



## 4 Channel 25G Ready Single Fiber Industrial class CWDM MUX/DEMUX SCMD-4BI

### Product Description:

SCMD-4BI is part of our Industrial Passive xWDM filter series and supports 4 Channel interconnection over single fiber using 8 CWDM 1331-1351nm and 1471-1571nm wavelengths from ITU-T G.694.2 grid. SCMD-4BI unit is for harsh outdoor environments supporting IP65 water, dust resistance, -40 to 85C industrial temperature, telecom pole or wall installation options and comes with ODVA double LC connectors for easy fiber connection. Unit is small in size, light in weight, is simple to install, requires zero configuration or maintenance and is fully passive - no power supply or cooling required.

SCMD-4BI is deployed in the middle site and is connected to SHMD-10A which is deployed in the main site, additionally through SCMD-4BI upgrade port SLMD-6BI far end site is connected to the SHMD-10A and bus network topology is realized. SCMD-4BI uses Compact CWDM technology and provides  $\leq 1.6$  dB insertion loss for service ports and upgrade port.

xWDM filters are data rate or line protocol neutral and are used in combination with colored optical transceivers which ensure desired application and data rate. Typical use case for SCMD-4BI filters are 5G/4G Mobile Fronthaul Network Baseband Unit (BBU) and Remote Radio Head (RRH) interconnection (CPRI/eCPRI protocol), Enterprise Network 25G/10G Ethernet links or Datacenter 32/16/8G Fiber Channel connections.

### Key Highlights:

- 4 CWDM Data services over Single SMF
- Connect to SHMD-10A
- Upgrade port for SLMD-6BI
- IP65 Water, Dust resistant
- Outdoor ODVA Single LC connectors
- Telecom Pole or Wall installation
- Small size and light weight
- Low Insertion Loss:  $\leq 1.6$  dB
- Compact CWDM
- Industrial Temperature:  $-45^{\circ}\text{C} - +85^{\circ}\text{C}$
- Fully passive (No Power Supply or Cooling)
- Zero configuration or maintenance
- Protocol & Data Rate neutral
- MTBF: 100+ Years
- 5 Year Warranty

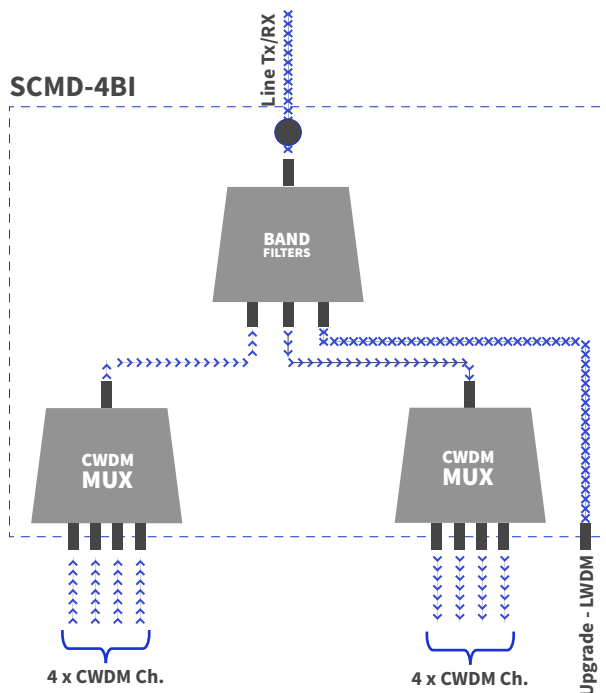


## Product Specification:

Parameter	Unit		Value
Product Type:			Single Fiber CWDM Unit
Number of Data Channels:			4
Number of Wavelength			8 CWDM Channels According ITU-T G.694.2
Transport Media:			One strand of Fiber Single Mode Fiber (SMF)
Operating Wavelengths:	center	nm	<ul style="list-style-type: none"> <li>• Ch1-Tx:1351nm</li> <li>• Ch1-Rx:1331nm</li> <li>• Ch2-Tx:1491nm</li> <li>• Ch2-Rx:1471nm</li> <li>• Ch3-Tx:1531nm</li> <li>• Ch3-Rx:1511nm</li> <li>• Ch4-Tx:1551nm</li> <li>• Ch4-Rx:1571nm</li> </ul>
Filter Technology:			CCWDM (Compact CWDM - Free Space Technology)
Passband:	$\lambda_{center}$	nm	$\pm 7.5$ nm
Channel Spacing:		nm	20 nm
Insertion Loss <sub>Passband</sub> :	Max	dB	$\leq 1.6$ dB
Insertion Loss <sub>Upgrade</sub> :	Max	dB	$\leq 1.6$ dB
Isolation Adjacent Channels:	Min	dB	30 dB
Isolation Non-Adjacent Channels:	Min	dB	45 dB
Channel Passband Ripple:	Min	dB	0.5 dB
Insertion Loss Temperature:		dB/ (°C)	<0.003
Wavelength Temperature Shifting:		nm/ (°C)	<0.002
Polarization Dependant Los (PDL):	Max	dB	<0.1 dB
Polarization Mode Dispersion (PMD):	Max	ps/nm	< 0.1 ps/nm
Directivity:	Min	dB	>50 dB
Return Loss:	Min	dB	>45 dB
Maximum Power Handling:	Max	mW	500mW = 26.98dBm maximum power pass
Connectors:			ODVA Connectors with LC Adapters for use with ODVA Connectors and TIA/EIA 604-10 compliant LC UPC Connectors
Operating Temperature:		(°C)	-40~+85 (°C)
Storage Temperature:		(°C)	-40~+85 (°C)
Dimensions (W x H x D):		mm	77 x 250 x 72
Protection Class:		%	IP65 - Water, Dust resistant
Compliance:			ITU-T G.694.2, CE, RoHS, IP65

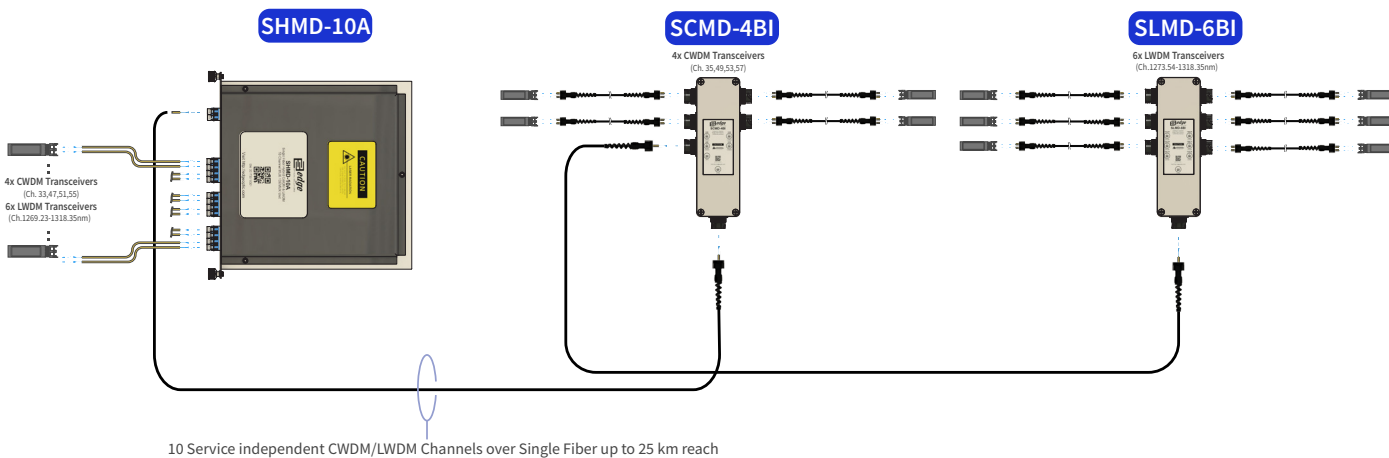


## Functional Diagram:



## Network Diagram:

SCMD-4BI is part of our Passive xWDM filter product line, which is designed with primary focus on wireless fronthaul applications - optimized to carry 25G services, however it is compatible with legacy 10G services as well. In order to create 10 x 25G services capacity Hybrid WDM line over single fiber, it's possible to use SCMD-10A at one end and both - SCMD-4BI CWDM Outdoor industrial MUX with upgrade port and SLMD-6BI LWDM Outdoor industrial MUX on other end:



## Front Panel:

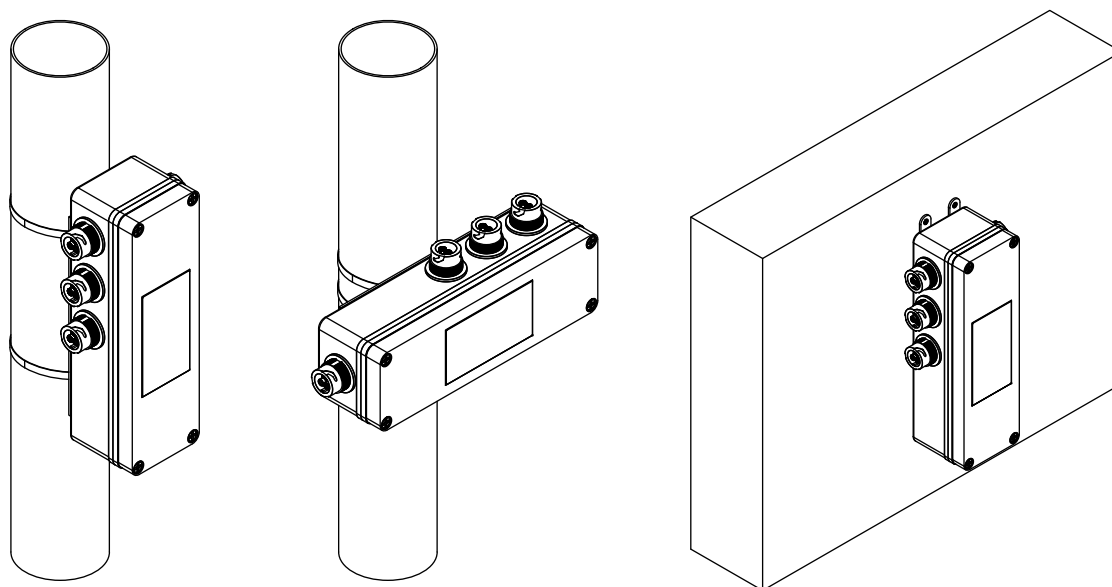


**COM:** Line interface for common signal

**UPG:** Upgrade for LWDM Channels (SLMD-6BI)

**1351-1571:** CWDM Channel colored interfaces

## Installation:



SCMD-4BI is available for ordering with included pole mount kit, which allows easy install on any pole with diameter over 50mm vertically (recommended method) or horizontally. If necessary - SCMD-4BI is also available with included wall installation kit.



## Ordering Information:

PN	Description
SCMD-4BI-P	4 Channel Single Fiber 25G Ready IP65-Class Full Outdoor Passive Modular CCWDM B-Side Mux/Demux with ODVA LC/UPC connectors, ITU-T G.694.2 Channels (1271 - 1371 nm & 1471 - 1571nm), IL below 1.6 dB, with Pole Mount kit
SCMD-4BI-W	4 Channel Single Fiber 25G Ready IP65-Class Full Outdoor Passive Modular CCWDM B-Side Mux/Demux with ODVA LC/UPC connectors, ITU-T G.694.2 Channels (1271 - 1371 nm & 1471 - 1571nm), IL below 1.6 dB, with Wall Mount kit

## Warranty:

EDGE Optic's provides a limited warranty for **sixty (60)** months from Purchaser's receipt of the Equipment represented in this data sheet against defective design or workmanship.

