

Transceivers FAQ

1. What is the difference between Starview International SFP and Original Vendor SFP?

In reality, there is no difference. Original vendor SFP are much higher in cost as they claim to be of much better quality. Most if not all, network equipment vendors do not produce their own SFP modules. These productions are outsourced to contract manufacturer and then labeled as their specific brand

2. Is it true that key equipment vendors, such as Cisco and Alcatel, only allow their SFP ports to be used by their in-house modules?

No, vendors are supposed to allow third party SFP to be used on their equipment as the SFP transceiver is specified by a multi-source agreement (MSA) between competing vendors. MSA specifies the physical dimensions, connectors, and signaling used in the SFP module so that multiple vendors can build compatible products at competitive costs. All Starview International SFP are produced with high precision in conjunction to the MSA and are compatible to use on equipments specified as a SFP port.

See the SFF committee's INF-8074i specification Rev 1.0 for details. Please note that Starview International SFP is not the vendor's OEM brand SFP modules.

3. How do we define a good quality SFP?

It is a misconception that SFP depends only on optical budget. Stability and reliability is an important aspect. The performance of the optical specifications changes with temperature and aging due to time. During production, it is possible for manufacturers to increase the optical budget by purposely adjusting the optical transmit power during the calibration process. This cause the TOSA to over-perform and will have a significant impact on the stated SFP lifespan.

Our factory produces all individual components required in the SFP modules, including the TOSA and ROSA. Every stage of the SFP assembly undergoes strict quality assurance policy with uncompromising standards. Design considerations of each SFP modules are done by experienced R&D engineers in this field. We are able to provide full detailed test reports, for each product part number, with optical budget measurement, digital eye diagrams, MTBF and thermal chamber test.

4. Why some third-party SFP "refuse" to work on the equipment when the original SFP from the same equipment vendors work fine?

SFP enjoys such a huge popularity success in the industry that certain equipment vendors attempt to prevent their customers from making choices. The firmware in the equipment will check for an identifying data in the SFP's memory, and if the data does not belong to the equipment vendor, the equipment refuses to enable that slot. Most vendor explanation for this "feature" is that it represents a symbol of product quality and ensures that the transceiver module is certified and tested by the original vendors.

The original idea of having "ID" in the SFF-8472 was actually meant for network management software to 'inventory' the pluggable modules. However some vendors used this to lock out all other third party. This allows vendor to monopolize the transceivers for their equipment and charge at premium prices for "better" quality products.

5. Can end-user re-use Starview International SFP on other equipment vendor after first using the SFP on a particular equipment vendor?

Yes. As Starview International is the original SFP manufacturer, we have the equipment and technical know-how to reprogram the data in the SFP, if necessary, to be compatible with a new equipment vendor. This can be performed for a nominal sum of fee. Please contact our sales staff for more information on this.

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6. Does using Starview International SFP voids the warranty of the equipment it is used on?

No. If the equipment is defective, the vendors are obliged to fulfill the terms of the warranty because Starview International SFP are fully compliant to MSA, unless it can be verified that it is the use of Starview International SFP that damaged the equipment.

It is unlikely that SFP will induce damages to the slot on equipment by itself because:

- SFP converts electrical data from the equipment to optical signal. There is no incoming power surge from optical ports to damage the equipment.
- SFP draws voltage/power from the equipment and it is more likely that the equipment damaged the SFP. All current and voltage required are as per MSA and the equipment should be able to support the power requirements for each SFP ports.
- SFP size will fit accordingly to any MSA compliant device without damaging the electrical circuitry on the equipment.
- If installations of SFP modules are handled by personnel who are properly grounded, there is no electrostatic damage to the equipment circuitry.

Some vendor does try to protect the sales revenue of their SFP by denying support if the serial number does not match their record. In this case, Starview International will offer tech support if it is a physical layer 1 problem. If the problem is not on the physical layer but exists on a higher protocol layer, it is your right as a customer to demand support from the equipment vendor.

7. What is the warranty coverage for using Starview International SFP?

Starview International SFP offers standard 2 year warranty. Extended warranty and maintenance services are available. It may be interesting to note that some vendors such as Cisco offers only 90days warranty on their SFP.

8. Why should customers consider using Starview International?

Key advantages that Starview International can bring to our customers are price competitiveness, quality/reliable, fast response, compatibility, large range of optical transceivers, quick lead time and maintenance services.

In addition, as most network equipment vendors do not produce the SFP themselves, the range of optics options they are able to produce are limited. Cisco offers only 8 CWDM wavelengths instead of 16. Cisco also does not have single fiber solution for more than 10km. Starview International offers much more complete optics options for project needs.

9. Why Starview International can offer Starview International SFPs at much lower cost than the original hardware vendors?

In reality, most if not all, network equipment vendors do not produce their own SFP modules. The productions are outsource to contract vendors and labeled as their specific brand. Hence, these SFP are higher in cost because of additional margins at each party.

Starview International is an in-house product for Starview International with our production house in China. This allows end-user to bypass the in-between parties and allow customer to purchase straight from the production source. We also have a large customer base and are able to mass produce at a cost-effective level.

10. Why are there some SFP suppliers on the market who are able to provide at more competitive prices?

In general, these suppliers with ultra-low cost SFP have low regards for quality as they take their SFP from sources that provide the lowest price. The specifications for their SFP may keep varying as to what is stated as the source of their SFP depends on price and they have 2-3 suppliers for the same product. Some possible sources of ultra-low cost SFP comes below.

- Some factory source low-grade components from different parties and only performs assemblies. The finished products are of varying quality and have no strict quality control as they lack necessary test tools.
- Contract manufacturers tend to over produce the required amount during production to replace out the low quality yields. Some customer may also return rejected batches which failed to meet their expectations. The "leftover" pieces are consolidated and released to companies with low budgets.
- Purchase of stocks that are kept over an extended period of time.
- Refurnished/RMA products that are repackaged and sold as brand-new

These suppliers also have unusual huge amount of stocks and are able to deliver at any time. In truth, manufacturers produce on demands or forecast and keep only limited stocks on fast-moving products.

11. Other than SFP, what other form factors does Starview International offers?

Starview International provides form factors modules such as GBIC, SFP, SFP plus, Xenpak, X2 and XFP. QSFP for 40G data-rate are also available.

In addition, we can offer a wide range of transceivers supporting protocols such as FE/GE, Fiber-Channels, SDH/SONET, 10GE and 40G. Optics options include single-fiber, SGMII, PON, CWDM/ DWDM.

12. What is the typical lead-time for Starview International SFP?

7-14 days depending on the requested items and quantities. We are also able to produce and keep in stock if there is a committed forecast from the customer.

13. How do I choose a SFP for my application?

Basic key considerations when selecting an SFP are as followings:

- Protocol/data rate used on the equipment
- Optical transmitting wavelength preference
- Optical transmission distance. Note: 60km and above, we recommend user to specify the optical budget required for the link instead.
- Type of fiber used: Singlemode /Multimode, Dual Fiber/Single Fiber
- Form Factor: GBIC, SFP*, SFP+,XFP, etc
- DDM preference

For other unique application, please contact our sales staff.

* Please note that SFP is also commonly known as mini-gbic.

14. What is Digital Diagnostic Monitoring (DDM) feature?

DDM is also known as digital optical monitoring (DOM) or Digital Monitoring Interface (DMI). Modern optical SFP support DDM functions according to the industry-standard SFF-8472. The SFP MSA defines a memory map describing the transceiver's capabilities, standard interfaces, vendor, and other information. This feature gives the end user the ability to monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

15. Is a SFP module hot swappable?

Yes, Starview International SFP is hot swappable, however, the equipment SFP port must be specified as hot-swappable as well. Please note that some equipment such as Cisco takes some time enable the physical port after inserting a new module. Also, when the physical module is removed, the equipment may enter a error disable state for a configurable period of time ranging from 30sec to 24hours. During the error disable period, even when the fault is recovered, the data link cannot be established. The results are the same even if you use the original vendor version of SFP.

16. Is SFP protocol transparent?

SFP are totally transparent to Ethernet/IP protocols and have no constraint on the transmission frame size. All Starview International SFP supports wire-rate data transmission at full-duplex mode. Higher layer level protocol issues are restricted to the equipment itself.

The reason is because SFP connects to the electrical circuitry of the equipment and only converts electrical data to an optical signal with no modifications in the protocol/frames. Hence, SFPs are operating solely on physical layer translation but the SFP in use must match the data-rate of the protocol specified on the equipment SFP port.

However, the use of poor quality SFP does induces additional transmission errors on the optical port such as CRC, frame slip, jitter, bit-error, etc. This is exceptional true on long distance transmission.

17. How do you reprogram the CISCO switches?

The following procedure is offered on a trial basis and is not guaranteed to work successfully on all CISCO switches and firmware revisions. It is recommended that you update the firmware on the switch first to make sure the latest revision is installed, increasing the likelihood of success with this procedure. The switch model tested are 2960, 2970G, 3560, 3560G, 3750.

- a. Connect to the switch console port and log on in "enabled" mode to allow privileged commands
- b. Once enabled, enter "config t" to allow configuration from the terminal
- c. Specify which port you would like to configure by entering the command "Interface Gigabit ?/?" where ?/? is the unit and port number you are trying to re-configure
- d. After entering that information, enter "service unsupported-transceiver"
- e. Enter "Shutdown". The switch will respond with a message stating that the port is administratively down.
- f. Enter "no shutdown". You may get a warning(s) about using "Unsupported Transceivers", but once the messages are done, the port will come online and function normally with the Starview international SFP.