

# Can SFP 10G SR and 10G XFP MM SR communicate with each other?

SFP 10G SR and 10G-XFP-MM-SR transceivers are optical modules that can transmit and receive 10G data signals per second, and can convert optical signal with electrical signal. The “SFP” and “XFP” represent their packaging forms (form factors). The form factors of 10G Optical modules include XENPAK and X2, but the mainstream of 10G Optical modules are XFP and SFP + optical modules.

What is XFP optical module?

XFP optical module is a hot pluggable optical transceiver with small circuit area. It is composed of transmitting, receiving, memory and diagnosis. The transmitting part includes Tosa and LD driving circuit, while the receiving part is composed of Rosa and main amplifier. Flash/EE unit is mainly used to store module type, interface form, transmission characteristics, product model, manufacturing date and other information. Besides, the digital diagnostic monitoring (DDM) function has a microcontroller and a series of digital-to-analog and analog-to-digital conversion interfaces for real-time monitoring of the five parameters of the optical module, which are temperature, voltage, laser bias current, output optical power and input optical power. It can support SONET OC-192, 10Gbps Ethernet, 10Gbps Fibre Channel and G709 links, mostly using LC interfaces. XFP's Multi-Source Agreement (MSA) directly adopts the XFI interface specification to define the power interface, fully meeting the limitations of the SDH optical transmission network range. Compared with 1X9 and SFP modules, XFP has higher transmission rate and transmission capability, which also expands the application of Ethernet to metro and wide area networks.

What is SFP+ optical module?

The SFP+ optical module is a 10G hot-pluggable module that typically transmits light at 850nm, 1310nm or 1550nm for 10Gbps SONET/SDH, Fibre Channel, Gigabit Ethernet, 10 Gigabit Ethernet and other applications. The SFP+ optical module's small size, low cost, and multi-application features are better suited for high-density data centers, and have now replaced the 10G XFP optical module as the mainstream of the 10G market.

10G SFP SR and 10G XFP MM SR: can they communicate with each other?

It is feasible to use OM3 optical fiber jumper to form a 10G path between two switches to realize the interconnection of SFP 10G SR and 10G-XFP-MM-SR. If the optical modules on both sides of the optical fiber link are 10 Gigabit rate, one side is SFP+ module and the other side is XFP module. Under the same wavelength and signal rate, XFP optical module and SFP + optical module are compatible. In other words, when the transmission distance and wavelength are the same, they can be connected directly. Moreover, XFP optical module and SFP+ optical module actually have the same specifications and standards.