System Specifications

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	Ambient (noncondensing)	5 to 95%
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)

Chassis or Module	Width	Depth	Height
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)
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 and Quantities for the Chassis, Modules, Fan Trays, and Power Supplies

Component	Weight per Unit	Quantity
Cisco Nexus 9508 Chassis (N9K-C9508)	150.0 lb (68.2 kg)	1

Component		Weight per Unit	Quantity
Supervisor Modules		—	1 or 2
–	Supervisor A module (N9K-SUP-A)	4.8 lb (2.2 kg)	
–	Supervisor B module (N9K-SUP-B)	6.0 lb (2.7 kg)	
System Controller Module (N9K-SC-A)		1.9 lb (0.9 kg)	2
Line cards supported by N9K-C9508-FM fabric modules		—	1 to 8
–	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)	
Line cards supported by N9K-C9508-FM-E fabric modules		—	1 to 8
–	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)	11.2 lb (5.08 kg)	
–	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)	

Component		Weight per Unit	Quantity
Line cards supported by N9K-C9508-FM-R fabric modules		—	1 to 8
–	36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9636C-R)	11.48 lb (5.2 kg)	
–	36-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9636Q-R)	14.0 lb (6.35 kg)	
-S line cards supported by N9K-C9508-FM-S fabric modules		—	1 to 8
–	32-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9432C-S)	12.3 lb (5.58 kg)	
Fabric Modules		—	—
–	40-Gigabit N9K-C9508-FM fabric module - Supporting N9K-X94xx line cards - Supporting N9K-X95xx line cards - Supporting N9K-X96xx line cards	9.59 lb (4.4 kg)	— 6 3 4
–	100-Gigabit N9K-C9508-FM-E fabric module supporting -EX line cards	11.6 lb (5.28 kg)	4
–	100-Gigabit N9K-C9508-FM-R fabric module supporting -R line cards	9.59 lb (4.4 kg)	5+1
–	100-Gigabit N9K-C9508-FM-S fabric module supporting -S line cards	10.8 lb (4.9 kg)	4
Fan Trays (N9K-C9508-FAN)		8.3 lb (3.7 kg)	3
Power Supplies		—	1 to 8
–	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-kW DC Power Supply (N9K-PDC-3000W-B)	6.4 lb (2.9 kg)	

Power Specifications

Power specifications include power requirements for the switch modules, maximum power available for the switch, power supply specifications, and power cable specifications.

Power Requirements for Switch Modules

To determine the number of power supplies required to operate all the modules in a switch, add together the maximum power amounts for each module in the switch, divide the sum by 3000 W, and 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 together the typical power amounts for each module in the switch.

If you order new power supplies, make sure that the new power supplies use the same type of power (AC or DC) as the rest of the power supplies in the same switch. Do not use a mix of AC and DC power sources for a switch.

Component		Quantity	Typical	Maximum
Supervisor modules		1 or 2	—	—
–	Supervisor A (N9K-SUP-A)		69 W	80 W
–	Supervisor B (N9K-SUP-B) (required for -R line cards)		75 W	90 W
System controller modules (N9K-SC-A)		2	13 W	25 W
Line cards supported by N9K-C9508-FM fabric modules		1 to 8	—	—
–	8-port 100-Gigabit Ethernet CFP2 line card (N9K-X9408PC-CFP2)		310 W	432 W
–	32-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9432PQ)		240 W	300 W
–	36-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9636PQ)		260 W	400 W
–	36-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9536PQ)		360 W	400 W
–	48-port 1/10-Gigabit Ethernet SFP+ and 4-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9464PX)		160W	240 W
–	48-port 1/10GBASE-T and 4-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9464TX)		300 W	360 W
–	48-port 1/10GBASE-T and 4-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9464TX2)		288 W	350 W
–	48-port 1/10-Gigabit Ethernet SFP+ and 4-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9564PX)		300 W	400 W
–	48-port 1/10GBASE-T and 4-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9564TX)		450 W	540 W

Component		Quantity	Typical	Maximum
Line cards supported by N9K-C9508-FM-E fabric modules		1 to 8	—	—
–	32-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9732C-EX)		430 W	656 W
–	36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9736C-EX)		632 W	673 W
–	48-port 10/25-Gigabit Ethernet SFP28 and 4-port 40/100-Gigabit Ethernet QSFP28 line card (N9K-X97160YC-EX)		415 W	540 W
Line cards supported by N9K-C9508-FM-R fabric modules		1 to 8	—	—
–	36-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9636C-R)		650 W	902 W
–	36-port 40-Gigabit Ethernet QSFP+ line card (N9K-X9636Q-R)		329 W	456 W
Line cards supported by N9K-C9508-FM-S fabric modules		1 to 8	—	—
–	32-port 100-Gigabit Ethernet QSFP28 line card (N9K-X9432C-S)		440 W	594 W
Fabric modules		—	—	—
–	40-Gigabit N9K-C9508-FM fabric modules - Supporting N9K-X95xx line cards - Supporting N9K-X94xx line cards	— 3 4	176 W	251 W
–	100-Gigabit N9K-C9508-FM-E fabric modules supporting -EX line cards	4	455 W	650 W
–	100-Gigabit N9K-C9508-FM-R fabric modules supporting -R line cards	5+1	240 W	250 W
–	100-Gigabit N9K-C9508-FM-S fabric modules supporting -S line cards	4	340 W	450 W
Fan trays (N9K-C9508-FAN)		3	176 W	250 W

Maximum Power Available to the Switch

The maximum power available for operations depends on the input power from your power source, 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	12000 W	9000 W	6000 W
	5	15000 W	12000 W	6000 W
	6	18000 W	15000 W	9000 W
	7	21000 W	18000 W	9000 W
	8	24000 W	21000 W	12000 W

Power Supply Specifications

The subtopics that follow list the specifications for each power supply that is supported by this switch.

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

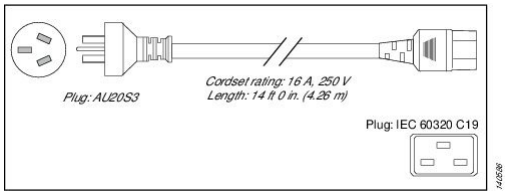
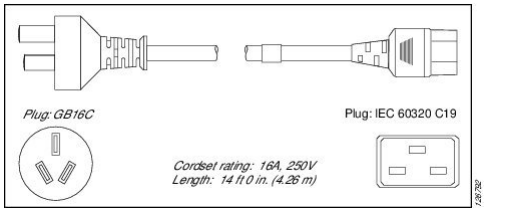
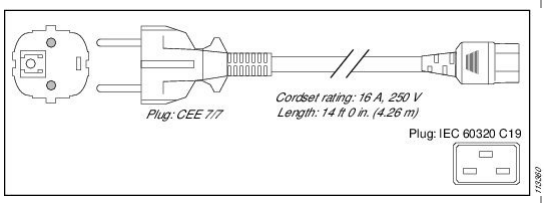
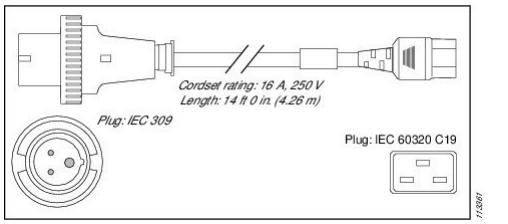
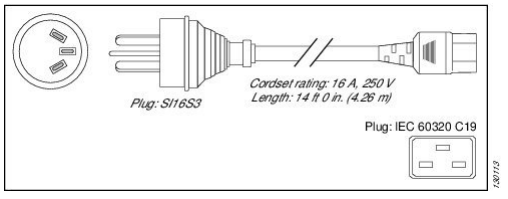
3000-W DC Power Supply Specifications

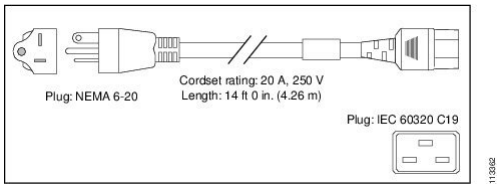
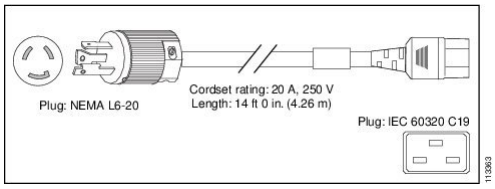
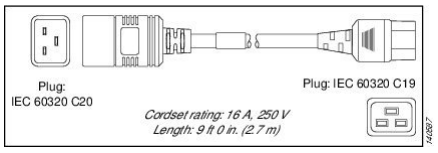
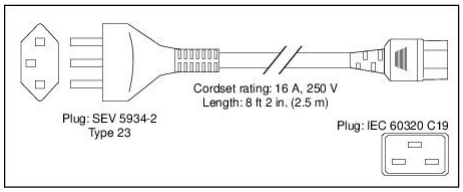
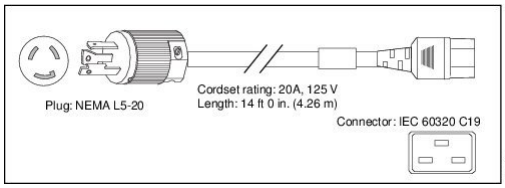
Property	Specification
Power	3000 W
Input Voltage	Minimum to Maximum: -40 to -70 VDC Nominal: -48 to -60 VDC
Frequency	-
Efficiency	90% or greater (20 to 100% load)
Redundancy Modes	Combined, *n*+1, and *n*+*n*
RoHS Compliance	Yes
Hot Swappable	Yes
Airflow Direction	Port-side intake airflow

Power Cable Specifications

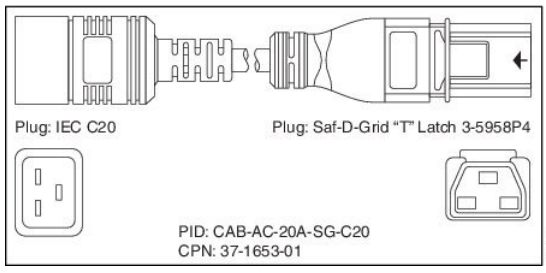
The subtopics that follow list the specifications for supported power cables.

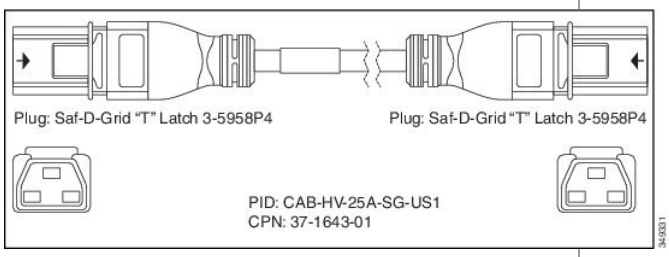
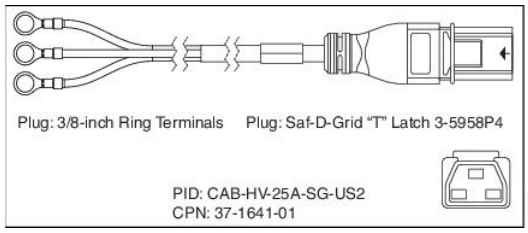
3-kW AC Power Supply Power Cord Specifications

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
Australia and New Zealand	CAB-AC-16A-AUS	16 A, 250 VAC	
Peoples Republic of China	CAB-AC-16A-CH	16 A, 250 VAC	
Continental Europe	CAB-AC-2500W-EU	16 A, 250 VAC	
International	CAB-AC-2500W-INT	16 A, 250 VAC	
Israel	CAB-AC-2500W-ISRL	16 A, 250 VAC	

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
Japan and North America (non locking) 200-240 VAC operation	CAB-AC-2500W-US1	16 A, 250 VAC	
Japan and North America (locking) 200-240 VAC operation	CAB-AC-C6K-TWLK	16 A, 250 VAC	
Power distribution unit (PDU)	CAB-C19-CBN	16 A, 250 VAC	
Switzerland	CAB-ACS-16	16 A, 250 VAC	
North America	CAB-L520P-C19-US	NEMA L5-20 to IEC-C19 6 feet (1.8 m)	

3-kW Universal AC/DC Power Supply Cables

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
North America	CAB-AC-20A-SG-C20	250 VAC 20 A	

Locale	Power Cord Part Number	Cord Set Rating	Power Cord Illustration
North America	CAB-HV-25A-SG-US1	277 VAC/ 240 VDC/ 380 VDC 25 A	
North America	CAB-HV-25A-SG-US2	277 VAC/ 240 VDC/ 380 VDC 25 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 6 gauge cables. Cisco supplies 6-gauge lugs for connections to the power supply. The customer must supply the connectors required to connect the cables to the DC power source.

Transceivers, Connectors, and Cables

Transceiver and Cable Specifications

To determine which transceivers, adapters, and cables are supported by this switch, see https://www.cisco.com/c/en/us/support/interfaces-modules/transceiver-modules/products-device-support-tables-list.html.

To see the transceiver specifications and installation information, see https://www.cisco.com/c/en/us/support/interfaces-modules/transceiver-modules/products-device-support-tables-list.html.

RJ-45 Connectors

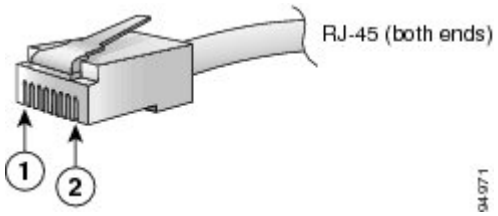
The RJ-45 connector connects Category 3, Category 5, Category 5e, Category 6, or Category 6A foil twisted-pair or unshielded twisted-pair cable from the external network to the following module interface connectors:

- Switch chassis
  - CONSOLE port
  - MGMT ETH port

Caution To comply with GR-1089 intrabuilding, lightning immunity requirements, you must use a foil twisted-pair (FTP) cable that is properly grounded at both ends.

The following figure shows the RJ-45 connector.

Figure 1: RJ-45 Connector



1	Pin 1	2	Pin 2