

Singlemode BiDi SFP Transceivers

Fast Ethernet Fibre Optic Transceivers with BiDi



- **100 Mbit/s with BiDi**
 - Transmit and receive when only a single fibre core is available with a bi-directional transceiver
 - Bi-directional fibre transceivers available in 20, 40 and 120 km variants
- **Short and long range fibre optic communication**
 - Short- and long-range installations on fibre cables fibre cables
 - Real time monitoring of the SFP using DDM, integrated with WeOS
- **Robust and reliable**
 - Thoroughly tested to high standards
 - Wide operating temperature range, -40 to +85°C
 - Functionality validated for mission critical applications
- **Full WeOS support**
 - Transceivers and WeOS developed in symbiosis
 - All functionality available
 - Technical support and know-how



EN 50121-4
Railway Trackside

EN 60825-1
Safety of Laser Products

EN 60825-2
Safety of Laser Products



Westermo's range of 100 Mbit/s singlemode SFPs with BiDi-functionality are suitable for short- and long-range applications. A BiDi transceiver enables data communication in both directions simultaneously over a single core optical fibre. Using the DDM functionality, which is fully integrated into WeOS, it is possible to monitor parameters such as temperature, TX/RX power and voltage, ensuring correct operation.

As industrial networks transmit more data, 100 Mbit/s fibre links can be used to link sites across long distances. Setting up network backbones over long distances is now possible and BiDi transceivers can double the capacity by using different wavelengths for upstream and downstream communication over the same fibre link. The SFPs are tested and optimized for compatibility with the WeOS platform and are offered in multiple different variants, with indicative ranges from 20 km to 120 km.

To meet the high demands of mission-critical applications, all SFP transceivers undergo thorough environmental testing to ensure they can perform under the harshest conditions. Additionally, their functionality is pushed to the limit to guarantee availability and reliability.

WeOS, the Westermo operating system, is designed to meet the toughest requirements, and full support for all offered transceivers is a crucial aspect. All features of WeOS are extensively tested and verified to be fully supported on any WeOS device with a Westermo transceiver installed.

Specifications - Singlemode BiDi SFP Transceivers

Housing	
Dimensions device (W x H x D)	14 x 13 x 57 mm (0.55 x 0.51 x 2.24 inches)
Dimensions protosion (W x H x D)	14 x 13 x 9 mm (0.55 x 0.51 x 0.35 inches)

Environmental	
Operating temperature	-40 to +85°C (-40 to +185°F)
Storage and transport temperatures^a	-40 to +85°C (-40 to +185°F)
Humidity (operating)	5-95% relative humidity

^aCase operating temperature

Interface						
Model	SLC20-BiDi-A-DDM	SLC40-BiDi-A-DDM	SLC120-BiDi-A-DDM	SLC20-BiDi-B-DDM	SLC40-BiDi-B-DDM	SLC120-BiDi-B-DDM
Connector type	Simplex LC					
Transceiver type	Singlemode					
Clasp colour	Blue			Green		
Transmission speed	100 Mbit/s					
Transmit wavelength	1310 nm	1310 nm	1550 nm	1530 nm	1550 nm	1490 nm
Transmit power (max)	-8 dBm	0 dBm	3 dBm	-8 dBm	0 dBm	3 dBm
Transmit power (min)	-14 dBm	-8 dBm	-2dBm	-14 dBm	-8 dBm	-2 dBm
Receive wavelength	1530 nm	1550 nm	1490 nm	1310 nm	1310 nm	1550 nm
Receiver power/sensitivity (min)	-32 dBm	-34 dBm	-34 dBm	-32 dBm	-34 dBm	-34 dBm
Receiver power (max)	0 dBm	0 dBm	0 dBm	0 dBm	0 dBm	0 dBm
Power budget	18 dBm	26 dBm	32 dBm	18 dBm	26 dBm	32 dBm
Indicative range	20 km	40 km	120 km	20 km	40 km	120 km

Diagnostics (DDM)	
Parametres	Accuracy
Temperature	±3°C
Voltage	± 0.1 VDC
Bias current	± 10% or 5 mA
TX power	± 3 dBm
RX power	± 3 dBm

Approvals	
EMC	EN 50121-4/IEC 62236-4, Railway signalling and telecommunications apparatus
Safety	EN/IEC 60825-1, Laser products - part 1: Equipment classification and requirement EN/IEC 60825-2, Laser products - part 2: Safety of optical fibre communication systems EN/IEC/UL 62368-1, Audio/video, information and communication technology equipment

Warranty	
Validity	5 years

Ordering information	
Art. no.	Description
1100-0545	SLC20-BiDi-A-DDM
1100-0546	SLC20-BiDi-B-DDM
1100-0554	SLC40-BiDi-A-DDM
1100-0555	SLC40-BiDi-B-DDM
1100-0573	SLC120-BiDi-A-DDM
1100-0574	SLC120-BiDi-B-DDM