Technical Specifications

This appendix describes the technical specifications for the Nexus 7000 system and includes these sections:

Environmental Specifications for the Cisco Nexus 7000 Series Systems

lists the environmental specifications for the Cisco Nexus 7000 Series systems.

Table 1: Environmental Specifications for the Cisco Nexus 7000 Series Switches

Description			Cisco Nexus 7004	Cisco Nexus 7009	Cisco Nexus 7010	Cisco Nexus 7018
Temperature	Ambient operating		32 to 104ºF (0 to 40ºC)			
	Ambient nonoperating		–40 to 158ºF (–40 to 70ºC)			
Relative humidity	Ambient (noncondensing) operating		5 to 90% (45 to 50% recommended)			
	Ambient (noncondensing) nonoperating and storage		5 to 95%			
Altitude	Operating		–500 to 13,000 feet (–150 to 4,000 meters)			
	Storage		–1,000 to 30,000 feet (–305 to 9,144 meters)			
Noise	Sound pressure levels					
		Without air filter	70 dBA	63.6 dBA	67.2 dBA	65.0 dBA
		With air filter	—	—	70.2 dBA	—

Description		Cisco Nexus 7004	Cisco Nexus 7009	Cisco Nexus 7010	Cisco Nexus 7018
	Sound power levels				
	Without air filter	83 dBA	72.5 dBA	78.9 dBA	74.2 dBA
	With air filter	—	—	81.7 dBA	—

Physical Specifications for the Cisco Nexus 7000 Series Chassis

The physical specifications differ for the Cisco Nexus 7000 Series chassis depending on the model that you are installing and the type of installation you are doing (you can front mount all models but you can optionally do a center mount of the Cisco Nexus 7004 and 7009 chassis). Table 2: Physical Specifications for Cisco Nexus 7000 Series Chassis, on page 2 lists the physical specifications for each model and installation type.

Table 2: Physical Specifications for Cisco Nexus 7000 Series Chassis

Chassis	Width [1]	Front Depth [2]	Rear Depth [3]	Height [4]
Cisco Nexus 7004 (all mounts)	17.3 inches (43.9 cm)	7 inches (17.8 cm)	24.0 inches (61.0 cm)	12.25 inches (31.1 cm) (7 RU)
Cisco Nexus 7009 (front mount)	17.3 inches (43.9 cm)	7 inches (17.8 cm)	24.0 inches (61.0 cm)	24.5 inches (62.2 cm) (14 RU)
Cisco Nexus 7009 (center mount)	17.3 inches (43.9 cm)	13 inches (33.0 cm)	18.0 inches (45.8 cm)	24.5 inches (62.2 cm) (14 RU)
Cisco Nexus 7010 (all mounts)	17.3 inches (43.9 cm)	7 inches (17.8 cm)	33.1 inches (84.1 cm)	36.75 inches (93.3 cm) (21.0 RU)
Cisco Nexus 7018 (all mounts	17.3 inches (43.9 cm)	7 inches (17.8 cm)	33.1 inches (84.1 cm)	43.75 inches (111.1 cm) (25.0 RU)

[1] Width is also the minimal clearance required between the two vertical mounting rails inside the rack or cabinet.

[2] Front depth is also the minimal clearance required between the front mounting rails and the inside of the front of the rack or cabinet. For all switches, this includes 7 inches (17.8 cm) of space for cabling. For the Cisco Nexus 7009 center-mounted chassis, this distance also includes 6 inches of the chassis which is offset to the front by the center-mount bracket.

[3] Rear depth is also the clearance required between the front-mounting rails and the inside of the rear of the rack or cabinet. For front mounted switches, this is the same as the depth of the chassis. For a center-mounted Cisco Nexus 7009 switch, this is 6 inches (15.2 cm) less than the depth of the chassis, which is offset to the front.

[4] Height is also the clearance required between the top of the bottom support bracket and the top of the chassis that you are installing. If you are installing another chassis above this chassis, its bottom-support brackets must be positioned above this clearance area.

The weights and quantities are listed in the following tables:

- Cisco Nexus 7004 switch (see Table 3: Weights and Quantities for the Cisco Nexus 7004 Switch Components , on page 3)
- Cisco Nexus 7009 switch (see Table 4: Weights and Quantities for the Cisco Nexus 7009 Switch Components , on page 5)

• Cisco Nexus 7010 switch (see Table 5: Weights and Quantities for the Cisco Nexus 7010 Components , on page 7)
• Cisco Nexus 7018 switch (see Table 6: Weights and Quantities for the Cisco Nexus 7018 Components , on page 9)

The weights in these tables do not include the rack or cabinet that holds the chassis or the interface and power cables. For those weights, see the documentation provided by the manufacturers of those components.

Table 3: Weights and Quantities for the Cisco Nexus 7004 Switch Components

Component		Weight per Unit	Quantity
Chassis		45.0 lb (20.0 kg)	1
Supervisor modules		—	1 or 2 (must be same model)
	Supervisor 2 (N7K-SUP2)	10.4 lb (4.7 kg)	
	Supervisor 2 Enhanced (N7K-SUP2E)	11.7 lb (5.3 kg)	

Component		Weight per Unit	Quantity
F2 I/O Modules		—	1 or 2(can mix I/O module types)
	48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)	14.0 lb (6.4 kg)	
	48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)	14.0 lb (6.4 kg)	
F3 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)	15.0 lb (6.8 kg)	
	12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)	15.0 lb (6.8 kg)	
	6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)	16.0 lb (7.3 kg)	
M1 I/O Modules		—	
	48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11L)	14 lb (6.4 kg)	
	48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)	15.5 lb (7.0 kg)	
	32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)	17.0 lb (7.7 kg)	
	8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)	14.0 lb (6.4 kg)	
M2 I/O Modules		—	
	24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)	16.5 lb (7.5 kg)	
	6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)	16.5 lb (7.5 kg)	
	2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)	17.0 lb (7.7 kg)	
M3 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module with XL option (N7K-M348XP-25L)	12 lb (5.44 kg)	
	24-port 40-Gigabit Ethernet I/O module with XL option (N7K-M324FQ-25L)	12 lb (5.44 kg)	
Service Modules		—	0 or 1
	NAM (N7K-SM-NAM-K9)	17.9 lbs. (8.1 kg)	
Fan tray (N7K-C7004-FAN)		25.0 lb (11.3 kg)	1

Component		Weight per Unit	Quantity
Power Supplies		—	1 to 4 (can mix power supply types)
	3-kW AC power supply (N7K-AC-3KW)	11.0 lb (5.0 kg)	
	3-kW DC power supply (N7K-DC-3KW)	11.0 lb (5.0 kg)	
	3.5-kW HVAC/HVDC power supply (N7K-HV-3.5KW	11.0 lb (5.0 kg)	
Optional Components		—	—
	Front door kit (N7K-C7004-FD-MB)	—	0 or 1
	Air filter (N7K-C7004-AFLT)	—	0 or 1

Table 4: Weights and Quantities for the Cisco Nexus 7009 Switch Components

Component		Weight per Unit	Quantity
Chassis		100 lb (45.0 kg)	1
Supervisor modules		—	1 or 2 (same type if using 2)
	Supervisor 1 (N7K-SUP1)	9.9 lb (4.5 kg)	
	Supervisor 2 (N7K-SUP2)	10.4 lb (4.7 kg)	
	Supervisor 2 Enhanced (N7K-SUP2E)	11.7 lb (5.3 kg)	

Component		Weight per Unit	Quantity
F1 I/O Modules		—	1 to 7(can mix I/O module types)
	32-port 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)	14.0 lb (6.4 kg)	
F2 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)	14.0 lb (6.4 kg)	
	48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)	14.0 lb (6.4 kg)	
F3 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)	15.0 lb (6.8 kg)	
	12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)	15.0 lb (6.8 kg)	
	6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)	16.0 lb (7.3 kg)	
M1 I/O Modules		—	
	48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11)	14 lb (6.4 kg)	
	48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11L)	14 lb (6.4 kg)	
	48-port 1-Gigabit Ethernet I/O module (N7K-M148GS-11)	15.5 lb (7.0 kg)	
	48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)	15.5 lb (7.0 kg)	
	32-port 10-Gigabit Ethernet I/O module (N7K-M132XP-12)	17.0 lb (7.7 kg)	
	32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)	17.0 lb (7.7 kg)	
	8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)	14.0 lb (6.4 kg)	
M2 I/O Modules		—	
	24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)	16.5 lb (7.5 kg)	
	6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)	16.5 lb (7.5 kg)	
	2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)	17.0 lb (7.7 kg)	
M3 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module with XL option (N7K-M348XP-25L)	12 lb (5.44 kg)	

Component		Weight per Unit	Quantity
	24-port 40-Gigabit Ethernet I/O module with XL option (N7K-M324FQ-25L)	12 lb (5.44 kg)	
Service Modules		—	0 or 1
	NAM (N7K-SM-NAM-K9)	17.9 lbs. (8.1 kg)	
Fabric Modules		—	For F2 I/O, use 5.For F1, M1, and M2 I/O, use 3 to 5.
	Fabric-2 module (N7K-C7009-FAB-2)	5 lb (2.27 kg)	
Fan tray (N7K-C7009-FAN)		25.0 lb (11.3 kg)	1
Power Supplies		—	1 or 2 (can mix power supply types)
	6-kW AC power supply unit (N7K-AC-6.0KW)	18 lb (8.2 kg)	
	7.5-kW AC power supply unit (N7K-AC-7.5KW-INT and N7K-AC-7.5KW-US)	26 lb (11.8 kg)	
	6-kW DC power supply unit (N7K-DC-6.0KW)	21 lb (9.5 kg)	
	DC Power Interface Unit	5 lb (2.3 kg)	0 to 2
Optional Components		—	—
	Door and air frame (optional)	—	0 or 1

Table 5: Weights and Quantities for the Cisco Nexus 7010 Components

Component		Weight per Unit	Quantity
Chassis		200 lb (90.9 kg)	1
Supervisor Modules		—	1 or 2 (same type if using 2)
	Supervisor 1 (N7K-SUP1)	9.9 lb (4.5 kg)	
	Supervisor 2 (N7K-SUP2)	10.4 lb (4.7 kg)	
	Supervisor 2 Enhanced (N7K-SUP2E)	11.7 lb (5.3 kg)	

Component	Weight per Unit	Quantity
F1 I/O Modules	—	1 to 8 (can mix I/O module types)
32-port 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)	14.0 lb (6.4 kg)	
F2 I/O Modules	—	
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)	14.0 lb (6.4 kg)	
48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)	14.0 lb (6.4 kg)	
F3 I/O Modules	—	
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)	15.0 lb (6.8 kg)	
12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)	15.0 lb (6.8 kg)	
6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)	16.0 lb (7.3 kg)	
M1 I/O Modules	—	
48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11)	14 lb (6.4 kg)	
48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11L)	14 lb (6.4 kg)	
48-port 1-Gigabit Ethernet I/O module (N7K-M148GS-11)	15.5 lb (7.0 kg)	
48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)	15.5 lb (7.0 kg)	
32-port 10-Gigabit Ethernet I/O module (N7K-M132XP-12)	17.0 lb (7.7 kg)	
32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)	17.0 lb (7.7 kg)	
8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)	14.0 lb (6.4 kg)	
M2 I/O Modules	—	
24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)	16.5 lb (7.5 kg)	
6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)	16.5 lb (7.5 kg)	
2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)	17.0 lb (7.7 kg)	
M3 I/O Modules	—	
48-port 1- and 10-Gigabit Ethernet I/O module with XL option (N7K-M348XP-25L)	12 lb (5.44 kg)	

Component	Weight per Unit	Quantity
24-port 40-Gigabit Ethernet I/O module with XL option (N7K-M324FQ-25L)	12 lb (5.44 kg)	
Service Modules	—	0 or 1
NAM (N7K-SM-NAM-K9)	17.9 lbs. (8.1 kg)	
Fabric Modules	—	For F2 I/O, use 5.For F1, M1, and M2 I/O, use 3 to 5.
Fabric-1 module (N7K-C7010-FAB-1)	4 lb (1.8 kg)	
Fabric-2 module (N7K-C7010-FAB-2)	4 lb (1.8 kg)	
Fan Trays	—	—
System fan tray (N7K-C7010-FAN-S)	20 lb (9.1 kg)	2
Fabric fan tray (N7K-C7010-FAN-F)	5 lb (2.3 kg)	2
Power Supplies	—	2 to 3 (can mix power supply types)
6-kW AC power supply unit (N7K-AC-6.0KW)	18 lb (8.2 kg)	
7.5-kW AC power supply unit (N7K-AC-7.5KW-INT and N7K-AC-7.5KW-US)	26 lb (11.8 kg)	
6-kW DC power supply unit (N7K-DC-6.0KW)	21 lb (9.5 kg)	
DC Power Interface Unit	5 lb (2.3 kg)	0 to 2
Optional Components	—	—
Mid-frame doors and frame	—	0 or 1

Table 6: Weights and Quantities for the Cisco Nexus 7018 Components

Component	Weight per Unit	Quantity
Chassis	187 lb (85.0 kg)	1
Supervisor Modules	—	1 or 2 (same type if using 2)
Supervisor 1 (N7K-SUP1)	9.9 lb (4.5 kg)	
Supervisor 2 (N7K-SUP2)	10.4 lb (4.7 kg)	
Supervisor 2 Enhanced (N7K-SUP2E)	11.7 lb (5.3 kg)	

Component		Weight per Unit	Quantity
F1 I/O Modules		—	1 to 8 (can mix I/O module types)
	32-port 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)	14.0 lb (6.4 kg)	
F2 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)	14.0 lb (6.4 kg)	
	48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)	14.0 lb (6.4 kg)	
F3 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)	15.0 lb (6.8 kg)	
	12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)	15.0 lb (6.8 kg)	
	6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)	16.0 lb (7.3 kg)	
M1 I/O Modules		—	
	48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11)	14 lb (6.4 kg)	
	48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11L)	14 lb (6.4 kg)	
	48-port 1-Gigabit Ethernet I/O module (N7K-M148GS-11)	15.5 lb (7.0 kg)	
	48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)	15.5 lb (7.0 kg)	
	32-port 10-Gigabit Ethernet I/O module (N7K-M132XP-12)	17.0 lb (7.7 kg)	
	32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)	17.0 lb (7.7 kg)	
	8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)	14.0 lb (6.4 kg)	
M2 I/O Modules		—	
	24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)	16.5 lb (7.5 kg)	
		16.5 lb (7.5 kg)	

Component		Weight per Unit	Quantity
	6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)		
	2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)	17.0 lb (7.7 kg)	
M3 I/O Modules		—	
	48-port 1- and 10-Gigabit Ethernet I/O module with XL option (N7K-M348XP-25L)	12 lb (5.44 kg)	
	24-port 40-Gigabit Ethernet I/O module with XL option (N7K-M324FQ-25L)	12 lb (5.44 kg)	
Service Modules		—	0 or 1
	NAM (N7K-SM-NAM-K9)	17.9 lbs. (8.1 kg)	
Fabric Modules		—	For F2 I/O, use 5.For F1, M1, and M2 I/O, use 3 to 5.
	Fabric-1 module (N7K-C7018-FAB-1)	7.5 lb (3.4 kg)	
	Fabric-2 module (N7K-C7018-FAB-2)	7.5 lb (3.4 kg)	
Fan tray (N7K-C7018-FAN)		25.8 lb (11.7 kg)	2
Power Supplies		—	
	6-kW AC power supply unit (N7K-AC-6.0KW)	18 lb (8.2 kg)	2 to 4 (can mix power supply types)
	7.5-kW AC power supply unit (N7K-AC-7.5KW-INT and N7K-AC-7.5KW-US)	26 lb (11.8 kg)	
	6-kW DC power supply unit (N7K-DC-6.0KW)	21 lb (9.5 kg)	
	DC Power Interface Unit	5 lb (2.3 kg)	0 to 2
Optional Components		—	—
	Front door (optional)	25 lb (11.3 kg)	0 or 1

Power Specifications for the Cisco Nexus 7000 Series Switches

The number of power supplies that a Cisco Nexus 7000 Series switch requires depends on the quantities and types of modules that you include in the switch chassis. the type of power supply unit that you are using, and the power redundancy mode that you are using.

The following topics explain how to calculate the switch power requirements and the amount of power available for each type of power supply configuration mode:

Power Requirements for Switch Components

To determine the power requirements of the Cisco Nexus 7000 Series switches, add the power requirements of each of its components. For each component, multiply the number of its modules by its maximum or typical power requirement. To find the quantities and power requirements for each Cisco Nexus 7000 Series switch, see the following tables:

Table 7: Power Requirements for the Cisco Nexus 7004 Switch

Component	Quantity	Maximum	Typical
Supervisor Modules	1 or 2 (same type is using 2)	—	—
Supervisor 2 (N7K-SUP2)		109 W	
Supervisor 2 Enhanced (N7K-SUP2E)		147 W	

Component	Quantity	Maximum	Typical
F2 I/O Modules	1 or 2	—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)		450 W	400 W
48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)		550 W	420 W
F3 I/O Modules		—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)		340 W	325 W
12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)		340 W	310 W
6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)		400 W	325 W
M1 I/O Modules		—	—
48-port 10/100/1000 Ethernet I/O module with XL option (N7K-M148GT-11L)		400 W	358 W
48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)		400 W	358 W
32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)		750 W	611 W
8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)		650 W	520 W
M2 I/O Modules		—	—
24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)		795 W	720 W
6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)		795 W	720 W
2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)		795 W	690 W
M3 I/O Modules		—	—
48-port 1-/10-Gigabit Ethernet I/O modules with XL option(N7K-M348XP-25L)		525 W	400 W
24-port 40-Gigabit Ethernet I/O modules with XL option(N7K-M324FQ-25L)		750 W	600 W
Fan Tray	1	650 W	185 W

Table 8: Power Requirements for the Cisco Nexus 7009 Switch

Component		Quantity	Maximum	Typical
Supervisor Modules		1 or 2 (same type if using 2)	—	—
	Supervisor 1 (N7K-SUP1)		210 W	190 W
	Supervisor 2 (N7K-SUP2)		300 W	109 W
	Supervisor 2 Enhanced (N7K-SUP2E)		300 W	147 W

Component	Quantity	Maximum	Typical
F1 I/O Modules	1 to 7	—	—
32-port 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)		385 W	283 W
F2 I/O Modules		—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)		450 W	400 W
48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)		550 W	420 W
F3 I/O Modules		—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)		340 W	325 W
12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)		340 W	310 W
6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)		400 W	325 W
M1 I/O Modules		—	—
48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11)		400 W	358 W
48-port 10/100/1000 Ethernet I/O module with XL option (N7K-M148GT-11L)		400 W	358 W
48-port 1-Gigabit Ethernet I/O module (N7K-M1148GS-11)		400 W	358 W
48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)		400 W	358 W
32-port 10-Gigabit Ethernet I/O module (N7K-M132XP-12)		750 W	611 W
32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)		750 W	611 W
8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)		650 W	520 W
M2 I/O Modules		—	—
24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)		795 W	720 W
6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)		795 W	720 W
2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)		795 W	690 W
M3 I/O Modules		—	—
48-port 1-/10-Gigabit Ethernet I/O modules with XL option(N7K-M348XP-25L)		525 W	400 W

Component	Quantity	Maximum	Typical
24-port 40-Gigabit Ethernet I/O modules with XL option(N7K-M324FQ-25L)		750 W	600 W
Fabric Modules	3 to 5	—	—
Fabric-2 module (N7K-C7009-FAB-2)		70 W	55 W
Fan Trays	—	—	—
All fan trays (total) (N7K-C7009-FAN)		650 W	190 W

Table 9: Power Requirements for the Cisco Nexus 7010 System Components

Component	Quantity	Maximum	Typical
Supervisor Modules	1 or 2 (same type if using 2)	—	—
Supervisor 1 (N7K-SUP1)		210 W	190 W
Supervisor 2 (N7K-SUP2)		300 W	109 W
Supervisor 2 Enhanced (N7K-SUP2E)		300 W	147 W

Component	Quantity	Maximum	Typical
F1 I/O Modules	1 to 8 (can mix types)	—	—
32-port 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)		385 W	283 W
F2 I/O Modules		—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)		450 W	400 W
48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)		550 W	420 W
F3 I/O Modules		—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)		340 W	325 W
12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)		340 W	310 W
6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)		400 W	325 W
M1 I/O Modules		—	—
48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11)		400 W	358 W
48-port 10/100/1000 Ethernet I/O module with XL option (N7K-M148GT-11L)		400 W	358 W
48-port 1-Gigabit Ethernet I/O module (N7K-M1148GS-11)		400 W	358 W
48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)		400 W	358 W
32-port 10-Gigabit Ethernet I/O module (N7K-M132XP-12)		750 W	611 W
32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)		750 W	611 W
8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)		650 W	520 W
M2 I/O Modules		—	—
24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)		795 W	720 W
6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)		795 W	720 W
2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)		795 W	690 W
M3 I/O Modules		—	—
48-port 1-/10-Gigabit Ethernet I/O modules with XL option(N7K-M348XP-25L)		525 W	400 W

Component	Quantity	Maximum	Typical
24-port 40-Gigabit Ethernet I/O modules with XL option(N7K-M324FQ-25L)		750 W	600 W
Fabric Modules	3 to 5 (same type)	—	—
Fabric-1 module (N7K-C7010-FAB-1)		60 W	55 W
Fabric-2 module (N7K-C7010-FAB-2)		80 W	60W
Fan Trays (N7K-C7010-FAN-F and N7K-C7010-FAN-S)	—	—	—
All fan trays (total)		2184 W	300 W

Table 10: Power Requirements for the Cisco Nexus 7018 System Components

Component	Quantity	Maximum	Typical
Supervisor Modules	1 or 2 (same type if using 2)	—	—
Supervisor 1 (N7K-SUP1)		210 W	190 W
Supervisor 2 (N7K-SUP2)		300 W	109 W
Supervisor 2 Enhanced (N7K-SUP2E)		300 W	147 W

Component	Quantity	Maximum	Typical
F1 I/O Modules	1 to 16 (can mix types)	—	—
32-port 1- and 10-Gigabit Ethernet I/O module (N7K-F132XP-15)		385 W	283 W
F2 I/O Modules		—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F248XP-25 and N7K-F248XP-25E)		450 W	400 W
48-port 1- and 10-GBASE-T I/O module (N7K-F248XT-25E)		550 W	420 W
F3 I/O Modules		—	—
48-port 1- and 10-Gigabit Ethernet I/O module (N7K-F348XP-25)		340 W	325 W
12-port, 40-Gigabit Ethernet I/O module (N7K-F312FQ-25)		340 W	310 W
6-port, 100-Gigabit Ethernet I/O module (N7K-F306CK-25)		400 W	325 W
M1 I/O Modules		—	—
48-port 10/100/1000 Ethernet I/O module (N7K-M148GT-11)		400 W	358 W
48-port 10/100/1000 Ethernet I/O module with XL option (N7K-M148GT-11L)		400 W	358 W
48-port 1-Gigabit Ethernet I/O module (N7K-M1148GS-11)		400 W	358 W
48-port 1-Gigabit Ethernet I/O module with XL option (N7K-M148GS-11L)		400 W	358 W
32-port 10-Gigabit Ethernet I/O module (N7K-M132XP-12)		750 W	611 W
32-port 10-Gigabit Ethernet I/O module with XL option (N7K-M132XP-12L)		750 W	611 W
8-port 10-Gigabit Ethernet I/O module with XL option (N7K-M108X2-12L)		650 W	520 W
M2 I/O Modules		—	—
2-port 100-Gigabit Ethernet I/O module with XL option (N7K-M202CF-22L)		795 W	690 W
6-port 40-Gigabit Ethernet I/O module with XL option (N7K-M206FQ-23L)		795 W	720 W
24-port 10-Gigabit Ethernet I/O module with XL option (N7K-M224XP-23L)		795 W	720 W
M3 I/O Modules		—	—
48-port 1-/10-Gigabit Ethernet I/O modules with XL option(N7K-M348XP-25L)		525 W	400 W

Component	Quantity	Maximum	Typical
24-port 40-Gigabit Ethernet I/O modules with XL option(N7K-M324FQ-25L)		750 W	600 W
Fabric Modules	3 to 5 (same type)	—	—
Fabric-1 module (N7K-C7018-FAB-1)		100 W	90 W
Fabric-2 module (N7K-C7018-FAB-2)		150 W	110 W
Fan Trays (N7K-C7018-FAN)	2	—	—
All fan trays (total)		1000 W	569 W

Power Supply Configuration Modes

You can configure one of the following power modes to either use the combined power provided by the installed power supplies or to provide power redundancy when there is a power loss:

- Combined mode—Provides the maximum amount of available power by utilizing the combined power output from all installed power supplies for switch operations. This mode does not provide redundancy.
- Power-supply redundancy mode—Allows you to replace a power supply during switch operations. All power supplies are active. The available power is calculated as the least amount of power available from all but one of the power supplies (N+1). The reserve power is the amount of power output by the power supply that can output the most power. For example, if three power supplies output 3 kW, 6 kW, and 6 kW, the available power is 9 kW (3 kW + 6 kW) and the reserve power is 6 kW.
- Input source redundancy mode—Takes power from two electrical grids so that if one grid goes down, the other grid can provide the power needed by the switch. For the Cisco Nexus 7004 chassis, each grid powers half of the power supplies. For the Cisco Nexus 7009, 7010, and 7018 chassis, each grid powers half of each power supply (grid A is connected to the Input 1 receptacle on each power supply and grid B is connected to the Input 2 receptacle on each power supply). The available power is the amount of power output by the portions of the power supplies that are connected to the same grid. For example, if three power supplies are connected to a 110-V grid and a 220-V grid, each power supply outputs 1.2 kW for the 110-V grid and 3.0 kW for the 220-V grid. The available power would be 3.6 kW (1.2 kW + 1.2 kW + 1.2 kW) and the reserve power would be 9.0 kW (3.0 kW + 3.0 kW + 3.0 kW).
- Full redundancy mode—Provides both power-supply redundancy and input-source redundancy. This mode allows you to replace a power supply without interrupting switch operations or continue powering the switch if one of two grids goes down. The available power is the lesser amount of output power for power supply redundancy or input source redundancy.

The amount of power available for use with your Cisco Nexus 7000 Series switch depends on the number of power supplies, input voltage used, and the power mode used. To determine the amount of available power for the power supplies, see the following tables:

- For the 3-kW AC power supplies, see
- For the 6-kW AC power supplies, see
- For the 7.5-kW AC power supplies, see

- For the 3-kW DC power supplies, see Table 15: Power Availability for 3.0-kW DC Power Supplies, on page 24
- For the 6-kW DC power supplies, see Table 17: Power Availability for 6.0-kW DC Power Supply Units, on page 25
- For the 3.5-kW HVAC/HVDC power supplies, see Table 12: Power Availability for 3.5-kW Inputs (AC) , on page 21 and Table 16: Power Availability for 3.5-kW Inputs (DC), on page 25

Table 11: Power Availability for 3-kW AC Power Supplies

Power Inputs	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
Single input per power supply [5]				
220-V input				
1 power supply	3000 W	—	—	—
2 power supplies	6000 W	3000 W	3000 W	3000 W
3 power supplies	9000 W	6000 W	—	—
4 power supplies	12,000 W	9000 W	6000 W	6000 W
110-V input				
1 power supply	1450 W	—	—	—
2 power supplies	2900 W	1450 W	1450 W	1450 W
3 power supplies	4350 W	2900 W	—	—
4 power supplies	5800 W	4350 W	2900 W	2900 W

[5] The Cisco Nexus 7004 uses up to four 3.0 kW AC power supplies.

Table 12: Power Availability for 3.5-kW Inputs (AC)

Power Inputs	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
Single input per power supply [6]				
277-V input				
1 power supply	3500 W	—	—	—
2 power supplies	7000 W	3500 W	3500 W	3500 W
3 power supplies	10,500 W	7000 W	—	—
4 power supplies	14,000 W	10,500 W	7000 W	7000 W

Power Inputs	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
220/230-V input				
1 power supply	3500 W	—	—	—
2 power supplies	7000 W	3500 W	3500 W	3500 W
3 power supplies	10,500 W	7000 W	—	—
4 power supplies	14,000 W	10,500 W	7000 W	7000 W
210-V input				
1 power supply	3100 W	—	—	—
2 power supplies	6200 W	3100 W	3100 W	3100 W
3 power supplies	9300 W	6200 W	—	—
4 power supplies	12,400 W	9300 W	6200 W	6200 W
110-V input				
1 power supply	1500 W	—	—	—
2 power supplies	3000 W	1500 W	1500 W	1500 W
3 power supplies	4500 W	3000 W	—	—
4 power supplies	6000 W	4500 W	3000 W	3000 W

[6]   The Cisco Nexus 7004 uses up to four 3.5 kW inputs.

Table 13: Power Availability for 6-kW AC Power Supply Units

	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
Dual inputs per power supply				
220-V and 220-V inputs				
1 power supply	6000 W	—	3000 W	—
2 power supplies	12,000 W	6000 W	6000 W	6000 W
3 power supplies	18,000 W	12,000 W	9000 W	9000 W
4 power supplies [7]	24,000 W	18,000 W	12,000 W	12,000 W
220-V and 110-V inputs				

	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
1 power supply	4200 W	—	1200 W	—
2 power supplies	8400 W	4200 W	2400 W	2400 W
3 power supplies	12,600 W	8400 W	3600 W	3600 W
4 power supplies	16,800 W	12,600 W	4800 S	4800 W
110-V and 110-V inputs				
1 power supply	2400 W	—	1200 W	—
2 power supplies	4800 W	2400 W	2400 W	2400 W
3 power supplies	7200 W	4800 W	3600 W	3600 W
4 power supplies	9600 W	7200 W	4800 W	4800 W
Single input per power supply				
220-V input				
1 power supply	3000 W	—	—	—
2 power supplies	6000 W	3000 W	—	—
3 power supplies	9000 W	6000 W	—	—
4 power supplies	12,000 W	9000 W	—	—
110-V input				
1 power supply	1200 W	—	—	—
2 power supplies	2400 W	1200 W	—	—
3 power supplies	3600 W	2400 W	—	—
4 power supplies	4800 W	3600 W	—	—

[7] The Cisco Nexus 7018 switch uses up to four 6-kW power supplies, the Cisco Nexus 7010 switch uses up to three 6-kW power supplies, and the Cisco Nexus 7009 uses up to two 6-kW power supplies.

Table 14: Power Availability for 7.5-kW AC Power Supplies

	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
Dual inputs per power supply				
220-V and 220-V inputs				
1 power supply	7500 W	—	3750 W	—

	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
2 power supplies	15,000 W	7500 W	7500 W	7500 W
3 power supplies	22,500 W	15,000 W	11,250 W	11,250 W
4 power supplies [8]	30,000 W	22,500 W	15,000 W	15,000 W
Single input per power supply				
220-V input				
1 power supply	3750 W	—	—	—
2 power supplies	7500 W	3750 W	—	—
3 power supplies	11,250 W	7500 W	—	—
4 power supplies	15,000 W	11,250 W	—	—

[8] The Cisco Nexus 7018 switch uses up to four 7.5-kW power supplies, the Cisco Nexus 7010 switch uses up to three 7.5-kW power supplies, and the Cisco Nexus 7009 uses up to two 7.5-kW power supplies.

Table 15: Power Availability for 3.0-kW DC Power Supplies

Power Inputs	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
Dual inputs per power supply [9]				
1 power supply	3,000 W	—	—	—
2 power supplies	6,000 W	3,000 W	3,000 W	3,000 W
3 power supplies	9,000 W	6,000 W	3,000 W	3,000 W
4 power supplies	12,000 W	9,000 W	6,000 W	6,000 W

[9] The Cisco Nexus 7004 uses up to four 3.0 kW DC power supplies.

Table 16: Power Availability for 3.5-kW Inputs (DC)

Power Inputs	CombinedMode	Power SupplyRedundancyMode	Input SourceRedundancyMode	FullRedundancyMode
Dual inputs per power supply [10] 380-V input 1 power supply 2 power supplies 3 power supplies 4 power supplies	3,500 W 7,000 W 10,500 W 14,000 W	— 3,500 W 7,000 W 10,500	— 3,500 W 3,500 W 7,000 W	— 3,500 W 3,500 W 7,000 W
220/240-V input 1 power supply 2 power supplies 3 power supplies 4 power supplies	3,500 W 7,000 W 10,500 W 14,000 W	— 3,500 W 7,000 W 10,500	— 3,500 W 3,500 W 7,000 W	— 3,500 W 3,500 W 7,000 W
210-V input 1 power supply 2 power supplies 3 power supplies 4 power supplies	3,100 W 6,200 W 9,300 W 12,400 W	— 3,100 W 6,200 W 9,300 W	— 3,100 W 3,100 W 6,200 W	— 3,100 W 3,100 W 6,200 W

[10] The Cisco Nexus 7004 uses up to four 3.5 kW DC power supplies.

Table 17: Power Availability for 6.0-kW DC Power Supply Units

Power Inputs	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
Dual inputs per power supply 1 power supply 2 power supplies 1 3 power supplies 1 4 power supplies 1	6,000 W 12,000 W 18,000 W 24,000 W	— 6,000 W 12,000 W 18,000 W	3,000 W 6,000 W 9,000 W 12,000 W	— 6,000 W 9,000 W 12,000 W

Power Inputs	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
Single input per power supply 1 power supply 2 power supplies 1 3 power supplies 1 4 power supplies [11]	3,000 W 6,000 W 9,000 W 12,000 W	— 3,000 W 6,000 W 9,000 W	— — — —	— — — —

[11] The Cisco Nexus 7018 switch uses up to four 6-kW power supplies, the Cisco Nexus 7010 switch uses up to three 6-kW power supplies, and the Cisco Nexus 7009 uses up to two 6-kW power supplies.

Power Supply Cable Specifications

For power supply cable specifications, see the following tables:

Note If you do not order the optional power cord with the system, you are responsible for selecting the appropriate power cord for the product. Using a non-compatible power cord with this product may result in electrical safety hazard. Orders delivered to Argentina, Brazil, and Japan must have the appropriate power cord ordered with the system.

Table 18: 3-kW and 6-kW AC Power Supply Power Cords

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Reference Illustration
Australia and New Zealand	CAB-AC-16A-AUS	16A, 250 VAC	
Peoples Republic of China	CAB-AC-16A-CH	16A, 250 VAC	
Continental Europe	CAB-AC-2500W-EU	16A, 250 VAC	
International	CAB-AC-2500W-INT	16A, 250 VAC	
Israel	CAB-AC-2500W-ISRL	16A, 250 VAC	
Japan and North America (non locking) 200-240 VAC operation	CAB-9K16A-US1	16A, 250 VAC	
Japan and North America (locking) 200-240 VAC operation	CAB-AC-C6K-TWLK	16A, 250 VAC	
Japan and North America 100-120 VAC operation	CAB-7513AC	16A, 250 VAC	

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Reference Illustration
Korea	CAB-9K16A-KOR	16A, 250 VAC	
Power distribution unit (PDU)	CAB-C19-CBN	16A, 250 VAC	
Switzerland	CAB-ACS-16	16A, 250 VAC	

Figure 1: CAB-AC-16A-AUS Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
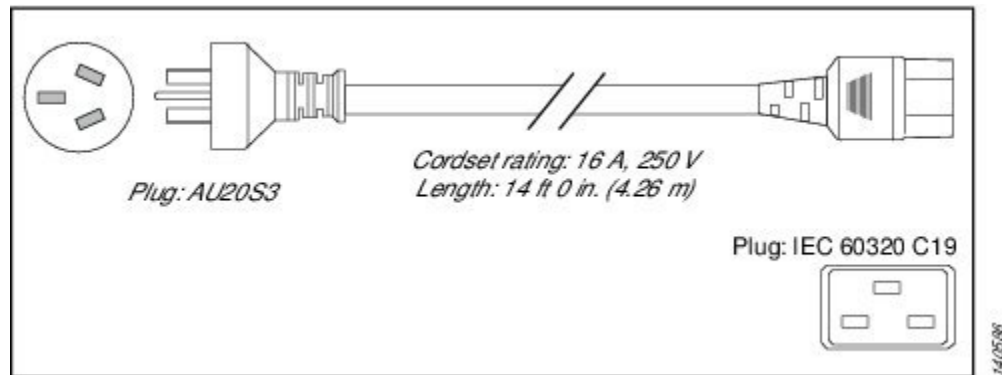
Figure 2: CAB-AC-16A-CH Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
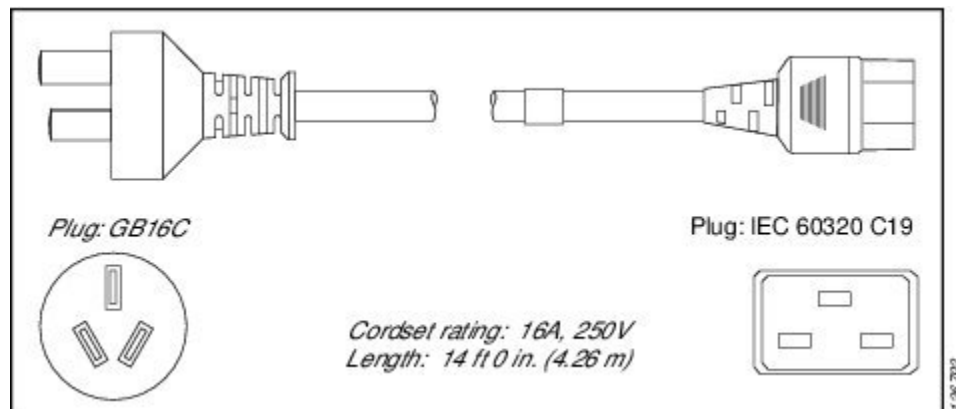
Figure 3: CAB-AC-2500W-EU Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
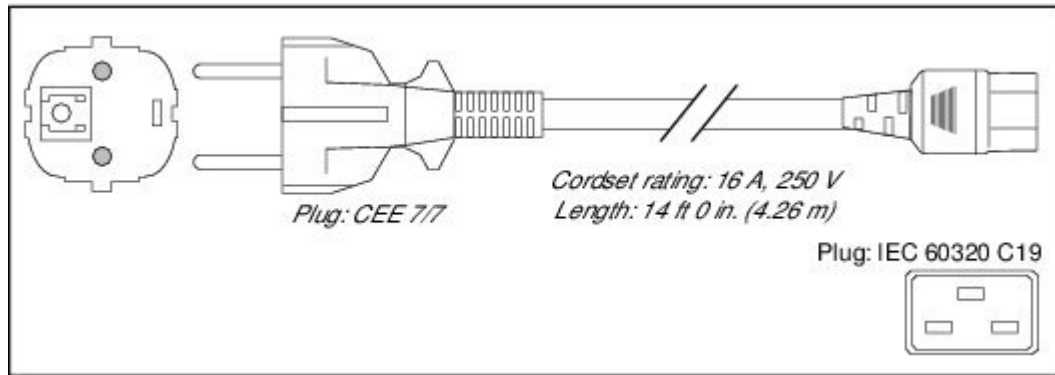
Figure 4: CAB-AC-2500W-INT Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
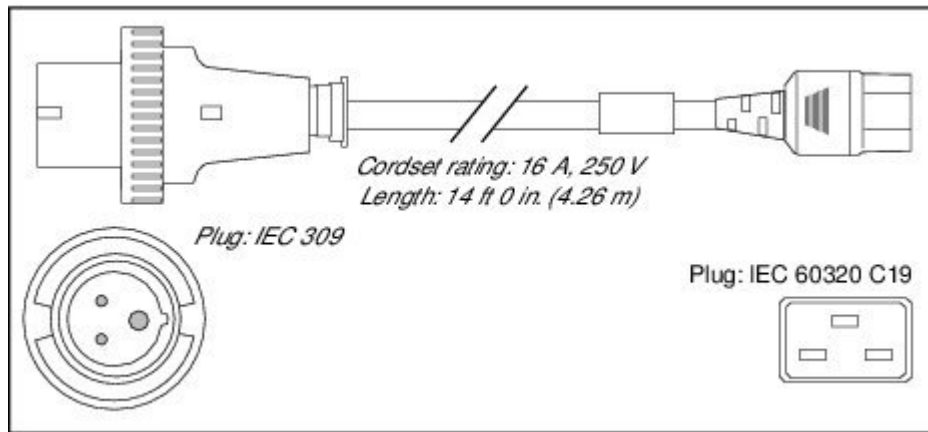
Figure 5: CAB-AC-2500W-ISRL Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
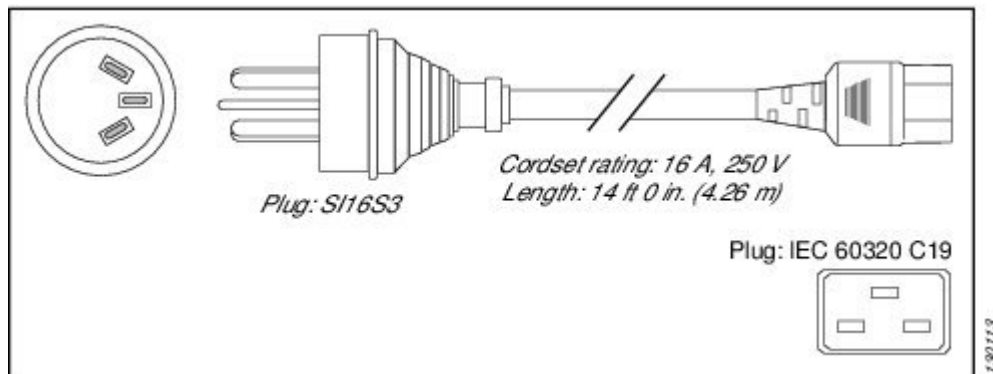
Figure 6: CAB-9K16A-US1 Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit

Plug: NEMA 6-20

Cordset rating: 20 A, 250 V
Length: 14 ft 0 in. (4.26 m)

Plug: IEC 60320 C19
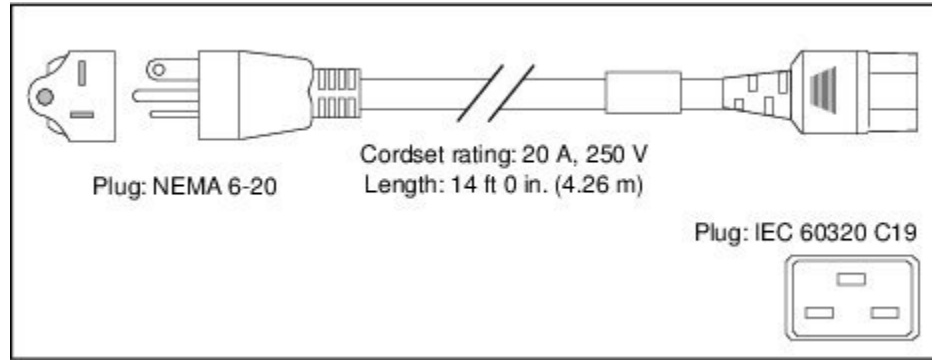
Figure 7: CAB-AC-C6K-TWLK Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit

Plug: NEMA L6-20

Cordset rating: 20 A, 250 V
Length: 14 ft 0 in. (4.26 m)

Plug: IEC 60320 C19
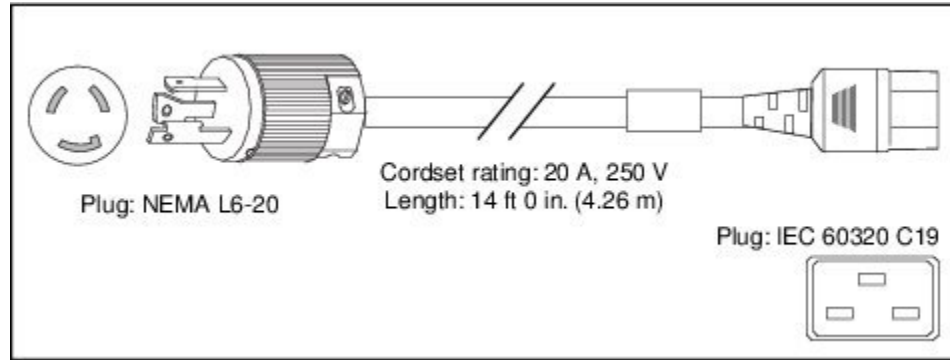
Figure 8: CAB-7513AC Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit

Plug: NEMA 5-20

Cordset rating: 16 A, 125 V
Length: 14 ft 0 in. (4.26 m)

Plug: IEC 60320 C19
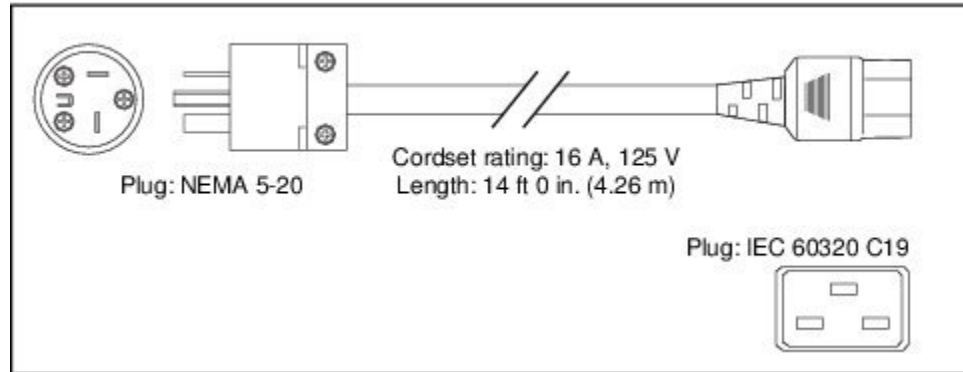
Figure 9: CAB-9K16A-KOR Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
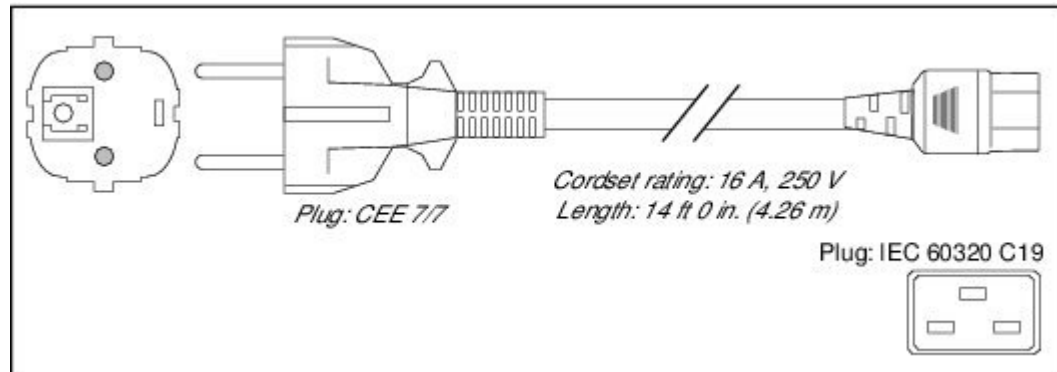
Figure 10: CAB-C19-CBN Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
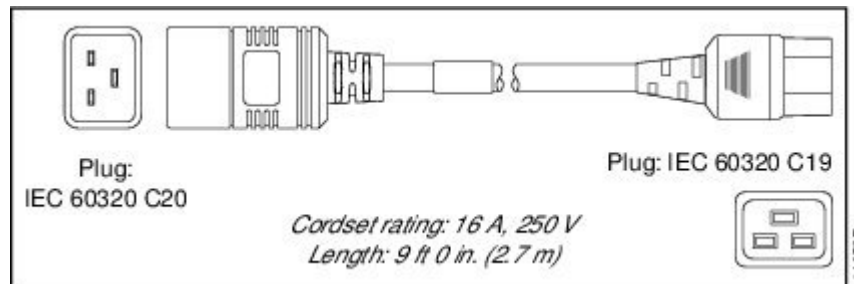
Figure 11: CAB-ACS-16 Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
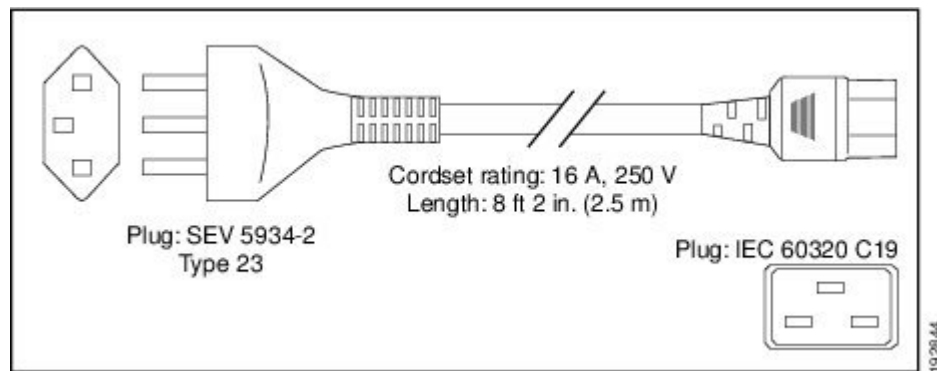
Figure 12: CAB-AC-16A-AUS Power Cord and Plugs for the 3-kW and 6-kW AC Power Supply Unit
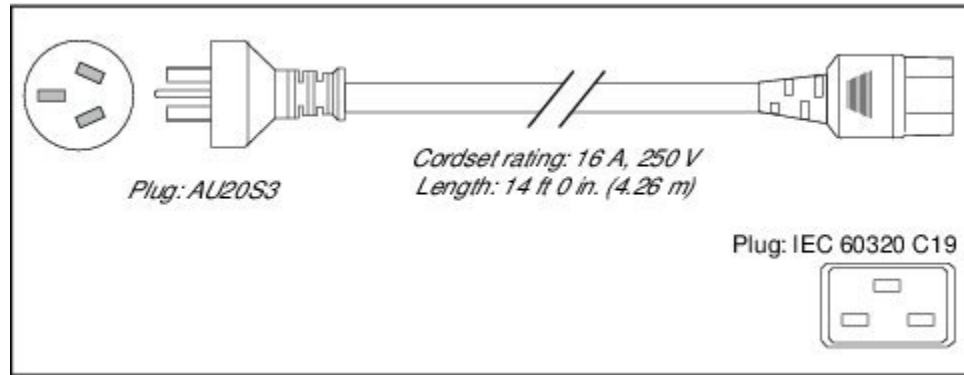
Table 19: 3.5-kW HVAC/HVDC Power Supply AC Power Cords

Locale	Power Supply Part Number	Cisco Part Number (CPN)	Length	Cord rating	Power cord reference illustration
Argentina	CAB-AC-16A-SG-AR	37-1649-01	14' 0" (4.26 m)	16A, 250 VAC	
Australia and New Zealand	CAB-AC-16A-SG-AZ	37-1661-01	14' 0" (4.26 m)	16A, 250 VAC	
Brazil	CAB-AC-16A-SG-BR	37-1650-01	14' 0" (4.26 m)	16A, 250 VAC	
Peoples Republic of China	CAB-AC-16A-SG-CH	37-1655-01	14' 0" (4.26 m)	16A, 250 VAC	
Continental Europe	CAB-AC-16A-SG-EU	37-1660-01	14' 0" (4.26 m)	16A, 250 VAC	
India	CAB-AC-16A-SG-IND	37-1648-01	14' 0" (4.26 m)	16A, 250 VAC	
International	CAB-AC-16A-SG-IN	37-1659-01	14' 0" (4.26 m)	16A, 250 VAC	
Israel	CAB-AC-16A-SG-IS	37-1658-01	14' 0" (4.26 m)	16A, 250 VAC	
Italy	CAB-AC-16A-SG-IT	37-1651-01	14' 0" (4.26 m)	16A, 250 VAC	
North America (non locking) 110 VAC operation	CAB-AC-20A-SG-US	37-1662-01	14' 0" (4.26 m)	20A, 110 VAC	
North America (locking) 125 VAC operation	CAB-AC-20A-SG-US1	37-1652-01	14' 0" (4.26 m)	20A, 125 VAC	
North America (non locking) 200-240 VAC operation	CAB-AC-20A-SG-US2	37-1657-01	14' 0" (4.26 m)	20A, 250 VAC	
North America (locking) 200-240 VAC operation	CAB-AC-20A-SG-US3	37-1656-01	14' 0" (4.26 m)	20A, 250 VAC	
North America 277 VAC operation	CAB-AC-20A-SG-US4	37-1645-01	14' 0" (4.26 m)	20A, 277 VAC	

Locale	Power Supply Part Number	Cisco Part Number (CPN)	Length	Cord rating	Power cord reference illustration
North America Cabinet Jumper Power distribution unit (PDU)	CAB-AC-20A-SG-C20	37-1653-01	14' 0" (4.26 m)	20A, 250 VAC	
South Africa	CAB-AC-16A-SG-SA	37-1647-01	14' 0" (4.26 m)	16A, 250 VAC	
Korea	CAB-AC-16A-SG-SK	37-1646-01	14' 0" (4.26 m)	16A, 250 VAC	
Switzerland	CAB-AC-16A-SG-SW	37-1654-01	14' 0" (4.26 m)	16A, 250 VAC	
International, IEC/EU, Ring Terminal source plug	CAB-HV-25A-SG-IN2	37-1640-01	14' 0" (4.26 m)	20A, 300 VAC/500 VDC	
International, IEC/EU	CAB-HV-25A-SG-IN3	37-100904-01	14' 0" (4.26 m)	20A, 300 VAC	
North America, Ring Terminal source plug	CAB-HV-25A-SG-US2	37-1641-01	14' 0" (4.26 m)	20A, 300 VAC/500 VDC	
North America	CAB-HV-25A-SG-US5	37-100903-01	14' 0" (4.26 m)	20A, 300 VAC	

Figure 13: CAB-AC-16A-SG-AR Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: IRSM 2073

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-AR
CPN: 37-1649-01
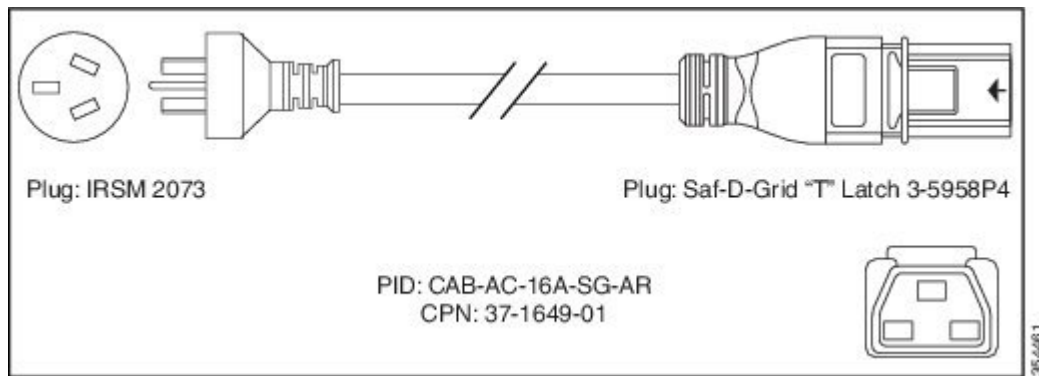
Figure 14: CAB-AC-16A-SG-AZ Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: AU20LS3

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-AZ
CPN: 37-1661-01

354462
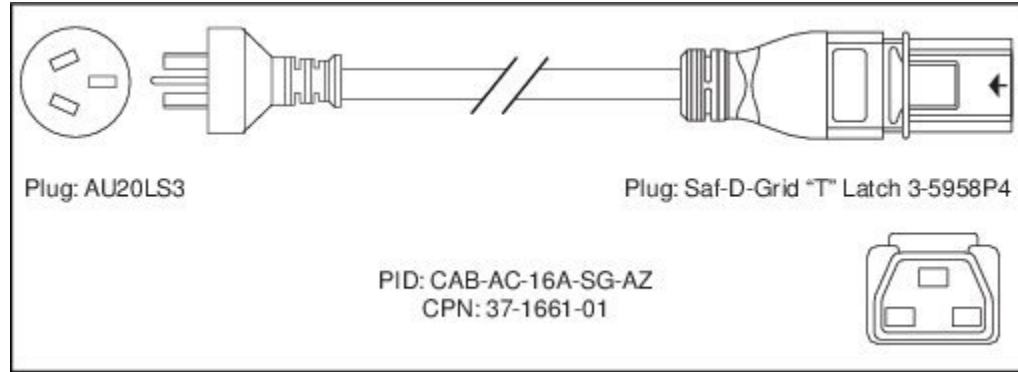
Figure 15: CAB-AC-16A-SG-BR Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: EL224

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-BR
CPN: 37-1650-01

354463
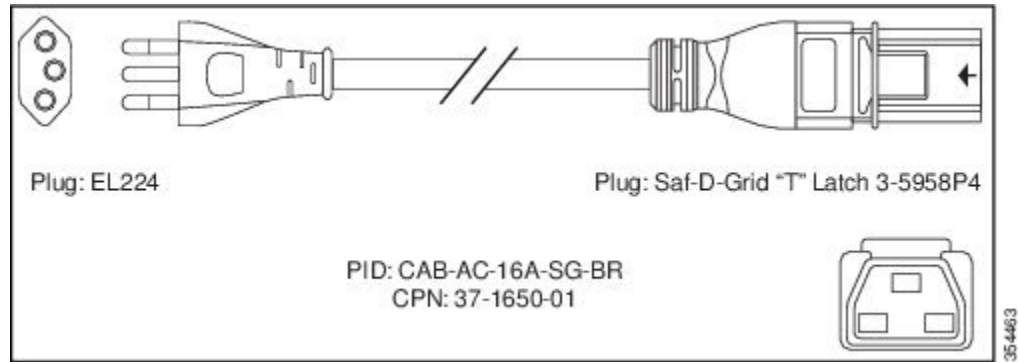
Figure 16: CAB-AC-16A-SG-CH Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: GB 16C

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-CH
CPN: 37-1655-01

354464
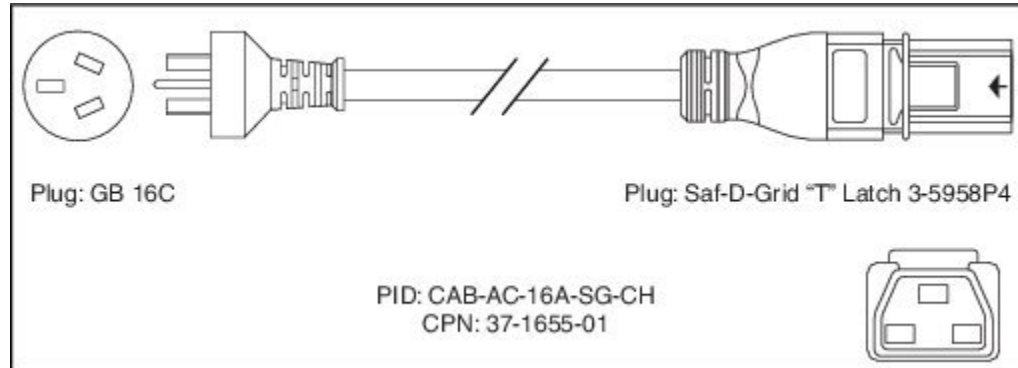
Figure 17: CAB-AC-16A-SG-EU Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: CEE 7-7

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-EU
CPN: 37-1660-01
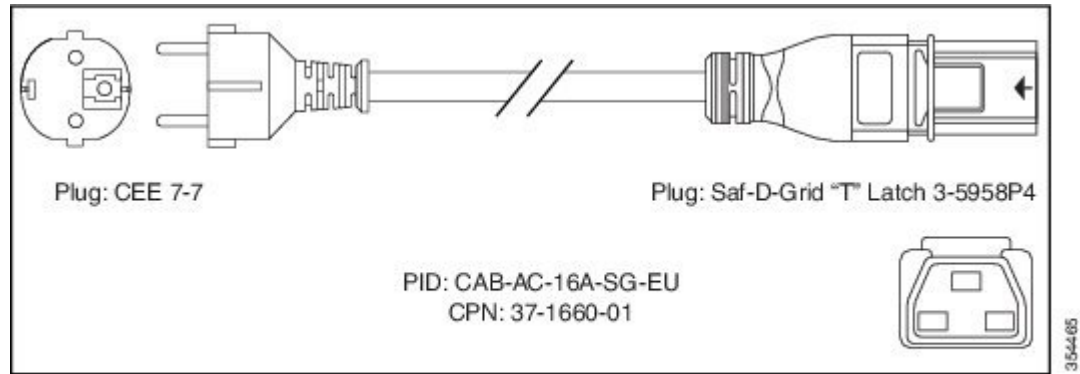
Figure 18: CAB-AC-16A-SG-IND Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: SABS 164-1

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IND
CPN: 37-1648-01
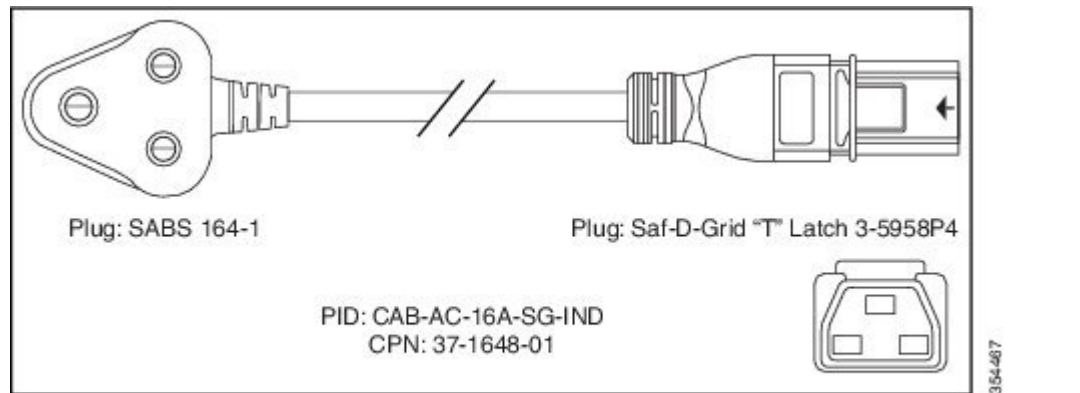
Figure 19: CAB-AC-16A-SG-IN Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: IEC60309

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IN
CPN: 37-1659-01
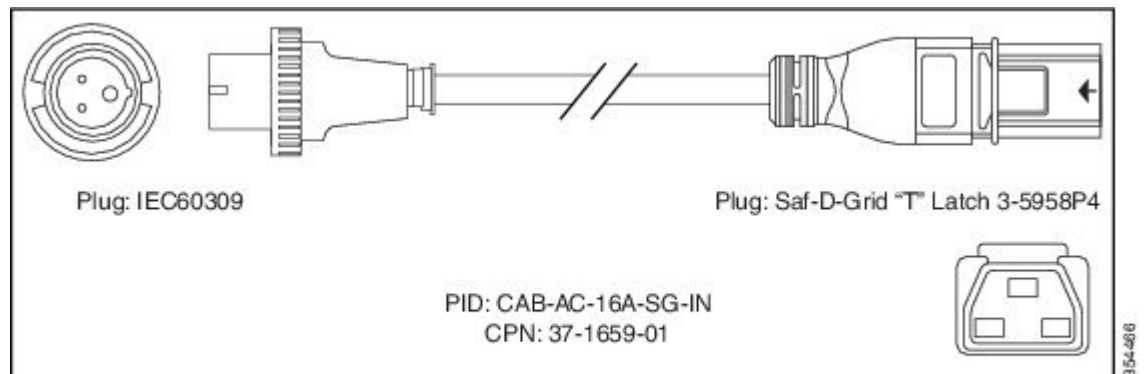
Figure 20: CAB-AC-16A-SG-IS Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: SI 16S3

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IS
CPN: 37-1658-01

354468
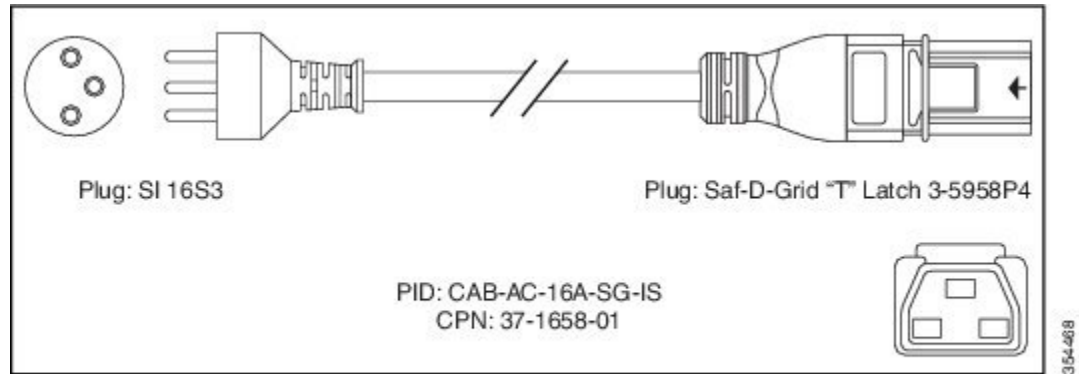
Figure 21: CAB-AC-16A-SG-IT Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: CEI 23-50

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IT
CPN: 37-1651-01

354469
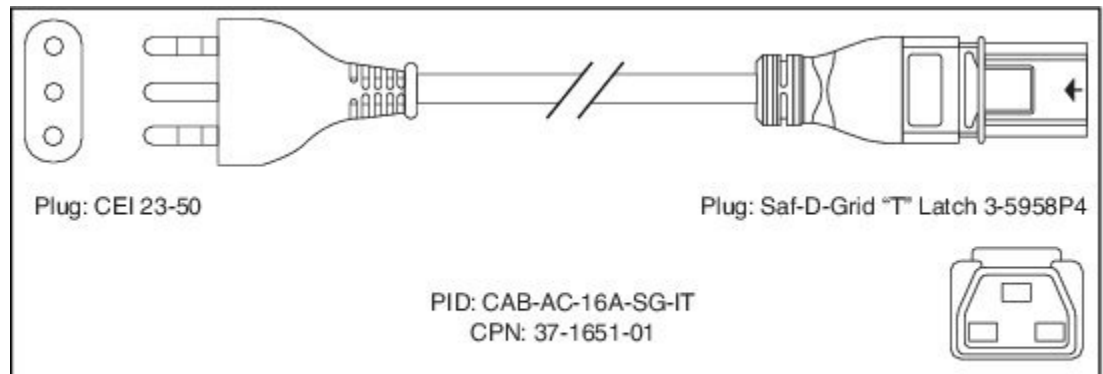
Figure 22: CAB-AC-20A-SG-US Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: NEMA 5-20P

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-US
CPN: 37-1662-01

354473
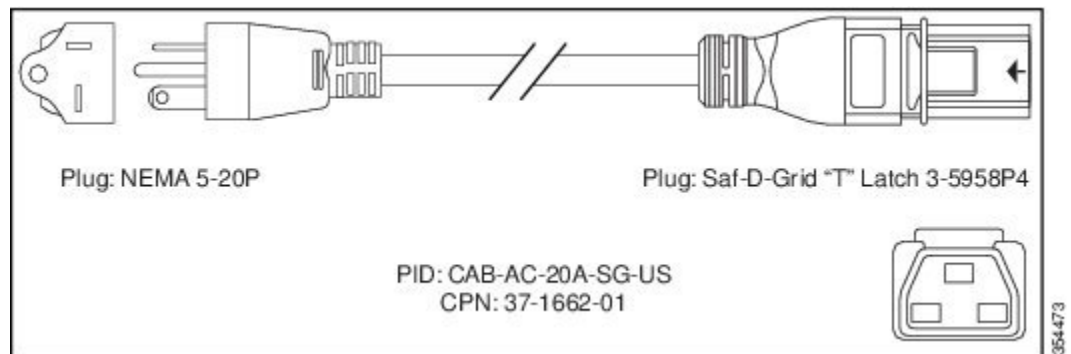
Figure 23: CAB-AC-20A-SG-US1 Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: NEMA L5-20

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-US1
CPN: 37-1652-01

354474
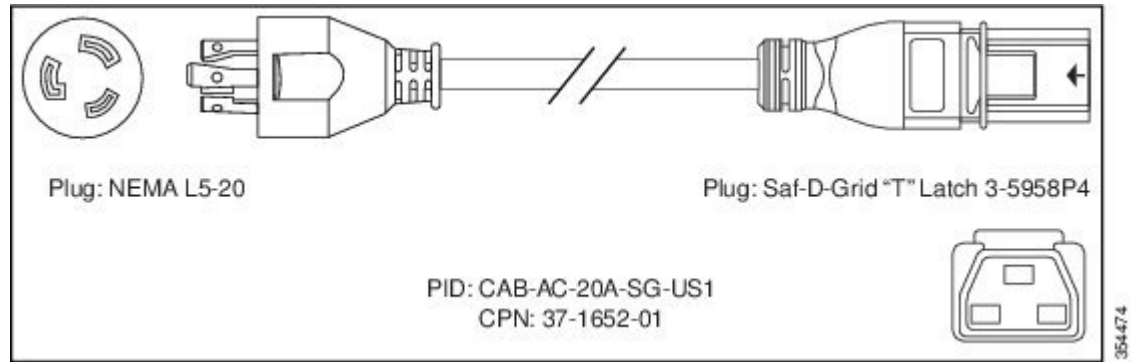
Figure 24: CAB-AC-20A-SG-US2 Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: NEMA 6-20

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-US2
CPN: 37-1657-01

354475
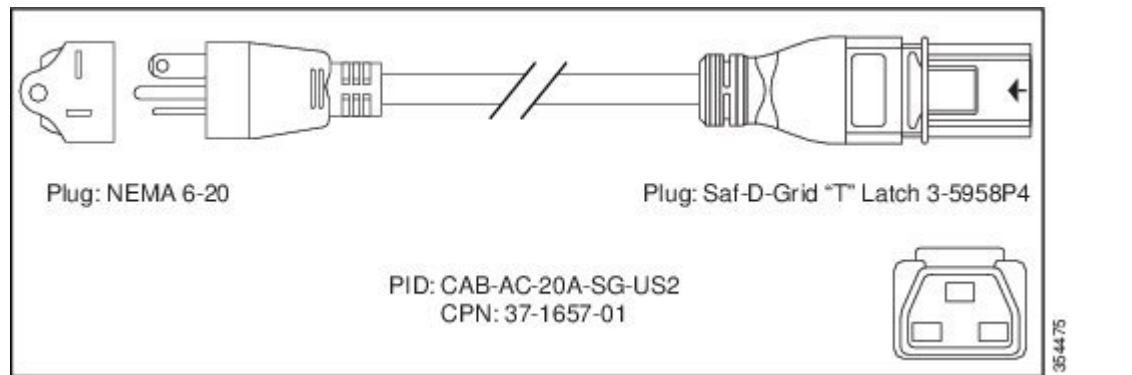
Figure 25: CAB-AC-20A-SG-US4 Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: NEMA L7-20P

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-US4
CPN: 37-1645-1

354476
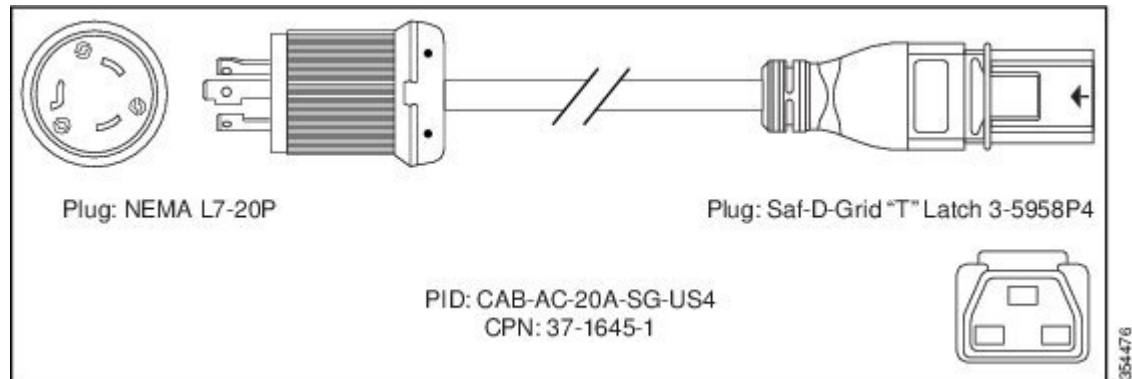
Figure 26: CAB-AC-20A-SG-C20 Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: IEC C20

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-C20
CPN: 37-1653-01
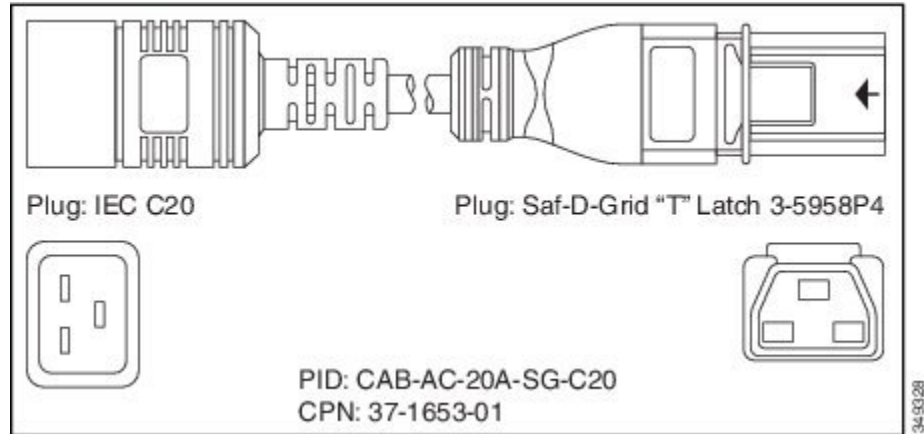
Figure 27: CAB-AC-16A-SG-SA Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: EL

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-SA
CPN: 37-1647-01
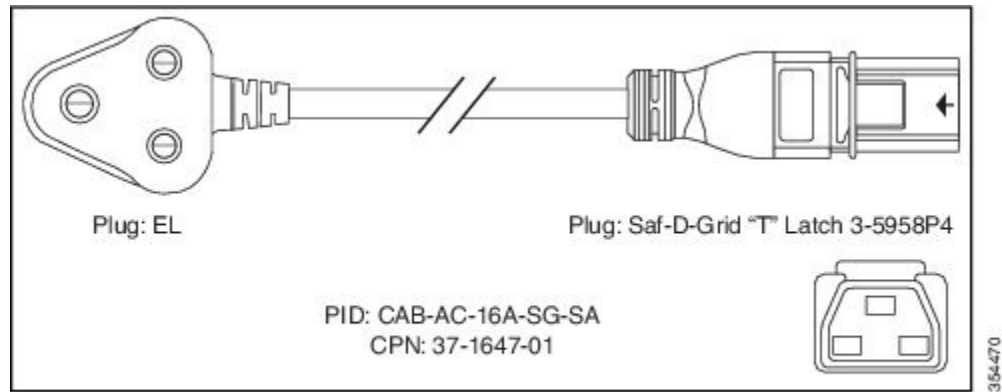
Figure 28: CAB-AC-16A-SG-SK Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: Src

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-SK
CPN: 37-1646-01
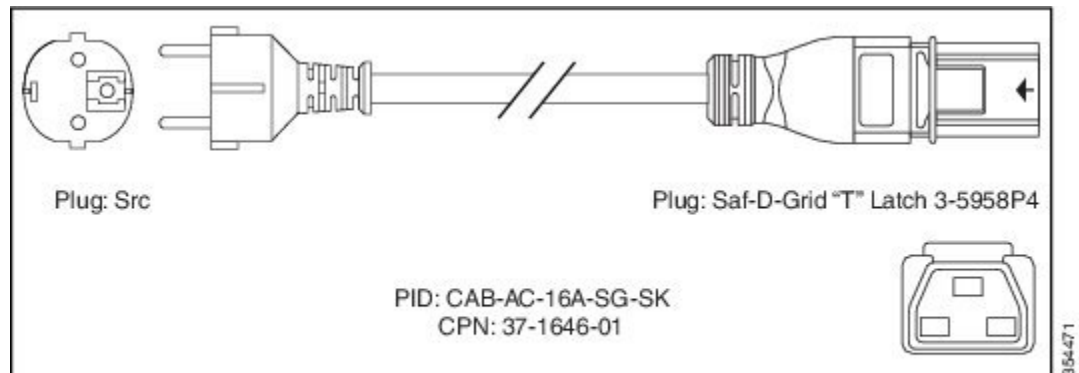
Figure 29: CAB-AC-16A-SG-SW Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: SEV 5934-2

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-SW
CPN: 37-1654-01
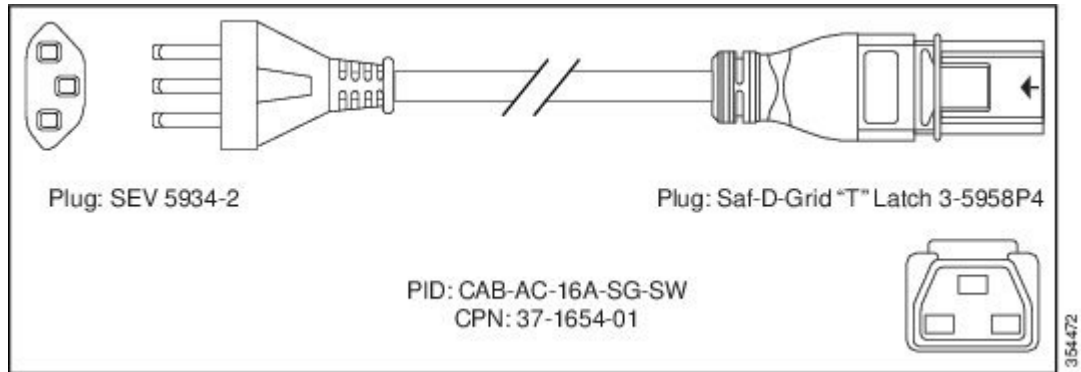
Figure 30: CAB-HV-25A-SG-IN1 Power Cord and Connectors for the 3.5-kW HCAC/HVDC Power Supply Unit

Plug: Saf-D-Grid "T" Latch 3-5958P4

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-IN1
CPN: 37-1642-01

Plug: 3/8-inch Ring Terminals

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-IN2
CPN: 37-1640-01
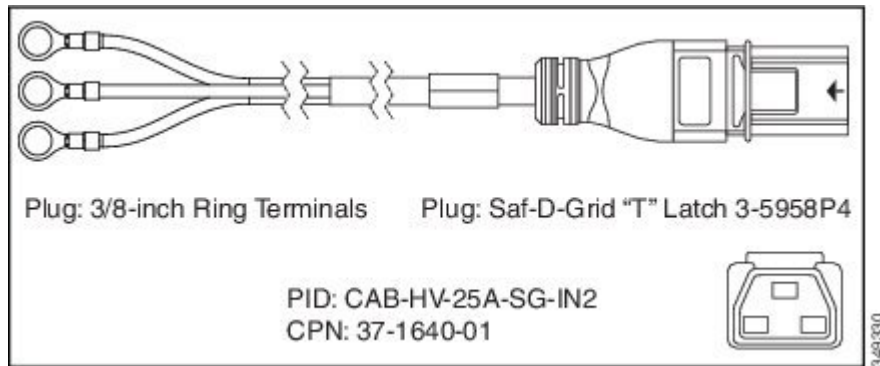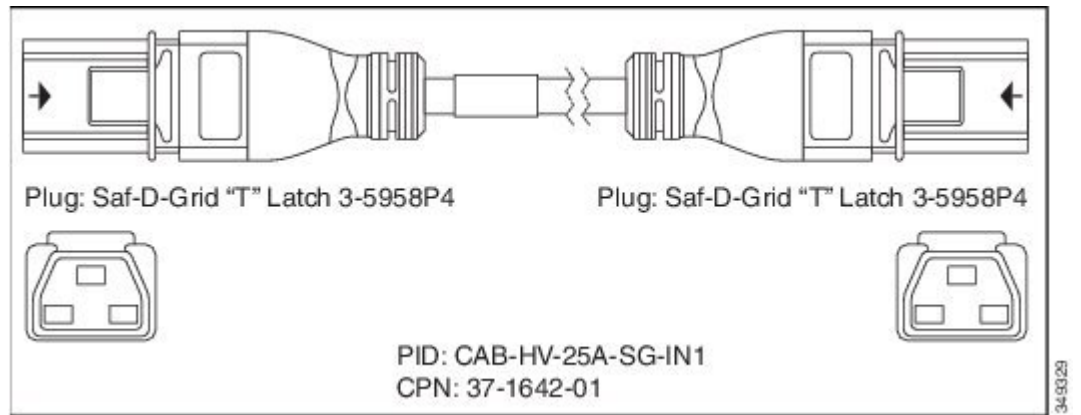
Figure 31: CAB-HV-25A-SG- IN3 Power Cord and Connectors for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: Saf-D-Grid "T" Latch 3-6074P10

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-IN3
CPN: 37-100904-01
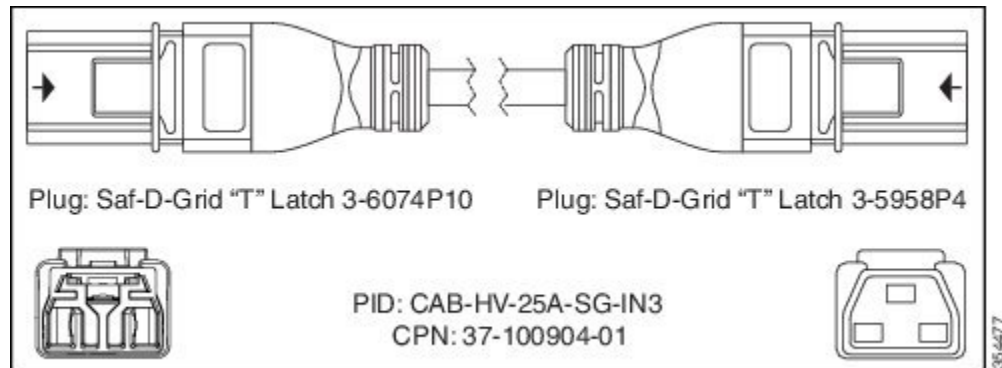
Figure 32: CAB-HV-25A-SG- US1 Power Cord and Connectors for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: Saf-D-Grid "T" Latch 3-5958P4

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-US1
CPN: 37-1643-01
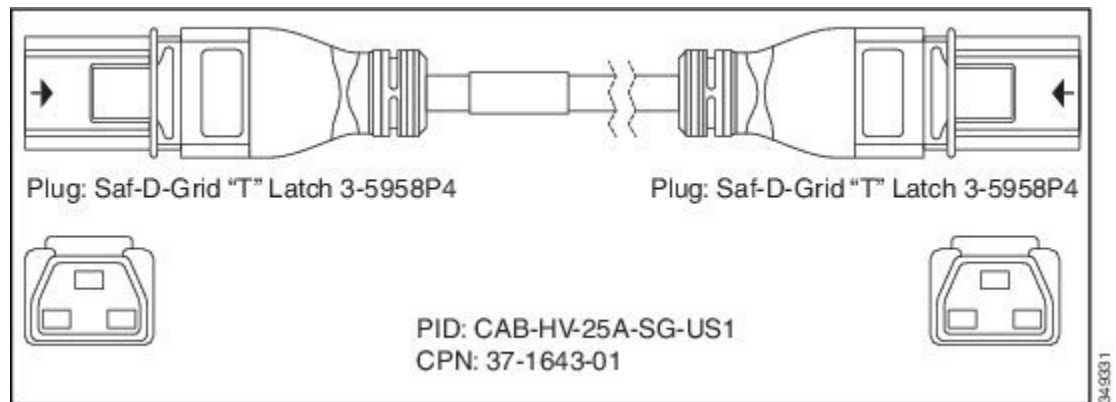
Figure 33: CAB-HV-25A-SG-US2 Power Cord and Connectors for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: 3/8-inch Ring Terminals   Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-US2
CPN: 37-1641-01
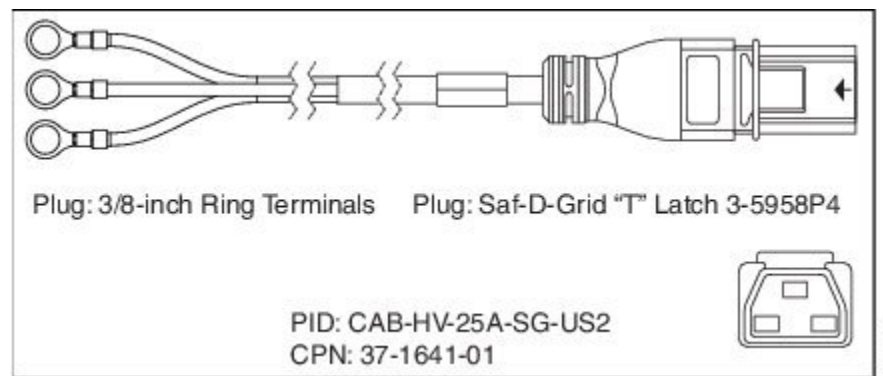
Figure 34: CAB-HV-25A-SG-US5 Power Cord and Connectors for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: Saf-D-Grid "T" Latch 3-6074P10

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-US5
CPN: 37-100903-01
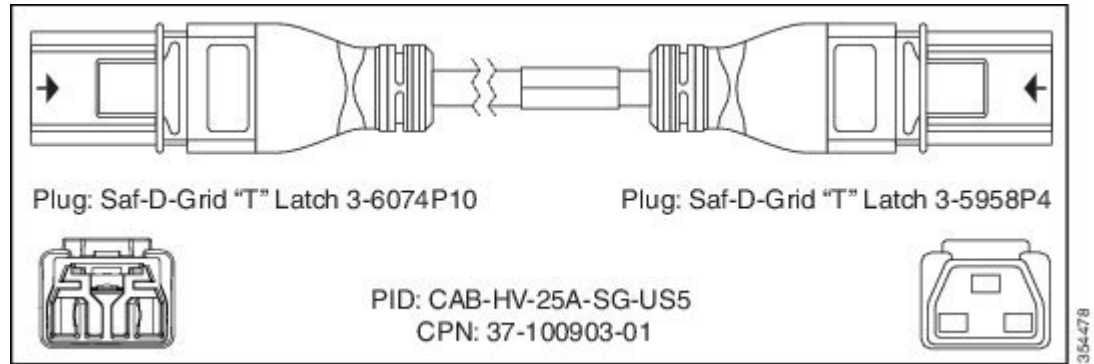
Figure 35: CAB-AC-16A-SG-AZ Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: AU20LS3

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-AZ
CPN: 37-1661-01
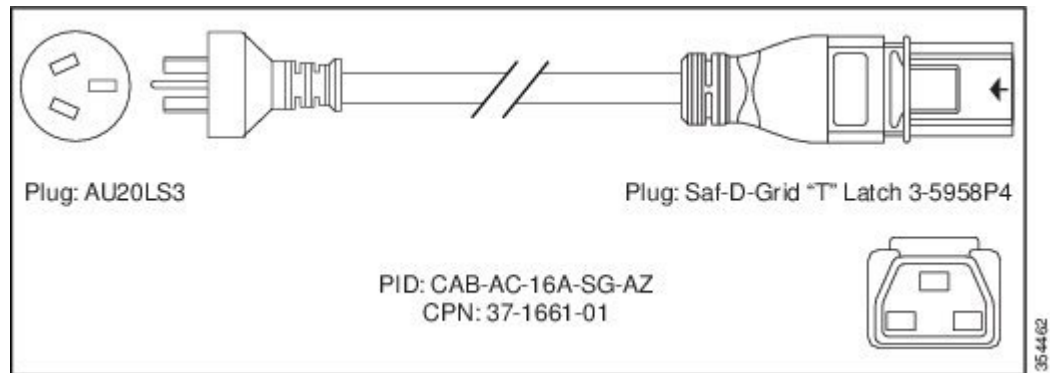
Figure 36: CAB-AC-16A-SG-BR Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: EL224

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-BR
CPN: 37-1650-01
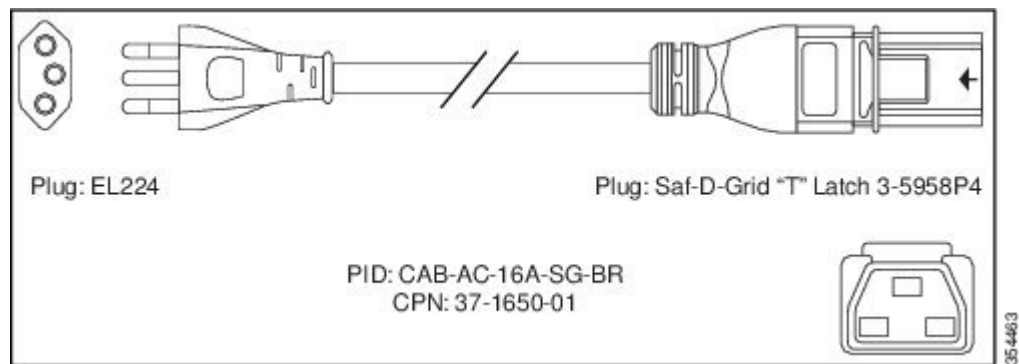
Figure 37: CAB-AC-16A-SG-CH Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: GB 16C

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-CH
CPN: 37-1655-01
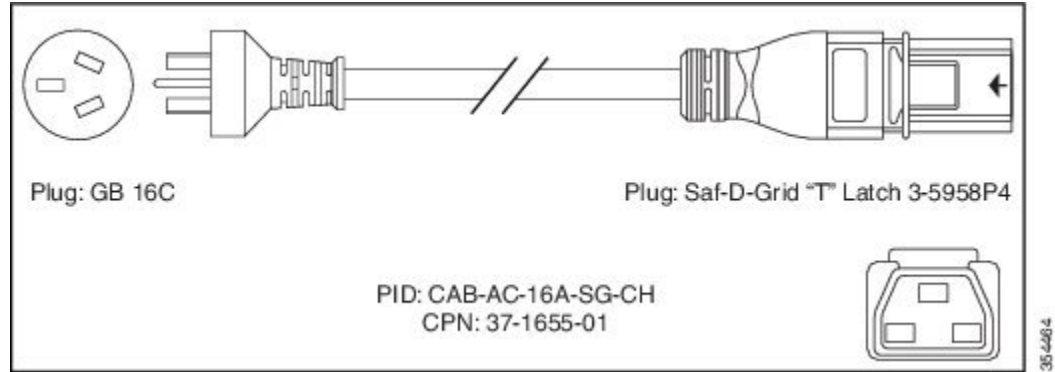
Figure 38: CAB-AC-16A-SG-EU Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: CEE 7-7

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-EU
CPN: 37-1660-01
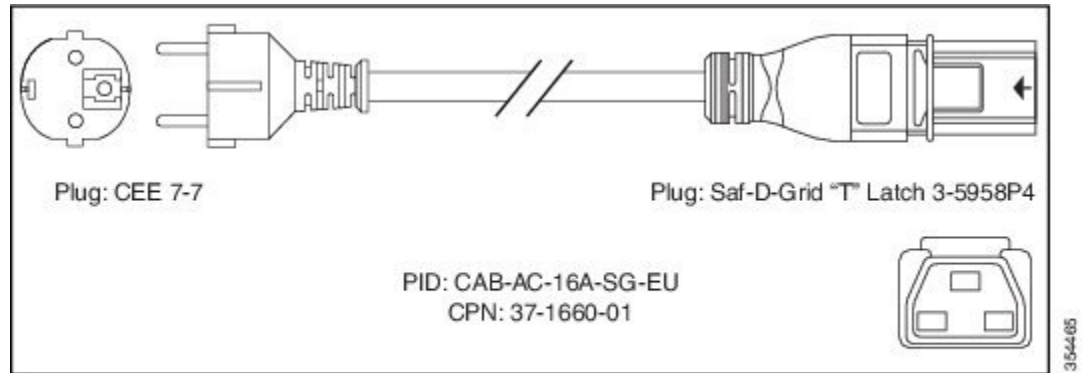
Figure 39: CAB-AC-16A-SG-IND Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: SABS 164-1

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IND
CPN: 37-1648-01
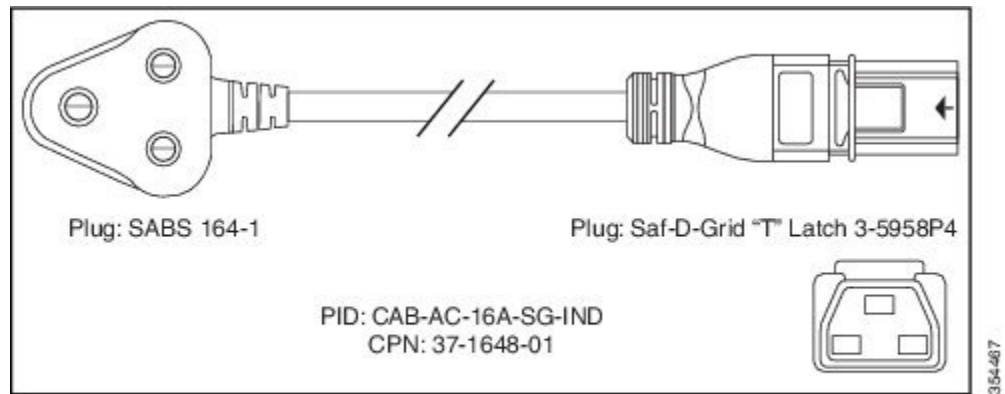
Figure 40: CAB-AC-16A-SG-IN Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: IEC60309

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IN
CPN: 37-1659-01

354466
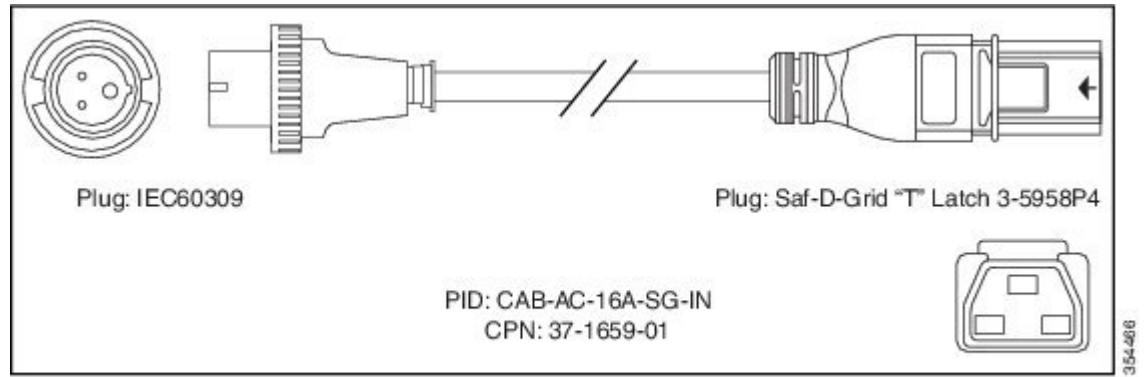
Figure 41: CAB-AC-16A-SG-IS Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: SI 16S3

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IS
CPN: 37-1658-01

354468
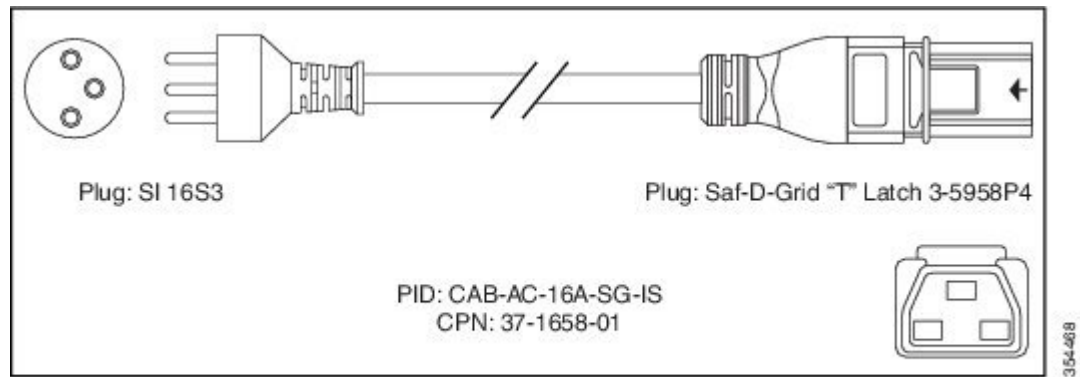
Figure 42: CAB-AC-16A-SG-IT Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: CEI 23-50

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-IT
CPN: 37-1651-01

354469
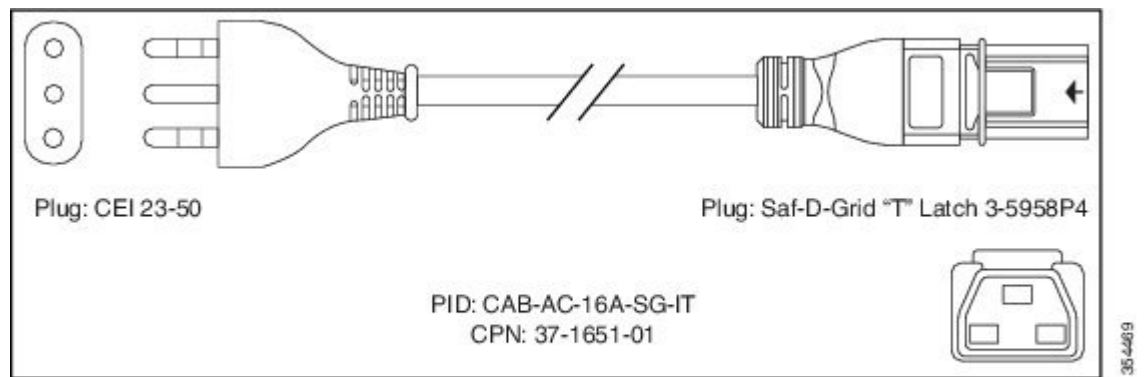
Figure 43: CAB-AC-20A-SG-US Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit
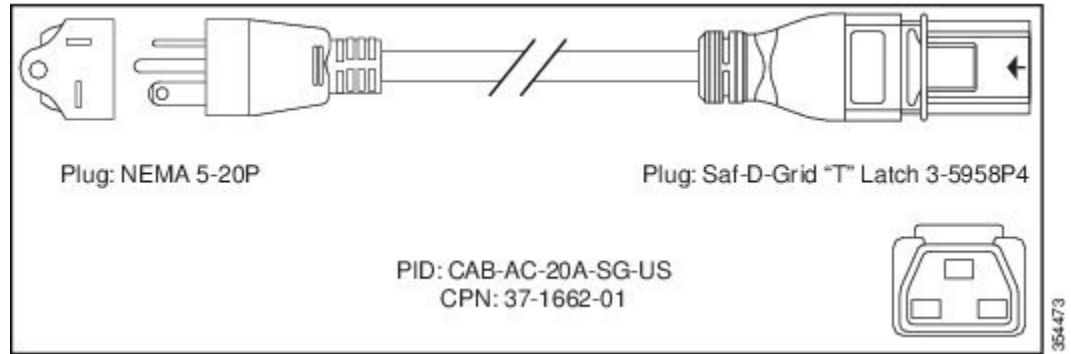
Figure 44: CAB-AC-20A-SG-US1 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit
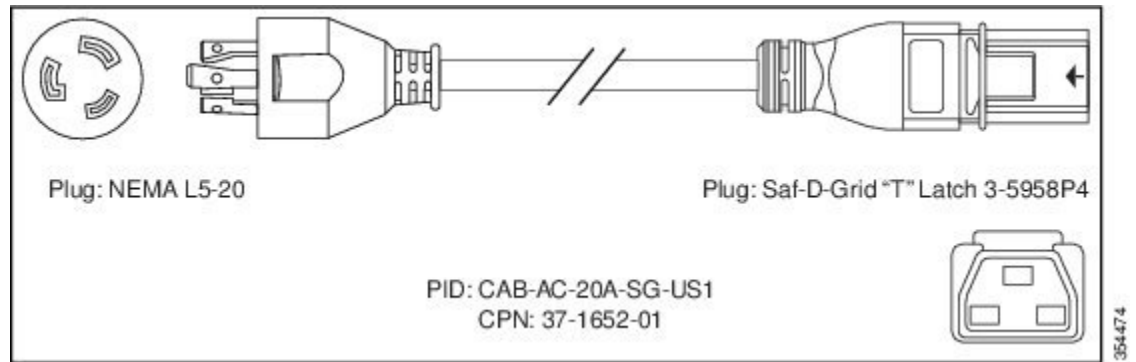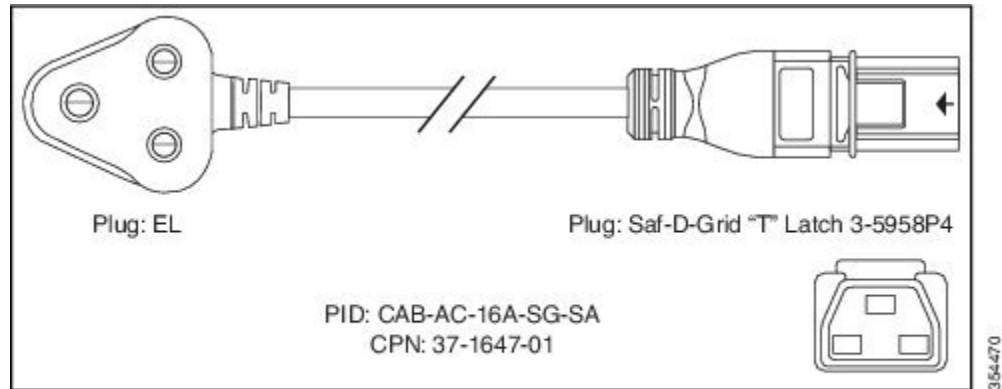

Figure 45: CAB-AC-20A-SG-US2 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit
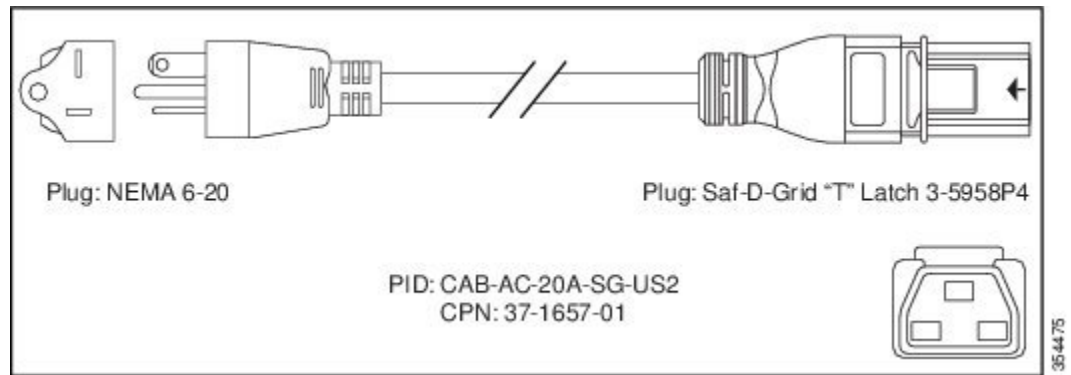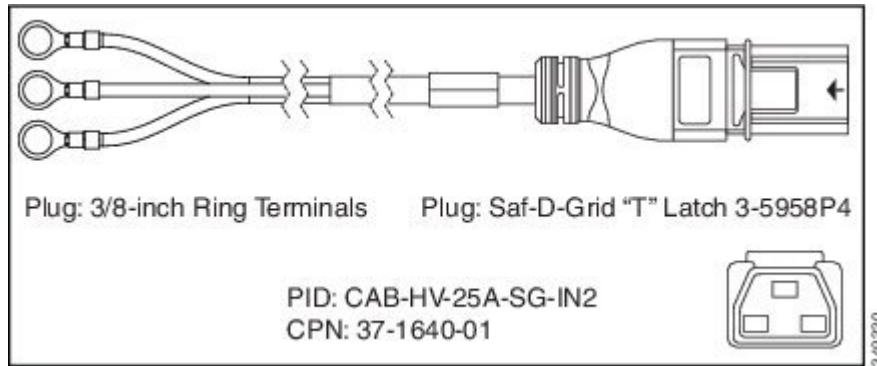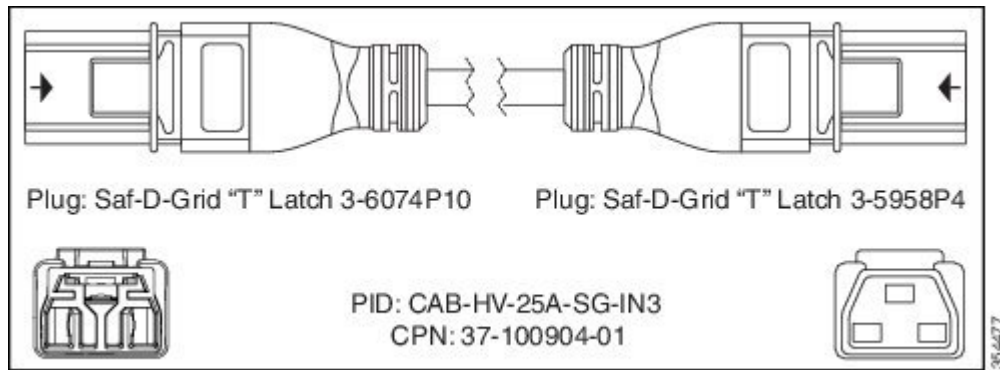
Figure 46: CAB-AC-20A-SG-US3 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: NEMA L6-20

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-US3
CPN: 37-1656-01
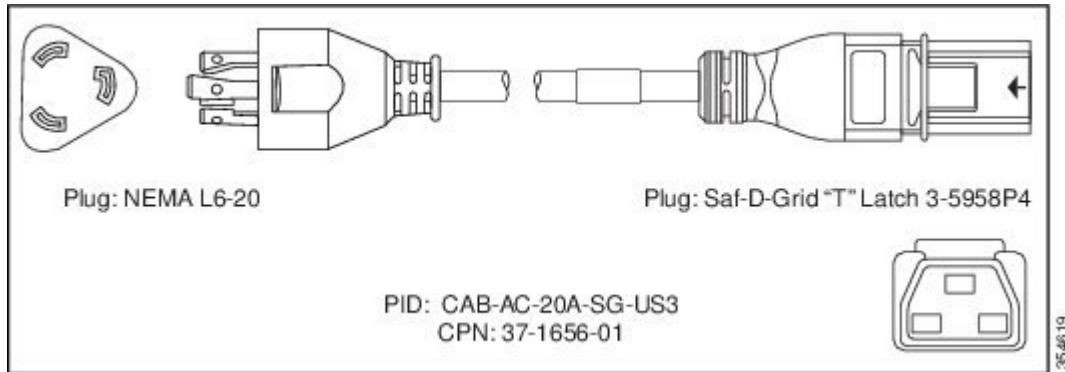
Figure 47: CAB-AC-20A-SG-US4 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: NEMA L7-20P

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-US4
CPN: 37-1645-1
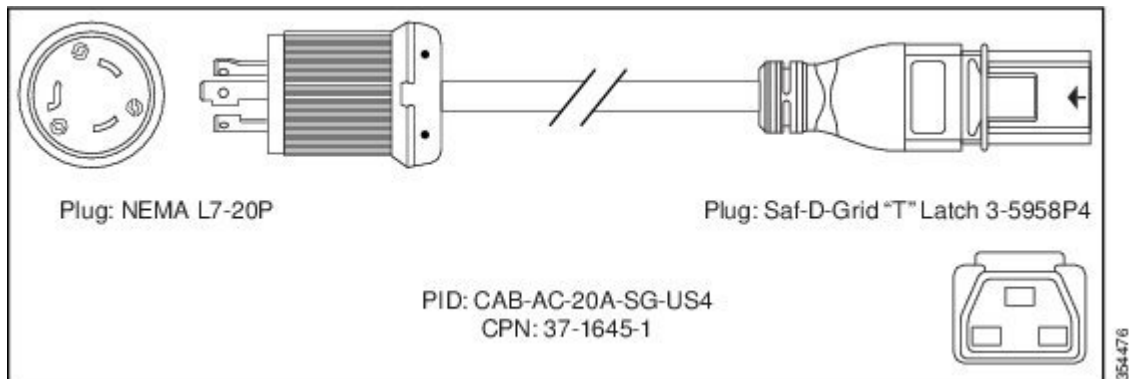
Figure 48: CAB-AC-20A-SG-C20 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: IEC C20

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-20A-SG-C20
CPN: 37-1653-01
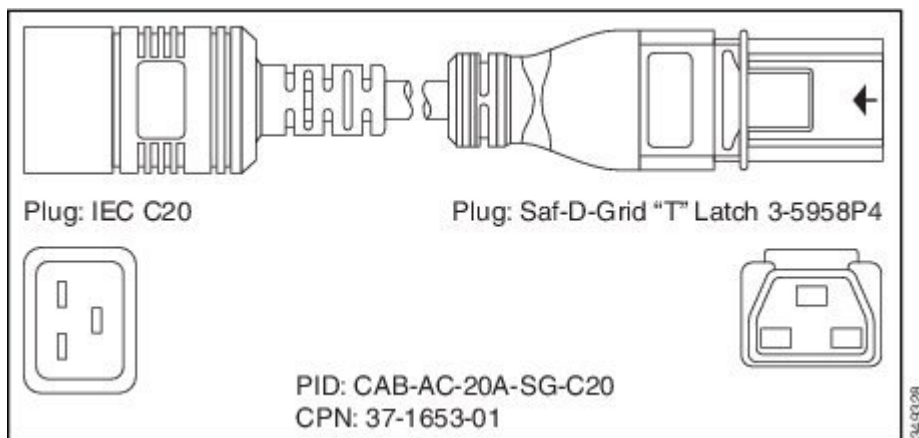
Figure 49: CAB-AC-16A-SG-SA Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: EL

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-SA
CPN: 37-1647-01

Figure 50: CAB-AC-16A-SG-SK Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: Src

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-SK
CPN: 37-1646-01
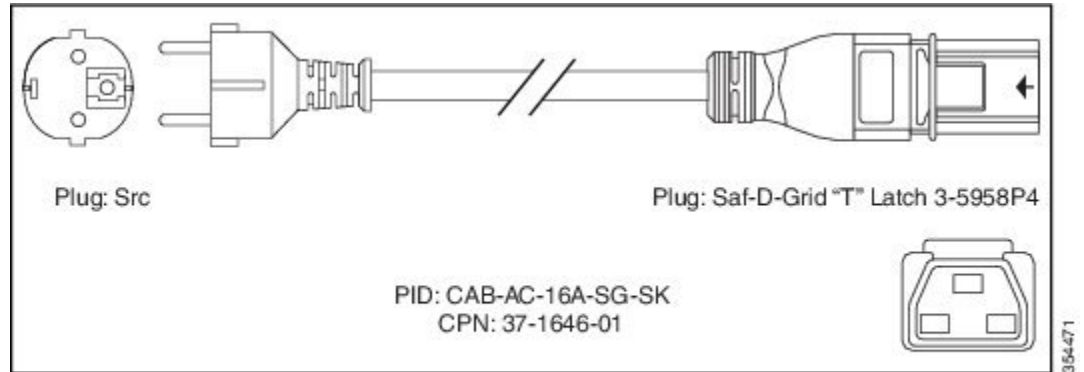
Figure 51: CAB-AC-16A-SG-SW Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: SEV 5934-2

Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-AC-16A-SG-SW
CPN: 37-1654-01
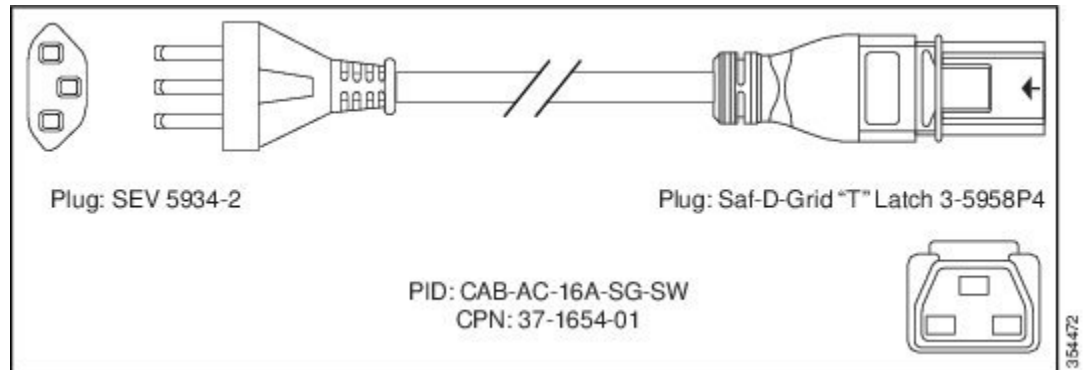
Figure 52: CAB-HV-25A-SG-IN2 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: 3/8-inch Ring Terminals   Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-IN2
CPN: 37-1640-01

Figure 53: CAB-HV-25A-SG-IN3 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: Saf-D-Grid "T" Latch 3-6074P10   Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-IN3
CPN: 37-100904-01

Figure 54: CAB-HV-25A-SG-US2 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: 3/8-inch Ring Terminals   Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-US2
CPN: 37-1641-01
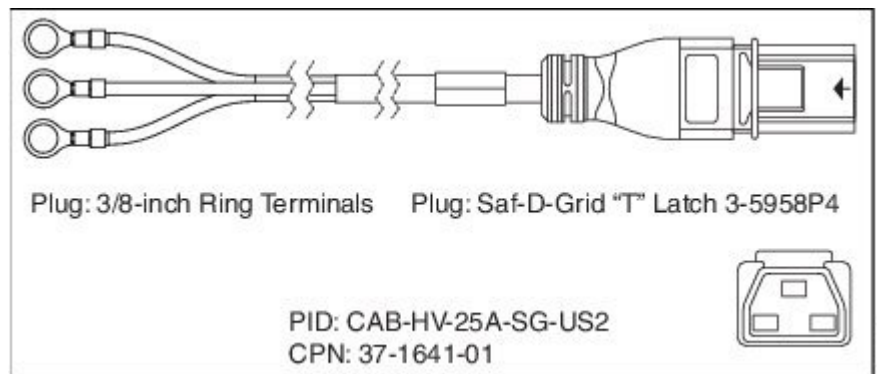
Figure 55: CAB-HV-25A-SG-US5 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit
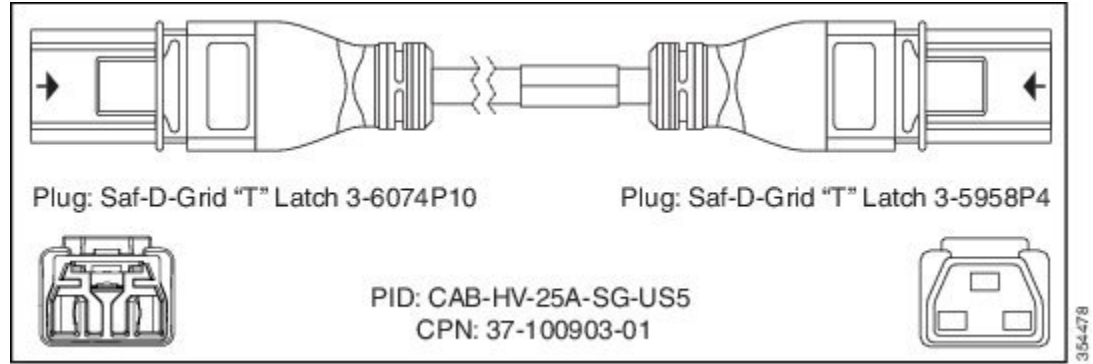
Table 20: 7.5-kW AC Power Supply Power Cord

Locale	Power Supply Part Number	Cord rating	Power cord reference illustration
Japan and North America	N7K-AC-7.5KW-US	30 A, 250 VAC	Figure 56: NEMA L6-30 Power Connector for the 7.5-kW AC Power Supply Unit, on page 47
International	N7K-AC-7.5KW-INT	32 A, 250 VAC	Figure 57: IEC 603090 Power Connector for the 7.5-kW AC Power Supply Unit, on page 48

Figure 56: NEMA L6-30 Power Connector for the 7.5-kW AC Power Supply Unit
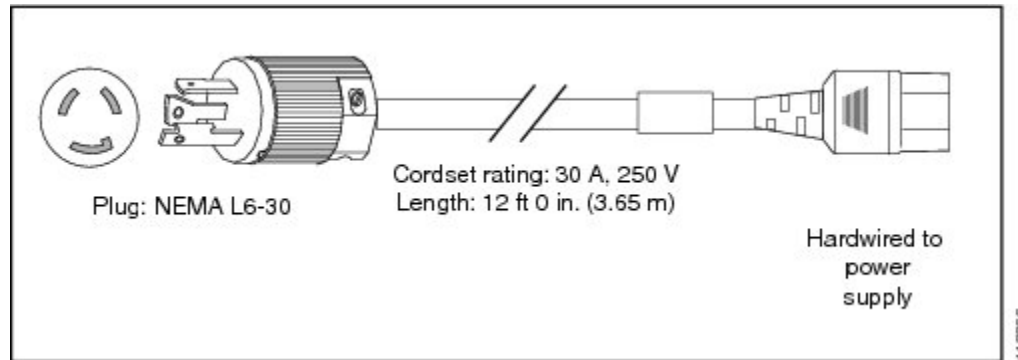
Figure 57: IEC 603090 Power Connector for the 7.5-kW AC Power Supply Unit
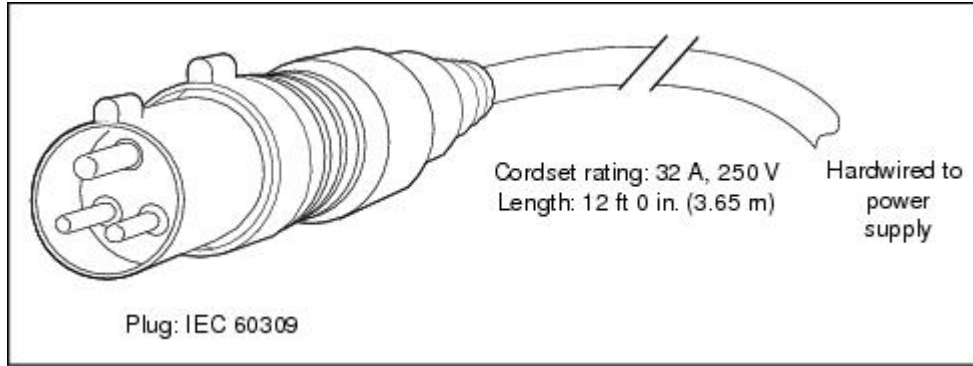
Table 21: 3-kW DC Power Supply Power Cord

Locale	Part Number	Cord Ratings	Power Cord Comments
All	—[12]	45 A	6 AWG

[12] Power cords used for the 3-kW DC power supply are supplied by the customer.

Table 22: 3.5-kW HVAC/HVDC Power Supply DC Power Cords

Locale	Part Number	Cisco Part Number (CPN)	Length	Cord Ratings	Power Cord Reference Illustration
North America	CAB-HV-25A-SG-US1	37-1643-01	14' 0" (4.26 m)	20 A, 400 VDC	Figure A-83
North America, Ring Terminal source plug	CAB-HV-25A-SG-US2	37-1641-01	14' 0" (4.26 m)	20 A, 300 VAC/500 VDC	Figure A-84
International	CAB-HV-25A-SG-IN1	37-1642-01	14' 0" (4.26 m)	20 A, 400 VDC	Figure A-85
International, Ring Terminal source plug	CAB-HV-25A-SG-IN2	37-1640-01	14' 0" (4.26 m)	20 A, 300 VAC/500 VDC	Figure A-86

Note   All cables will not be orderable at first customer shipment (FCS).

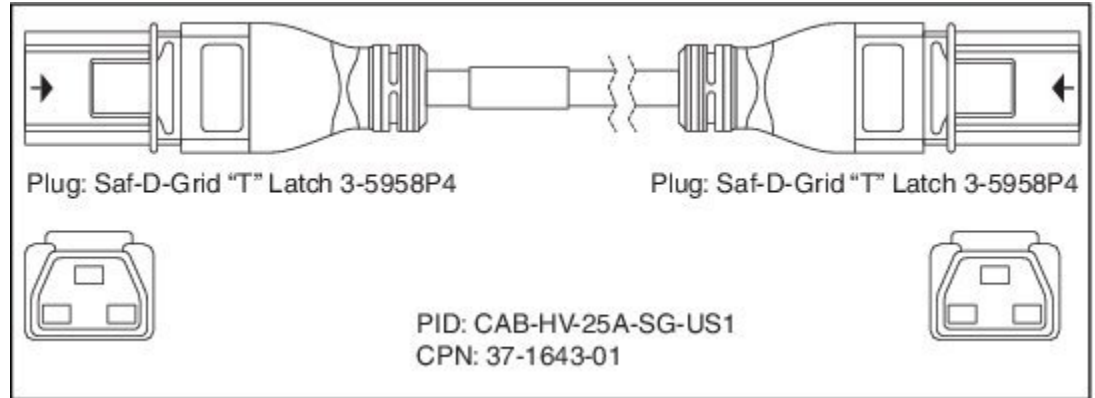*Figure 58: CAB-HV-25A-SG-US1 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply*

Plug: Saf-D-Grid "T" Latch 3-5958P4   Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-US1
CPN: 37-1643-01

Figure 59: CAB-HV-25A-SG-US2 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply

Plug: 3/8-inch Ring Terminals   Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-US2
CPN: 37-1641-01
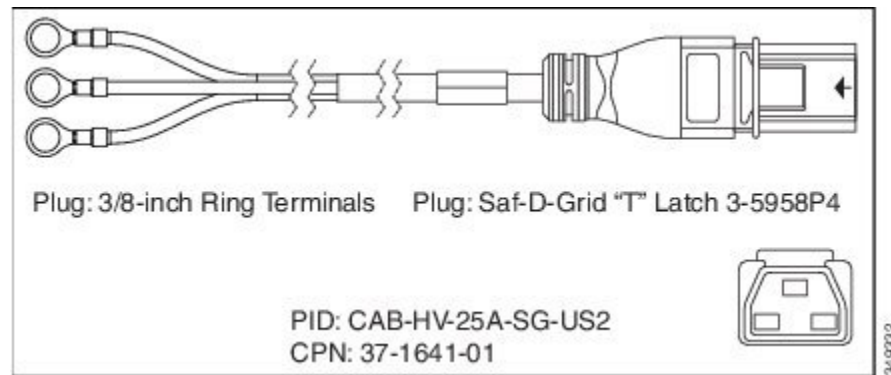
Figure 60: CAB-HV-25A-SG-IN1 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply Unit

Plug: Saf-D-Grid "T" Latch 3-5958P4   Plug: Saf-D-Grid "T" Latch 3-5958P4

PID: CAB-HV-25A-SG-IN1
CPN: 37-1642-01
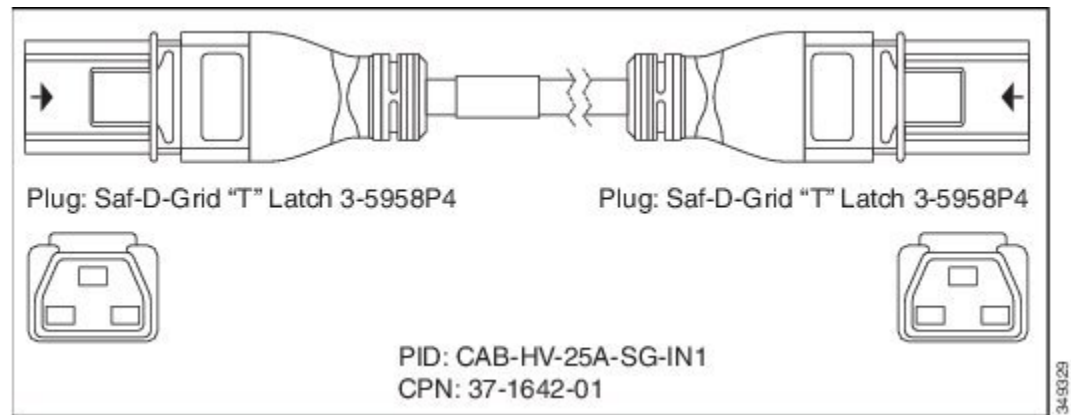
Figure 61: CAB-HV-25A-SG-IN2 Power Cord and Plugs for the 3.5-kW HVAC/HVDC Power Supply
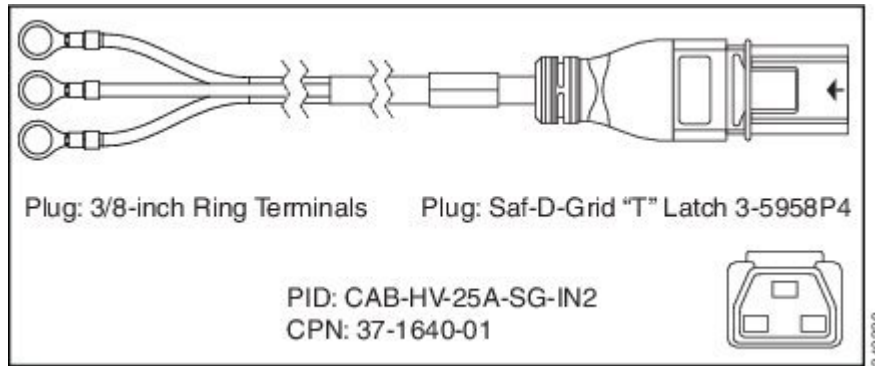
Table 23: 6-kW DC Power Supply Power Cord

Locale	Part Number	Cord Rating	Power Cord Reference Illustration
All	N7K-DC-CAB	40 A, 48V-48V	Figure 62: Power Connector for the 6.0-kW DC Power Supply Unit, on page 50

Figure 62: Power Connector for the 6.0-kW DC Power Supply Unit
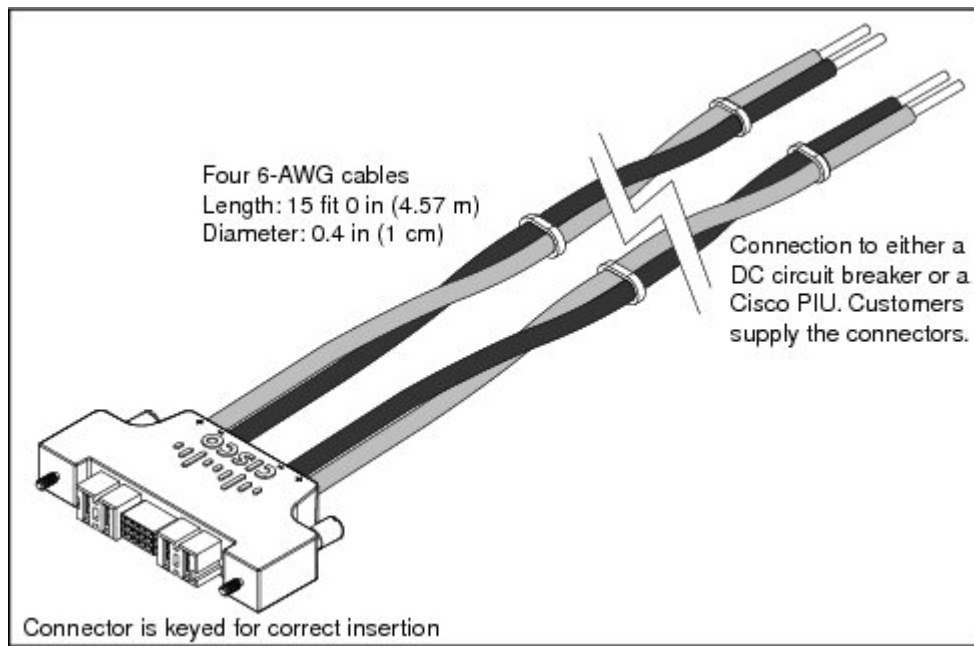
Chassis Clearances

You must provide each Cisco Nexus 7000 Series switch with adequate clearance for installation, maintenance, cabling, and airflow. Installation clearance includes the cold aisle spacing required in front of the rack or cabinet to allow you to move the switch with a mechanical lift to its rack or cabinet. Maintenance clearance is the hot or cold aisle spacing required to replace supervisor, I/O, fabric, fan, and power supply modules.
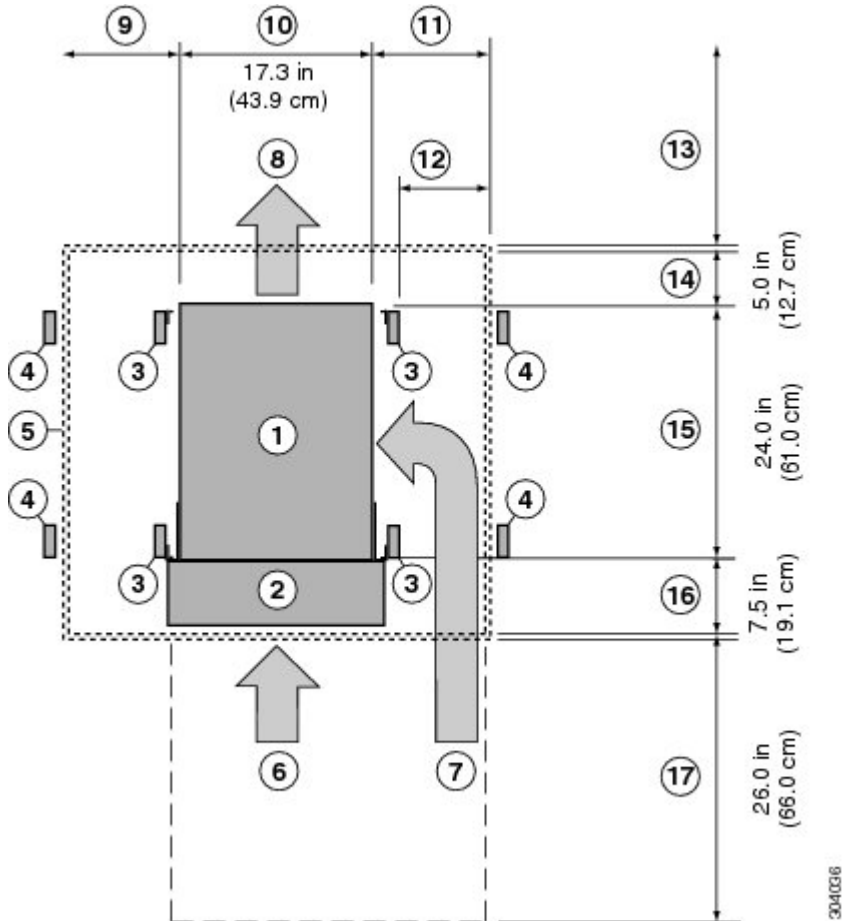
Cabling clearance provides the required space in front of the chassis (often within a cabinet) for cables to bend and connect to the chassis. Airflow clearance is typically the spacing on the left or right of the chassis for side-to-side airflow into and out of the chassis. If a chassis has front-to-back airflow, it uses the maintenance clearance for airflow instead of airflow clearance on the sides of the chassis.

This section includes the following topics:

Cisco Nexus 7004 Chassis Clearances

The Cisco Nexus 7004 chassis requires front clearance for cable management and maintenance, right side clearance for cooling air intake, and an unobstructed rear for exhausting air to the hot aisle behind the chassis. For the front, the cable management frames require 7.5 inches (19.1 cm) of clearance in front of the mounting rails and an additional 26 inches (66.0 cm) in front of the cable management frames or the cabinet door for maintenance. If you install the chassis with the optional center-mount bracket in place of the standard front-mount bracket, you must add 5.7 inches (14.4 cm) to the front clearance in front of the mounting rails on the rack. For cabinet installations, we recommend a right-side clearance of 11 inches (27.9 cm) between the switch and the inside of the cabinet. For rack installations, we recommend a right-side clearance of either 6 inches (15.2 cm) between racks or 11 inches (27.9 cm) between the chassis and a wall. The rear of the chassis must be unobstructed and open to the hot aisle in back of the switch for airflow exhaust. Figure 63: Clearances Required for the Cisco Nexus 7004 in a Four-Post Rack with Front-Mount Brackets, on page 52 shows the required clearances for a chassis in a four-post rack with a front-mount installation. Figure 64: Clearances Required for the Cisco Nexus 7004 in a Two-Post Rack with Front-Mount Brackets, on page 53 shows the required clearances for a chassis in a two-post rack with a front-mount installation. Figure 65: Clearances Required for the Cisco Nexus 7004 in a Two-Post Rack with Center-Mount Brackets, on page 54 shows the required clearances for chassis in a two-post rack with a center-mount installation.
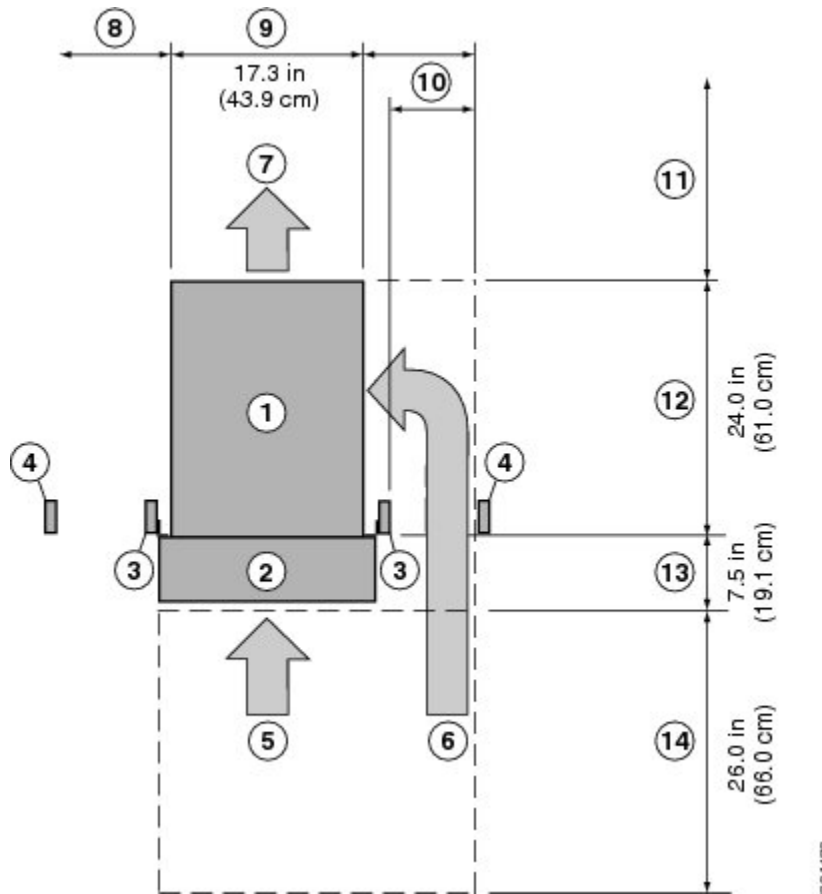
Figure 63: Clearances Required for the Cisco Nexus 7004 in a Four-Post Rack with Front-Mount Brackets

1	Chassis	10	Chassis width
2	Cable management frames	11	Right side clearance recommended for cabinet installations: • Use 11 inches (27.9 cm).
3	Vertical rack-mount posts	12	Right side clearance recommended for open rack installations: • If next to another open rack, use 6 inches (15.2 cm) between racks. • If next to a wall, use 11 inches (27.9 cm) between the chassis and the wall.
4	Vertical rack-mount posts for neighboring rack	13	No rear clearance required but the rear must be open to the hot aisle to exhaust air
5	Inside of cabinet (no left side clearance required)	14	Airflow clearance required between the chassis and inside of cabinet (if a cabinet is used)
6	Air intake from cold aisle for power supplies	15	Chassis depth

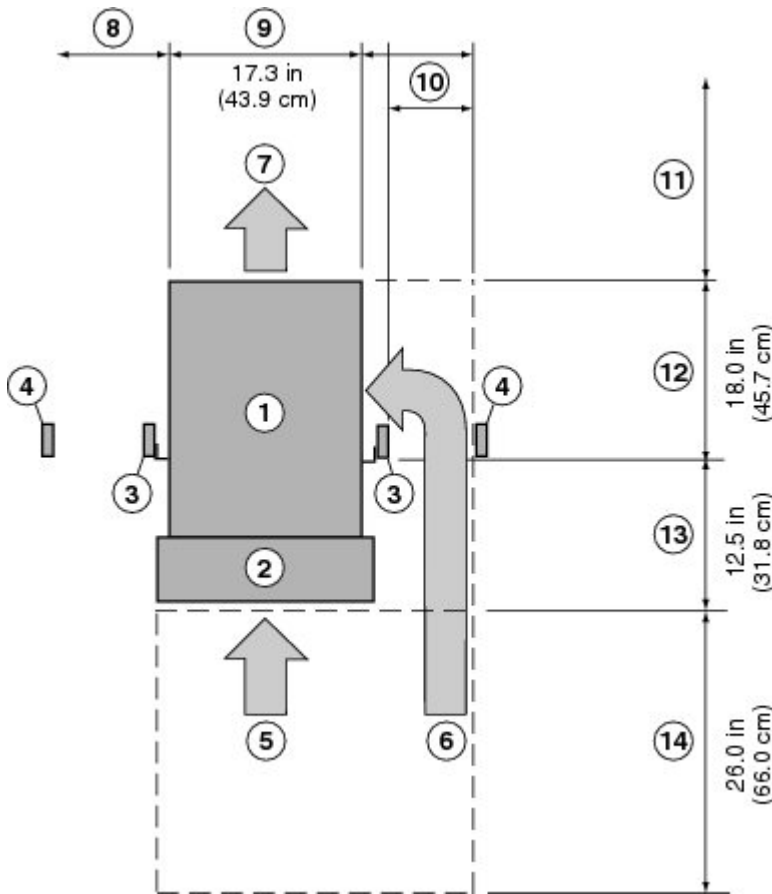| 7	Air intake from cold aisle for the supervisor and I/O modules	16	Clearance required between the front of the chassis and the inside of the cabinet (if used) or the edge of the cold aisle (if no cabinet) for the cable management frames and the optional front doors
8	Air exhaust to hot aisle for all modules and power supplies	17	Front service clearance required for installing the chassis and replacing the modules
9	No left side clearance required (no airflow on left side)		

Figure 64: Clearances Required for the Cisco Nexus 7004 in a Two-Post Rack with Front-Mount Brackets

1	Cisco Nexus 7004 chassis	8	No left side clearance required (no airflow on left side)
2	Cable management frames	9	Chassis width.

3	Vertical rack-mount posts	10	Right side clearance recommended for open rack installations: • If next to another open rack, use 6 inches (15.2 cm) between racks. • If next to a wall, use 11 inches (27.9 cm) between the chassis and the wall.
4	Vertical rack-mount posts for neighboring racks	11	No rear clearance required but the rear must be open to the hot aisle to exhaust air
5	Air intake from cold aisle for power supplies	12	Chassis depth
6	Air intake from cold aisle for the supervisor and I/O modules	13	Clearance required between the front of the chassis and the inside of the cabinet for the cable management frames and the optional front door
7	Air exhaust to hot aisle for all modules and power supplies	14	Front clearance required for installing the chassis and replacing the modules

Figure 65: Clearances Required for the Cisco Nexus 7004 in a Two-Post Rack with Center-Mount Brackets

1	Cisco Nexus 7004 chassis	8	No left side clearance required (no airflow on left side)

2	Cable management frames	9	Chassis width
3	Vertical rack-mount posts	10	Right side clearance recommended for open rack installations: • If next to another open rack, use 6 inches (15.2 cm) between racks. • If next to a wall, use 11 inches (27.9 cm) between chassis and wall.
4	Vertical rack-mount posts for neighboring rack	11	No rear clearance required but the rear must be open to the hot aisle to exhaust air
5	Air intake from cold aisle for power supplies	12	Distance from front of vertical rack-mount posts to rear of chassis
6	Air intake from cold aisle for the supervisor and I/O modules	13	Clearance required between the front of the chassis and the inside of the chassis for the cable management frames and the optional front doors
7	Air exhaust to hot aisle for all modules and power supplies	14	Front service clearance required for installing the chassis and replacing the modules

Cisco Nexus 7009 Chassis Clearances

The Cisco Nexus 7009 chassis has different clearance requirements for installations with four-post racks or cabinets, two-post racks with front-mount brackets, and two-post racks with center-mount brackets.

For four-post rack or cabinet installations, the chassis requires the following clearances (see):

- Front clearance requires both of the following:

    - Cabling area of 7.5 inches (19.1 cm) between the front of the chassis and the inside surface of the cabinet or rack (this area can include the optional cable management frames)
    - Maintenance area of 24 inches (61.1 cm) between the front of the rack or cabinet and the next object in the cold aisle.

✎

Note You might need to increase the maintenance area to accommodate a wide mechanical lift used to move the chassis to or from the rack.

- Rear clearance includes both of the following:

    - Cabling area of 7 inches (17.8 cm) between the rear of the chassis and the inside surface of the cabinet or rack
    - Maintenance area of 24 inches (61.1 cm) between the rear of the rack or cabinet and the next object in the hot aisle

- Side clearance of 11 inches (27.9 cm) for air flow on each side of the chassis.

Figure 66: Clearances Required for a Front-Mounted Cisco Nexus 7009 Chassis in a Four-Post Rack
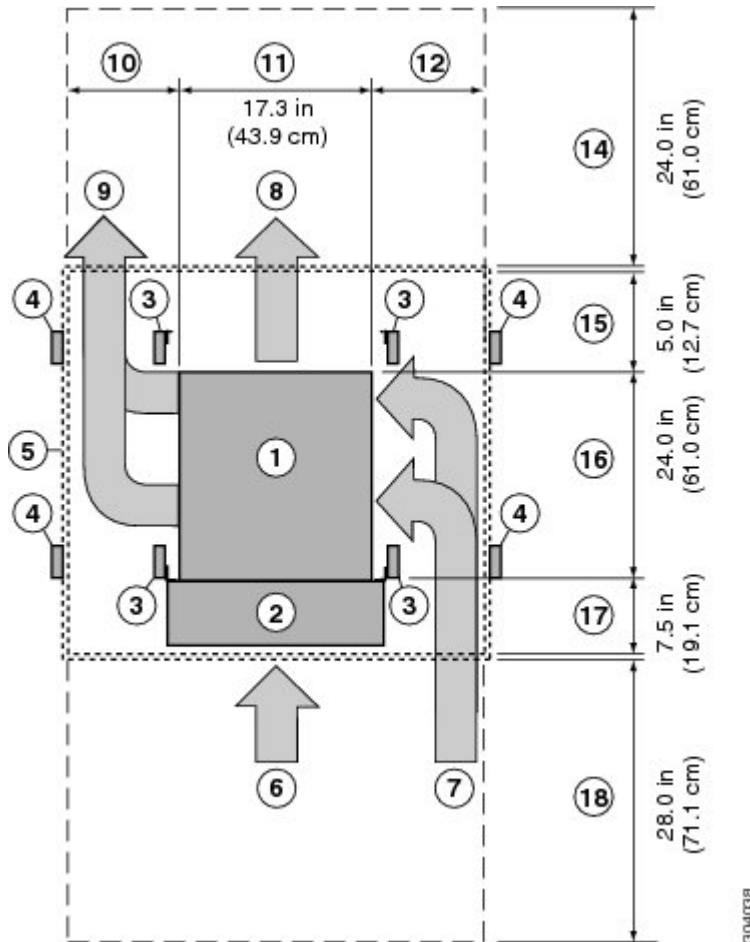
1	Cisco Nexus 7009 chassis	10	Left side clearance required with an unobstructed opening to the hot aisle to exhaust air
2	Cable management frames	11	Chassis width
3	Vertical rack-mount post	12	Side clearance recommended for cabinet installations: • use 11 inches (27.9 cm)
4	Vertical rack-mount post for neighboring rack	13	Side clearance recommended for open rack installations: • If next to another open rack, use 6 inches (15.2 cm). • If next to a wall, use 11 inches (27.9 cm).
5	Nearest object or inside of cabinet	14	Rear service clearance required to replace fan trays and fabric modules

6	Air intake from cold aisle for the power supplies	15	Airflow clearance required between the chassis rear and inside of cabinet (if used)
7	Air intake from cold aisle for the supervisor, fabric, and I/O modules	16	Chassis depth
8	Air exhaust to hot aisle for power supplies	17	Clearance required between the front of the chassis and the inside of the cabinet (if used) or edge of cold aisle (if no cabinet) for the cable management frames and the optional front doors
9	Air exhaust to hot aisle for the supervisor, fabric, and I/O modules	18	Front clearance required for installing the chassis and replacing the modules

For two-post rack installations with front-mount brackets, the chassis requires the following clearances (see):
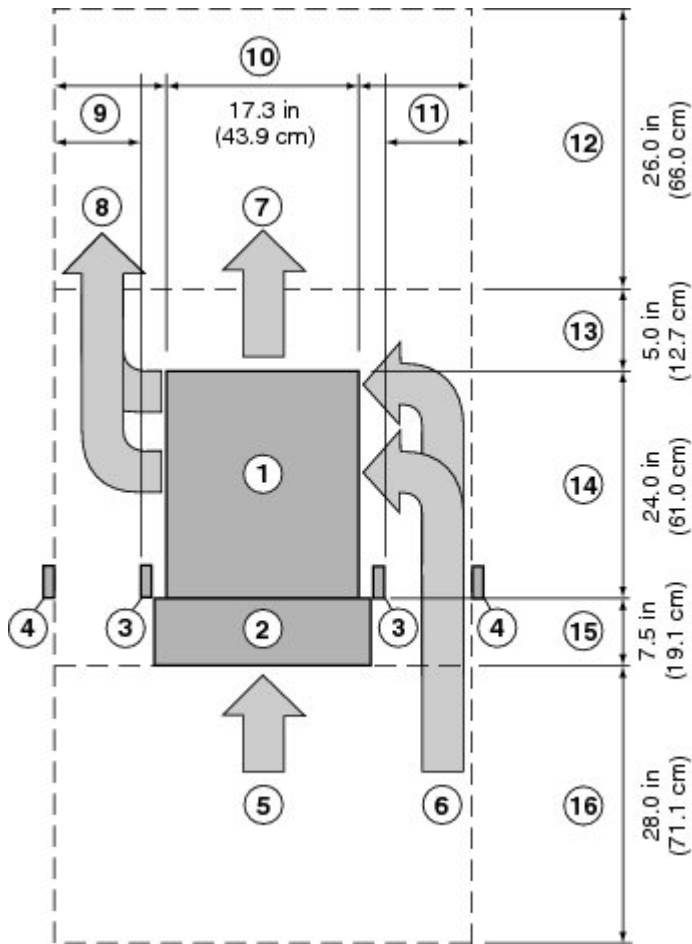
- Front clearance requires both of the following:

  - Cabling area of 7.5 inches (19.1 cm) between the front of the chassis and the cold aisle (this area can include the optional cable management frames)
  - Maintenance area of 28 inches (71.1 cm) in front of the cabling area for installing the chassis and replacing modules

Note You might need to increase the maintenance area to accommodate a wide mechanical lift used to move the chassis to or from the rack.

- Rear clearance requires 26 inches (66.0 cm) behind the chassis for cable management and for replacing modules and power supplies
- Side clearance recommendation depends on whether you use a rack or cabinet for the installation as follows:

  - For cabinet installations, we recommend that you use 11 inches (27.9 cm) for airflow on each side of the chassis.
  - For rack installations, we recommend 11 inches (27.9 cm) between the chassis and a wall or 6 inches (15.2 cm) between racks.

Figure 67: Clearances Required for a Front-Mounted Cisco Nexus 7009 Chassis in a Two-Post Rack

1	Cisco Nexus 7009 chassis	9	Side clearance required for open rack installations: • If next to another open rack, use 6 inches (15.2 cm). • If next to a wall, use 11 inches (27.9 cm).
2	Cable management frames	10	Chassis width
3	Vertical rack-mount post	11	Side clearance required for open rack installations: • If next to another open rack, use 6 inches (15.2 cm). • If next to a wall, use 11 inches (27.9 cm).
4	Vertical rack-mount post for neighboring rack	12	Rear service clearance required to replace fan trays and fabric modules
5	Air intake from cold aisle for the power supplies	13	Airflow clearance required between the chassis and inside of cabinet (if used)

6	Air intake from cold aisle for the supervisor, fabric, and I/O modules	14	Chassis depth
7	Air exhaust to hot aisle for power supplies	15	Clearance required between the front of the chassis and edge of cold aisle for the cable management frames and the optional front doors
8	Air exhaust to hot aisle for the supervisor, fabric, and I/O modules	16	Front clearance required for installing the chassis and replacing the modules

For two-post rack installations with center-mount brackets, the chassis requires the following clearances (see Figure 68: Clearances Required for a Center-Mounted Cisco Nexus 7009 Chassis in a Two-Post Rack, on page 60):
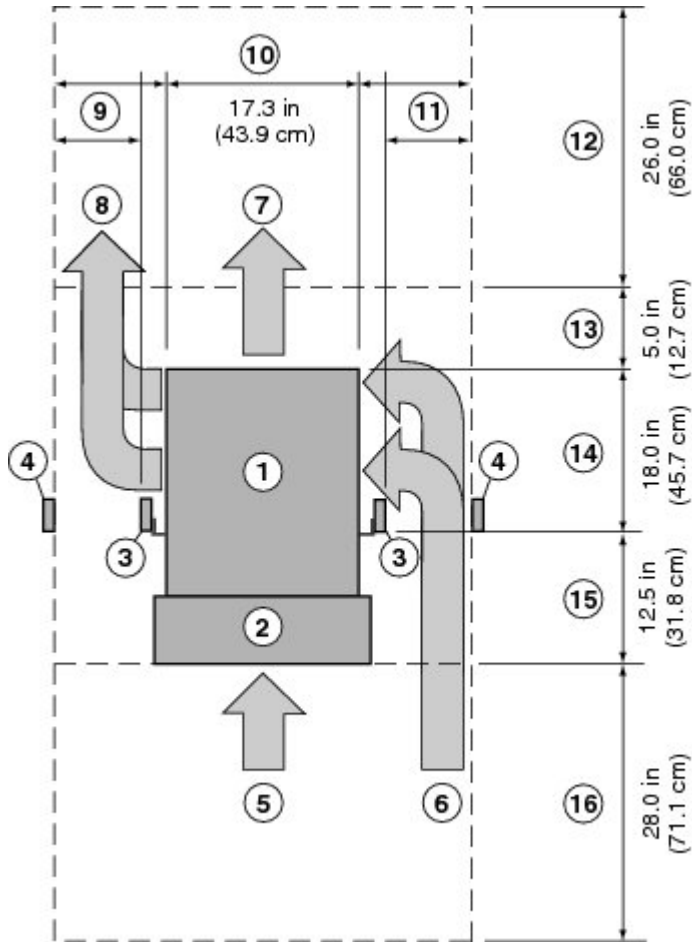
- Front clearance of 37 inches (94.0 cm) for both of the following:

  - Cabling area of 13.5 inches (34.3 cm) between the front of the posts (posts are 6 inches (15.2 cm) behind the front of the chassis)
  - Maintenance area of 26 inches (66.0 cm) in front of the cabling area for installing the chassis and replacing modules.

✎

Note   You might need to increase the maintenance area to accommodate a wide mechanical lift used to move the chassis to or from the rack.

- Rear clearance of 26 inches (66.0 cm) behind the chassis for cable management and for replacing the fan modules and power supplies.
- Side clearance of 11 inches (27.9 cm) for airflow on each side of the chassis.

Figure 68: Clearances Required for a Center-Mounted Cisco Nexus 7009 Chassis in a Two-Post Rack

1	Cisco Nexus 7009 chassis	9	Right side clearance (for rack installations) recommended to input air from the cold aisle:
			• If next to another open rack, use 6 inches (15.2 cm).
			• If next to a wall, use 11 inches (27.9 cm).
2	Cable management frames	10	Chassis width
3	Vertical rack-mount posts	11	Right side clearance (for rack installations) recommended to input air from the cold aisle:
			• If next to another open rack, use 6 inches (15.2 cm).
			If next to a wall, use 11 inches (27.9 cm).
4	Vertical rack-mount post for neighboring rack	12	Rear service clearance required to replace fan trays and fabric modules

5	Air intake from cold aisle for power supplies	13	Airflow clearance required between the chassis and inside of cabinet (if used)
6	Air intake from cold aisle for the supervisor, fabric, and I/O modules	14	Chassis depth
7	Air exhaust to hot aisle for the power supplies	15	Clearance required between the front of the chassis and the front of the cable management frames and the optional front doors
8	Air exhaust to hot aisle for the supervisor, fabric, and I/O modules	16	Front service clearance required for installing the chassis and replacing the modules

Cisco Nexus 7010 Chassis Clearances

The Cisco Nexus 7010 chassis requires the following clearances (see):

- Front clearance of 45.5 inches (115.6 cm) for both of the following:
    - Cabling area of 7.5 inches (19.1 cm) between the front of the chassis and the inside of the cabinet or front of the rack
    - Maintenance area of 38 inches (96.5 cm) of cold-aisle passageway in front of the rack or cabinet

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Note   You might need to increase the maintenance area to accommodate a wide mechanical lift used to move the chassis to or from the rack.

- Rear clearance of 35 inches (88.9 cm) for both of the following:
    - Airflow area of 5 inches (12.7 cm) inside of the cabinet or rack
    - Maintenance area of 30 inches (76.2 cm) of hot-aisle passageway behind the rack or cabinet

Figure 69: Clearances Required for the Cisco Nexus 7010 Switch
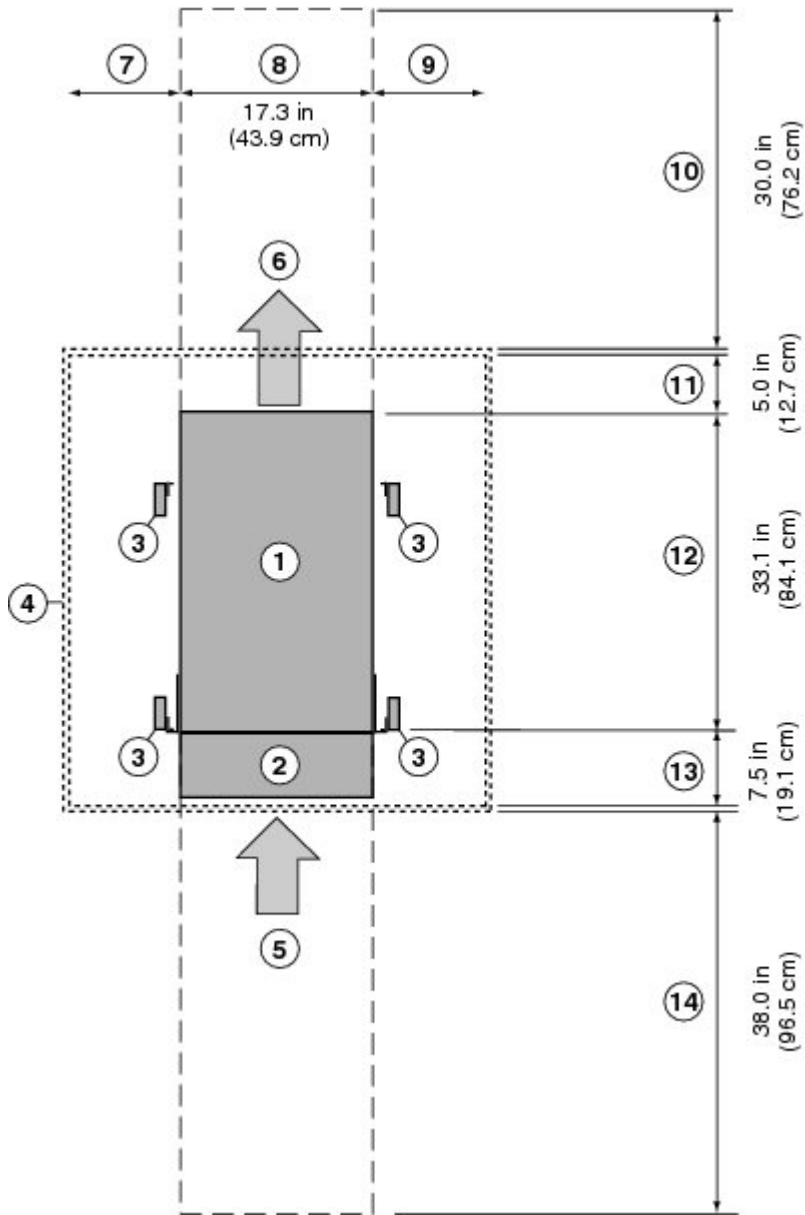
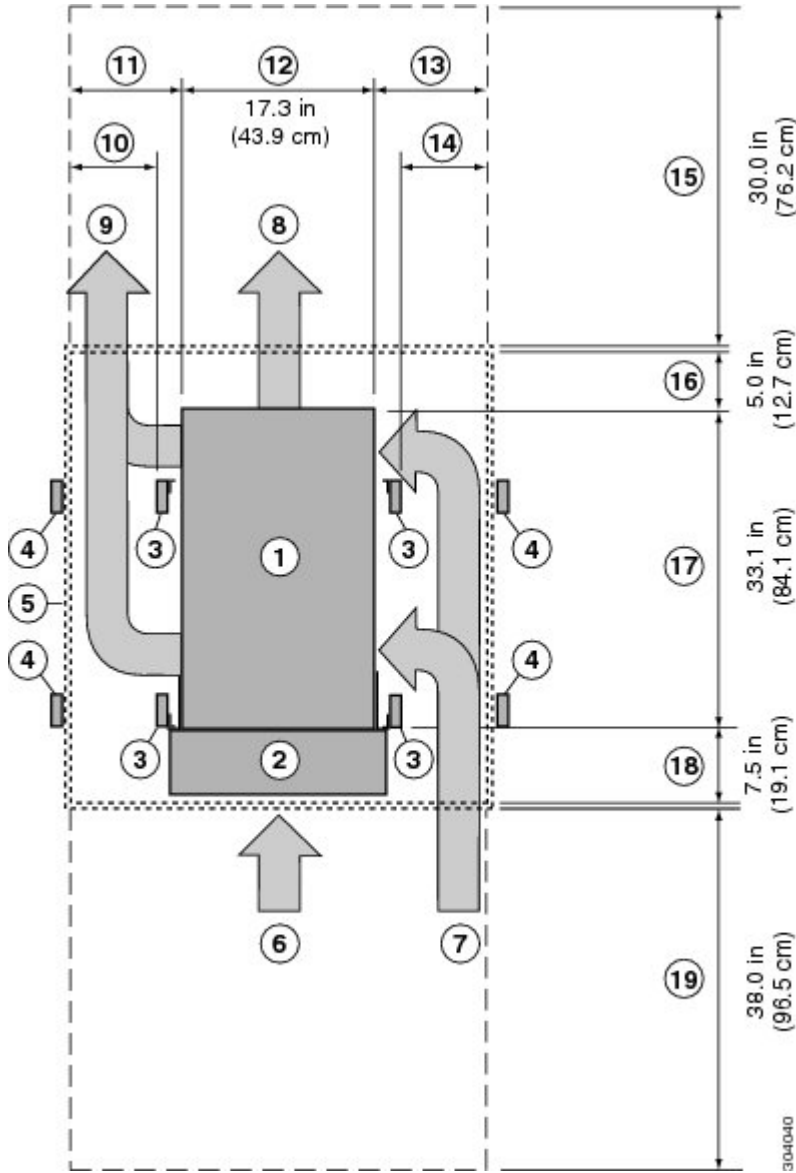| 1	Cisco Nexus 7010 chassis	8	Chassis width
2	Cable management system	9	No right side clearance required (no airflow on right side)
3	Vertical rack-mount posts	10	Rear service clearance required to replace fan trays and fabric modules
4	Inside of cabinet (no side clearance required)	11	Airflow clearance required between the chassis and inside of cabinet (if used)

5	Air intake from cold aisle for all modules and power supplies	12	Chassis depth, which includes the fan tray handles at the rear of the chassis
6	Air exhaust to hot aisle for all modules and power supplies	13	Clearance required between the front of the chassis and the inside of the cabinet (if used) or edge of the cold aisle (if no cabinet) for the cable management frames and the optional front doors
7	No left side clearance required (no airflow on left side)	14	Front service clearance required for installing the chassis and replacing the modules

Cisco Nexus 7018 Chassis Clearances

The Cisco Nexus 7018 chassis requires the following clearances (see Figure 70: Clearances Required for the Cisco Nexus 7018 Switch, on page 64):

- Front clearance of 45 inches (114.3 cm) for both of the following:

  - Cabling area of 7.5 inches (19.1 cm) between the front of the chassis and the inside of the cabinet or front of the rack
  - Maintenance area of 38 inches (96.5 cm) between the front of the rack or cabinet and the next rack, cabinet, or wall in the cold aisle (additional area might be needed for a larger mechanical lift used to move the chassis)

- Rear clearance of 35 inches (88.9 cm) for both of the following:

  - Airflow area of 5 inches (12.7 cm) inside a cabinet (if used)
  - Maintenance area of 30 inches (76.2 cm) of hot-aisle passageway behind the rack or cabinet

- Side clearance recommendation depends on whether a cabinet or rack is used:

  - For cabinet installations, use 11 inches (27.9 cm) between the chassis and inside of the cabinet.
  - For rack installations, use either 11" (27.9 cm) between the chassis and a wall or 6" (15.2 cm) between racks.

Figure 70: Clearances Required for the Cisco Nexus 7018 Switch

1	Cisco Nexus 7018 chassis	11	Side clearance recommended for cabinet installations:: • Use 11 inches (27.9 cm)
2	Cable management frames	12	Chassis width
3	Vertical rack-mount post	13	Side clearance recommended for cabinet installations:: • Use 11 inches (27.9 cm)

4	Vertical rack-mount post for neighboring rack	14	Side clearance recommended for open rack installations: • If next to another open rack, use 6 inches (15.2 cm). If next to a wall, use 11 inches (27.9 cm)
5	Nearest object or inside of cabinet (side clearance required for airflow)	15	Rear service clearance required to replace fan trays and fabric modules
6	Air intake from cold aisle for the power supplies	16	Airflow clearance required between the chassis and inside of cabinet (cabinet installations only)
7	Air intake from cold aisle for the supervisor, fabric, and I/O modules	17	Chassis depth
8	Air exhaust to hot aisle for the power supplies	18	Clearance required between the front of the chassis and the inside of the cabinet (cabinet installations) or edge of the cold aisle (rack installations) for the cable management frames and the optional front door
9	Air exhaust to hot aisle for the supervisor, fabric, and I/O modules	19	Front service clearance required for installing the chassis and replacing the modules

10	Side clearance recommended for open rack installations:
	
	    • If next to another open rack, use 6 inches (15.2 cm).
	    • If next to a wall, use 11 inches (27.9 cm).		

Facility Cooling Requirements

The Cisco Nexus 7000 Series switches dissipate considerable power that generates much heat. The following is the heat dissipation requirement for these switches:

- Cisco Nexus 7004 dissipates up to 9737 BTUs per hour
- Cisco Nexus 7009 dissipates up to 28,101 BTUs per hour
- Cisco Nexus 7010 dissipates up to 35,162 BTUs per hour
- Cisco Nexus 7018 dissipates up to 51,195 BTUs per hour

Chassis Airflow

The Cisco Nexus 7000 Series switches are designed to work in a hot-aisle/cold-aisle environment using front-to-back, side-to-side, or side-to-back airflow. Each of these switches uses one of the following airflow directions:

- The Cisco Nexus 7004 switch uses side-to-back airflow to cool its modules and front-to-back airflow to cool its power supplies as shown in Figure 71: Airflow for the Cisco Nexus 7004 Chassis, on page 66. This switch requires right-side clearance for airflow into the chassis.
- The Cisco Nexus 7009 switch uses side-to-side airflow to cool its modules and front-to-back airflow to cool its power supplies as shown in Figure 72: Airflow for the Cisco Nexus 7009 Chassis, on page 66. This switch requires right- and left-side clearance for airflow into and out of the chassis.
- The Cisco Nexus 7010 switch uses front-to-back airflow as shown in Figure 73: Airflow for the Cisco Nexus 7010 Chassis, on page 67.
- The Cisco Nexus 7018 switch uses side-to-side airflow to cool its modules and front-to-back airflow to cool its power supply units as shown in Figure 74: Airflow for the Cisco Nexus 7018 Chassis, on page 68. This switch requires right- and left-side clearance for airflow into and out of the chassis.

Figure 71: Airflow for the Cisco Nexus 7004 Chassis
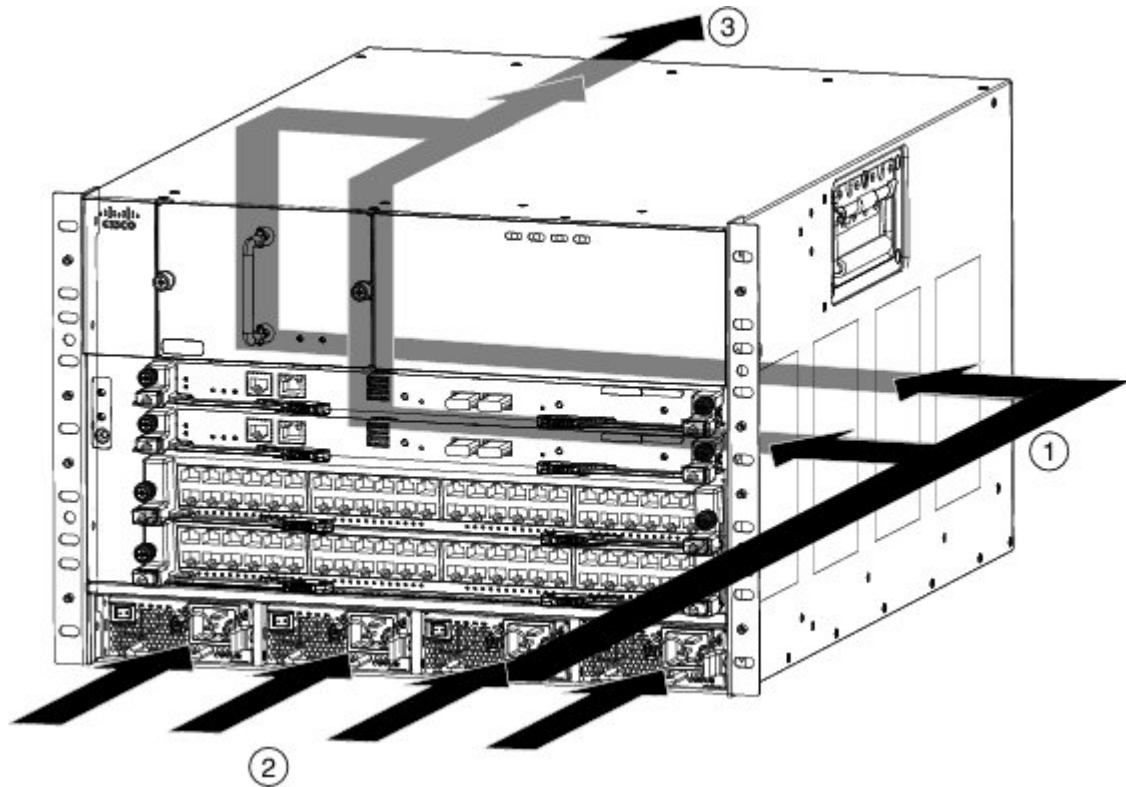
| 1	Right side-to-rear airflow for cooling supervisor and I/O modules	3	Exhaust out the rear to the hot aisle
2	Front-to-rear airflow for cooling power supplies		

Figure 72: Airflow for the Cisco Nexus 7009 Chassis

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| 1 | Airflow for cooling the supervisor modules, I/O modules, and fabric modules | 2 | Airflow for cooling the power supply units |

Figure 73: Airflow for the Cisco Nexus 7010 Chassis
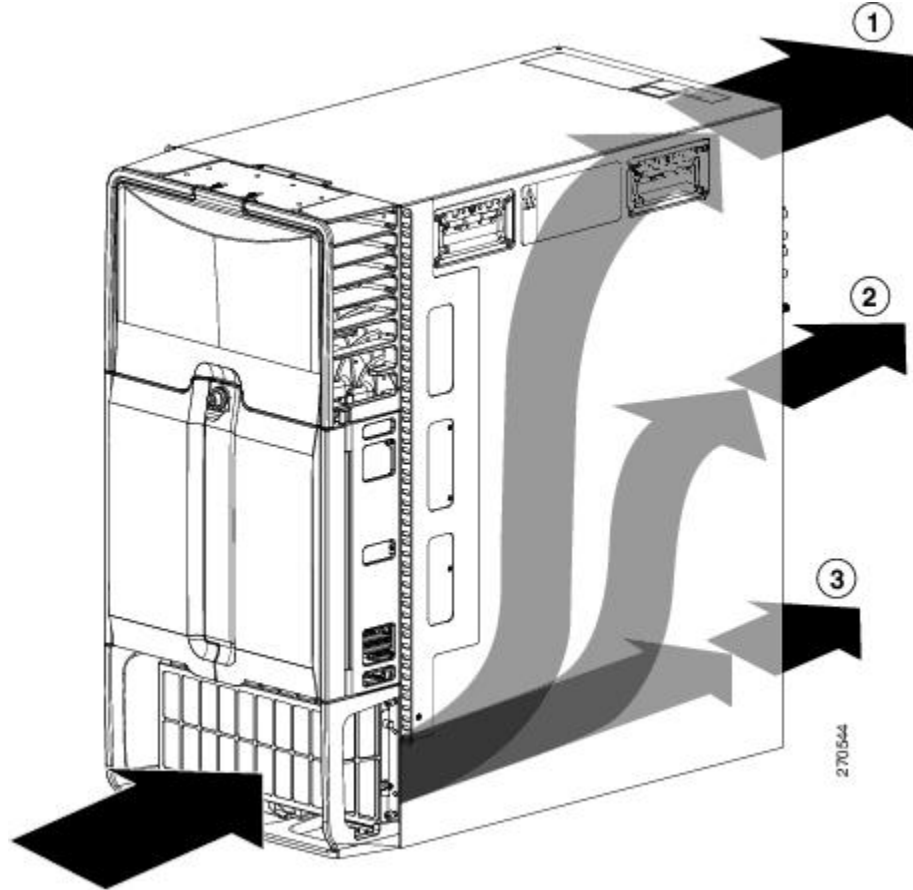
1	Airflow for cooling the supervisor and I/O modules	3	Airflow for cooling the power supply units
2	Airflow for cooling the fabric modules		

Figure 74: Airflow for the Cisco Nexus 7018 Chassis
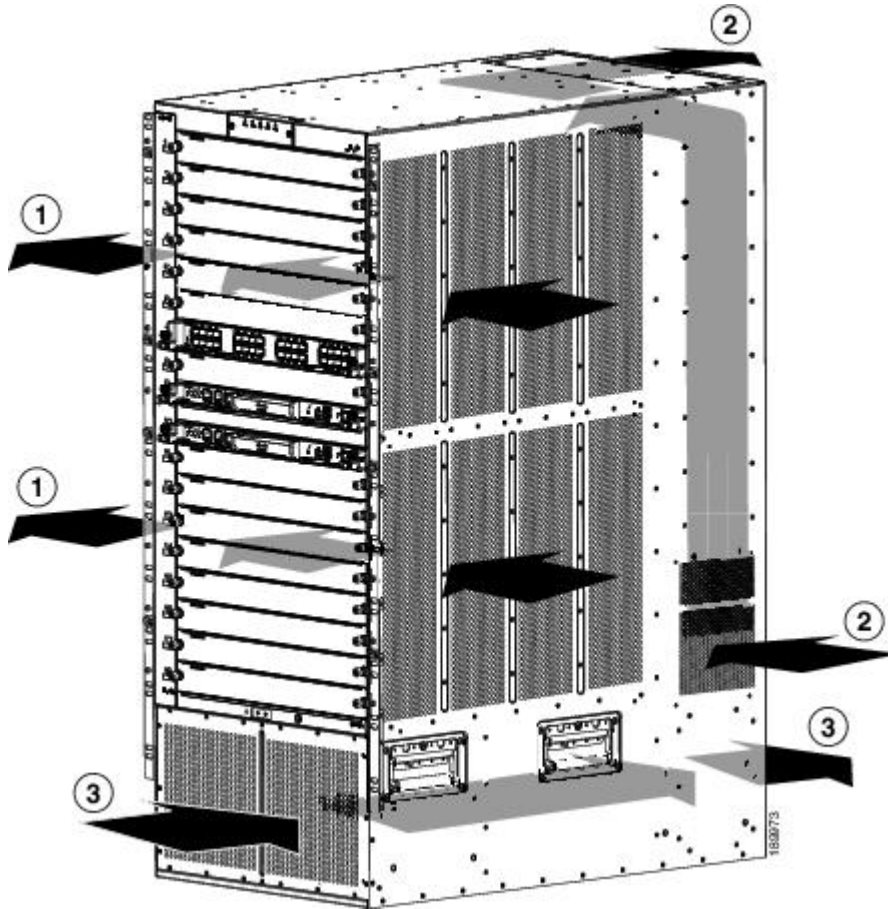
1	Airflow for cooling the supervisor and I/O modules	3	Airflow for cooling the power supply units
2	Airflow for cooling the fabric modules		

For the Cisco Nexus 7004 switch, you can route cables on the left or right side without interfering with coolant airflow, which goes in on the right side. Be sure to otherwise leave the right side unblocked so that cool air can flow from the cold aisle in the front to the chassis.

To allow for the Cisco Nexus 7009 and 7018 switches to take in air from the cold aisle and floor on the right side, you should route cables on the left front side of the switch. If necessary, you can route cables on the upper right front side of the chassis, which leaves the lower right side open to cooling air from the cold aisle in front of the chassis. By having the cables on the left side and leaving the left rear side unobstructed, the exhaust is directed to the hot aisle in back.

For the clearances required on each side of the switch, see the Chassis Clearances, on page 50.