



Reference

Chapter Topics

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- [Cabling Guidelines, page A-3](#)
- [Connector Specifications, page A-6](#)

Technical Specifications

This section lists the switch technical specifications in [Table A-1](#).

Table A-1 **Technical Specifications for the Catalyst Express 500 Switches**

Specification	Description
AC input voltage	Catalyst Express 500-24TT: 100 to 240 VAC, 1.3–0.8 A (autoranging), 50 to 60 Hz Catalyst Express 500-24LC: 100 to 240 VAC, 2–1 A (autoranging), 50 to 60 Hz Catalyst Express 500-24PC: 100 to 240 VAC, 8–4 A (autoranging), 50 to 60 Hz Catalyst Express 500G-12TC: 100 to 240 VAC, 1.3–0.8 A (autoranging), 50 to 60 Hz
DC input voltages for RPS 675 ¹	$\overline{\text{---}}$ +12 V $\overline{\text{---}}$ @ 14 A, –48 V @ 7.8 A

Table A-1 **Technical Specifications for the Catalyst Express 500 Switches (continued)**

Specification	Description
Power consumption	Catalyst Express 500-24TT: 30 W or 102 BTUs per hour Catalyst Express 500-24LC: 110 W or 375 BTUs per hour Catalyst Express 500-24PC: 460 W or 1570 BTUs per hour Catalyst Express 500G-12TC: 45 W or 154 BTUs per hour
Power dissipation	Catalyst Express 500-24TT: 30 W Catalyst Express 500-24LC: 45 W Catalyst Express 500-24PC: 90 W Catalyst Express 500G-12TC: 45 W
Power rating	Catalyst Express 500-24TT: 0.050 KVA Catalyst Express 500-24LC: 0.120 KVA Catalyst Express 500-24PC: 0.460 KVA Catalyst Express 500G-12TC: 0.075 KVA
Power over Ethernet	All 24 PoE ports on the Catalyst Express 500-24PC can supply up to 15.4 W (IEEE 802.3af standard maximum) of power over Category 5 cable, for a total of 370 W of inline power. All 4 PoE ports on Catalyst Express 500-24LC switches can supply up to 15.4 W of power over Category 5 cable, for a total of 62 W of inline power. Both the IEEE 802.3af PoE standard and Cisco prestandard inline power are supported.
Operating temperature	32 to 113°F (0 to 45°C)
Storage temperature	–13 to 158°F (–25 to 70°C)
Relative humidity	10 to 85% (noncondensing)
Operating altitude	Up to 10,000 ft (3049 m)
Storage altitude	Up to 15,000 ft (4573 m)
Weight	8 lb (3.7 kg) for Catalyst Express 500-24TT, 500-24LC, and 500G-12TC 12 lb (5.5 kg) for Catalyst Express 500-24PC

Table A-1 **Technical Specifications for the Catalyst Express 500 Switches (continued)**

Specification	Description
Dimensions (H x W x D)	1.73 x 17.5 x 9.9 in. (4.39 x 44.45 x 25.15 cm) for Catalyst Express 500-24TT, Catalyst Express 500-24LC, and Catalyst Express 500G-12TC 1.73 x 17.5 x 14.4 in. (4.39 x 44.45 x 36.58 cm) for Catalyst Express 500-24PC
Acoustic noise	ISO 7770, bystander position: Operating to an ambient temperature of 30°C Catalyst Express 500-24TT, 500-24LC, 500G-12TC: 40 dBa Catalyst Express 500-24PC: 48 dBa

1. Only on Catalyst Express 500-24PC switch.

Cabling Guidelines

This section describes the cabling guidelines and port connections.

Ethernet Port Connections

For copper Ethernet ports, cable lengths from the switch to connected devices must be within 328 feet (100 meters).

Use either straight-through or crossover Category 5 cables with RJ-45 connectors to connect from the switch Ethernet ports to other devices.

Use Category 5 cables for 100BASE-TX and 1000BASE-T traffic. Use Category 3 or Category 4 cables for 10BASE-T traffic.

SFP Module Port Connections

For the SFP module port connections, [Table A-2](#) lists the cable specifications. Each port must match the wave-length specifications on the other end of the cable, and for reliable communications, the cable must not exceed the stipulated cable length.

Table A-2 Fiber-Optic SFP Module Port Cabling Specifications

SFP Module	Wavelength (nanometers)	Fiber Type	Core Size (micron)	Model Bandwidth (MHz/km)	Cable Distance
100BASE-BX-D	1550 TX ¹ 1310 RX ²	SMF ³	G.652 ⁴	—	32,810 feet (10 km)
100BASE-BX-U	1310 TX 1550 RX	SMF	G.652 ²	—	32,810 feet (10 km)
100BASE-FX	Min.:1270 Typical: 1300 Max.: 1380	MMF ⁵	50/125 62.5/125	500	6,562 feet (2 km)
100BASE-LX	1310	SMF	9/125	—	32,810 feet (10 km)
1000BASE-LX	1300	MMF ⁶	62.5	500	1804 feet (550 m)
			50	400	1804 feet (550 m)
1000BASE-LX	1300	SMF	50	500	1804 feet (550 m)
			9/10 ²	—	32,810 feet (10 km)
1000BASE-SX	850	MMF	62.5	160	722 feet (220 m)
			62.5	200	902 feet (275 m)
			50	400	1640 feet (500 m)
			50	500	1804 feet (550 m)

1. TX = send
2. RX = receive
3. SMF = single-mode fiber
4. ITU-T G.652 SMF as specified by the IEEE 802.3z standard.
5. MMF = multimode fiber
6. A mode-conditioning patch cord is required. Using an ordinary patch cord with MMF, 1000BASE-LX SFP modules, and a short link distance can cause transceiver saturation, resulting in an elevated bit error rate (BER). When using the LX SFP module with 62.5-micron diameter MMF, you must also install a mode-conditioning patch cord between the SFP module and the MMF cable on both the sending and receiving ends of the link. The mode-conditioning patch cord is required for link distances greater than 984 feet (300 m).

For SMF connections, use one of the LCs listed in [Table A-3](#) or [Table A-4](#). For MMF connections, use one of the LCs listed in [Table A-5](#). Use the Cisco part numbers to order the patchcords that you need, or order patchcords from your vendor.

Table A-3 ***LC-to-SC Single-Mode Fiber Patch Cables (SFP-to-GBIC Connections)***

Type	Cisco Part Number
2-meter, LC-to-SC single-mode fiber patchcord	CAB-CP-LCSC-2M
8-inch, SC-to-LC single-mode fiber patchcord	CAB-CP-SCLC-8IN
10-foot, LC-to-SC single-mode fiber patchcord	CAB-SMF-SC-10
100-foot, LC-to-SC single-mode fiber patchcord	CAB-SMF-SC-100
25-foot, LC-to-SC single-mode fiber patchcord	CAB-SMF-SC-25
50-foot, LC-to-SC single-mode fiber patchcord	CAB-SMF-SC-50
75-foot, LC-to-SC single-mode fiber patchcord	CAB-SMF-SC-75

Table A-4 ***LC-to-LC Single-Mode Fiber Patch Cables (SFP-to-SFP Connections)***

Type	Cisco Part Number
2-meter, LC-to-LC single-mode fiber patchcord	15454-LC-LC-2=
4-meter, LC-to-LC single-mode fiber patchcord	15216-LC-LC-5=
6-meter, LC-to-LC single-mode fiber patchcord	15216-LC-LC-10=
8-meter, LC-to-LC single-mode fiber patchcord	15216-LC-LC-20=

Table A-5 ***SX LC and SX LC-to-SC Multimode Fiber Patch Cables (SFP-to-SFP Connections)***

Type	Cisco Part Number
10-meter, SX LC multimode fiber patchcord	CSS5-CABSX-LC=
10-meter, SX LC-to-SC multimode fiber patchcord	CSS5-CABSX-LCSC=

Connector Specifications

This section describes the connectors used with the Catalyst Express 500 switches.

10/100 and 10/100/1000 Ports

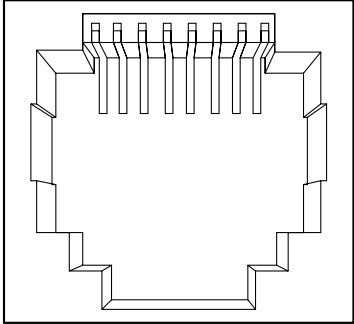
The Ethernet ports on the switches use standard RJ-45 connectors and Ethernet pinouts with internal crossovers (Figure A-1 and Figure A-2).

Figure A-1 10/100 Port Pinouts

Pin	Label	1	2	3	4	5	6	7	8
1	RD+								
2	RD-								
3	TD+								
4	NC								
5	NC								
6	TD-								
7	NC								
8	NC								

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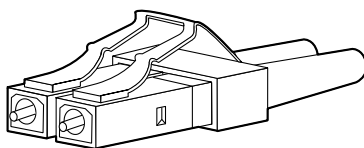
Figure A-2 10/100/1000 Port Pinouts

Pin	Label	1	2	3	4	5	6	7	8
1	TP0+								
2	TP0-								
3	TP1+								
4	TP2+								
5	TP2-								
6	TP1-								
7	TP3+								
8	TP3-								

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SFP Module Ports

The SFP module ports on switches use fiber-optic SFP modules with LC connectors ([Figure A-3](#)). See the “Supported Hardware” section on page 1-13 for a list of supported SFP modules.

Figure A-3 Fiber-Optic SFP Module LC Connector

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