

# Cisco Business Switches: SFP Modules

## Objective

The objective of this article is to provide an overview of small form-factor pluggable (SFP) and SFP plus (SFP +) modules supported on the Cisco Business Switches (CBS) and some general tips to choose and use them effectively for uninterrupted network function. This document also shows you tips to view the most up to date list of modules.

## Applicable Devices

- CBS250 ([Data Sheet](#)) ([Administration Guide](#))
- CBS350 ([Data Sheet](#)) ([Administration Guide](#))

## Introduction

The SFP transceiver modules are hot-pluggable input/output devices that plug into dedicated sockets. The transceiver connects the electrical circuitry of the device with the external optical or copper network to extend routing and switching functionality throughout the network. The transceiver facilitates specialized high-speed communication over long distances such as different buildings on a campus or multiple floors in the same building depending on your network. These transceivers provide connectivity where traditional 10BASE-T, 100BASE-TX, 1000BASE-T Ethernet Cat6 network cabling cannot be used.

Often, these modules are also casually called a mini Gigabit Interface Converter (GBIC). A GBIC module is also a transceiver module but technically is not an SFP form-factor and cannot be inserted into an SFP port as they are bigger in size.

SFP Plus (SFP +) module is an updated version of SFP supporting higher data speeds.

## General tips

- You can use any combination of SFP transceiver modules that your Cisco device supports. The only restrictions are that each port **must match** the physical medium specifications on the other end of the cable such as:
  1. Copper to copper
  2. Fiber to fiber
  3. Mode to Mode
- The cable must not exceed the stipulated cable length for reliable communications.
- SFP and SFP + modules look identical and are the same size, keep these differences in mind:
  1. An SFP module can be plugged in to an SFP + port, but the speed will be limited at 1 Gbps.
  2. SFP + module will not work in an SFP port as SFP + does not support speed under

1 Gbps.

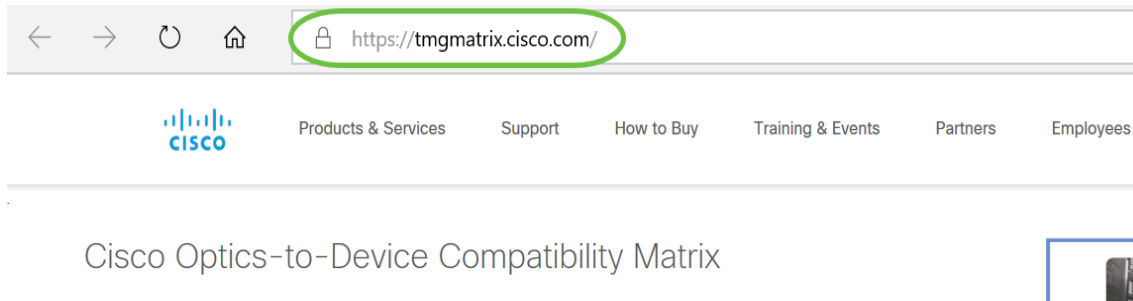
- Using the correct type of fiber cable is important. The fiber can be single-mode or multi-mode.
  1. Single-mode fibers have a smaller diameter (around 9 micrometers). Single-mode fibers cover a greater distance than the multi-mode fibers.
  2. Multi-mode fibers have a diameter of 50-62 micrometers.

## Viewing list of modules supported by Cisco Business Switches

To find the list of modules supported by Cisco Business switches, you may refer to the product Data Sheet or the Administration Guide. The latest information is available through the site mentioned below in Step 1.

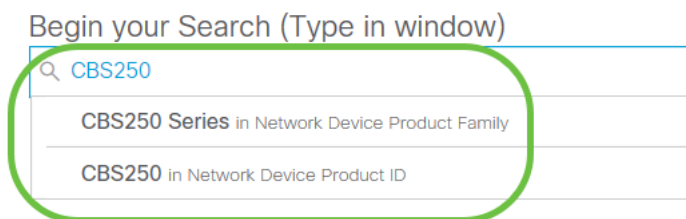
### Step 1

Open a web browser and access the [Transceiver Module Group compatibility matrix](https://tmgmatrix.cisco.com/) URL.



### Step 2

In the search window, type the name of the switch and click enter on your keyboard. Alternatively, you can choose the name of your switch model from the options that auto-populate as you start typing in the search bar.



### Step 3

(Optional) You can choose to apply filters by selecting specific parameters from the options.

### Filters

- ⊖ DATA RATE
  - 1 Gbps 9
  - 10 Gbps 9
  - 10/100/1000 Mbps 1
- ⊖ REACH
 

Search..

  - 100m 2
  - 10km 6
  - 1km (OM3/OM4/OM5) 1
  - 1m 1
  - +7 more
- + FORM FACTOR
- + CABLE TYPE
- + TRANSCEIVER PRODUCT ID
- + TRANSCEIVER PRODUCT FAMILY
- + OS TYPE
- ⊖ NETWORK DEVICE PRODUCT ID
 

Search..

  - 10720-RPR-SFP 3
  - 14X10GBE-WL-XFP 7
  - 1X100GBE 3
  - 2-10GE-WL-FLEX 6
  - +1286 more
- ⊖ NETWORK DEVICE PRODUCT FAMILY
  - CBS250 Series 19

## Step 4

You can view the table listing the supported SFP/SFP + modules along with the description.

### CBS250 Series

Network Device Product ID	Transceiver Description										Software Release	
	Transceiver Product ID	Data Rate	Form Factor	Reach	Cable Type	Media	Connector Type	Transceiver Type	Case Temp	DOM HW Capable	Minimum	DOM SW
CBS250	<a href="#">SFP-10G-SR</a>	10 Gbps	SFP+	300m (OM3)	Duplex Fiber	MMF	LC	Optic	0 to 70C	Y	3.0.0.61	3.0.0.61
	<a href="#">SFP-10G-SR</a>	10 Gbps	SFP+	400m (OM4/OM5)	Duplex Fiber	MMF	LC	Optic	0 to 70C	Y	3.0.0.61	3.0.0.61
	<a href="#">SFP-10G-SR-S</a>	10 Gbps	SFP+	300m (OM3)	Duplex Fiber	MMF	LC	Optic	0 to 70C	Y	3.0.0.61	3.0.0.61
	<a href="#">SFP-10G-SR-S</a>	10 Gbps	SFP+	400m (OM4/OM5)	Duplex Fiber	MMF	LC	Optic	0 to 70C	Y	3.0.0.61	3.0.0.61
	<a href="#">SFP-10G-LR</a>	10 Gbps	SFP+	10km	Duplex Fiber	SMF	LC	Optic	0 to 70C	Y	3.0.0.61	3.0.0.61
	<a href="#">SFP-10G-LR-S</a>	10 Gbps	SFP+	10km	Duplex Fiber	SMF	LC	Optic	0 to 70C	Y	3.0.0.61	3.0.0.61
	<a href="#">SFP-H10GB-CU1M</a>	10 Gbps	SFP+	1m	N/A (Incl AOC and DAC)	DAC	N/A	Cable	0 to 70C	N	3.0.0.61	-
	<a href="#">SFP-H10GB-CU3M</a>	10 Gbps	SFP+	3m	N/A (Incl AOC and DAC)	DAC	N/A	Cable	0 to 70C	N	3.0.0.61	-
	<a href="#">SFP-H10GB-CU5M</a>	10 Gbps	SFP+	5m	N/A (Incl AOC and DAC)	DAC	N/A	Cable	0 to 70C	N	3.0.0.61	-
	<a href="#">GLC-TE</a>	10/100/1000 Mbps	SFP	100m	Cat5e/6A	Copper	RJ-45	Optic	-5 to 85C	N	3.0.0.61	-
	<a href="#">GLC-BX-D</a>	1 Gbps	SFP	10km	Single-strand Fiber	SMF	LC	Optic	0 to 70C	Y	3.0.0.61	3.0.0.61

## Step 5

Click on the Product ID of a specific SFP module to access the Data Sheet.

### CBS250 Series

Network Device Product ID	Transceiver Product ID	Data Rate	Form Factor
CBS250	<a href="#">SFP-10G-SR</a>	10 Gbps	SFP+

## Conclusion

There you go! You have now viewed the comprehensive list of SFP and SFP + modules supported by CBS that can help you select the one best suited for your network.