

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



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 protrosion (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 | 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 |