

SFP+ Direct Attach Cables for EX4500 and EX8200 Switches

Small form-factor pluggable plus transceiver (SFP +) direct attach copper cables, also known as Twinax cables, are suitable for in-rack connections between servers and switches. They are suitable for short distances up to 7 m, making them ideal for highly cost-effective networking connectivity within a rack and between adjacent racks.

This topic describes:

- Cable Specifications on page 1
- Standards Supported by These Cables on page 3

Cable Specifications

Juniper Networks SFP + direct attach cables are available in three lengths:

- 1 m (3.3 ft)
- 3 m (9.9 ft)
- 7 m (23 ft)



NOTE: When you use SFP + direct attach cables with your EX4500 and EX8200 switches, we recommend that you use only Juniper Networks SFP + direct attach cables.

The cables are hot-removable and hot-insertable. A cable comprises a low-voltage cable assembly that connects directly into two SFP + modules, one at each end of the cable. The cables use high-performance integrated duplex serial data links for bidirectional communication and are designed for data rates up to 10 Gbps.

Table 1 describes the cable specifications.

Table 1: SFP+ Direct Attach Cable Specifications

Model	Specification	
EX-SFP-10GE-DAC-1m	Rate	10 Gbps full-duplex serial transmission
	Connector type	SFP + passive Twinax cable assembly
	Supply voltage	3.3 V
	Power consumption (per end)	0.57 W
	Storage temperature	-40 °C to 85 °C
	Cable type	Twinax
	Wire AWG	30 AWG
	Minimum cable bend radius	1 in.
	Cable characteristic impedance	100 ohm
	Crosstalk between pairs	2 % maximum
	Time delay	1.31 nsec/ft
	Length	1 m (3.3 ft)
	EX-SFP-10GE-DAC-3m	Rate
Connector type		SFP + passive Twinax cable assembly
Supply voltage		3.3 V
Power consumption (per end)		0.57 W
Storage temperature		-40 °C to 85 °C
Cable type		Twinax
Wire AWG		30 AWG
Minimum cable bend radius		1 in.
Cable characteristic impedance		100 ohm
Crosstalk between pairs		2 % maximum
Time delay		1.31 nsec/ft
Length		3 m (9.9 ft)

Table 1: SFP+ Direct Attach Cable Specifications (continued)

Model	Specification	
EX-SFP-10GE-DAC-7m	Rate	10 Gbps full-duplex serial transmission
	Connector type	SFP + passive Twinax cable assembly
	Supply voltage	3.3 V
	Power consumption (per end)	0.57 W
	Storage temperature	-40 °C to 85 °C
	Cable type	Twinax
	Wire AWG	24 AWG
	Minimum cable bend radius	2 in.
	Cable characteristic impedance	100 ohm
	Crosstalk between pairs	2 % maximum
	Time delay	1.31 nsec/ft
	Length	7 m (23 ft)

Standards Supported by These Cables

The cables comply with the following standards:

- SFP mechanical standard SFF-843—see <ftp://ftp.seagate.com/sff/SFF-8431.PDF>.
- Electrical interface standard SFF-8432—see <ftp://ftp.seagate.com/sff/SFF-8432.PDF>.
- SFP + Multi-Source Alliance (MSA) standards

- Related Topics**
- Optical Interface Support in EX8200 Switches
 - Optical Interface Support in EX4500 Switches
 - Installing a Transceiver in an EX Series Switch
 - Removing a Transceiver from an EX Series Switch

Published: 2010-04-28