FIBER

Fiber-optic transceivers

Ibertronics supplies a full portfolio of fiber-optic transceivers. These are also referred to as SFP or mini GBIC modules. Fiber-optic transceivers are used to let switches and servers communicate with each other through fiber-optics, at the same or at different locations. The fiber-optic modules can be coded for compatibility with A-brand network switches and servers.

With traditional network equipment and twisted pair (UTP) cabling, the cable is connected directly to the network device such as a switch or server. With optical fiber, the fiber-optic cable is connected to an optical transceiver that plugs into the network equipment. The optical receiver is an intermediate step to increase the flexibility of the network equipment used such as switches and servers.

Distance, form factor and coding

The wavelength of the laser or LED light source determines the distance that can be covered and the speed of the link. In the market, there is a wide variety of encodings used by different brands such as Cisco and HP.

To choose the right transceiver, a number of details are important: the network protocol, the speed, the wavelength, the maximum distance that can be bridged and the platform that will be used. Transceivers are available in different standards (form factor): QSFP28, CFP4,CFP2, CFP, QSFP+, SFP28, XFP, X2, XENPAK, SFP+,SFP, GBIC.

Warranty and compatibility

Our range of optical transceivers is compatible with all A-brands in the field of network equipment. Some of these brands have coding on their transceivers, ACT also offers compatibility with these brands. Some are coded in stock, but it is also possible to code to customer requirements. Thanks to European competition rules, customers can choose their own brand of transceivers and equipment warranty remains guaranteed.

The 3 main advantages of optical transceivers

Optical Transceivers, or SFP modules, provide a number of benefits when used in a network environment. For example, professional switches are equipped with SFP ports for connecting the switches to each other. Optical fiber realises high bandwidth combined with distance.

SFP modules form the bridge between the existing equipment and the fiber connection. Another advantage is that SFP modules are hot swappable and therefore equipment does not need to be rebooted.

SFP modules are the standard for fiber-optic comm

Network equipment manufacturers support the SFP, SFP+ and QSFP standard. SFP modules are used in various equipment such as:
- switches
- routers
- firewalls
- servers
- storage devices.

The equipment has a port where a SFP module can be plugged into. The abbreviation SFP stands for Small Formfactor Pluggable. The standard for use of SFP modules was created in cooperation with the various manufacturers. This standard is therefore called an MSA, which stands for Multi-Source Agreement.

Maximum flexibility in a network

A fiber-optic cable is connected to an SFP module. This module is inserted into the switch. The SFP module serves as an interface between the fiber-optic cable and the connected equipment. This ensures maximum flexibility, because the SFP can be adapted without having to adapt or replace the relevant equipment

Situations where only the SFP module needs to be adapted, instead of the equipment:

- Transition to a network with different type of fiber; for example, from singlemode to multimode.
- Possibility to add extra RJ45 ports to your network.
- Changed distance; for example, from cables of 100 meters to 80 kilometers.
- Change to a different speed; if, for example, switch speed changes from 1G to 10G.
- Different type of fiber optic connector; if, for example, an SC connector is placed on the cabling instead of an LC.

Hot swappable SFP modules

When changes in fiber type, distance, speed and connector occur, the SFP module is replaced. An important advantage is that equipment does not have to be switched off or rebooted during SFP module placement, ensuring excellent network continuity. Keeping equipment in operation during installation and/or replacement of fiber optic (SFP) modules is called “Hot swappable”.

SFP modules

SFP modules

Description	Open	Cisco	HP Procurve	Netgear	Dell
SFP SX	TR0001	TR0011	TR0021	TR0031	TR0041
SFP LX	TR0002	TR0012	TR0022	TR0032	TR0042
SFP+ SR	TR0003	TR0013	TR0023	TR0033	TR0043
SFP+ LR	TR0004	TR0014	TR0024	TR0034	TR0044

SFP+ copper RJ45 modules

	Open	Cisco	HP Aruba (813874-B21)	Juniper (EX-SFP-10GE-T)	H3C (SFP-XG-T)
1 Gbase	TR0005	TR0015	TR0025	TR0055	TR0065
10 Gbase	TR0006	TR0016	TR0026	TR0056	TR0066

SFP+ DAC cables

Length	Juniper	Open	HP	Cisco
1m	TR0101	TR0201	TR0301	TR0401
2m	TR0102	TR0202	TR0302	TR0402
3m	TR0103	TR0203	TR0303	TR0403
5m	TR0105	TR0205	TR0305	TR0405

SFP+ AOC (Active Optical Cable)

Length	Cisco
7m	TR0407
10m	TR0408
15m	TR0409
20m	TR0410
25m	TR0411
30m	TR0412
40m	TR0413
50m	TR0414

QSFP28 100GB direct attached cables (DAC)

Length	Cisco	Open
1m	TR0415	TR0419
2m	TR0416	TR0420
3m	TR0417	TR0421
5m	TR0418	TR0422