

System Specifications

This appendix contains tables that list the specifications for the main components of the Cisco NCS 4016 chassis.

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Chassis Specifications

This appendix contains tables that list the specifications for the main components of the Cisco NCS 4016 chassis.

Table 1: Cisco NCS 4016 Chassis Specifications

Supported Cards and Modules	• Upto sixteen lincards • Four fabric cards • Two route processor cards • Two fan trays
Chassis Dimensions	
Height	42 in. (106.68 cm) as shipped
Width	19.5 in. (49.53 cm) with front door 18.5 in. (47 cm) without front door
Depth	AC version: 19.05 in. (48.39 cm) with front doorDC version: 17.73 in. (45.03 cm) with front door
Aisle spacing	To install chassis (front): 48 in. (122 cm) To service FRUs (front): 31.7 in. (80.5 cm) To service FRUs (rear): 14.0 in. (35.6 cm)
Weights	

Chassis as shipped	250 lb (113.5 kg)
Chassis in shipping crate with pallet	319 lb (145 kg)
Chassis, fully loaded with power, fan trays, cards, and cosmetics	412 lb (187 kg)
Floor Loading	
Chassis in rack footprint(floor contact area)	Chassis: 2.5 sq ft (0.23 sq m)
Maximum floor loading	263 lb/sq ft
Chassis Cooling	Two fan trays
Chassis airflow	45,300 liters per minute
DC power system airflow	6796 liters per minute
AC power system airflow	5097 liters per minute

Power Specifications

Table 2: Cisco NCS 4016 Chassis Power Specifications

Power Specifications	
Power Trays	Either two AC or two DC power trays (cannot mix AC and DC power trays)
DC power tray	Up to four DC PMs per tray
AC power tray	Up to four AC PMs per tray
Power Redundancy	
DC	Up to 8 power modules can be installed, and only 7are needed to be active at any time. This allows support for 7+1 power redundancy and A and B battery plant dual feeds redundancy.
AC	Up to 8 power modules can be installed, and only 4 are needed to be active at any time. This allows support for 4+4 power redundancy by using two independent AC power sources (4 feeds each).
DC Input	
Nominal input voltage	–48 VDC or –60 VDC(tolerance range: –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)

Power Specifications	
Nominal line frequency	50/60 Hz (range 47 to 63 Hz)
Recommended AC service	30-A (North America) dedicated branch circuit30-A (International) dedicated branch circuit
AC Power Cord Length	167 in. (4.25 m)

Environmental Specifications

Table 3: Cisco NCS 4016 Chassis Environmental Specifications

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, nominal: 5 to 85%, noncondensing Operating, short-term: 5 to 90%, noncondensing Nonoperating: 5 to 93%, noncondensing
Altitude	Operating: –200 to 13,100 ft (–61 to 4000 m) at 104°F (40°C) Nonoperating: Up to 16,000 ft (4877 m) at –13°F (–25°C), short-term
Chassis airflow	Up to 46,200 liters per minute
Power system airflow	Up to 6800 liters per minute
Air exhaust temperature	95°F (35°C)—at room temperatures of 77 to 84°F (25 to 29°C) 140°F (50°C)—at room temperatures of 95 to 102°F (35 to 39°C) 158°F (60°C)—maximum exhaust temperature on a fully loaded system during worst-case operating conditions (50°C and 6000 ft altitude) For the NCS4K-4H-QDD-P line card, the air exhaust temperature is • 113°F (35°C)—at room temperatures of 77 to 84°F (25 to 29°C) • 129°F (54°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.

Air velocity (at exhaust)	500 ft/min (2.55m/s) under typical conditions 27°C 1000 ft/min (5.1m/s) at maximum speed **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 5000 RPM, temperature 80°F (27°C):76.1 dB—modular configuration power
Shock and vibration	Designed and tested to meet the NEBS shock and vibration standards defined in GR-63 Issue 4 2012. NCS4K-4H-QDD-P Line Card meets the NEBS shock and vibration standards defined in GR-63 issue 5 and GR-1089 Issue 8.

[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.

Regulatory, Compliance, and Safety Specifications

For information about the regulatory, compliance, and safety standards to which the Cisco NCS 4016 chassis conforms, see Regulatory Compliance and Safety Information for the Cisco Network Convergence System 4000 Series.