



## System Specifications

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## Environmental Specifications

Environment		Specification
Temperature	Ambient operating temperature	32 to 104°F (0 to 40°C)
	Ambient nonoperating	−40 to 158°F (−40 to 70°C)
Relative humidity	Nonoperating	5 to 95%
	Operating	5 to 90%
Altitude	Operating	0 to 13,123 feet (0 to 4,000 meters)

## Switch Dimensions

Chassis or Module	Width	Depth	Height
Cisco Nexus 9508 chassis	17.5 inches (44.5 cm)	31.76 inches (80.67 cm) for chassis and handles	22.70 inches (57.78 cm) (13 RU)
Supervisor modules	Without mounting brackets: 7.0 inches (17.78 cm) With mounting brackets: 8.0 inches (20.32 cm)	Inside chassis: 20.67 inches (52.5 cm) Ejector levers outside chassis: 0.75 inches (1.9 cm)	1.75 inches (4.4 cm)

Chassis or Module	Width	Depth	Height
System controller modules	Without mounting brackets: 6.81 inches (17.3 cm) With mounting brackets: 7.81 inches (19.84 cm)	Inside chassis: 10.74 inches (27.28 cm) Ejector levers outside chassis: 0.75 inches (1.9 cm)	1.42 inches (3.61 cm)
Line cards	17.0 inches (43.18 cm)	Inside chassis: 16.5 inches (41.91 cm) Ejector levers outside chassis: 2.5 inches (6.35 cm)	1.75 inches (4.4 cm)
Fabric modules	2.46 inches (6.25 cm)	11.7 inches (29.72 cm)	16.4 inches (41.66 cm)
Fan trays	5.04 inches (12.81 cm)	5.12 inches (13.0 cm)	Without mounting brackets: 16.5 inches (41.91 cm) With mounting brackets: 18.08 inches (45.92 cm)
Power supply	5.25 inches (13.33 cm)	Inside chassis: 17.75 inches (44.96 cm) Ejector levers outside chassis: 0.75 inches (1.9 cm)	1.75 inches (4.4 cm)

## Weights for the Chassis, Modules, Fan Trays, and Power Supplies

Component	Weight per Unit
<b>Cisco Nexus 9508 Chassis (N9K-C9508)</b>	150.0 lb (68.2 kg)
<b>Supervisor Modules</b>	—
– Supervisor A module (N9K-SUP-A)	4.84 lb (2.2 kg)
– Supervisor A+ module (N9K-SUP-A+)	5.2 lb (2.37 kg)
– Supervisor B module (N9K-SUP-B)	6.0 lb (2.72 kg)
– Supervisor B+ module (N9K-SUP-B+)	5.3 lb (2.39 kg)
<b>System Controller Module (N9K-SC-A)</b>	1.9 lb (0.9 kg)
<b>Line cards that the N9K-C9508-FM fabric modules support</b>	—

Component	Weight per Unit
– 8-port 100-Gigabit Ethernet CFP2 line card (N9K-X9408PC-CFP2)	11.48 lb (5.2 kg)
– 32-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9432PQ)	10.85 lb (4.92 kg)
– 36-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9536PQ)	11.99 lb (5.44 kg)
– 36-port 40-Gigabit Ethernet QSFP+ aggregation line card (N9K-X9636PQ)	11.48 lb (5.2 kg)
– 48-port 1/10-Gigabit Ethernet SFP+ and 4-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9464PX)	10.76 lb (4.88 kg)
– 48-port 1/10-GBASE-T plus 4-port 40-Gigabit Ethernet QSFP+ I/O module (N9K-X9464TX)	10.01 lb (4.54 kg)
– 48-port 1/10-GBASE-T plus 4-port 40-Gigabit QSFP+ I/O module (N9K-X9464TX2)	10.01 lb (4.54 kg)
– 48-port 1/10-Gigabit Ethernet SFP+ and 4-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9564PX)	11.48 lb (5.2 kg)
– 48-port 1/10-GBASE-T plus 4-port 40-Gigabit Ethernet QSFP+ I/O module (N9K-X9564TX)	12.58 lb (5.7 kg)
<b>Line cards that the N9K-C9508-FM-E and N9K-C9508-FM-E2 fabric modules support</b>	—
– 48-port 10/25-Gigabit Ethernet SFP28 and 4-port 40/100-Gigabit Ethernet QSFP28 line card (N9K-X97160YC-EX)	12.75 lb (5.78 kg)
– 48-port 1/100 BASE-T and 4-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9788TC-FX)	13.0 lb (5.9 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9736C-EX)	14.77 lb (6.7 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9736C-FX)	14.38 lb (6.5 kg)
– 36-port 40-Gigabit Ethernet QSFP28 line card (N9K-X9736Q-FX)	14.6 lb (6.62 kg)
– 32-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9732C-EX)	12.13 lb (5.5 kg)
– 32-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9732C-FX)	15.0 lb (6.8 kg)
<b>Line cards that the N9K-C9508-FM-G fabric modules support</b>	—
– 48-port 10/25-Gigabit Ethernet SFP28 and 4-port 40/100-Gigabit Ethernet QSFP28 line card (N9K-X97160YC-EX)	12.75 lb (5.78 kg)
– 32-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9732C-EX)	12.13 lb (5.5 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9736C-EX)	14.77 lb (6.7 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9732C-FX)	15 lb (6.8 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9736C-FX)	14.38 lb (6.5 kg)

Component	Weight per Unit
– 48-port 1/100 BASE-T and 4-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9788TC-FX)	13.0 lb (5.9 kg)
– 16-port 400-Gigabit Ethernet QSFP-DD line card (N9K-X9716D-GX)	15.2 lb (6.8 kg)
<b>Line cards that the N9K-C9508-FM-R fabric modules support</b>	—
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9636C-RX)	15.9 lb (7.2 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9636C-R)	15.0 lb (6.8 kg)
– 36-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9636Q-R)	12.43 lb (5.64 kg)
– 16-port 1/10-Gigabit SFP, 32-port 10/25-Gigabit Ethernet SFP, and 4-port 40/100-Gigabit Ethernet QSFP line card (N9K-X96136YC-R)	12.78 lb (5.8 kg)
<b>Line cards that the N9K-C9508-FM-R2 fabric modules support</b>	—
– 24-port 400-Gigabit Ethernet QSFP-DD line card (N9K-X9624D-R2)	18.17 lb (8.24 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9636C-RX)	15.9 lb (7.2 kg)
– 36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9636C-R)	15.0 lb (6.8 kg)
– 36-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9636Q-R)	12.43 lb (5.64 kg)
– 16-port 1/10-Gigabit SFP, 32-port 10/25-Gigabit Ethernet SFP, and 4-port 40/100-Gigabit Ethernet QSFP line card (N9K-X96136YC-R)	12.78 lb (5.8 kg)
<b>-S line cards that the N9K-C9508-FM-S fabric modules support</b>	—
– 32-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9432C-S)	12.3 lb (5.58 kg)
<b>Fabric Modules</b>	—
– 40-Gigabit N9K-C9508-FM fabric module	9.59 lb (4.4 kg)
– 100-Gigabit N9K-C9508-FM-E fabric module	11.6 lb (5.28 kg)
– 100-Gigabit N9K-C9508-FM-E2 fabric module	10.94 lb (5.0 kg)
– 400-Gigabit N9K-C9508-FM-G fabric module	14.08 lb (6.39 kg)
– 100-Gigabit N9K-C9508-FM-R fabric module	9.59 lb (4.4 kg)
– 100-Gigabit N9K-C9508-FM-R2 fabric module	12.53 lb (5.68 kg)
– 100-Gigabit N9K-C9508-FM-S fabric module	10.8 lb (4.9 kg)
<b>Fan Trays</b>	—
– (N9K-C9508-FAN)	8.2 lb (3.72 kg)
– (N9K-C9508-FAN2)	10.8 lb (4.9 kg)

Component	Weight per Unit
<b>Power Supplies</b>	—
– 3-kW AC Power Supply (N9K-PAC-3000W-B)	6.2 lb (2.8 kg)
– 3-kW Universal AC/DC Power Supply (N9K-PUV-3000W-B)	5.9 lb (2.67 kg)
– 3.15-kW Dual Input Universal AC/DC Power Supply (N9K-PUV2-3000W-B)	5.9 lb (2.67 kg)
– 3-kW DC Power Supply (N9K-PDC-3000W-B)	6.4 lb (2.9 kg)

## Power Specifications

Power specifications include the specifications for each type of power supply module.

### Power Requirements for Switch Modules

Determine the number of power supplies required to operate all the modules in a switch by adding the maximum power amounts for each module in the switch. Then divide the sum by 3000 W. If there is a fractional amount in the result, add 1 to the result. For  $n+1$  redundancy, add one more power supply. For  $n+n$  redundancy, double the number of power supplies and provision for a second power source.

To determine the typical consumption, add the typical power amounts for each module in the switch.

Make sure that any new power supplies use the same type of power (AC or DC) as the rest of the power supplies in the switch. Do not use a mix of AC and DC power sources for a switch.

### Maximum Power Available to the Switch

The maximum power available for operations depends on the input power from your power source. Also, the number and output capabilities of your power supplies, and the power redundancy mode that you use. The following table lists the amount of power available for 3-kW power supplies depending on power inputs, numbers of power supplies, and the mode used.

**Table 1: Maximum Power Available for a Switch with 3-kW Power Supplies**

Power Inputs	Power Supplies	Combined Mode	$n+1$ Redundancy Mode	$n+n$ Redundancy Mode
1 input (220 V)	1	3000 W	—	—
	2	6000 W	3000 W	3000 W
	3	9000 W	6000 W	3000 W
	4	12,000 W	9000 W	6000 W
	5	15,000 W	12,000 W	6000 W
	6	18,000 W	15,000 W	9000 W
	7	21,000 W	18,000 W	9000 W
	8	24,000 W	21,000 W	12,000 W

The following power supply unit supports dual high-voltage AC/DC inputs and offers more flexibility to support input-source redundancy.

**Table 2: Maximum Power Available for a Switch with 3.15-kW Universal AC/DC Power Supplies**

Power Inputs	Power Supplies	Combined Mode	$n+1$ Redundancy Mode	$n+n$ Redundancy Mode
1 input (220 V)	1	3150 W	—	—
	2	6300 W	3150 W	3150 W
	3	9450 W	6300 W	3150 W
	4	12,600 W	9450 W	6300 W
	5	15,750 W	12,600 W	6300 W
	6	18,900 W	15,750 W	9450 W
	7	22,050 W	18,900 W	9450 W
	8	25,200 W	22,050 W	12,600 W

## Power Supply Specifications

The following subtopics list the specifications for each power supply that this switch supports.

### 3000-W AC Power Supply Specifications

Property	Specification
Power	3000 W
Input Voltage	200 to 240 VAC
Frequency	50 to 60 Hz
Efficiency	90% or greater (20 to 100% load)
Redundancy Modes	Combined, $n+1$ , and $n+n$
RoHS Compliance	Yes
Hot Swappable	Yes
Airflow Direction	Port-side intake airflow

### 3000-W Universal AC/DC Power Supply Specifications

Property	Specification
Power	3000 W
Input Voltage	200 to 277 VAC or 240 to 380 VDC or
Frequency	47 to 63 Hz
Efficiency	90% or greater (20 to 100% load)
Redundancy Modes	Combined, $n+1$ , and $n+n$
RoHS Compliance	Yes
Hot Swappable	Yes
Airflow Direction	Port-side intake airflow

### 3000-W Dual Input Universal AC/DC Power Supply Specifications

Property	Specification
Power	3150 W
Input Voltage	180 to 305 VAC or 192 to 400 VDC or
Frequency	50 to 60 Hz
Efficiency	90% or greater (20 to 100% load)

Property	Specification
Redundancy Modes	Combined, $n+1$ , and $n+n$
RoHS Compliance	Yes
Hot Swappable	Yes
Airflow Direction	Port-side intake airflow

### 3000-W DC Power Supply Specifications

Property	Specification
Power	3000 W
Input Voltage	-48 to -60 VDC
Frequency	-
Efficiency	90% or greater (20 to 100% load)
Redundancy Modes	Combined, $n+1$ , and $n+n$
RoHS Compliance	Yes
Hot Swappable	Yes
Airflow Direction	Port-side intake airflow

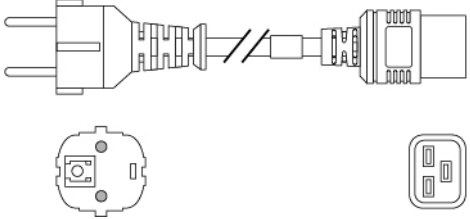
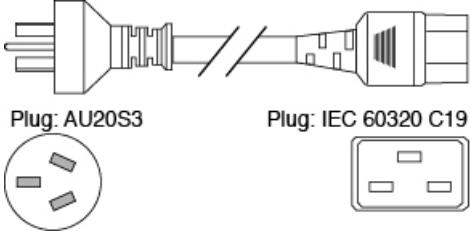
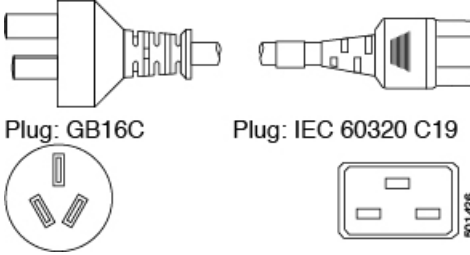
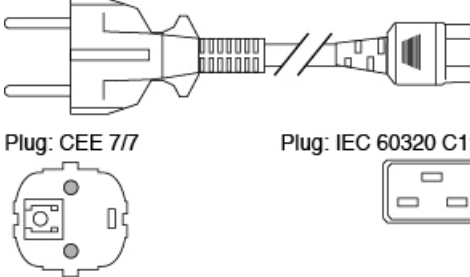
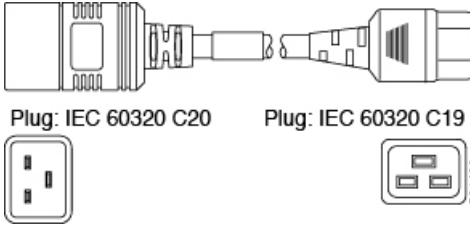
## Power Cable Specifications

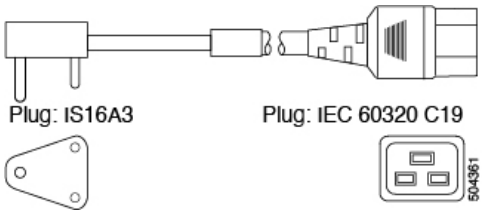
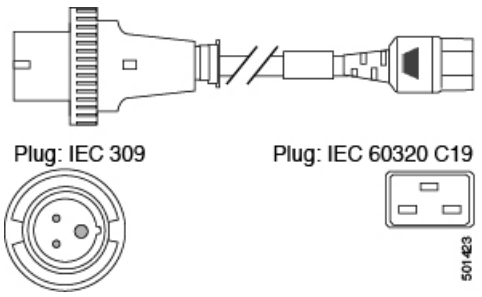
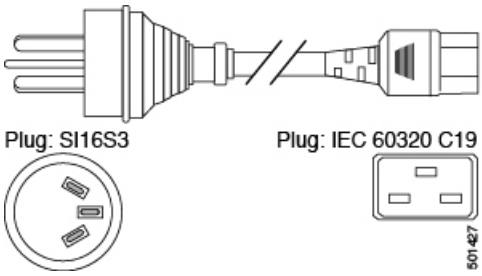
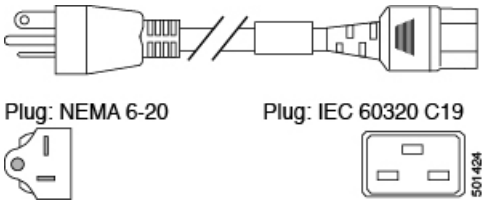
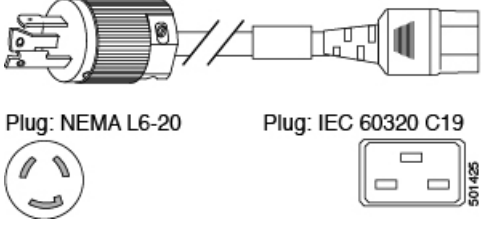
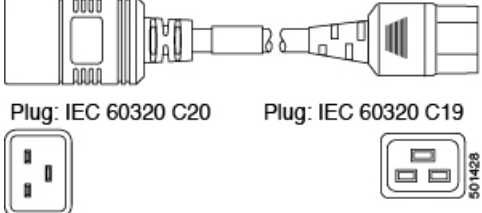
The following subtopics list the specifications for supported power cables.

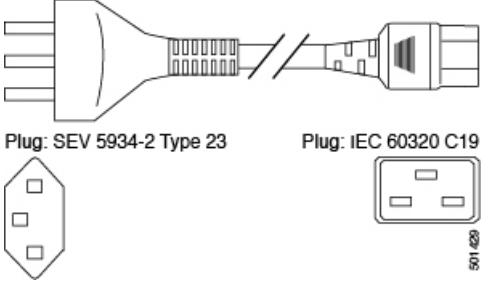
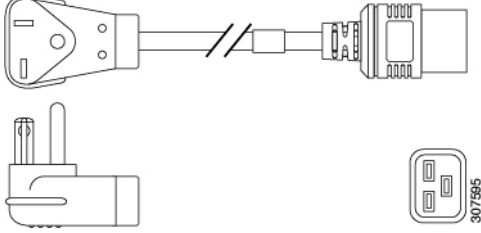
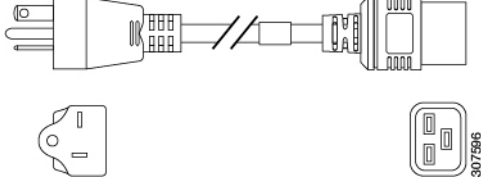
### 3-kW AC Power Cable Specifications

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
Argentina	CAB-9K16A-ARG	16 A, 250 VAC	
Brazil	CAB-9K16A-BRZ	16 A, 250 VAC	

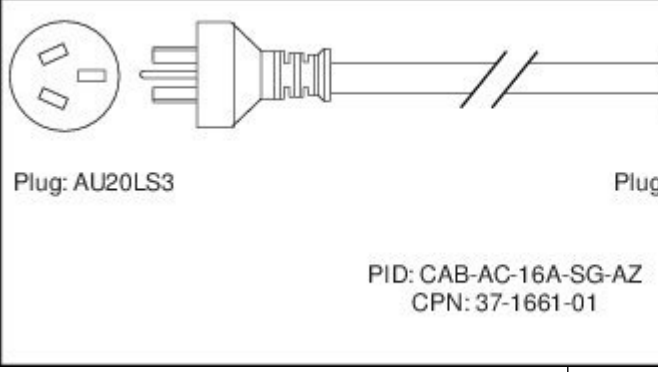


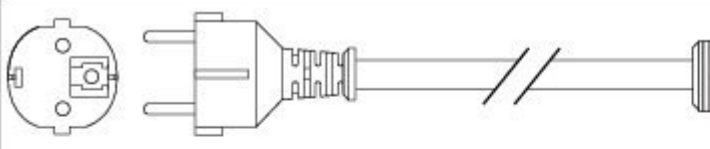

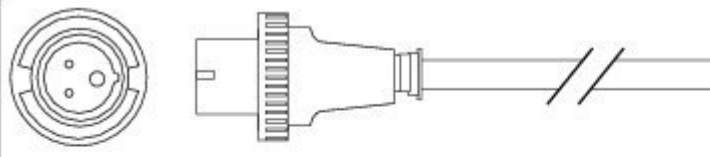
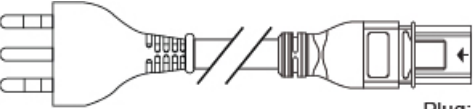
Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
Korea	CAB-9K16A-KOR	16 A, 250 VAC	 <p>307564</p>
South Africa	CAB-9K16A-SA	16 A, 250 VAC	TBD
Australia and New Zealand	CAB-AC-16A-AUS	16 A, 250 VAC	 <p>Plug: AU20S3      Plug: IEC 60320 C19</p> <p>501434</p>
Peoples Republic of China	CAB-AC-16A-CH	16 A, 250 VAC	 <p>Plug: GB16C      Plug: IEC 60320 C19</p> <p>501426</p>
Continental Europe	CAB-AC-2500W-EU	16 A, 250 VAC	 <p>Plug: CEE 7/7      Plug: IEC 60320 C19</p> <p>501422</p>
India	CAB-C19-C20-IND	16 A, 250 VAC	 <p>Plug: IEC 60320 C20      Plug: IEC 60320 C19</p> <p>501428</p>

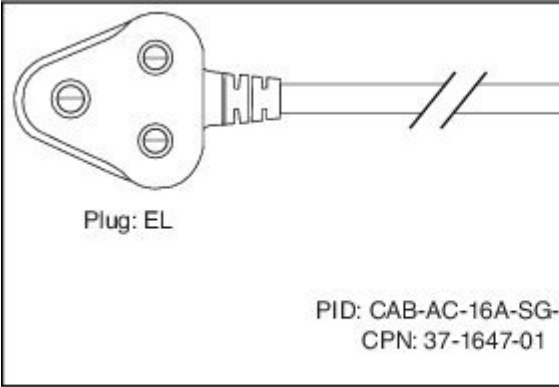
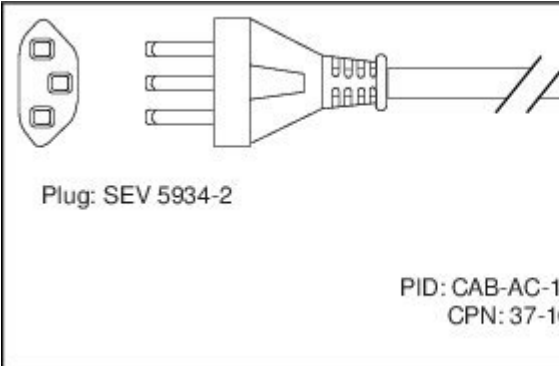

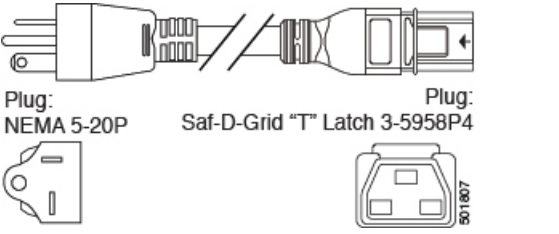
Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
India	PWR-CORD10-IND	16 A, 250 VAC	 <p>Plug: IS16A3      Plug: IEC 60320 C19</p> <p>5014361</p>
International	CAB-AC-2500W-INT	16 A, 250 VAC	 <p>Plug: IEC 309      Plug: IEC 60320 C19</p> <p>501423</p>
Israel	CAB-AC-2500W-ISRL	16 A, 250 VAC	 <p>Plug: SI16S3      Plug: IEC 60320 C19</p> <p>501427</p>
Japan and North America (nonlocking) 200-240 VAC operation	CAB-AC-2500W-US1	16 A, 250 VAC	 <p>Plug: NEMA 6-20      Plug: IEC 60320 C19</p> <p>501424</p>
Japan and North America (locking) 200-240 VAC operation	CAB-AC-C6K-TWLK	16 A, 250 VAC	 <p>Plug: NEMA L6-20      Plug: IEC 60320 C19</p> <p>501425</p>
Power distribution unit (PDU)	CAB-C19-CBN	16 A, 250 VAC	 <p>Plug: IEC 60320 C20      Plug: IEC 60320 C19</p> <p>501428</p>

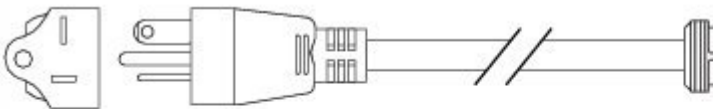
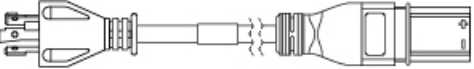

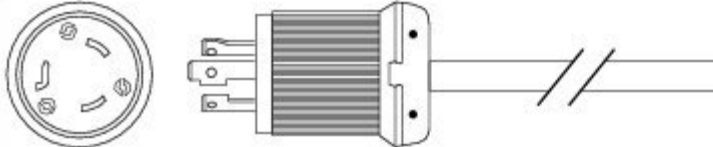
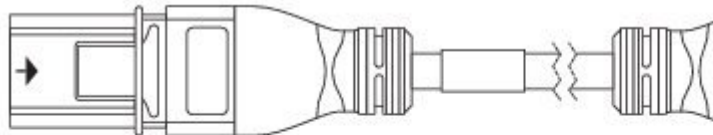

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
Switzerland	CAB-ACS-16	16 A, 250 VAC	 <p>Plug: SEV 5934-2 Type 23      Plug: IEC 60320 C19</p>
Taiwan	CAB-AC-C19-TW	16 A, 250 VAC (IEC 60320 C19 to EL 218)	
US	CAB-AC-STRT-C19US	16 A, 250 VAC (straight blade NEMA 6-20 plug)	
All except Argentina, Brazil, and Japan	NO-PWR-CORD	No power cord is included with order.	N.A.

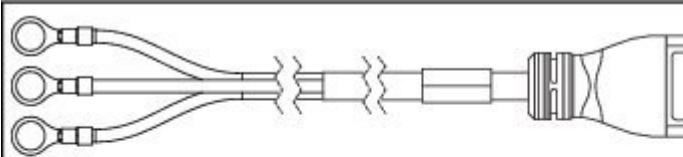


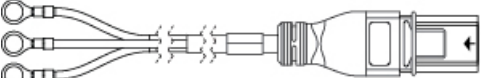

### 3-kW Universal AC/DC and 3-kW Dual Input Universal AC/DC Power Cable Specifications

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
Australia and New Zealand	CAB-AC-16A-SG-AZ	16 A, 250 VAC (AU20LS3/Saf-D-Grid)	 <p>Plug: AU20LS3      Plug: S</p> <p>PID: CAB-AC-16A-SG-AZ CPN: 37-1661-01</p>

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
	CAB-AC-16A-SG-EU	16A, 250 VAC	 <p>Plug: CEE 7-7</p> <p>Plug: Saf-D-Grid "T" Latch 3-5958P4</p> <p>PID: CAB-AC-16A-SG-EU CPN: 37-1660-01</p>
Israel	CAB-AC-16A-SG-IS	16 A, 250 VAC	 <p>Plug: SI 16S3</p> <p>Plug: Saf-D-Grid "T" Latch 3-5958P4</p> <p>PID: CAB-AC-16A-SG-IS CPN: 37-1658-01</p>
International/UK	CAB-AC-16A-SG-IN	16 A, 250 VAC	 <p>Plug: IEC60309</p> <p>Plug: Saf-D-Grid "T" Latch 3-5958P4</p> <p>PID: CAB-AC-16A-SG-IN CPN: 37-1659-01</p>
Italy	CAB-AC-16A-SG-IT	16 A, 250 VAC	 <p>Plug: CEI 23-50</p> <p>Plug: Saf-D-Grid "T" Latch 3-5958P4</p> <p>PID: CAB-AC-16A-SG-IT CPN: 37-1657-01</p>

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
South Africa	CAB-AC-16A-SG-SA	16 A, 250 VAC	 <p>Plug: EL</p> <p>Plug: Saf-D</p> <p>PID: CAB-AC-16A-SG-SA CPN: 37-1647-01</p>
Switzerland	CAB-AC-16A-SG-SW	16 A, 250 VAC	 <p>Plug: SEV 5934-2</p> <p>Plug:</p> <p>PID: CAB-AC-16A-SG-SW CPN: 37-1654-01</p>
North America	CAB-AC-20A-SG-C20	250 VAC 20 A	 <p>Plug: IEC C20</p> <p>Plug: Saf-D-Grid "T" Latch 3-5958P4</p> <p>501430</p>
North America	CAB-AC-20A-SG-US	16 A, 250 VAC	 <p>Plug: NEMA 5-20P</p> <p>Saf-D-Grid "T" Latch 3-5958P4</p> <p>Plug:</p> <p>501607</p>

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
North America (non locking) 200-240 VAC operation	CAB-AC-20A-SG-US2	250 VAC 20 A	 <p data-bbox="938 468 1122 495">Plug: NEMA 6-20</p> <p data-bbox="1539 468 1620 495">Plug: Saf-D-Grid</p> <p data-bbox="1279 558 1576 611">PID: CAB-AC-20A-SG-US2 CPN: 37-1657-01</p>
North America	CAB-AC-20A-SG-US3	250 VAC 20 A	 <p data-bbox="954 779 1317 804">250 VAC 20A, twist lock, NEMA L6-20/Saf-D-Grid</p> 
North America 277 VAC operation	CAB-AC-20A-SG-US4	277 VAC 20 A	 <p data-bbox="954 1087 1170 1115">Plug: NEMA L7-20P</p> <p data-bbox="1593 1087 1620 1115">Plug: Saf-D-Grid</p> <p data-bbox="1317 1178 1609 1230">PID: CAB-AC-20A-SG-US4 CPN: 37-1645-1</p>
International, Saf-D-Grid/Saf-D-Grid	CAB-HV-25A-SG-IN1	400 VAC 20 A	 <p data-bbox="922 1482 1349 1509">Plug: Saf-D-Grid "T" Latch 3-5958P4</p> <p data-bbox="1490 1482 1620 1509">Plug: Saf-D-Grid</p>  <p data-bbox="1287 1640 1601 1692">PID: CAB-HV-25A-SG-IN1 CPN: 37-1642-01</p>

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
International, Ring Terminal source plug, Ring Terminal/Saf-D-Grid	CAB-HV-25A-SG-IN2	20A, 300 VAC/500 VDC	 <p data-bbox="943 478 1622 514">Plug: 3/8-inch Ring Terminals      Plug: Saf-D-Grid "T" Latch</p> <p data-bbox="1214 569 1533 632">PID: CAB-HV-25A-SG-IN2 CPN: 37-1640-01</p>
North America	CAB-HV-25A-SG-US1	277 VAC/ 240 VDC/ 380 VDC 25 A	 <p data-bbox="943 751 1421 800">Plug: Saf-D-Grid "T" Latch 3-5958P4      Plug: Saf-D-Grid "T" Latch 3-5958P4</p> 
North America	CAB-HV-25A-SG-US2	277 VAC/ 240 VDC/ 380 VDC 25 A	 <p data-bbox="943 974 1421 1022">Plug: 3/8-inch Ring Terminals      Plug: Saf-D-Grid "T" Latch 3-5958P4</p> 
All except Argentina, Brazil, and Japan	NO-PWR-CORD	No power cord included with order	N.A.

### 3-kW DC Power Supply Power Cord Specifications

Each 3-kW DC power supply requires four customer-supplied power cables (two negative cables and two positive cables). We recommend using six gauge cables. Cisco supplies 6-gauge lugs for connections to the power supply. You supply the connectors that are required to connect the cables to the DC power source.

