

BIDI-1.25G-SFP-20-AD

Optical Transceiver



Key Features

- Media Type: **Single-Mode Fiber (SMF)**
- Fiber Count: **BiDi**
- Connector: **Single LC/UPC**
- Maximum Distance: **20 km**
- Guaranteed Link Budget: **13 dB**
- Tx Wavelength: **1310 nm**
- Supported Data Rate: **1.063 Gbps - 1.25 Gbps**
- DDM/DOM: **Supported**

Product Description

Our EDGEOPTIC BIDI-1.25G-SFP-20-AD is a multi-vendor compatible 1000BASE-BX bidirectional SFP optical module designed for medium-reach Gigabit Ethernet applications operating over single-mode fiber infrastructure. This BiDi transceiver enables cost-effective fiber utilization by transmitting and receiving on a single fiber strand, making it particularly suitable for metropolitan access networks and extended campus deployments where fiber conservation delivers meaningful infrastructure savings.

The BIDI-1.25G-SFP-20-AD module operates at 1310nm wavelength for transmission and 1550nm for reception, supporting data rates from 1.063 to 1.25 Gbps. This Side A transceiver must be deployed in matched pairs with its complementary Side B unit (transmitting at 1550nm, receiving at 1310nm) to establish bidirectional communication over a single fiber strand. Our 1000BASE-BX SFP transceiver utilizes FP (Fabry-Pérot) laser technology for transmission and PIN photodiode for signal reception. The module ensures a 13 dB guaranteed optical link budget, supporting transmission distances up to 20 kilometers over standard single-mode fiber. However, distance remains an indicative parameter calculated for ease of identification – actual reach depends on minimal optical budget requirements and real-world attenuation characteristics of the installed fiber plant.

The BIDI-1.25G-SFP-20-AD is a hot-pluggable SFP module featuring a single LC/UPC connector as the optical interface. The electrical interface conforms to INF-8074i and SFP MSA (Multi-Source Agreement) specifications, ensuring compatibility with standard SFP host systems across multiple vendor equipment platforms. Our 1000BASE-BX SFP transceiver can be encoded for compatibility with 80+ equipment brands, enabling seamless integration into existing network infrastructure. The module incorporates DDM/DOM (Digital Diagnostic Monitoring) functionality, providing real-time operational parameters including transmitted and



received optical power levels, module temperature, laser bias current, and supply voltage. This diagnostic data is accessible via MSA-compatible EEPROM interface, enabling comprehensive monitoring of transceiver health and performance.

The SFP form factor, while considered a legacy standard, remains widely deployed across enterprise, carrier, and industrial networks due to its proven reliability, broad equipment support, and cost-effectiveness for Gigabit applications. The module operates within a standard 0°C to 70°C commercial temperature range, with appropriate thermal considerations for sustained operation in controlled equipment room environments. Power requirements are met by a single +3.3V supply.

Standards compliance includes IEEE 802.3ah for 1000BASE-BX Gigabit Ethernet along with 1G Fiber Channel support at 1.0625 Gbps. The transceiver achieves multi-vendor interoperability through adherence to industry MSA standards, though equipment with vendor-specific module validation may require custom EEPROM programming for full compatibility. Our 1000BASE-BX SFP transceiver is CE and RoHS certified, meeting Class 1 FDA and IEC60825-1 laser safety requirements.

Typical applications include metropolitan access networks, multi-building campus connectivity, industrial site interconnections, and carrier access infrastructure requiring medium-reach single-fiber paths. Because our focus is providing top quality service, we perform rigorous quality checks before delivery. This includes optical parameter measurements, connector cleanliness inspection, and SFP transceiver EEPROM memory data validation tests.

Technical Specifications

Specification	Value
Form Factor	SFP
Media Type	Single-Mode Fiber (SMF)
Fiber Count	BiDi
Connector	Single LC/UPC
Maximum Distance	20 km
Guaranteed Link Budget	13 dB
TX Wavelength	1310 nm
RX Wavelength	1550 nm



Supported Data Rate	1.063 Gbps - 1.25 Gbps
Supported Ethernet Applications	Gigabit Ethernet (1.25 Gbps)
Supported Fiber Channel Applications	1G Fiber Channel (1.0625 Gbps)
DDM/DOM	Supported
Tx Wavelength Bandwidth	40 nm (1290-1330 nm)
Rx Wavelength Bandwidth	40 nm (1530-1570 nm)
Minimum Transmitting Power	-9 dBm
Maximum Transmitting Power	3 dBm
Receiver Sensitivity	-22 dBm
Receiver Overload	-3 dBm
Dispersion	140-160 ps/nm ps/nm
Transmitter Type	FP Laser
Receiver Type	PIN photodiode
Temperature Range	Standard 0°-70°C
Power	+3.3V single power supply
Compliance	CE, Class 1 FDA and IEC60825-1 Laser Safety Compliant, RoHS, INF-8074i, SFP MSA

Ordering Info

SKU	Description
BIDI-1.25G-SFP-20-AD	Single Fiber 1.25G SFP Module (Tx/Rx 1310/1550nm, 100Mbps-1.25Gbps, Max. 20km over SMF, 14 dB, Temp. 0-70C, LC/UPC)

Warranty



EDGE Optic's provides a limited warranty for **sixty (60) months** from Purchaser's receipt of the Equipment represented in this data sheet against defective design or workmanship.

Compatibility

EDGE Optical transceivers can be provided with custom-encoded firmware, in order to provide compatibility with more than 100 vendor brands in data and telecom communications industry:

MS - General MSA	MS - EdgeWare	MS - KyLand	MS - Raisecom
AD - Adva (Adtran)	MS - Eltex	LN - Lenovo	MS - Ruckus
MS - Advantech	MS - Emulex	ML - Mellanox (NVIDIA)	MS - Ruijie Networks
MS - Allied Telesis	MS - Enterasys	ME - Meraki (Cisco)	MS - Sandvine
AR - Arista	ER - Ericsson	MS - MikroTik	MS - Silicom
MS - Arris	MS - EXFO	MO - Moxa	MS - SolarFlare
AG - Avago	EX - Extreme Networks	MS - MRV	SW - Sonicwall
AV - Avaya	F5 - F5 Networks	NC - NEC	MS - Sophos
BR - Broadcom	MS - Finisar	MS - NetApp	MS - Sumitomo
QL - Cavium (Qlogic)	FO - Fortinet	MS - Netgear	MS - Supermicro
MS - Ceragon	MS - Fujitsu	MS - Netinsight	MS - Synology
CH - Checkpoint	HI - Hirschmann	NK - Nokia (Alcatel)	MS - Telco Systems
CN - Ciena	HP - HP	MS - Nortel	MS - TP-LINK
CI - Cisco	AU - HP Aruba	NS - NSN	TM - Transmode
LI - Cisco (Linksys)	HU - Huawei	MS - OE Solutions	MS - Trendnet
MS - Comnet	IB - IBM	MS - Oracle	MS - Ubiquiti Networks
MS - D-link	IF - Infinera	MS - Palo Alto Network	MS - WatchGuard
MS - Dahua	MS - Innolight	MS - Planet	WS - Waystream
MS - DCN	IN - Intel	QL - Qlogic (Oracle)	WT - Westermo
DL - Dell	MS - JDSU	MS - QNAP	MS - ZTE
MS - DZS(Dasan-Zhone)	JU - Juniper	RD - RAD	MS - Zyxel
MS - EdgeCore	MS - KeyMile	MS - RadWare	XX - Other

Version Control

Version: 2.0

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CERTIFIED
ISO 9001



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