Cisco CRS 16-Slot EC Line Card Chassis Specifications

This appendix contains tables that list the specifications for the main components of the Cisco CRS 16-Slot EC Line Card Chassis.

Note For a complete list of cards supported in the LCC, see Cisco Carrier Routing System Data Sheets at: http://www.cisco.com/en/US/products/ps5763/products_data_sheets_list.html.

The appendix includes the following topics:

Line Card Chassis Specifications

Below table lists the specifications for the LCC.

Table 1: Cisco CRS 16-Slot EC Line Card Chassis Specifications

Supported Cards and Modules	**16 modular services cards (MSCs), forwarding processor (FP) cards, or label switch processor (LSP) cards (line cards)** **16 physical layer interface modules (PLIMs), one for each MSC, FP, or LSP** **8 switch fabric cards (SFCs)** **2 route processor (RP) cards or 2 performance route processor (PRP) cards** **2 fan trays** **1 air filter**
Chassis Dimensions	
Height	80 in. (203.2 cm) as shipped84 in. (213.4 cm) as installed (with two power shelves)
Width	23.6 in. (59.9 cm) (without cosmetics)36.0 in. (91.5 cm) with PDU and brackets31.8 in. (80.8 cm) with optional wide cable management troughs
Depth	36 in. (91 cm) without doors and other cosmetics 39.7 in. (101 cm) with front and rear doors 40.3 in. (102.2 cm) with optional wide cable management troughs
Floor space requirement	Chassis: 7.5 sq ft (.7 sq m) Aisle spacing to install chassis (front): 48 in. (122 cm) Aisle spacing to service FRUs (front): 36 in. (91 cm) Aisle spacing to service FRUs (rear): 36 in. (91 cm)
Chassis	
Chassis shipping weight	993 lb (450.42 kg)
Chassis in shipping crate with pallet	1300 lb (589.67 kg)
Chassis with power shelves only, no power modules	1101 lb (499.4 kg)
Chassis with power shelves, power modules, alarm module	1180 lb (535.2 kg)
Chassis, fully loaded with cards, without cosmetics	1535 lb (696.3 kg)
Chassis, fully loaded with cards and cosmetics (doors, panels, grilles, and so on)	1650 lb (748.43 kg

Supported Cards and Modules	**16 modular services cards (MSCs), forwarding processor (FP) cards, or label switch processor (LSP) cards (line cards)** **16 physical layer interface modules (PLIMs), one for each MSC, FP, or LSP** **8 switch fabric cards (SFCs)** **2 route processor (RP) cards or 2 performance route processor (PRP) cards** **2 fan trays** **1 air filter**
Chassis, fully loaded with cards and cosmetics (doors, panels, grilles, and so on), AC Wye PDU, and brackets	1720.7 lb (780.5 kg)
Chassis, fully loaded with cards and cosmetics (doors, panels, grilles, and so on), AC Delta PDU, and brackets	1720.7lb (780.5 kg)
Floor Loading	
Chassis footprint	7.2 sq ft (6689 sq cm)
Floor contact area	5.88 sq ft (5462 sq ft)
Maximum floor loading	max floor loading without cosmetics and doors 263.6 lb/sq ft max floor loading with cosmetics and doors 292.6 lb/sq ft
Chassis Cooling	2 fan trays, push-pull configuration
Chassis airflow	2700 cubic ft/ minute (76,455 liters)
Power shelf airflow	200 cubic ft/ minute (5660 liters)

Power Specifications

Below table lists the power specifications for the LCC.

Table 2: Line Card Chassis Power Specifications

Description	Value
Power shelves	2 AC or 2 DC power shelves (Cannot mix AC and DC power shelves.)

Description	Value
DC power shelf	Supports up to 8 DC power modules (PMs) 6 PMs are shipped per shelf
AC power shelf	Supports up to 6 AC power modules (PMs) 5 PMs are shipped per shelf
Maximum Input Power	
DC, chassis fully loaded	19,091 Watts
AC, chassis fully loaded	19,565 Watts
Maximum Output Power	
DC, chassis fully loaded	16.80 kW
AC, chassis fully loaded	18.00 kW
Power Redundancy	
DC	2N: Up to 8 “A” battery plant feeds and up to 8 “B” battery plant feeds
AC	2N: Up to 6 “A” AC single-phase power sources and up to 6 “B” single-phase AC power sources required.
DC Input	
Nominal input voltage	–48 VDC North America–60 VDC InternationalRange: 40 to –72 VDC
Input current	50 A max at –48 VDC40 A max at –60 VDC60 A at –40 VDC (maximum)
AC Input	Single-phase
Nominal input voltage	200 to 240 VAC (range 180 to 264 VAC)
Nominal line frequency	50/60 Hz (range 47 to 63 Hz)
Recommended AC service	20 A (North America) dedicated branch circuit16 A (International) dedicated branch circuit
AC power cord length	167 in. (4.25 m)

Line Card Chassis Environmental Specifications

Below table lists the environmental specifications for the line card chassis.

Table 3: Line Card Chassis Environmental Specifications

Description	Value
Temperature	Operating, nominal: 41° to 104°F (5° to 40°C) Operating, short-term: 23° to 122°F (–5° to 50°C)[1] Nonoperating: –40° to 158°F (–40° to 70°C)
Humidity	Operating: 5 to 90% noncondensing Nonoperating: 5 to 93% noncondensing, short-term operation
Altitude	–197 to 5906 ft (–60 to 1800 m) at 122°F (50°C), short-term Up to 13,123 ft (4000 m) at 104°F (40°C) or below
Heat dissipation	49,134 BTU per hour (maximum) DC[2] 56,641 BTU per hour—(maximum) AC[3]
Air exhaust temperature	140°F (60°C)—at room temperatures of 95 to 102°F (35 to 39°C) 158°F (70°C)—maximum exhaust temperature on a fully loaded system during worst-case operating conditions (50°C and 6000 ft altitude **Note** Air temperature rise is 68°F (20°C) on a fully loaded system with fans running at maximum speed (5150 RPM).
Air velocity (at exhaust)	1000 ft/min (5.1m/s) at 3500 rpm 2250 ft/min(11.4m/s) at 7500 rpm **Note** Software controls the speed of the fans based on measurements from the chassis thermal sensors.
Sound power level(AC and DC power)	Fan speed 3500 RPM, temperature 80°F (27°C): 77.2 dB—modular configuration power Fan speed 5150 RPM, temperature 104°F (40°C): 88.8 dB—modular configuration power
Shock and vibration	Designed and tested to meet the NEBS shock and vibration standards defined in GR-63 Issue 3 March 2006.

1 Short-term refers to a period of not more than 96 consecutive hours and a total of not more than 15 days in 1 year. This refers to a total of 360 hours in any given year, but no more than 15 occurrences during that 1-year period.

2 Heat dissipation from the modular configuration DC power system based on maximum output power capacity at 90% efficiency.

3 Heat dissipation from the modular configuration AC power system based on maximum output power capacity at 92% efficiency. Depending on the hardware deployed at your site, your system may not consume or be capable of consuming the maximum power supplied by the power system.

Regulatory, Compliance, and Safety Specifications

For information about the regulatory, compliance, and safety standards to which the Cisco CRS Series system conforms, see *Regulatory Compliance and Safety Information for the Cisco CRS Carrier Routing System* .