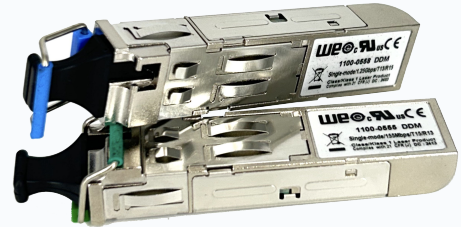


Substation Automation SFPs

100 Mbit & 1 Gbit transceiver for Substation Automation

- **Designed for demanding energy applications**
 - Certified to IEEE 1613 Class 2 - zero packet loss even under extreme EMI
 - KEMA Gold Type Test certified for maximum reliability
 - High-speed options: 100 Mbit/s and 1 Gbit/s, with distances up to 80 km
- **Robust and reliable**
 - Rigorously tested beyond industry standards
 - Wide operating temperature range, -40 to +85°C
 - Proven performance in mission-critical and harsh environments
- **Full WeOS support**
 - Transceivers and WeOS developed in perfect synergy
 - Full feature compatibility across all WeOS devices
 - Backed by expert technical support and deep application know-how



EN 50121-4
Railway Trackside

EN 60825-1
Safety of Laser Products

EN 60825-2
Safety of Laser Products

IEC 61850-3
Substation Automation

IEEE 1613
Substation Automation



RoHS
2002/95/EC

Westermo's Substation Automation SFPs are purpose-built for the most demanding energy environments, delivering uncompromising performance and reliability. Certified to meet and exceed IEEE 1613 Class 2 standards, these transceivers are engineered to withstand the harshest electromagnetic interference (EMI) without a single lost data packet, even during the most extreme bursts. With KEMA Gold Type Test Certification, they guarantee zero communication loss, no delays and no errors, ensuring your critical infrastructure stays connected, always.

Our range includes both 100 Mbit/s and 1 Gbit/s options, fully compatible with Westermo's substation automation switches. Choose from a variety of models with wavelengths from 850 nm to 1550 nm, and transmission distances ranging from 2 km to 80 km, giving you the flexibility to design robust and future-proof networks.

Every Westermo SFP undergoes rigorous environmental and functional testing, far beyond standard requirements. From extreme temperatures to high EMI environments, each unit is validated to perform flawlessly in mission-critical applications, ensuring maximum uptime and operational security.

Our powerful operating system, WeOS, is developed with strict quality and reliability standards. It offers full support for all Westermo transceivers, ensuring seamless integration and optimal performance across your entire network infrastructure.

Specifications - Substation Automation SFPs

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								
Connector type	Duplex LC							
Transceiver type	Multimode	Singlemode			Multimode	Singlemode		
Model	MLC2-DDM-SA	SLC20-DDM-SA	SLC40-DDM-SA	SLC80-DDM-SA	GMLC2-DDM-SA	GSLC10-DDM-SA	GSLC50-DDM-SA	GSLC80-DDM-SA
Clasp colour	Black	Blue			Black	Blue		
Transmission speed	100 Mbit/s				1 Gbit/s			
Transmit wavelength	1310 nm			1550 nm	1310nm		1550 nm	
Transmit power (max)	-14 dBm	-8 dBm	0 dBm		-1 dBm	-3 dBm	+1 dBm	+5 dBm
Transmit power (min)	-20 dBm	-15 dBm	-5 dBm		-9 dBm		-4 dBm	0 dBm
Receive wavelength	1310 nm			1550 nm	1310 nm		1550 nm	
Receiver power/ sensitivity (min)	-31 dBm	-32 dBm	-35 dBm		-19 dBm	-21 dBm	-24 dBm	
Receiver power (max)	-8 dBm	0 dBm			-1 dBm	-3 dBm	-1 dBm	
Power budget	11 dBm	24 dBm	30 dBm		10 dBm	12 dBm	20 dBm	24 dBm
Min attenuation	6 dBm	0 dBm					2 dBm	6 dBm
Indicative range	2 km	20 km	40 km	80 km	62.5/125 µm: 2 km 50/125 µm : 1 km	10 km	50 km	80 km

Diagnostics (DDM)	
Parametres	Accuracy
Temperature	±3°C
Voltage	± 0.1 VDC
Bias current	± 15 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
Substation Automation	IEEE 1613, Testing requirements for communications networking devices installed in electric power substations IEC 61580-3, Communication networks and systems for power utility automation - Part 3: General requirements

Warranty	
Validity	5 years

Ordering information	
Art. no.	Description
1100-2531	MLC2-DDM-SA
1100-2532	SLC20-DDM-SA
1100-2533	SLC40-DDM-SA
1100-2534	SLC80-DDM-SA
1100-2541	GSLC10-DDM-SA
1100-2542	GSLC50-DDM-SA
1100-2543	GSLC80-DDM-SA
1100-2547	GMLC2-DDM-SA