

## Optical Interface Support in EX 8200 series Switches

SFP + ports in 8-port SFP + line cards used in EX 8200 series switches support SFP + transceivers. SFP ports in 48-port SFP line cards used in EX 8200 series switches support SFP transceivers. This topic describes the optical interfaces supported for transceivers used in the SFP and SFP + line cards for EX 8200 series switches. It also lists the copper interface supported for the SFP transceivers.



**NOTE:** Use only optical transceivers and optical connectors purchased from Juniper Networks for your EX-series switch.

The two tables in this topic describe the optical interface support over single-mode fiber-optic (SMF) and multimode fiber-optic (MMF) cables for SFP and SFP + transceivers and over the copper interface for SFP transceivers:

- Table 1—Optical interface support for SFP + transceivers in 8-port SFP + line cards
- Table 2—Optical interface support and copper interface support for SFP transceivers in 48-port SFP line cards

**Table 1: Optical Interface Support for SFP+ Transceivers in 8-port SFP+ Line Cards Used in EX 8200 series Switches**

Ethernet Standard	Specifications	
10GBase-SR	Model Number	EX-SFP-10GE-SR
	Connector Type	LC
	Transmitter Wavelength	850 nm
	Minimum Launch Power	-7.3 dBm
	Maximum Launch Power	-1 dBm
	Minimum Receiver Sensitivity	-9.9 dBm
	Maximum Input Power	-1 Bm
	Fiber Type	MMF
	Core/Cladding Size	62.5/125 $\mu$ m
	Modal Bandwidth	200 MHz/km
	Distance	26 m (85 ft)

**Table 1: Optical Interface Support for SFP+ Transceivers in 8-port SFP+ Line Cards Used in EX 8200 series Switches (continued)**

Ethernet Standard	Specifications	
10GBase-LR	Model Number	EX-SFP-10GE-LR
	Connector Type	LC
	Transmitter Wavelength	1310 nm
	Minimum Launch Power	-8.2 dBm
	Maximum Launch Power	0.5 dBm
	Minimum Receiver Sensitivity	-18 dBm
	Maximum Input Power	0.5 dBm
	Fiber Type	SMF
	Core/Cladding Size	9/125 $\mu$ m
	Modal Bandwidth	-
	Distance	10 km (6.2 miles)

**Table 2: Optical Interface Support and Copper Interface Support for SFP Transceivers in 48-port SFP Line Cards Used in EX 8200 series Switches**

Ethernet Standard	Specifications				
1000Base-SX	Model Number	EX-SFP-1GE-SX			
	Connector Type	LC			
	Transmitter Wavelength	850 nm			
	Minimum Launch Power	-9.5 dBm			
	Maximum Launch Power	-3 dBm			
	Minimum Receiver Sensitivity	-21 dBm			
	Maximum Input Power	0 dBm			
	Fiber Type	MMF			
	Core Size	62.5 $\mu$ m	62.5 $\mu$ m	50 $\mu$ m	50 $\mu$ m
	Modal Bandwidth	160 MHz/km	200 MHz/km	400 MHz/km	500 MHz/km
	Distance	220 m (721 ft)	275 m (902 ft)	500 m (1640 ft)	550 m (1804 ft)

**Table 2: Optical Interface Support and Copper Interface Support for SFP Transceivers in 48-port SFP Line Cards Used in EX 8200 series Switches (continued)**

<b>Ethernet Standard</b>	<b>Specifications</b>	
1000Base-LX	Model Number	EX-SFP-1GE-LX
	Connector Type	LC
	Transmitter Wavelength	1310 nm
	Minimum Launch Power	-9.5 dBm
	Maximum Launch Power	-3 dBm
	Minimum Receiver Sensitivity	-25 dBm
	Maximum Input Power	-3 dBm
	Fiber Type	SMF
	Core Size	9 $\mu$ m
	Modal Bandwidth	-
	Distance	10 km (6.2 miles)
	1000Base-LH (also called 1000Base-ZX)	Model Number
Connector Type		LC
Transmitter Wavelength		1550 nm
Minimum Launch Power		-2 dBm
Maximum Launch Power		5 dBm
Minimum Receiver Sensitivity		-25 dBm
Maximum Input Power		-3 dBm
Fiber Type		SMF
Core Size		10 $\mu$ m
Modal Bandwidth		-
Distance		70 km (43.5 miles)

**Table 2: Optical Interface Support and Copper Interface Support for SFP Transceivers in 48-port SFP Line Cards Used in EX 8200 series Switches (continued)**

Ethernet Standard	Specifications		
100Base-FX	Model Number	EX-SFP-1FE-FX	
	Connector Type	LC	
	Transmitter Wavelength	1310 nm	
	Minimum Launch Power	-20 dBm	
	Maximum Launch Power	-14 dBm	
	Minimum Receiver Sensitivity	-32.5 dBm	
	Maximum Input Power	-8 dBm	
	Fiber Type	MMF	
	Core Size	62.5 $\mu$ m	
	Modal Bandwidth	-	
	Distance	2 km (1.2 miles)	
	1000Base-T	Model Number	EX-SFP-1GE-T
		Connector Type	RJ-45
Transmitter Wavelength		-	
Minimum Launch Power		-	
Maximum Launch Power		-	
Minimum Receiver Sensitivity		-	
Maximum Input Power		-	
Fiber Type		Copper	
Core Size		-	
Modal Bandwidth		-	
Distance		100 m (328 ft)	

- Related Topics**
- 48-port RJ-45 Line Card in an EX 8200 series Switch
  - 48-port SFP Line Card in an EX 8200 series Switch
  - 8-port SFP + Line Card in an EX 8200 series Switch
  - Installing a Transceiver in an EX-series Switch
  - Removing a Transceiver from an EX-series Switch