

# CWDM MUX

## 1. GENERAL DESCRIPTION



Multiplexer products combine multiple data signals into one signal for transport over one fiber. De-multiplexers separate the signal at the other end. Wavelength division multiplexing (WDM) greatly increases capacity of systems. To manage bandwidth and expand capacity of existing fiber optic backbones, Wavelength Division Multiplexing (WDM) works by simultaneously combining and transmitting multiple signals at different wavelengths through the same fiber.

A key advantage of WDM is its protocol and bit-rate independency. WDM-based networks can transmit data in IP, ATM, SONET/SDH, and Ethernet. It can handle bitrates between 100 Mbps and 40 Gbps. Therefore, WDM-based networks can carry different types of traffic at different speeds. It creates a less costly method for quick response to customers' bandwidth demands and protocol changes.

The MUX/DEMUX is deployed in coarse wavelength division multiplexing (CWDM). The device is passive when it comes to electricity and measures as 1RU 19" devices. The device comes with LC connectors. The Solid Optics MUX devices are available with 8 and 18 channels. Both versions have a monitor port. The monitor port allows you to measure your input/output when data communication is active.

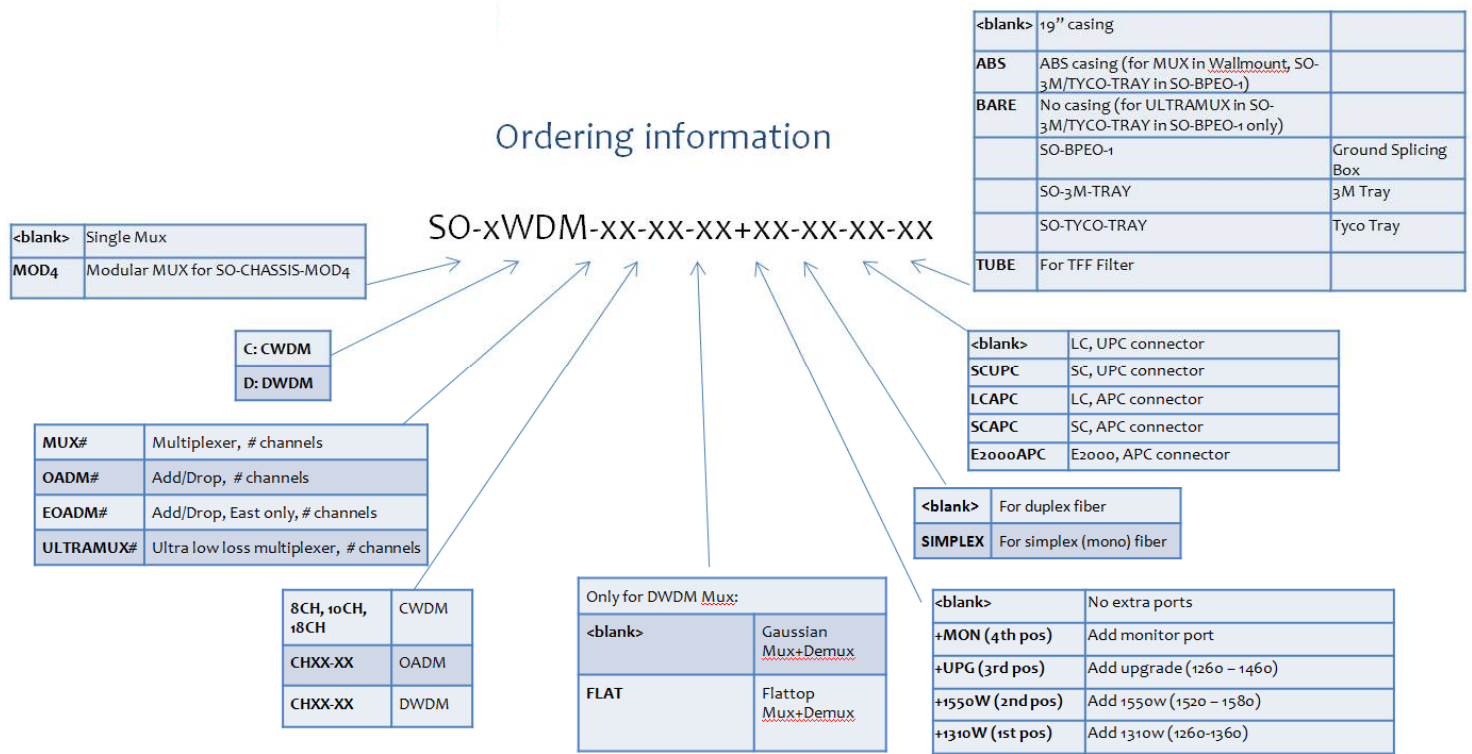
The 8 channel version also comes with an upgrade port. The upgrade port is an addition of wavelength 1260-1458nm. This allows you to add another ten channels in a later stadium without having the need to replace anything.

Custom versions are available upon request.

## 2. AVAILABLE DEFAULT VERSIONS

PARTNAME	DESCRIPTION
SO-CWDM-(ULTRA)MUX-8CH+UPG+MON	8CH CWDM, (Ultra)Mux/Demux, 1470-1610nm (+/- 6.5nm), Duplex, + UPG (1260-1458nm), + MON (Monitor Port), LC/UPC connectors, 19" casing, Solid Optics
SO-CWDM-ULTRAMUX-18CH+MON (*picture1 general descript.)	18CH CWDM, Ultramux/Demux, 1270-1610nm (+/- 6.5nm), Duplex, +MON (Monitor Port), LC/UPC connectors, 19" casing, Sanwa connectors, AWG technique, Solid Optics

### 3. CUSTOM VERSIONS



### 4. PRODUCT SPECIFICATIONS & FEATURES

- ✓ Technique: CWDM
- ✓ Available up to 18 channels from 1270-1610 with 20nm steps
- ✓ Passive; no electricity needed
- ✓ Low attenuation
- ✓ Operating Temperature: -40 – 75 °C
- ✓ Comes standard with monitor port (1% tap)
- ✓ Comes with LC/UPC connectors (other connectors on request)
- ✓ Clear TX and RX prints for easy patching
- ✓ 8 port MUX comes by default with UPG port (1260-1458nm)

## 5. TECHNICAL SPECIFICATIONS

MUX	SYMBOLS	8CH CWDM	8CH ULTRAMUX	18CH ULTRAMUX
CHANNEL SPACING	nm	20	20	20
OPERATION WAVELENGTH RANGE	nm	1260-1625	1260-1625	1260-1625
CHANNEL CENTER WAVELENGTH (CWL)	nm	1271-1611	1471;1491;1511;1531;1551;1571;1591;1611	1271-1611
UPG CENTER WAVELENGTH	nm	1264.5-1457.5	1264.5-1457.5	
CHANNEL PASS BAND WIDTH	nm	CWL±6.5nm	CWL±6.5nm	CWL±6.5nm
CHANNEL INSERTION LOSS (with connector)	Max. dB AVG dB	2.5 2.1	1.7 1.2	2.5
EXTRA INSERTION LOSS MONITOR PORT	1% 5%	0.3 0.7	0.3 0.7	0.3 0.7
ADJACENT CHANNEL ISOLATION	Min. dB	30	30	30
NON ADJACENT CHANNEL ISOLATION	Min. dB	45	45	45
UPG PORT ISOLATION @1464.5-1477.5 (471 CH)	Min. dB	15	20	
UPG PORT ISOLATION @1484.5-1617.5 (491-611 CH)	Min. dB	15	30	
DIRECTIVITY @ CWL	Min. dB		45	50
RETURN LOSS @CWL	Min. dB	50	45	45
POLARIZATION DEPENDENT LOSS	Max. dB	0.1	0.2	0.2
PASSBAND RIPPLE	Max. dB	0.3	0.5	0.5
POWER HANDING	Max. mW	500	300	

CASING	SYMBOLS	8CH CWDM	8CH ULTRAMUX	18CH ULTRAMUX
OPERATING TEMPERATURE	°C	-40~+85	-5~+70	-5~+70
STORAGE TEMPERATURE	°C	-60~+90	-40~+85	-40~+85
FIBER TYPE	-	3mm	900um color loose tube w/ITU-T G.657A1 (R15) fiber	250micron

<b>FIBER LENGTH</b>	cm	100+/-10	100+/-10	100+/-10
<b>CONNECTOR TYPE</b>	-	LC/UPC Other conn. on request	LC/UPC Other conn. on request	LC/UPC Other conn. on request
<b>BOX DIMENSIONS (L X W X H)</b>	cm	19" casing	44x25x6	85x55x12

## 6. WARNING & SYMBOLS



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



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

## 7. DISCLAIMER & COPYRIGHT

This document is written with the utmost care. Specifications, figures, data and illustrations provided in this document are based on information that is believed to be reliable and accurate. We don't accept any liability for damages derived from incomplete, inaccurate, outdated and/or otherwise incorrect specifications, figures, data or illustrations. We do not intend to suggest that we are the creators or trademark owners of any other manufacturers' products. Information is subject to change without notice. Solid Optics and the Solid Optics logo are registered trademarks of Solid Optics EU Holding N.V. All other trademarks are acknowledged as registered trademarks and proprietary to their respective owners. Copyright © 2019 Solid Optics EU N.V., Dutch Chamber of Commerce no. 39099087, all rights reserved. For more information visit [www.solid-optics.com](http://www.solid-optics.com)