



# TN-XFP-xxx

## XFP Modules

### Ordering Information

**TN-XFP-SR**  
 10GBase-SR/SW/10G Fibre Channel, XFP w/Digital Diagnostics (DMI) 850nm (LC)  
**[62.5/125 uM (OM1): 33 m/108 ft.]**  
**[50/125 uM (OM2): 82 m/269 ft.]**  
**[50/125 uM (OM3): 300 m/985 ft.]**  
**Modal dispersion: 3.9 dB**

**TN-XFP-LR1**  
 10GBase-LR/LW/10G Fibre Channel, XFP w/Digital Diagnostics (DMI)1310nm (LC)  
**[10 km/6.2 mi.] Link Budget: 6.2 dB**

**TN-XFP-LR2**  
 10GBase-LR/LW/10G Fibre Channel, XFP w/Digital Diagnostics (DMI)1310nm (LC)  
**[20 km/12.4 mi.] Link Budget: 12.0 dB**

**TN-XFP-ER**  
 10GBase-LR/ER/10G Fibre Channel, XFP w/Digital Diagnostics (DMI)1310nm (LC)  
**[40 km/24.9 mi.] Link Budget: 16.5 dB**

**TN-XFP-ZR**  
 10GBase-ZR/10G Fibre Channel, XFP w/Digital Diagnostics (DMI)1550nm (LC)  
**[80 km/49.7 mi.] Link Budget: 23.0 dB**

**TN-XFP-LR10**  
 10GBase-LR/10G Fibre Channel, XFP w/Digital Diagnostics (DMI)1550nm (LC)  
**[100 km/62.1 mi.] Link Budget: 25.0 dB**

**Extended Operating Temperature**  
 -40°C to +85°C

**TN-XFP-LR1-T**  
 10GBase-LR/LW/10G Fibre Channel, XFP w/Digital Diagnostics (DMI)1310nm (LC)  
**[10 km/6.2 mi.] Link Budget: 6.2 dB**

**TN-XFP-LR2-T**  
 10GBase-LR/LW/10G Fibre Channel, XFP w/Digital Diagnostics (DMI) 1310nm (LC)  
**[20 km/12.4 mi.] Link Budget: 12.0 dB**

### CWDM Wavelengths

**TN-XFP-LR1-Cxx**  
 XFP 10GBASE-LR/10G Fibre Channel single mode (LC)  
**[10 km/6.2 mi.] Link Budget: 11.4 dB**

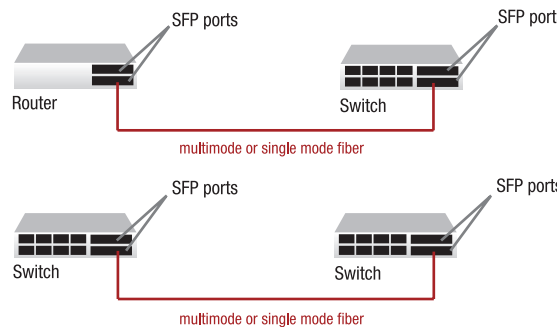
**\*TN-XFP-LR4-Cxx**  
 XFP 10GBASE-ER/10G Fibre Channel single mode (LC)  
**[40 km/24.9 mi.] Link Budget: 15.0 dB**

**\*\*TN-XFP-LR7-Cxx**  
 XFP 10GBASE-ZR single mode (LC)  
**[70 km/43.6 mi.] Link Budget: 23.0 dB**

xx = center wavelength (λ<sub>c</sub>)

27 = 1270nm	45 = 1450nm
29 = 1290nm	47 = 1470nm
31 = 1310nm	49 = 1490nm
33 = 1330nm	51 = 1510nm
35 = 1350nm	53 = 1530nm
37 = 1370nm	55 = 1550nm
39 = 1390nm	57 = 1570nm
41 = 1410nm	59 = 1590nm
43 = 1430nm	61 = 1610nm

### Fiber Connections with XFPs



### Features

- ▶ Hot-Pluggable XFP Footprint LC Optical Transceiver
- ▶ Digital Diagnostic Function
- ▶ Class 1 Laser International Safety Standard IEC-60825 Compliant
- ▶ Compatible with XFP Multi-Sourcing Agreement (MSA)
- ▶ XFP Optical Transceiver with duplex LC connector
- ▶ 10G small Form-Factor Pluggable (XFP) MSA compatible
- ▶ INF-8077i Digital Diagnostic Function (DMI)
- ▶ Maximum Link Length of 80 km
- ▶ Single +3.3V Power Supply
- ▶ Low Power Dissipation < 2W
- ▶ RoHS Compliant (all models)

### Applications

- ▶ 10G Ethernet Switches and Routers
- ▶ 10G Fibre Channel Switch Infrastructure
- ▶ Metro Edge Switching

### Specifications

Standards	IEEE802.3ae
Output Wavelength	-5.5nm < λ <sub>c</sub> < +7.5nm
Dimensions	<b>Width:</b> 0.71" [18 mm] <b>Depth:</b> 3.07" [78 mm] <b>Height:</b> 0.33" [8 mm]
Power	3.3V
Power Consumption	0.66 Watts
Environment	
<b>TN-XFP-SR, TN-XFP-ZR, TN-XFP-LRx-Cxx:</b>	0°C – 70°C Operating
<b>TN-XFP-LR1, TN-XFP-LR2, TN-XFP-ER:</b>	-5°C - 70°C Operating
<b>TN-XFP-LR1-T, TN-XFP-LR2-T:</b>	-45°C - 80°C Operating
Operation Humidity	10% to 90% (non-condensing)
Compliance	IEC-60825; FDA 21; CFR 1040.10 and 1040.11
Warranty	Lifetime

\*Note: Per Cisco Systems' literature, the Cisco switches with XFP slots do not accept modules other than Cisco's own XFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces. Other major XFP switch manufacturers do not indicate in their literature that such restrictions are imposed.

\*Transition Networks' XFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' XFP modules to be used on other MSA-compliant XFP platforms without any problems.

\* The TN-XFP-LR4-Cxx will only have 12 wavelengths, from 1270nm to 1330nm and from 1470nm to 1610nm, each step 20nm

\*\* The TN-XFP-LR7-Cxx will only have 7 wavelengths, from 1470nm to 1610nm, each step 20nm

### Additional Features

#### TN-XFP-SR Module

- ▶ Compliant with IEEE 802.3ae 10GBASE-SR/SW
- ▶ Compliant with 10G Fibre Channel 1200-MX-SN-I
- ▶ Low power Dissipation < 1.2W

#### TN-XFP-LRx & TN-XFP-ER & TN-XFP-ZR

- ▶ Compliant with IEEE 802.3ae 10GBASE-LR/LW//ER/ZR
- ▶ Compliant with 10G Fibre Channel 1200-SM-LL-L
- ▶ Compliant with XFI 10G Serial Electrical Interface
- ▶ Low power Dissipation < 2W



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