Technical Specifications

C9606R Switch Chassis Specifications

Table 1: Physical Specifications of the Chassis

Item	Specification
Dimensions (H x W x D)	13.95 X 17.4 X 16.1 inches (35.43 x 44.2 x 40.9 cms)
Rack units (RU[1])	8 RU
Weight (Chassis with two AC power supplies and fan tray)	63.0 lb (31.31 kg)

[1] The chassis height is measured in rack units (RU or just U), where 1 RU or 1 U equals 1.75 in (44.45 mm).

Table 2: Environmental Specifications of the Chassis

Item	Specification
Ambient temperature and altitude for normal operations[2]	• 23° to 113°F (-5 to +45ºC), up to 6,000 feet (1800 m) • 23° to 104°F (-5 to +40ºC), up to 10,000 feet (3000 m)
Ambient temperature and altitude for short-term[3] exceptional conditions	• 23°F to 122°F (-5ºC to +50ºC), up to 6,000 feet (1800 m) • 23°F to 122°F (-5ºC to +45ºC), up to 10,000 feet (3000 m)
Nonoperating and storage temperature	-40° to 167°F (-40° to 75°C)

Item	Specification		
Thermal transition	Hot to cold—at a maximum rate of 86°F (30°C) per hour Cold to hot—at maximum rate of 204.8°F (96°C) per hour		
Humidity (RH), ambient (noncondensing)	Operating, nonoperating and storage —10 to 95 percent		
Altitude (operating and nonoperating)	-60 to 3000m (-197 to 9843 feet)		
Sound power level (LwAD)	LwAD—74.7 dBA This is with four power supply modules installed and delivering 50 percent of rated output power; measured according to International Organization for Standardization (ISO) 7779 and declared according to ISO 9296.		
Airflow	Chassis—Right to left (when facing the front of the chassis) Power supply—Front to back (forward air flow)		
Shock	Operating—5G 11ms (Half-sine) Nonoperating and storage— 15G 11ms (Half-sine)		
Sine Vibration	• Operating— 0.15G (10Hz-500Hz) • Nonoperating and storage— 0.8G (10Hz-500Hz)		
Random Vibration (Operating)	**Spectral Break Point Frequencies**	**Acceleration Spectral Density**	**Slope**
	2.5 – 5 Hz	-	6 db /octave
	5 – 100 Hz	0.1 $[(m/s^2)^2]/Hz$ (0.001 g^2/Hz)	-
	100 – 200 Hz	-	-24 db /octave

Item	Specification		
Random Vibration (Nonoperating and Storage)	**Spectral Break Point Frequencies**	**Acceleration Spectral Density**	**Slope**
	2.5 – 5 Hz	-	6 db /octave
	5 – 100 Hz	1.0 $[(m/s^2)^2]/Hz$* (0.01 g^2/Hz)	-
	100 – 200 Hz	-	-24 db /octave

[2] Minimum ambient temperature for cold startup is 0ºC
[3] Short-term exceptional conditions are for no longer than a one-year period of—96 consecutive hours, or 360 hours total, or 15 occurrences.

Power Supply Specifications

2000W AC-Input Power Supply Specifications

The following table lists specifications for the 2000W AC input power supply:

Table 3: 2000W AC-Input Power Supply Specifications

Specification	Description
AC-input type	Wide-ranging input with power factor correction. **Note** Power factor correction is a standard feature on AC-input power supplies. Power factor correction reduces the reactive component in the source AC current, allowing higher power factors and lower harmonic current components.
AC-input voltage	Low-line (115 VAC nominal)—90VAC (min) to 140VAC (max) High-line (230 VAC nominal)—180VAC (min) to 264VAC (max)
AC-input current	10.5A at 115VAC (1050W output) 7.8A at 230 VAC (2000W output)
AC-input frequency	50/60Hz nominal (47 to 63Hz full range)

Specification	Description

Branch circuit requirement	Each chassis power supply should have its own dedicated, fused-branch circuit:
	• North America—15 A.
	• International—Circuits sized to local and national codes.
	• All AC power supply inputs are fully isolated.
	  • Source AC can be out of phase between multiple power supplies in the same chassis, which means that PS1 can be operating from phase A and PS2 can be operating from phase B.
	  • For high-line operation, the power supply operates with the line conductor wired to a source AC phase, and the Neutral conductor wired either to a Neutral, single-phase power system, or to another source AC phase as long as the net input voltage is in the range of 180 to 264 VAC.

Power supply output	• 100 to 120 VAC operation
	  • 12V output — 1050W
	• 200 to 240 VAC operation
	  • 12V output — 2000W

Output holdup time	20 ms minimum with 1200W output
kVA rating[4]	2250W maximum (total output power)
Heat dissipation (in British Thermal Units (BTU))	683 BTU per hour
Weight	2.65 lb (1.2 kg)

[4] The kVA rating listed for the power supply should be used as the sizing criteria for both UPS outputs as well as standard circuits and transformers to power a switch

2000WAC Power Supply AC Power Cords

The following table lists the specifications for the AC power cords that are available for the 2000W AC-input power supply. The table also includes references to power cord illustrations.

Note All 2000W power supply power cord:

- Lengths range from 9.84 – 14 feet (3.0 – 4.293 meters); with most cord lengths between 13 and 14 feet (4.013 and 4.293 meters)
- Have an IEC60320/C15 appliance connector at one end.

Figure 1: IEC60320/C15 Appliance Connector

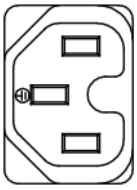
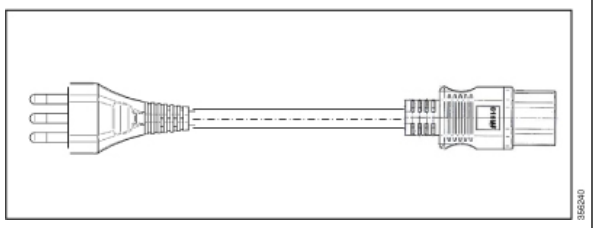
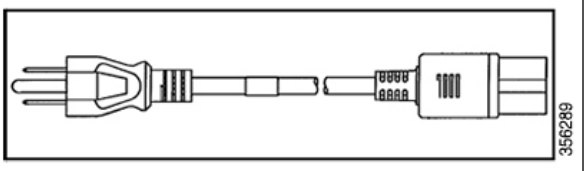
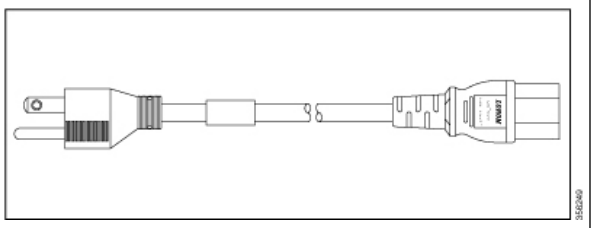
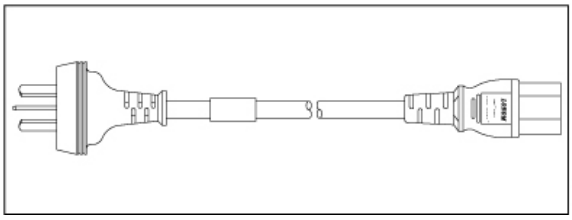
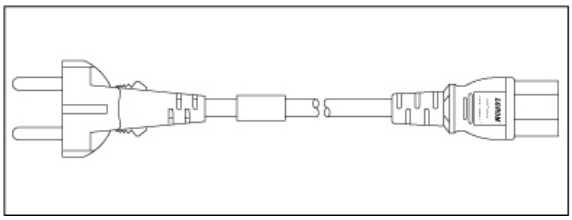
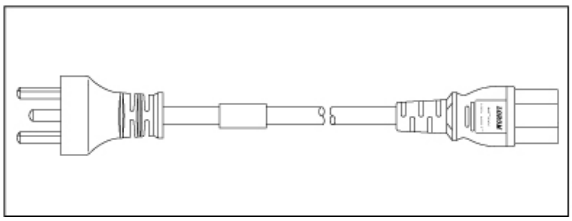
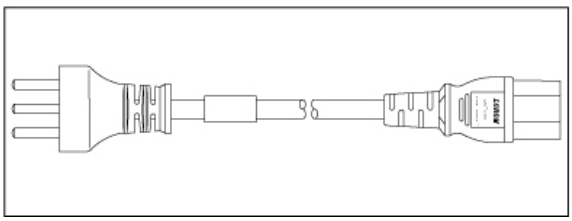
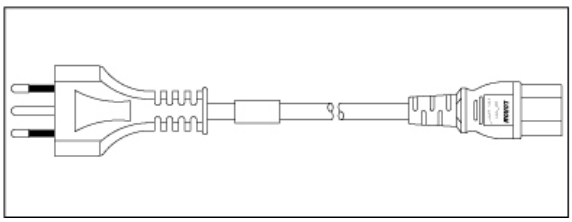
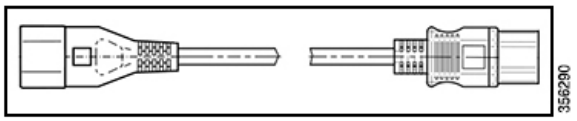
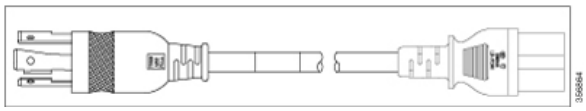
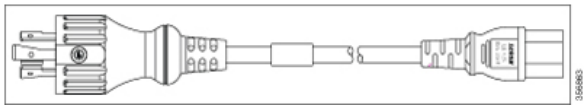
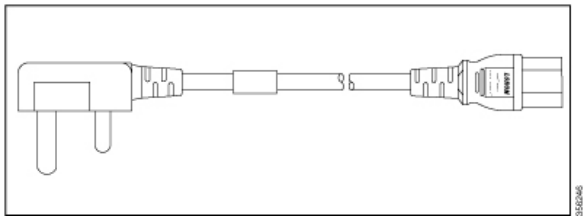
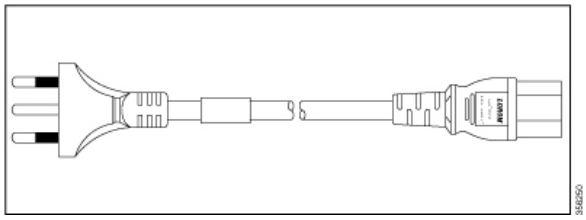
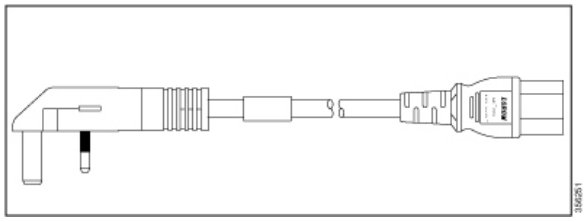
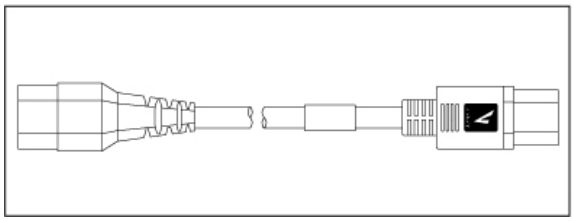


Table 4: 2000 W Power Supply AC Power Cords

Locale	Part Number	Cordset Rating	Length	AC Source Plug Type
Brazil	CAB-ACBZ-12A	125 VAC, 12 A	2.5 meter (m)	***Figure 2: CAB-ACBZ-12A= (Brazil)*** 
Japan	CAB-TA-JP	125 VAC, 12 A	2.5 m	***Figure 3: CAB-TA-JP= (Japan)*** 
North America	CAB-TA-NA	125 VAC, 12 A	2.5 m	***Figure 4: CAB-TA-NA= (North America)*** 

Locale	Part Number	Cordset Rating	Length	AC Source Plug Type
China	CAB-TA-CN	250 VAC, 10 A	2.5 m	*Figure 5: CAB-TA-CN= (China)* 
Continental Europe	CAB-TA-EU	250 VAC, 10 A	2.5 m	*Figure 6: CAB-TA-EU= (Continental Europe)* 
Denmark	CAB-TA-DN	250 VAC, 10 A	2.5 m	*Figure 7: CAB-TA-DN= (Denmark)* 
Israel	CAB-TA-IS	250 VAC, 16 A	2.5 m	*Figure 8: CAB-TA-IS= (Israel)* 
Italy	CAB-TA-IT	250 VAC, 10 A	2.5 m	*Figure 9: CAB-TA-IT= (Italy)* 

Locale	Part Number	Cordset Rating	Length	AC Source Plug Type
Japan	CAB-C15-CBN-JP	250 VAC, 12 A	3.05 m	*Figure 10: CAB-C15-CBN-JP=(Japan)* 
Japan	CAB-TA-250V-JP	250 VAC, 15 A	2.5 m	*Figure 11: CAB-TA-250V-JP= (Japan)* 
North America	CAB-AC-2KW-CBL	250 VAC, 13 A	4.25 m	*Figure 12: CAB-AC-2KW-CBL= (North America)* 
India	CAB-TA-IN	250 VAC, 10 A	2.5 m	*Figure 13: CAB-TA-IN= (India)* 
Switzerland	CAB-TA-SW	250 VAC, 10 A	2.5 m	*Figure 14: CAB-TA-SW= (Switzerland)* 
United Kingdom	CAB-TA-UK	250 VAC, 10 A	2.5 m	*Figure 15: CAB-TA-UK= (United Kingdom)* 

Locale	Part Number	Cordset Rating	Length	AC Source Plug Type
All countries except Japan	CAB-C15-CBN	250 VAC, 13 A	1.22 m	*Figure 16: CAB-C15-CBN=* 

2000W DC-Input Power Supply Specifications

The following table lists specifications for the 2000W DC input power supply:

Table 5: 2000W DC-Input Power Supply Specifications

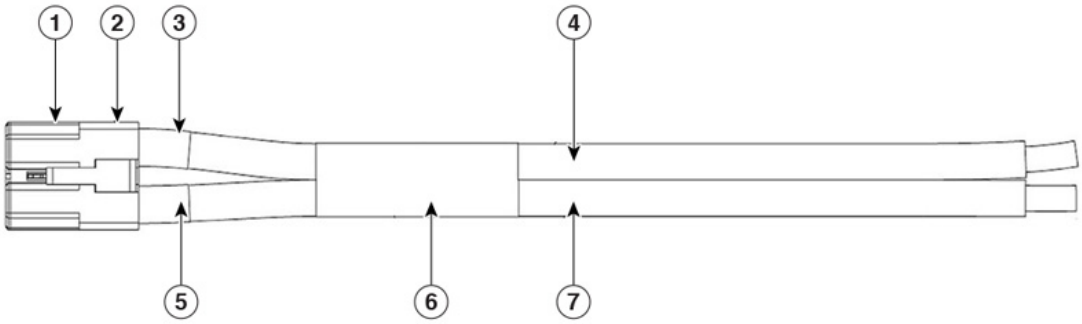
Specification	Description
DC-input voltage	-40 to -72VDC, with extended range to -75VDC
DC-input current	Maximum: 60A per DC input at -40VDC input
Power supply output capacity	For 12VDC output—2000W
Output holdup time	5ms with 1200W output
Temperature	• Steady State Operating: -5°C to 45°C • Non-operating: -40°C to +70°C
Humidity	• Operating: 5 to 90 percent, non-condensing • Non-operating: 5 to 95 percent, non-condensing
Altitude	• Operating: -500 to 10,000 feet over allowable temperature range (-5 to +45°C) and full load, de-rating 1.4°C per 1000 feet above 6,000 feet **Note** The operating altitude in China is 6,561.6 ft. (2000 m) maximum • Non-operating: -1,000 to 50,000 feet over allowable temperature range
Heat dissipation (in British Thermal Units (BTU))	932 BTU per hour (maximum)
Weight	2.82 lb (1.28 kg)

2000W DC Power Supply DC Power Cords

All 2000W DC power supply cords:

- Lengths range from 9.84 to 14 feet (3.0 to 4.293 meters); with most cord lengths between 13 and 14 feet (4.013 and 4.293 meters)

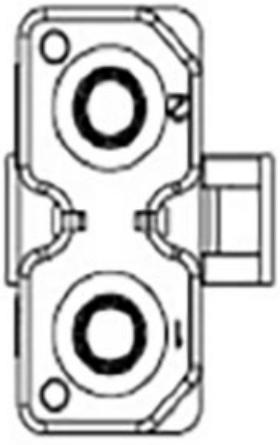
Figure 17: 2000W DC Power Supply Cord



1	Appliance connector (C10-638974-000)	5	6 AWG ultra flex cable or equivalent (red in color)
2	Plug housing (C10-638978)	6	Label
3	Socket contact	7	2x shrink wrap
4	6 AWG ultra flex cable or equivalent (black in color)	-	-

- Have an C10-638974-000 appliance connector at one end.

Figure 18: C10-638974-000 Appliance Connector



3000W AC-Input Power Supply Specifications

The following table lists specifications for the 3000W AC input power supply:

Table 6: 3000W AC-Input Power Supply Specifications

Specification	Description
AC-input type	Wide-ranging input with power factor correction. **Note** Power factor correction is a standard feature on AC-input power supplies. Power factor correction reduces the reactive component in the source AC current, allowing higher power factors and lower harmonic current components.
AC-input voltage	Low-line (115 VAC nominal)—90VAC (min) to 140VAC (max) High-line (230 VAC nominal)—180VAC (min) to 264VAC (max)
AC-input current	17.6A at 100VAC (1500W output) 17.6A at 200 VAC (3000W output)
AC-input frequency	50/60Hz nominal (47 to 63Hz full range)

Branch circuit requirement	Each chassis power supply should have its own dedicated, fused-branch circuit:
	• North America—20 A.
	• International—Circuits sized to local and national codes.
	• All AC power supply inputs are fully isolated.
	  • Source AC can be out of phase between multiple power supplies in the same chassis, which means that PS1 can be operating from phase A and PS2 can be operating from phase B.
	  • For high-line operation, the power supply operates with the line conductor wired to a source AC phase, and the Neutral conductor wired either to a Neutral, single-phase power system, or to another source AC phase as long as the net input voltage is in the range of 180 to 264 VAC.

Power supply output	• 90 to 140 VAC operation
	  • 12V output—1500W
	• 180 to 264 VAC operation
	  • 12V output—3000W

Output holdup time	20 ms minimum with 1800W output at high line input
kVA rating[5]	3000W maximum (total output power)

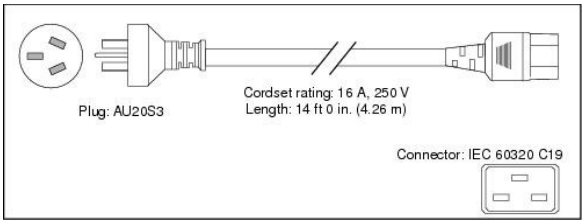
Specification	Description
Heat dissipation (in British Thermal Units (BTU))	683 BTU per hour
Weight	2.98 lb (1.35 kg)

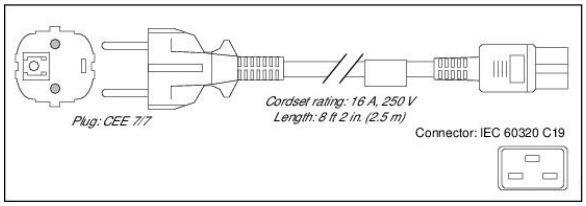
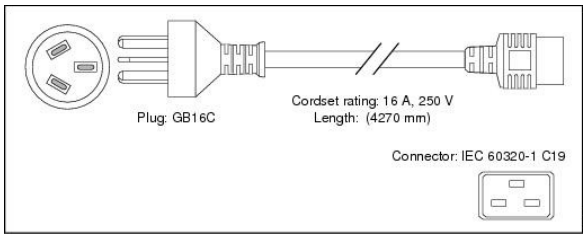
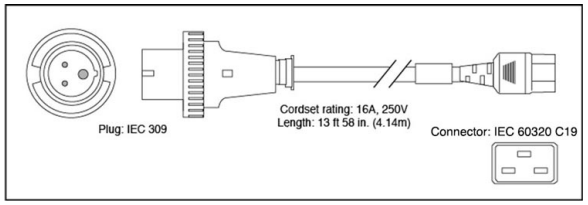
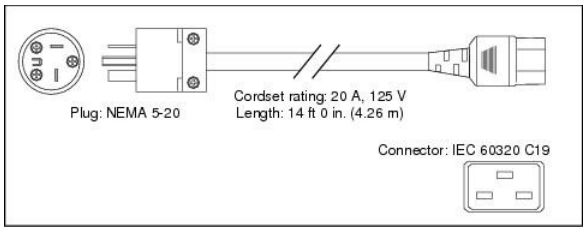
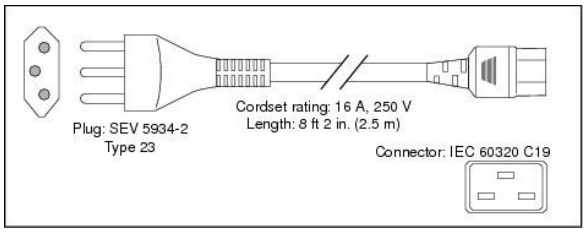
[5] The kVA rating listed for the power supply should be used as the sizing criteria for both UPS outputs as well as standard circuits and transformers to power a switch

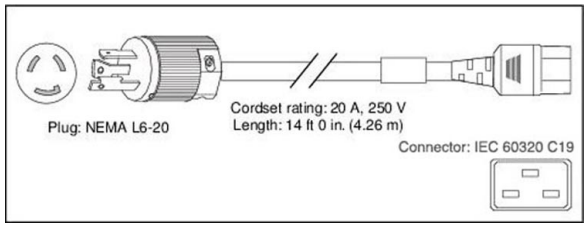
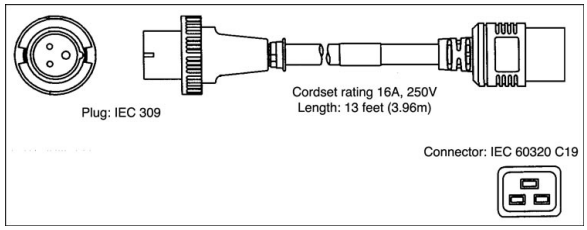
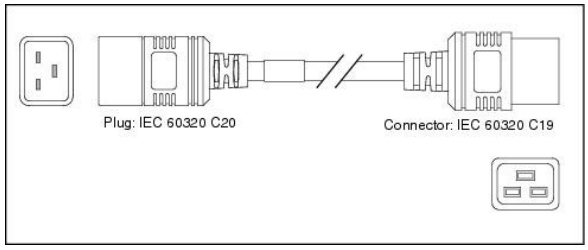
3000W AC Power Supply AC Power Cords

The following table lists the specifications for the AC power cords that are available for the 3000W AC-input power supply. The table also includes references to power cord illustrations.

Table 7: 3000 W Power Supply AC Power Cords

Locale	Part Number	Cordset Rating	Length	AC Source Plug Type
Australia	CAB-9K16A-AUS	250 VAC,16 A	4.26 m	***Figure 19: CAB-9K16A-AUS= (Australia)*** 

Locale	Part Number	Cordset Rating	Length	AC Source Plug Type
Continental Europe	CAB-9K16A-EU	250 VAC, 16 A	2.5 m	***Figure 20: CAB-9K16A-EU= (Continental Europe)*** 
China	CAB-9k16A-CH	250 VAC, 16 A	4.27 m	***Figure 21: CAB-9k16A-CH= (China)*** 
International	CAB-9K16A-INT	250 VAC, 16 A	4.14 m	***Figure 22: CAB-9K16A-INT= (International)*** 
North America and Japan	CAB-9K20A-NA	125 VAC, 20 A,	4.26 m	***Figure 23: CAB-9K20A-NA= (North America and Japan)*** 
Switzerland	CAB-9K16A-SW	250 VAC, 16 A	2.5 m	***Figure 24: CAB-9K16A-SW= (Switzerland)*** 

Locale	Part Number	Cordset Rating	Length	AC Source Plug Type
US and Japan	CAB-9K16A-US2	250 VAC, 16 A	4.26 m	*Figure 25: CAB-9K16A-US2= (US/Japan)* 
International	CAB-I309-C19-INTL	250 VAC, 16 A	3.96 m	*Figure 26: CAB-I309-C19-INTL= (International* 
Cabinet Jumper Power Cord	CAB-C19-CBN	250 VAC, 16 A	2.74 m	*Figure 27: CAB-C19-CBN=(Cabinet Jumper Power Cord)* 

Chassis and Module Power and Heat Values

The following tables provide the power and heat dissipation data. Unless otherwise noted, the information in the tables is measured under fully loaded conditions (transceivers installed).

Note DC output power is the output from the power supply (internal to the system). The AC-input power is the input from the outlet to the power supply. The percentage difference between the two values is the efficiency of the power supply.

Table 8: Power Requirements and Heat Dissipation - Fan Tray

PID	AC-Input Power in Watts (Power Allocated)	DC-Output in Watts (Power Requested)	Current @ 90V	Current @ 120V	Current @ 180V	Current @ 240V	Heat Diss. in BTU / hr.
C9606-FAN	500	450	5.6	4.2	2.8	2.1	1706

Table 9: Power Requirements and Heat Dissipation - Supervisor Module

PID	AC-Input Power in Watts (Power Allocated)	DC-Output in Watts (Power Requested)	Current @ 90V	Current @ 120V	Current @ 180V	Current @ 240V	Heat Diss. in BTU / hr.
C9600-SUP-1	862	775	9.6	7.2	4.8	3.6	2942
C9600X-SUP-2	732	660W	8.15	6.1	4.1	3.05	2498

Table 10: Power Requirements and Heat Dissipation— Line Cards

PID	AC-Input Power in Watts (Power Allocated)	DC-Output in Watts (Power Requested)	Current @ 90V	Current @ 120V	Current @ 180V	Current @ 240V	Heat Diss. in BTU / hr.
C9600-LC-48S	256	230	2.9	2.2	1.5	1.1	874
C9600-LC-48YL	256	230	2.9	2.2	1.5	1.1	874
C9600-LC-24C	223	200	2.5	1.9	1.3	1	761
C9600-LC-48TX	350	315	3.9	3	2	1.5	1195
C9600-LC-40YL4CD	466	420	5.2	3.9	2.6	1.95	1590
C9600X-LC-32CD	495	450	5.6	4.2	2.8	2.1	1689
C9600X-LC-56YL4C	495	450	5.6	4.2	2.8	2.1	1689

Weight Specifications

The total weight of a fully configured chassis will depend on the type of chassis, the number of modules, and power supplies installed. Use the corresponding weights in the tables below to arrive at the total chassis weight for your hardware configuration.

Weight Measurement for Chassis

PID (add = for spare)	Weight (Chassis without Fan Tray and Power Supply Units)
C9606R	55.90 lb (25.36 kg)

Weight Measurements for Supervisor Module

PID (add = for spare)	Weight
C9600-SUP-1	12.02 lb (5.45 kg)
C9600X-SUP-2	12.02 lb (5.45 kg)

Weight Measurements for Line Cards

PID (add = for spare)	Weight
C9600-LC-48S	7.83 lb (3.55 kg)
C9600-LC-48YL	7.83 lb (3.55 kg)
C9600-LC-24C	7.67 lb (3.48 kg)
C9600-LC-48TX	8.88 lb (4.03 kg)
C9600-LC-40YL4CD	8.27 lb (3.75 kg)
C9600X-LC-32CD	8.71 lb (3.95 kg)
C9600X-LC-56YL4C	9.14 lbs (4.15 kg)

Weight Measurements for Power Supply Modules

PID (add = for spare)	Weight
C9600-PWR-2KWAC	2.65 lb (1.2 kg)
C9600-PWR-2KWDC	2.82 lb (1.28 kg)
C9600-PWR-3KWAC	2.98 lb (1.35 kg)

Blank Covers

PID (add = for spare)	Weight
C9606-SLOT-BLANK (Cisco Catalyst 9600 Series Blank for Chassis Module Slot)	2.87 lb (1.3 kg)

PID (add = for spare)	Weight
C9606-PWR-BLANK (Cisco Catalyst 9600 Series Blank for Chassis Power Supply Slot)	0.18 lb (0.08 kg)