Technical Specifications

Switch Specifications

The following table lists the environmental specifications for the Cisco MDS 9220i switch:

Table 1: Environmental Specifications for the Cisco MDS 9220i Switch

Description	Specification
Temperature, ambient operating	32 to 104°F (0 to 40°C)
Temperature, ambient nonoperating and storage	-40 to 158°F (-40 to 70°C)
Humidity (RH), ambient (noncondensing) operating	10 to 90%
Humidity (RH), ambient (noncondensing) nonoperating and storage	10 to 95%
Altitude, operating	-197 to 6500 ft (-60 to 2000 m)

The following table lists the physical specifications for the Cisco MDS 9220i switch.

Table 2: Physical Specifications for the Cisco MDS 9220i Switch

Description	Specification
Dimensions (HxWxD)	1.72 x 17.3 x 20.11 in. (4.36 x 43.94 x 51.07 cm) excluding PSU, fan module handles, and USB stick
Rack Space	Chassis requires 1 RU (1.75 in. or 4.45 cm)
Weight	21.61 lb (9.8 kg) including two PSUs and four fans, but excluding optical modules

Description	Specification
Airflow	• Back to front (toward ports) using port-side exhaust fans • Front to back (into ports) using port-side intake fans • 50 CFM (0.02 m^3/s) through system fan assembly at 25°C • 100 CFM (0.04 m^3/s) maximum We recommend that you maintain a minimum air space of 2.5 in. (6.4 cm) between walls and chassis air vents and a minimum horizontal separation of 6 in. (15.2 cm) between two chassis to prevent overheating.

Power Specifications

General Power Supply Specifications

The following table lists the specifications for the Cisco MDS 9220i switch AC input power supply:

AC Input Power	Specification
AC input voltage (500 W)	100 to 240 VAC
AC input voltage (1200 W HVAC)	(100 to 240 VAC) or (200 to 277 VAC)
AC input voltage (1200 W HVDC)	240 to 380 VAC
AC input frequency	Nominal = 50 to 60 Hz
Power supply output capacity	• 500 W • 1200 W HVAC • 1200 W HVDC
Power supply output voltage	12 V +/- 5% up to 54 A 12 V +/- 5% up to 66.67 A
Output holdup time	20 ms

Power Supply Requirement Specifications

The following table provides a sample calculation of power for the Cisco MDS 9220i switch AC input power supply:

Table 3: Power Dissipation for AC Input Power Supply

Power Mode	Optics	Traffic Rate	Temperature	Voltage	PSU	Fan Modules	Power at AC 220 V	Power at AC 110 V	Power with HVDC
Typical	6 FC and 2 IPS ports	50%	Room	Normal	2	4	230 W	232 W	234 W
Max in 40°C	12 FC and 4 IPS ports	100%	40°C	Normal	2	4	280 W	283 W	285 W

Table 4: Power Supply Fuse Information

Part Number	PID	Type	Fuse Rated AMP	I2T	Fuse Melting Time
341-101232-01	DS-CAC-500W-I	Time-Lag	15 A	534	4 hrsmin@15 A, 2 smin@30 A
341-101237-01	DS-CAC-500W-E			660	30 min@22.5 A, 0.15 s@50 A

Component Power Requirements and Heat Dissipation

Consider heat dissipation when sizing the air-conditioning requirements for an installation. The power and heat associated with a Cisco MDS 9220i switch varies based on the following considerations:

- The environment (temperature) outside the chassis
- Internal chassis temperature
- Any hardware component failure in the chassis
- Average switching traffic levels

The following table lists the power requirements and heat dissipation for the components of the Cisco MDS 9220i switch.

Table 5: Power Requirements and Heat Dissipation for the Cisco MDS 9220i Switch

Module Type/Product Number	Power Required (watts)	Heat Dissipation (BTU/hr)	Input Current				
			85VAC(amps)	110VAC(amps)	220VAC(amps)	240VDC(amps)	380VDC(amps)
Cisco MDS 9220i Fabric Switch	280 maximum	897	3.29	2.55	1.27	1.18	0.75

SFP, SFP+, or QSFP+ Transceiver Specifications

The Cisco MDS 9220i switch is compatible with SFP, SFP+, or QSFP+ transceivers and cables that have LC connectors. Each transceiver must match the transceiver at the other end of the cable in terms of wavelength. The cable must not exceed the stipulated cable length for reliable communications to take place.

Use only Cisco SFP, SFP+, or QSFP+ transceivers on the Cisco MDS 9220i switch. Each Cisco SFP, SFP+, or QSFP+ transceiver is encoded with model information that enables the switch to verify that the SFP, SFP+, or QSFP+ transceiver meets the requirements for the switch. For the list of supported SFP, SFP+, or QSFP+ transceivers, see the Cisco MDS 9000 Series Compatibility Matrix.

Use only genuine Cisco SFP+ transceivers in Cisco MDS series switches. Each Cisco SFP+ transceiver is encoded with serial number, vendor name, and other parameters that enable Cisco NX-OS to verify that the transceiver meets the requirements of the switch. If discrepancies are found, the SFP+ will be allowed to function, if possible, but will cause a warning syslog message to be generated. Cisco TAC does not support switch ports populated with non-Cisco SFP+ transceivers.

For details about SFP, SFP+, or QSFP+ transceivers see the Cisco MDS 9000 Family Pluggable Transceivers Data Sheet.

For information about safety, regulatory, and standards compliance, see the Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family.