

## FAQ | SFP+

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### Frequently asked questions about Siemon's SFP+ cables

**What does SFP+ stand for?**

Small Form-Factor Pluggable Plus. It is the second generation of the SFP interconnect systems designed for 10G performance.

**What is your standard turn around time for delivery?**

Siemon carries high levels of inventory on standard lengths (0.5m, 1m, 1.5m, 2m, 2.5m, 3m, and 5m). Other lengths are available in 4 to 6 weeks.

**What gauges and lengths do you offer?**

30 AWG, 28 AWG, and 26 AWG cables are available. Standard lengths are 0.5m, 1m, 1.5m, 2m, 2.5m, 3m, and 5m. Custom lengths are available upon request.

**Do you offer custom EEPROM programming?**

Yes, upon request. Cables with custom EEPROMs will be supplied under a different part number.

**What product documentation do you offer?**

Product specification sheets, customer use drawings, signal integrity reports, 3rd party interoperability reports and EEPROM content tables are available on our website.

**Do you have design qualification test data?**

Yes, mechanical and electrical test data is available upon request.

**Do you offer production test data?**

We can provide production test data for insertion loss and return loss, NEXT and FEXT upon request. Standard production testing includes insertion loss and return loss. All test data is stored by cable serial number.

**What are the other key product attributes?**

Our automated termination process insures our cable assemblies exhibit best in class impedance and cross talk performance.

**What cable jacket color is available?**

Standard jacket color is black. Red, white and blue jackets are also available.

**Are Siemon SFP+ cables returnable?**

Standard lengths are returnable within 90 days. Non-standard lengths are not returnable.

**Where do you manufacture these cables?**

China. We inventory cables in several of our global manufacturing locations for regional supply. Contact Siemon customer service for additional information.

## **Where are these cable assemblies used?**

These are “point-to-point” cables that are used to directly connect two pieces of active network equipment like switch-to-switch or switch-to-server applications. They are most commonly used in data centers for ToR (top of rack) or MoR (middle of rack) aka leaf-spine applications that require increased bandwidth.

## **Can I use SFP+ cables in SFP ports?**

Yes, SFP+ cables are compatible to SFP ports and will work fine. SFP cables are not compatible to SFP+ ports. SFP cables can be plugged into SFP+ ports but they are not designed for 10Gb/s data rates.

## **What is the difference between SFP+ and SFP?**

The pinouts of SFP and SFP+ connectors are identical. However, SFP has a maximum data rate of 5Gb/s whereas SFP+ is designed for 10Gb/s. The SFP receptacles and plugs are not as well impedance matched as SFP+ receptacles and plugs. Also SFP+ cable is designed for 10Gb/s whereas SFP cable may not be able to satisfactorily transmit that rate.

## **Do these products support 25G per lane data rate and for what standards?**

Yes, per SFF-8402, SFF-8419, SFF-8432, SFF-8472 and IEEE 802.3by, these cables support 25G Ethernet.

## **What is dWDP?**

dWDP refers to difference Waveform Dispersion Penalty. It is the function  $dWDP = WDP_o - WDP_i$

where “o” refers to output and “i” refers to input. WDP is a wave shape metric for waveform filtering and/or nonlinear distortion. WDP uses a procedure defined in IEEE 802.3. It is a way to determine how much a digital signal is distorted as it passes thru a transmission line, in this case, a cable assembly.

## **What is VMA?**

VMA refers to Voltage Modulation Amplitude. VMA loss is the attenuation of a digital signal as it passes thru a transmission line or, in this case, a cable assembly. It is the ratio of  $VMA_o / VMA_i$ , where VMA is the difference between the nominal one and zero levels of an electrical signal. The average voltage level in the central 20% of each one and zero is measured. The difference between the two levels (a positive voltage) is the VMA.

## **What is VCR?**

VCR refers to VMA loss to Crosstalk Ratio. It is a ratio of the attenuation or loss thru the cable assembly and the crosstalk within the assembly. In the case of SFP+, the crosstalk is near end crosstalk only since there is only one receive pair at each end.

## **Can I use Siemon’s SFP+ cables with Cisco Switches?**

Starting with Cisco NX-OS Software release 4.1(3)N2.1, Siemon’s SFPPXX-XX cables will function properly with the Nexus 2000 and 5000 series switches\*. A warning message stating that a non-Cisco transceiver is attached will come up. The message can be acknowledged and bypassed. An evaluation of Siemon’s SFP+ performance with a Nexus 5020 switch was successfully completed at the University of New Hampshire’s InterOperability Lab.

## **Does Siemon offer Cisco compatible SFP+ cables for use with Cisco Switches?**

Yes, Siemon offers Cisco compatible SFP+ cables that are fully recognized by Cisco equipment as compatible and these cables will not generate the warning message. These part numbers are of the form SFPH10GBCUxxMS.

## **Do these products support 10G per lane data rate and for what standards?**

Yes, per SFF-8431 and SFF-8083, these cables support 10G Ethernet, 8G FibreChannel, 10G FCoE, 10G InfiniBand and various unified architecture link applications.

## Will these products support 25G per lane data rates?

Our SFP+ product will not support 25G per lane data rates. We currently offer SFP28 interconnect (25GBASE-CR) per the IEEE 802.3by specification.

## Do Siemon's SFP+ cables violate Cisco's warranty?

No. Below is a posting from their web site.

*"If a twinax cable that is not part of the compatibility matrix is connected to the system, Cisco TAC will still debug the problem provided the customer has valid support contract on the switches. However, TAC may ask the customer to replace with Cisco qualified cables if there is a situation that points to cables possibly being faulty or the customer will be redirected to the cable provider for support. Cisco TAC cannot issue a RMA against uncertified cables for replacement." (via Cisco)*

Siemon's Cisco Compatible SFP+ Copper Twinax direct-attach cables (DAC's) are programmed specifically to work with Cisco equipment. When these Cisco Compatible cables are plugged into Cisco equipment they will not trigger the error message that a non-Cisco transceiver has been detected. These cables do not violate Cisco's warranty. For more information, see the press release: [Siemon Releases Cisco Compatible SFP+ Direct Attached Copper Cable Assemblies for 10GbE Applications.](#)

## What are the benefits of Cisco Compatible SFP+ from Siemon?

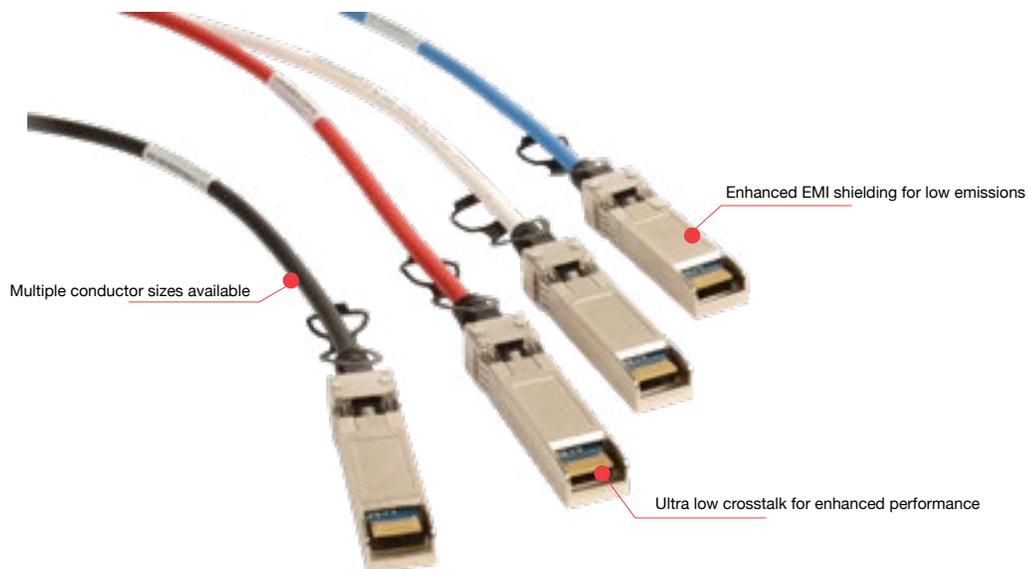
Siemon's Cisco compatible SFP+ cable assemblies are offered in the same lengths and wire gauges as Cisco DAC assemblies but at a significant cost reduction. They are available in lengths from 1 to 5 meters. The assemblies support data transfer rates up to 10+ Gb/s per lane, meeting or exceeding current industry standard specifications.

## Can I use Siemon's SFP+ cables with HP ProCurve Switches or Extreme Networks equipment?

No. HP and Extreme Networks program their equipment to reject 3rd party cables.\*

## Can I use Siemon's SFP+ cables with Arista or Blade Networks?

Yes. These companies do not block 3rd party cables out of their equipment.\* Siemon's cables comply with all the appropriate industry standards and should function properly with this hardware.



\*The information provided is accurate to the best of our knowledge. Contact Siemon Interconnect Solutions Technical Support for a additional assistance.