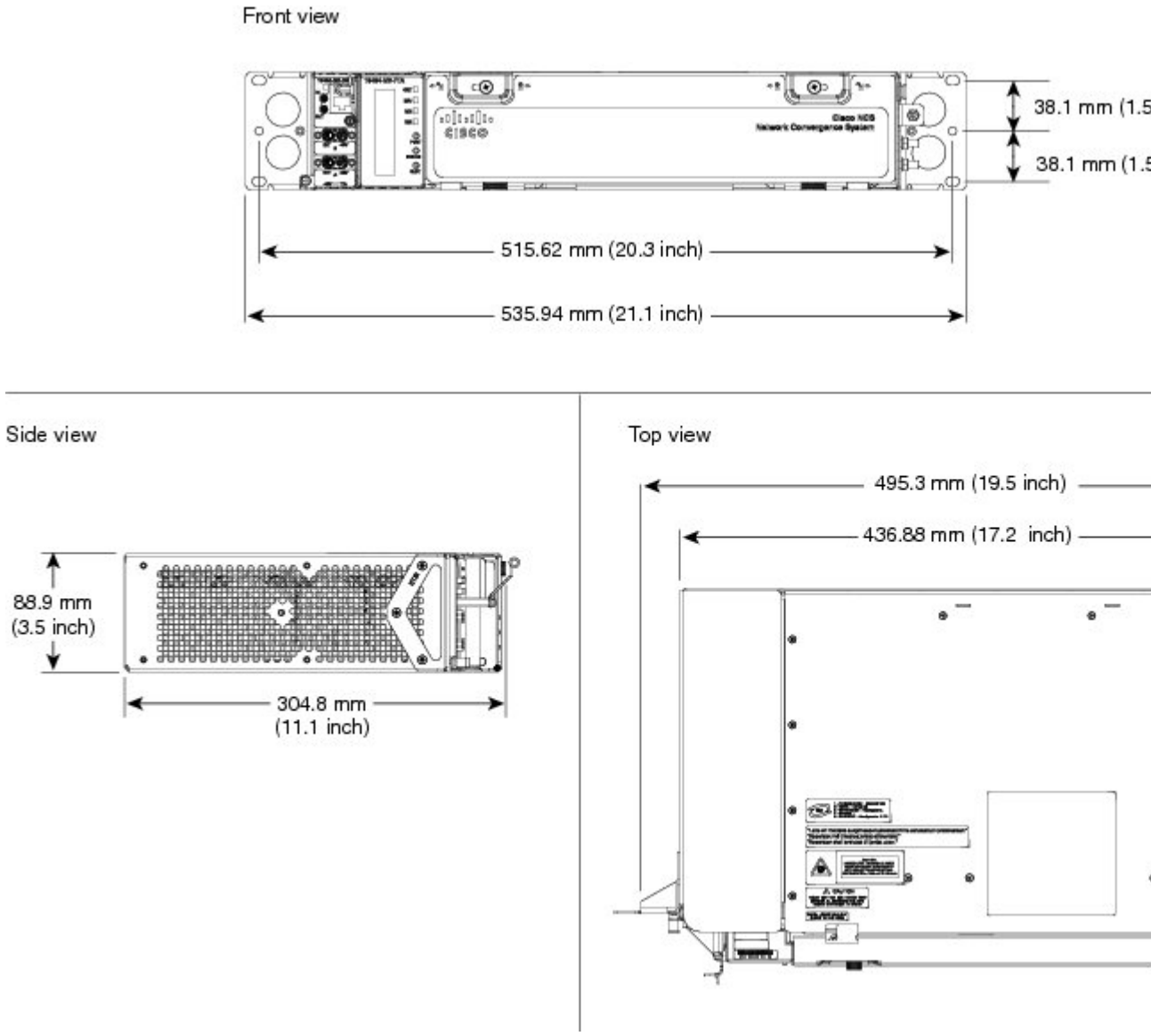
The NCS 2002 shelf is mounted on a 600 x 600-mm (23.6 x 23.6-inch) or 600 x 300-mm (23.6 x 11.8-inch) ETSI standard equipment rack. In an ETSI rack, the shelf can be mounted only in the front position. The shelf projects 1.7 inch (43.18 mm) from the front of the rack and is a total of 431.8 mm (17 inch) wide with no mounting ears attached. Cisco does not provide ring runs, which might hinder side-by-side installation of shelves where space is limited.

The NCS 2002 shelf measures 88.9 mm (3.5 inches) high, 535 mm (21.06 inches) wide, and 304.8 mm (11.1 inches) deep.

Caution When mounting a shelf in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack. If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

The figure below provides the dimensions of the NCS 2002 shelf installed on a 600 x 600-mm (23.6 x 23.6-inch) ETSI standard equipment rack.

Figure 2: Cisco NCS 2002 Shelf Dimensions for an ETSI Rack Configuration



Mounting a Single Node

The NCS 2002 requires 3.5 inches (88.9 mm) minimum of vertical rack space. To ensure the mounting is secure, use two to three 2006 mounting screws for each side of the shelf.

In an ETSI rack, the brackets can be mounted only in the front position.

The NCS 2002 shelves can be mounted above each other without any space between the shelves. This method of mounting does not restrict the air flow because the air vents are on either sides of the NCS 2002 shelves.

NTP-L42 Installing the NCS 2002 Shelf

Purpose	This procedure helps in mounting the NCS 2002 shelf.

Tools/Equipment	• #2 Phillips Dynamometric screwdriver
	• Medium slot-head screwdriver
	• Small slot-head screwdriver
	• ETSI only:
	  • Two M6 x 20 pan-head Phillips mounting screws
	• ANSI only:
	  • Two #12-24 x 3/4 pan-head Phillips mounting screws

Prerequisite Procedures	DLP-L62 Unpacking and Verifying the Shelf DLP-L63 Inspecting the Shelf
Required/As Needed	Required
Onsite/Remote	Onsite
Security Level	None

Warning **Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.** Statement 1048

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

Warning **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



Warning **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 10A-20A, 100-240 VAC~.** Statement 1005



Warning **To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 131°F (55°C).** Statement 1047



Warning **Take care when connecting units to the supply circuit so that wiring is not overloaded.** Statement 1018



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

- **This unit should be mounted at the bottom of the rack if it is the only unit in the rack.**
- **When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.**
- **If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.** Statement 1006



Warning **To prevent airflow restriction, allow clearance around the ventilation openings to be at least:1 inch (25.4 mm).** Statement 1076



Note Make sure that the correct type of 19-inch ANSI rack is used for mounting the NCS 2002 shelf.



Note During installation, do not use the door to handle the chassis.



Note Remove the door from the NCS 2002 shelf and reinstall it after installing all the other modules.

Procedure

Step 1 Complete the necessary task as applicable:

- NTP-L44 Mounting the Brackets in ANSI Configuration
- NTP-L45 Mounting the Brackets in ETSI Configuration

Step 2 Complete the following mounting task:

- DLP-L42 Mounting the NCS 2002 Shelf on a Rack (One Person), on page 7

Step 3 Connect the chassis to the office ground. For detailed instructions on how to ground the chassis, refer to the Electrostatic Discharge and Grounding Guide for Cisco NCS 2000 Series.

Step 4 Continue with NTP-L30 Opening and Removing the Standard Door of the NCS 2002 Shelf.

Stop. You have completed this procedure.

DLP-L42 Mounting the NCS 2002 Shelf on a Rack (One Person)

Purpose	This task allows one person to mount the shelf on a rack.
Tools/Equipment	• # 2 Phillips Dynamometric screwdriver • ANSI —Two #12-24 x ¾ pan-head Phillips mounting screws • ETSI—Two M6 x 20 mounting screws
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	None

Warning The chassis must not be mounted over combustible items. The following label can be found on the chassis:



Note The NCS 2002 requires a minimum of 3.5 inches (88.9 mm) of vertical rack space. To ensure that the mounting is secure, use two to three NCS 2006 mounting screws on each side of the shelf. A shelf should be mounted at the bottom of the rack if it is the only unit in the rack.

Note In an ANSI rack, the chassis can be installed in the front or the middle position. In an ETSI rack, the chassis is installed only in the front position.

Procedure

Step 1 Verify that the proper fuse panel has been installed in the top mounting space. If a fuse panel is not present, you must install one according to manufacturer instructions:

- For a DC power supply, the fuse rating must not exceed 15A.
- For an AC power supply, the fuse rating must not exceed 10A, 15A, or 20A. For North America, the branch circuit protection must be rated 20A. The overcurrent/short circuit protection must be in accordance with local and national electrical codes.

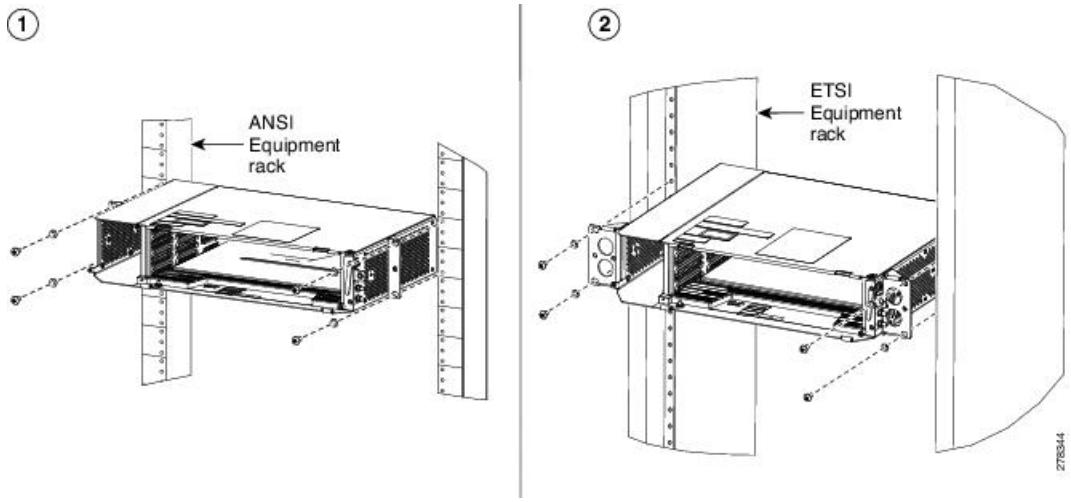
Step 2 Ensure that the shelf is mounted on the appropriate rack equipment:

- 23 inches (584.2 mm) or 19 inches (482.6 mm) for ANSI racks. The recommended 19-inch ANSI rack for the NCS 2002 shelf is shown in the figure below
- 600 x 600-mm (23.6 x 23.6-inch) or 600 x 300-mm (23.6 x 11.8-inch) for ETSI racks.

Diagram 1 of the figure below shows the NCS 2002 shelf mounted on an ANSI rack in the middle position using 19-inch mounting brackets

Diagram 2 of the figure below shows the NCS 2002 shelf mounted on an ETSI rack in the front position using mounting brackets

Figure 3: Mounting an NCS 2002 in a Rack



Step 3 Return to your originating procedure (NTP).

Step 4 Lift the shelf to the desired position in the rack.

Note
To ensure proper cooling of the NCS 2002 shelf, make sure that the space in front of the air flow vents are free of cables, fibers, and mechanical fixtures for fiber and cable management.

Step 5 Align the screw holes on the mounting brackets with the mounting holes in the rack.

Step 6 Using the Phillips Dynamometric screwdriver, install one mounting screw in each side of the assembly. Tighten the screw to a torque value of 22 in-lb (2.5 N-m).

Step 7 When the shelf is secured to the rack, install the remaining two mounting screws on either sides of the shelf.

Step 8 Return to your originating procedure (NTP).