



Cable and Port Specifications

This appendix describes the cables and connectors used with the Cisco MDS 9020 Fabric Switch, and it includes the following information:

- [Cables and Adapters Provided, page D-2](#)
- [Console Port, page D-2](#)
- [MGMT 10/100 Ethernet Port, page D-3](#)
- [Cisco Fibre Channel SFP Transceiver Specifications, page D-4](#)



Caution

We strongly recommend that power cable runs and other potential noise sources be located as far away as practical from network cabling that terminates on Cisco equipment. In situations where long parallel cable runs exist but cannot be separated by at least 3.3 ft. (1 m), we recommend that you shield these potential noise sources. To avoid interference, the source should be shielded by housing it in a grounded metallic conduit.

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Cables and Adapters Provided

The accessory kit includes a null modem DB-9 cable.


Note

Additional cables and adapters can be ordered from your customer service representative.


Note

If you purchased this product through a Cisco reseller, contact the reseller directly for technical support. If you purchased this product directly from Cisco, contact Cisco Technical Support at this URL: <http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>.

Console Port

The console port is an asynchronous RS-232 serial port. Use a null-modem DB9 cable to connect the console port to a computer running terminal emulation software.

Table D-1 lists the pinouts for the console port on the Cisco MDS 9020 Fabric Switch.

Table D-1 Console Port Pinout

Pin	Signal
1 ¹	Carrier Detect (DCD)
2	Receive Data (RXD)
3	Transmit Data (TXD)
4	Data Terminal Ready (DTR)
5	Signal Ground (GND)
6	Data Set Ready (DSR)
7	Request to Send (RTS)
8	Clear to Send (CTS)
9	Ring Indicator (RI)

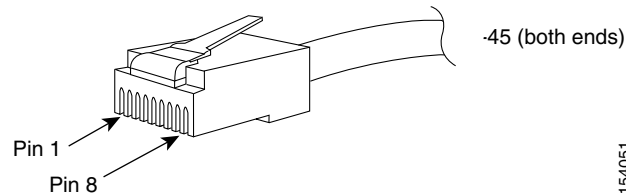
1. Pin 1 is internally connected to pin 6.

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MGMT 10/100 Ethernet Port

Use a modular, RJ-45, straight-through UTP cable to connect the 10/100 management Ethernet port to external hubs and switches. To connect to a router or directly to a workstation, use a crossover cable. (See [Figure D-1](#).)

Figure D-1 RJ-45 Interface Cable Connector



[Table D-2](#) lists the connector pinouts and signal names for a 10/100BASE-T management port (MDI) cable.

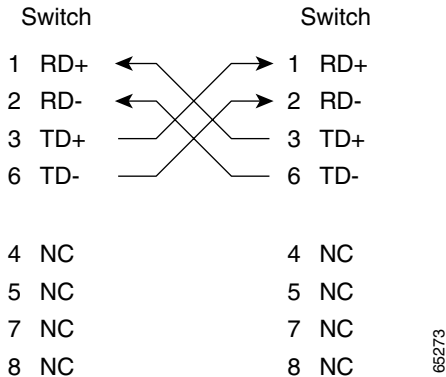
Table D-2 10/100 BASE-T Management Port Cable Pinout (MDI)

Pin	Signal
1	TD+
2	TD-
3	RD+
6	RD-
4	Not used
5	Not used
7	Not used
8	Not used

Figure D-2 shows a schematic of the 10/100BASE-T cable.

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Figure D-2 Twisted-Pair 10/100BASE-T Cable Schematic



Cisco Fibre Channel SFP Transceiver Specifications

The Cisco MDS 9020 Fabric Switch is compatible with SFP transceivers and cables that have LC connectors. Each transceiver must match the transceiver on the other end of the cable in terms of wavelength, and the cable must not exceed the stipulated cable length for reliable communications.

Cisco SFP transceivers provide the uplink interfaces, laser send (TX), and laser receive (RX), and support 850 to 1610 nm nominal wavelengths, depending upon the transceiver.

Use only Cisco SFP transceivers on the Cisco MDS 9020 Fabric Switch. Each Cisco SFP transceiver is encoded with model information that enables the switch to verify that the SFP transceiver meets the requirements for the switch. Refer to the release notes for the list of specific supported SFP transceivers.

For information about Safety, Regulatory, and Standards Compliance, refer to the *Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family Switch*.

[Table D-3](#) lists the Fibre Channel SFP transceivers available through Cisco.

Table D-3 Cisco Fibre Channel SFP Transceivers

Description	Type
1Gbps/2Gbps/4Gbps Fibre Channel SW Small Form-Factor Pluggable, LC	Short wavelength
1Gbps/2Gbps/4Gbps Fibre Channel LW Small Form-Factor Pluggable, LC	Long wavelength

General Specifications for Cisco Fibre Channel SFP Transceivers

[Table D-4](#) lists general specifications for Cisco Fibre Channel SFP transceivers.

Table D-4 General Specifications for Cisco Fibre Channel SFP Transceivers

Description	Short Wavelength	Long Wavelength
Connector type	LC	LC
Wavelength	850 nm	1310 nm

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Table D-4 **General Specifications for Cisco Fibre Channel SFP Transceivers**

Description	Short Wavelength		Long Wavelength
Fiber type	MMF		SMF
Core size	50 microns	62.5 microns	9/125 microns
Cable distance (max) ¹	500 m @ 1 Gbps 300 m @ 2 Gbps 175 m @ 4 Gbps	300 m @ 1 Gbps 150 m @ 2 Gbps 70 m @ 4 Gbps	2 km @ 1 Gbps 2 km @ 2 Gbps 10 km @ 4 Gbps
Transmit power	-10 to -1.5 dBm		-9.5 to -3 dBm

1. Approximate; actual distance may vary depending on fiber quality and other factors.

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Environmental and Electrical Specifications for Cisco Fibre Channel SFP Transceivers

Table D-5 provides the maximum environmental and electrical ratings for Cisco Fibre Channel SFP transceivers.

Table D-5 *Maximum Environmental and Electrical Ratings for Cisco Fibre Channel SFP Transceivers*

Parameter	Symbol	Minimum	Maximum	Unit	Notes
Storage Temperature	T_S	-40	85	°C	See note 1.
Case Temperature	T_C	0	70	°C	See notes 1, 2.
Relative Humidity	RH	5	95	%	See note 1.
Module Supply Voltage	$V_{CC,T,R}$	3.1	3.5	V	See note 1.

Notes:

1. Absolute Maximum Ratings are those values beyond which damage to the device may occur if these limits are exceeded for other than a short period of time. See Reliability Data Sheet for specific reliability performance.
2. Between Absolute Maximum Ratings and the Recommended Operating Conditions functional performance is not intended, device reliability is not implied, and damage to the device may occur over an extended period of time.