



- Hot-pluggable with maximum flexibility
- Low power dissipation
- Industry standard compliance
- SFP MSA (Multi-Source Agreement) compliance
- Compact size, high port density

## Reliable Transceiver Modules for Different Connectivity Demands

The ZyXEL Transceiver Series is a complete range of industry standard, hot-pluggable transceiver modules consists of Fast, Gigabit and 10 Gigabit variations.

### Benefits

#### Standard-based design assures compatibility

The ZyXEL transceiver family follows industry standards to assure compatibility with switches from other manufacturers without barrier set by proprietary technologies.

#### Comprehensive portfolio for different connectivity demands

With ZyXEL's comprehensive Fast, Gigabit and 10 Gigabit transceiver product range, users can just plug the proper model onto the network to extend the physical coverage.

#### Hot-swappable design facilitates network maintenance

Independent transceiver design provides the highest network maintenance flexibility. Transceivers can be freely added when required, and infrastructure upgrades or transceiver repairs can be done easily by just replacing the transceiver instead of the whole device.

#### Bi-directional transceivers maximizes usage of existing fiber plant

Traditional fiber optic networking requires two strands of fiber to accomplish communications, in which one strand is reserved for sending signals, while the other is for receiving. On the other hand, bi-directional, dual-wavelength transceivers can establish communications over just one strand of fiber by using two separate optical wavelengths: one receives and the other transmits signals. Transmission capacity can be expanded immediately without additional cost laying new fiber.

#### Supporting DDMI (Digital Diagnostics Monitoring Interface) SFP enhances management capability

The enhanced digital interface enables a real time link to be established between the switch and the SFP transceiver. This enables the switch to access operating parameters within the fibre link. This includes digital features such as soft control and monitoring of SFP I/O signals.

In addition the DDMI functionality enables the capability to implement digital alarms and warnings. This feature ensures that the business can be proactive in preventative maintenance of the network and ensure business continuity.

DDMI Monitors:

- Temperature
- Supply voltage
- Transmitted bias current
- Transmitted power
- Received power

All features listed above include alarm and warning thresholds.

**Transceiver Series**  
**10GbE/GbE/FE**  
**Fiber Transceivers**

### Specifications and Features

10GbE Transceiver Modules	10 Gigabit XFP			10 Gigabit SFP+	
	FTLX8511D3 (XFP-SR)	FTLX1611M3 (XFP-ER)	FTLX1412D3BCL (XFP-LR)	SFP10G-SR	SFP10G-LR
Connector	LC	LC	LC	Duplex LC	Duplex LC
Wavelength	850 nm	1550 nm	1310 nm	850 nm	1310 nm
Max Transmission Distance	300 m	40 km	10 km	300 m	10 km
<b>Receiver Characteristics</b>					
Optical Receiver Sensibility	-11.1 dBm	-16 dBm	-12.6 dBm	-11.1 dBm	-12.6 dBm
Maximum Input Power	+0.5 dBm	-1 dBm	+0.5 dBm	0.5 dBm	0.5 dBm
<b>Operational Ranges</b>					
Supply Voltage	3.1 - 3.45 V	3.1 - 3.5 V	3.1 - 3.5 V	3.14 - 3.46 V	3.14 - 3.46 V
Max Current	400 mA	400 mA	600 mA	250 mA	285 mA
<b>Physical Specifications</b>					
Item Dimensions (WxDxH)(mm/in.)	22.15 x 77.95 x 13.30/0.87 x 3.07 x 0.52			14.8 x 56.5 x 11.85/0.58 x 2.22 x 0.47	
Item Weight (g/lb.)	40/0.09	45/0.10	42/0.09	20/0.04	20/0.04
With DDMI Features	Yes	Yes	Yes	Yes	Yes

GbE/FE Transceiver Modules	Gigabit SFP							Fast Ethernet SFP				
	SFP-1000T	SFP-SX-D	SFP-LX-10-D	SFP-BX 1310-10-D	SFP-BX 1490-10-D	SFP-LHX 1310-40-D	SFP-ZX-80-D	SFP-100FX-2	SFP-100TX	SFP-100LX-20	SFP-100BX1310-20-D	SFP-100BX1550-20-D
Connector	RJ-45	LC	LC	LC	LC	LC	LC	LC	RJ-45	LC	LC	LC
Wavelength	-	850 nm	1310 nm	1310 nm (TX) 1490 nm (RX)	1490 nm (TX) 1310 nm (RX)	1310 nm	1550 nm	1310 nm	-	1310 nm	1310 nm (TX) 1550 nm (RX)	1550 nm (TX) 1310 nm (RX)
Max Transmission Distance	100m	550 m	10 km	10 km	10 km	40 km	80 km	2 km	-	20 km	20 km	20 km
<b>Receiver Characteristics</b>												
Optical Receiver Sensibility	-	-17 dBm	-20 dBm	-20 dBm	-20 dBm	-23 dBm	-24 dBm	-32 dBm	-	-30 dBm	-34 dBm	-34 dBm
Maximum Input Power	-	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-8 dBm	-	-5 dBm	0 dBm	0 dBm
<b>Operational Ranges</b>												
Supply Voltage	3.1 - 3.45 V	3.1 - 3.5 V	3.1 - 3.5 V	3.1 - 3.5 V	3.1 - 3.5 V	3.1 - 3.5 V	3.1 - 3.5 V	3.1 - 3.5 V	3.1 - 3.45 V	3.1 - 3.5 V	3.1 - 3.5 V	3.1 - 3.5 V
Max Current	300 mA	250 mA	300 mA	-	300 mA	300 mA	300 mA	250 mA	300 mA	250 mA	300 mA	300 mA
<b>Physical Specifications</b>												
Item Dimensions (WxDxH) (mm/in.)	13.40 x 56.00 x 12.40/0.53 x 2.20 x 0.49							13.40 x 56.00 x 12.40/0.53 x 2.20 x 0.49				
Item Weight (g/lb.)	24/0.05	24/0.05	16/0.04	17/0.04	17/0.04	17/0.04	18/0.04	17/0.04	21/0.05	30/0.07	15/0.03	15/0.03
With DDMI Features	-	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	Yes	Yes

#### Environmental Specifications

- Operating temperature: 0°C to 70°C (32°F to 158°F)
- Storage temperature: -40°C to 85°C (-40°F to 185°F)

#### Safety Certification

- Class 1 Laser
- 21 CFR 1040.10 and 1040.11 compliant
- CSA (10 Gigabit XFP, Gigabit SFP and Fast Ethernet SFP Series)
- TUV
- CE (10 Gigabit SFP+ Series)
- FDA (10 Gigabit SFP+ Series)

## Supported Switches

		7000 Series	4700 Series		4500 Series		4000 Series		3000 Series									
		MS-7206	XGS-4700-48F	XGS-4728F	XGS-4526	XGS-4528F	GS-4012F	ES-4124	MGS-3712	MGS-3712F	MES-3728	MES-3528	ES-3124	ES-3124F	ES-3124PWR	ES-3148	ES-315	ES-315F
10 Gigabit XFP	FTLX8511D3 (XFP-SR)	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1611M3 (XFP-ER)	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1412D3BCL (XFP-LR)	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-	-
10 Gigabit SFP+	SFP10G-SR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SFP10G-LR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gigabit SFP	SFP-1000T	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
	SFP-SX-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
	SFP-LX-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
	SFP-BX1310-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
	SFP-BX1490-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
	SFP-LHX1310-40-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
	SFP-ZX-80-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Fast Ethernet SFP	SFP-100FX-2	-	Yes	-	-	-	-	-	-	-	-	-	-	Yes	-	-	-	Yes
	SFP-100TX	-	Yes	-	-	-	-	-	-	-	-	-	-	Yes	-	-	-	Yes
	SFP-100LX-20	-	Yes	-	-	-	-	-	-	-	-	-	-	Yes	-	-	-	Yes
	SFP-100BX1310-20-D	-	Yes	-	-	-	-	-	-	-	-	-	-	Yes	-	-	-	Yes
	SFP-100BX1550-20-D	-	Yes	-	-	-	-	-	-	-	-	-	-	Yes	-	-	-	Yes

		2200 Series					2000 Series					
		GS2200-8	GS2200-8HP	GS2200-24	GS2200-24P	GS2200-48	ES-2024A	ES-2024PWR	ES-2108	ES-2108-G	ES-2108PWR	MES-2110
10 Gigabit XFP	FTLX8511D3 (XFP-SR)	-	-	-	-	-	-	-	-	-	-	-
	FTLX1611M3 (XFP-ER)	-	-	-	-	-	-	-	-	-	-	-
	FTLX1412D3BCL (XFP-LR)	-	-	-	-	-	-	-	-	-	-	-
10 Gigabit SFP+	SFP10G-SR	-	-	-	-	-	-	-	-	-	-	-
	SFP10G-LR	-	-	-	-	-	-	-	-	-	-	-
Gigabit SFP	SFP-1000T	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
	SFP-SX-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
	SFP-LX-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
	SFP-BX1310-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
	SFP-BX1490-10-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
	SFP-LHX1310-40-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
	SFP-ZX-80-D	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
Fast Ethernet SFP	SFP-100FX-2	Yes	Yes	-	-	-	-	-	-	-	-	Yes
	SFP-100TX	Yes	Yes	-	-	-	-	-	-	-	-	Yes
	SFP-100LX-20	Yes	Yes	-	-	-	-	-	-	-	-	Yes
	SFP-100BX1310-20-D	Yes	Yes	-	-	-	-	-	-	-	-	Yes
	SFP-100BX1550-20-D	Yes	Yes	-	-	-	-	-	-	-	-	Yes

		1910 Series						1510 Series		1500 Series				
		GS1910-24	GS1910-24HP	GS1910-48	GS1910-48HP	XGS1910-24	XGS1910-48	GS1510-16	GS1510-24	ES-1528	ES-1552	GS-1524	GS1548	GS1500-24P
10 Gigabit XFP	FTLX8511D3 (XFP-SR)	-	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1611M3 (XFP-ER)	-	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1412D3BCL (XFP-LR)	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Gigabit SFP+	SFP10G-SR	-	-	-	-	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
	SFP10G-LR	-	-	-	-	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
Gigabit SFP	SFP-1000T	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
	SFP-SX-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
	SFP-LX-10-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
	SFP-BX1310-10-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
	SFP-BX1490-10-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
	SFP-LHX1310-40-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
	SFP-ZX-80-D	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
Fast Ethernet SFP	SFP-100FX-2	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-
	SFP-100TX	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-
	SFP-100LX-20	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-
	SFP-100BX1310-20-D	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-
	SFP-100BX1550-20-D	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-

		1100 Series							100 Series				
		ES1100-8P	ES1100-16P	ES1100-16	ES1100-24E	ES1100-24	ES1100-24G	GS1100-16	GS1100-24	GS-105B	GS-108B		
10 Gigabit XFP	FTLX8511D3 (XFP-SR)	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1611M3 (XFP-ER)	-	-	-	-	-	-	-	-	-	-	-	-
	FTLX1412D3BCL (XFP-LR)	-	-	-	-	-	-	-	-	-	-	-	-
10 Gigabit SFP+	SFP10G-SR	-	-	-	-	-	-	-	-	-	-	-	-
	SFP10G-LR	-	-	-	-	-	-	-	-	-	-	-	-
Gigabit SFP	SFP-1000T	-	-	-	-	-	Yes	-	Yes	-	-	-	-
	SFP-SX-D	-	-	-	-	-	Yes	-	Yes	-	-	-	-
	SFP-LX-10-D	-	-	-	-	-	Yes	-	Yes	-	-	-	-
	SFP-BX1310-10-D	-	-	-	-	-	Yes	-	Yes	-	-	-	-
	SFP-BX1490-10-D	-	-	-	-	-	Yes	-	Yes	-	-	-	-
	SFP-LHX1310-40-D	-	-	-	-	-	Yes	-	Yes	-	-	-	-
	SFP-ZX-80-D	-	-	-	-	-	Yes	-	Yes	-	-	-	-
Fast Ethernet SFP	SFP-100FX-2	-	-	-	-	-	Yes	-	-	-	-	-	-
	SFP-100TX	-	-	-	-	-	Yes	-	-	-	-	-	-
	SFP-100LX-20	-	-	-	-	-	Yes	-	-	-	-	-	-
	SFP-100BX1310-20-D	-	-	-	-	-	Yes	-	-	-	-	-	-
	SFP-100BX1550-20-D	-	-	-	-	-	Yes	-	-	-	-	-	-

For more product information, visit us on the web at [www.ZyXEL.com](http://www.ZyXEL.com)



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