

10G & 100G EDFAMUX



1. GENERAL DESCRIPTION

The Solid Optics EDFAMUX is a Passive Multiplexer with Active Components, which combines three devices into one rack unit. Typically, long distance projects require a 1RU standalone Passive MUX, separate EDFAs (amplifier), and a separate Dispersion Compensation unit. The Solid Optics EDFAMUX combines all of these features in a 1RU 19" enclosure, which requires less space and less patching.

2. AVAILABLE DEFAULT VERSIONS

PARTNAME 10G	DESCRIPTION
SO-DWDM-10x10G-EDFAMUX-140Km	Solid Optics 10CH Active MUX with built-in EDFA and Dispersion Compensator. 10 x 10G to reach a max of 140Km, Net Power Budget 26dB (calculation based on 100% population of ports), Channels 28-37 C-Band 100Ghz with 1% Monitor port, Dual AC 100/240V, ethernet and console management ports, 1RU 19" enclosure
SO-DWDM-16x10G-EDFAMUX-140Km	Solid Optics 16CH Active MUX with built-in EDFA and Dispersion Compensator. 16 x 10G to reach a max of 140Km, Net Power Budget 26dB (calculation based on 100% population of ports), Channels 20-35 C-Band 100Ghz with 1% Monitor port. Dual AC 100/240V, ethernet and console management ports, 1RU 19" enclosure
SO-DWDM-10x10G-EDFAMUX-200Km	Solid Optics 10CH Active MUX with built-in EDFA and Dispersion Compensator. 10 x 10G to reach a max of 200Km, Net Power Budget 37dB, (calculation based on 100% population of ports), Channels 28-37 C-Band 100Ghz with 1% Monitor port. Dual AC 100/240V, ethernet and console management ports, 1RU 19" enclosure

SO-DWDM-8x100G-EDFAMUX-80km

Solid Optics 8Ch Active MUX with built-in EDFAs and Tunable Dispersion Compensator, 8 x 100G to reach max of 80km, Net Power Budget 18dB (calculation based on 100% population of ports), Channels 28-35 C-Band 100Ghz with 2 x 10G (ports CH59 and CH60), 10G Extension port (CH17-26 & 37-57) and 1% Monitor port, Dual AC 100/240V, ethernet and console management ports, 1RU 19" enclosure.

SO-DWDM-16x100G-EDFAMUX-40Km

Solid Optics 16Ch Active MUX with built-in EDFAs and Tunable Dispersion Compensator, 16 x 100G to reach max of 40km, Net Power Budget 12dB (calculation based on 100% population of ports), Channels 20-35 C-Band 100Ghz and 1% Monitor port, Dual AC 100/240V, ethernet and console management ports, 1RU 19" enclosure.

SO-DWDM-8x100G-EDFAMUX-120Km

Solid Optics 8Ch Active MUX with built-in EDFAs and Tunable Dispersion Compensator, 8 x 100G to reach max of 120km, Net Power Budget 29dB (calculation based on 100% population of ports), Channels 28-35 C-Band 100Ghz and 1% Monitor port, Dual AC 100/240V, ethernet and console management ports, 1RU 19" enclosure.

SO-DWDM-16x100G-EDFAMUX-80km

Solid Optics 16Ch Active MUX with built-in EDFAs and Tunable Dispersion Compensator, 16 x 100G to reach max of 80km, Net Power Budget 18dB (calculation based on 100% population of ports), Channels 20-35 C-Band 100Ghz and 1% Monitor port, Dual AC 100/240V, ethernet and console management ports, 1RU 19" enclosure

3. PRODUCT SPECIFICATIONS & FEATURES

- ✓ 100G EDFAMUX supports 8 or 16 communication lines of 100G from 20Km up to 120Km
- ✓ The max distance of 140km and 200km for the 10G EDFAMUX models is reached with 80% of the ports populated. With a port population of 100% we are able guarantee a distance of 125km and 180km.
- ✓ Active one rack unit device
- ✓ Default 2 x AC(100-240V), DC optional
- ✓ 8 Channel 100G version comes default with CH28-35 (other channels available on request)
- ✓ 10 Channel 10G version comes default with CH28-37 (other channels available on request)
- ✓ 16 Channel 10G version comes default with CH20-35 (other channels available on request)
- ✓ 8 Channel 100G version comes with an Extension port (CH17 to 26 & CH37 to 57 in the default version, consult extension channels for other versions)
- ✓ Web, SNMP, SYSLOG and HTTP API monitoring of the EDFAMUX
- ✓ Includes 1% Monitor Port
- ✓ Possible to use optical supervisor channel
- ✓ EDFAs are on Auto Gain Control mode(adding same dB when extra channels are plugged in). If needed, the user can adjust settings.
- ✓ Default LC/UPC with auto dust shutters
- ✓ Mix of 1/10G optics and/or Fiber Channel possible in the 10G EDFAMUX

4. TECHNICAL SPECIFICATIONS

MUX	SYMBOLS	100G 80Km	100G 120Km	10G 140Km	10G 200Km
CHANNEL SPACING	Nm	0.8	0.8	0.8	0.8
OPERATION WAVELENGTH RANGE	ITU 100 GHz	Default CH 28-35	Default CH 28-35	10CH: Default CH 28-37 16CH: Default CH 20-35	Default CH 28-37
CHANNEL CENTER WAVELENGTH (CWL)	Nm	ITU ± 0.11	ITU ± 0.11	ITU ± 0.11	ITU ± 0.11
MAX CHANNEL INSERTION LOSS	dB	2.5	2.5	2.5	2.5
ADJACENT CHANNEL ISOLATION	dB	30	30	30	30
NON-ADJACENT CHANNEL ISOLATION	dB	45	45	45	45
RETURN LOSS @ CWL	dB	45	45	45	45
MONITOR PORT	%	1%	1%	1%	1%

EDFA BOOSTER	SYMBOLS	100G 80Km	100G 120km	10G 140Km	10G 200Km
EDFA OPERATING MODE		AGC	AGC	N/A	AGC
INPUT POWER RANGE	dBm	-15 - +8	-15 - +8	N/A	-15 - +8
TYPICAL NOISE FIGURE	dB	4.5	4.5	N/A	4.5
TYPICAL PUMP POWER	dB	Adjustable 14-20	Adjustable 14-20	N/A	Adjustable 14-20
SATURATION	dBm	20	20	N/A	20

EDFA POST Amp	SYMBOLS	100G 80Km	100G 120km	10G 140Km	10G 200Km
EDFA OPERATING MODE		AGC	AGC	AGC	AWG
INPUT POWER RANGE	dBm	-15 to +8	-30 to -5	-30 to -5	-30 to -5
TYPICAL NOISE FIGURE	dB	4.5	4.5	4.5	4.5
TYPICAL PUMP POWER	dB	Adjustable 14-20	Adjustable 27-33	Adjustable 15-21	Adjustable 15-21
SATURATION	dBm	20	20	20	20

DISPERSION COMPENSATOR	SYMBOLS	100G 80Km	100G 120km	10G 140Km	10G 200Km
DCM TYPE		Fiber Bragg Grating	Fiber Bragg Grating	Fiber Bragg Grating	Fiber Bragg Grating
DISPERSION COMPENSATING	Ps/nm	0 to -1300	-1000 to -2300	-1000	-2000
INSERTION LOSS	dB	4	6.5	3	3

ENCLOSURE	SYMBOLS	100G 80Km	100G 120km	10G 140Km	10G 200Km
INPUT POWER	AC/V DC/V	100-240 36-72	100-240 36-72	100-240 36-72	100-240 36-72
DIMENSIONS	Mm	482.6*300*44mm	482.6*300*44mm	482.6*300*44mm	482.6*300*44mm
OPERATING TEMPERATURE	°C	-5~60	-5~60	-5~60	-5~60
POWER CONSUMPTION	W	<11	<8	<8	<12
AIRFLOW		Side to Side	Side to Side	Side to Side	Side to Side

5. PATCHES

100G EDFAMUX	100G DWDM	MON	EXT
SO-DWDM-8x100G-EDFAMUX-80Km	CH 28-35	1%	CH 17-26 & 37-57 2 x 10G (port CH59 and CH60)
SO-DWDM-8x100G-EDFAMUX-120Km	CH 28-35	1%	N/A
SO-DWDM-16x100G-EDFAMUX-80Km	CH 20-35	1%	N/A
SO-DWDM-16x100G-EDFAMUX-40Km	CH 20-35	1%	N/A

10G EDFAMUX	10G DWDM	MON	EXT
SO-DWDM-10x10G-EDFAMUX-140Km	CH 28-37	1%	N/A
SO-DWDM-16x10G-EDFAMUX-140Km	CH 20-35	1%	N/A
SO-DWDM-10x10G-EDFAMUX-200Km	CH 28-37	1%	N/A

6. MANAGEMENT MODULE

The EDFAMUX comes standard with an integrated management module with LAN and console connectivity. By using LAN, you can configure and monitor the system over GUI, SNMP, syslog or HTTP API.

The operating settings are stored in the device itself. Rebooting the management module or upgrading its firmware won't interrupt the communication.

For information about how to configure the EDFAMUX please refer to the EDFAMUX manual provided with the unit or download it from download.solid-optics.com.

7. RECOMMENDED TRANSCEIVERS

10G	DESCRIPTION
SFP-10G-DWDMXX-ZR-SO	10G DWDM SFP, (100GHz ITU grid), 80Km/24dB, DOM, Solid Optics
SFP-8G-FC-DWDMXX-ZR-SO	8G-FC DWDM SFP, (100GHz ITU grid), 80Km/24dB, DOM, Solid Optics
SFP-10G-DWDM-TUN-ZR-SO	10G-DWDM, tunable (100/50-GHz ITU grid), 80km/24dB, Solid Optics

100G	DESCRIPTION
QSFP-100G-DWDMXX-SO	100G-DWDM, QSFP28, Chxx, for single mode fiber, 100GHz ITU Grid, require EDFA and DCM to work, LC duplex connectors, DOM, Solid Optics

8. WARNING & SYMBOLS



Solid Optics EU N.V. has tested the equipment based on European legislation. It is safe to use, doesn't intervene with other electronic devices and it is not affected by interference from other Electronic devices.

RoHS

Hazardous Goods; Our equipment complies with Directive 2011/65/EU (RoHS II) and 2002/95 EC (RoHS I)



Only (dis)connect the equipment in a EPA (ESD Protected Area) while using only certified equipment and taking all necessary precautions.

9. DISCLAIMER & COPYRIGHT

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