

## TSPMD12-I



## TSPMD12-O



## 12 Channel Single Fiber CWDM MUX/DEMUX

### Product Description:

TSPMD12-I and TSPMD12-O are part of our passive CWDM Mux/Demux series and supports 12 CWDM Channel interconnection over single fiber using 1271-1371nm and 1471-1571nm wavelength from ITU-T G.694.2 grid. TSPMD12-O unit is for harsh outdoor environments supporting IP55- water dust resistance, -5 to 70C temperature, telecom pole or wall installation options and comes with LC/UPC or customer specified 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. TSPMD12-O is used together with TSPMD12-I. This solution is designed for scenarios where single fiber passive CWDM connections on both sides of the link are deployed in harsh outdoor or one of sides is deployed in Indoor environments.

TSPMD12 uses Compact CWDM filter technology and provides  $\leq 1.8$  dB insertion loss.

CCWDM Mux/Demux 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 TSPMD12 Mux/Demux are 5G/4G/3G 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:

- 12CH CWDM Data services over Single SMF
- IP55 Water, Dust resistant
- LC/UPC connectors
- Rack, telecom Pole or Wall installation
- Small size and lightweight
- Low Insertion Loss:  $\leq 1.8$  dB
- Compact CWDM filters
- Temperature:  $-5^{\circ}\text{C} - +70^{\circ}\text{C}$
- Zero configuration or maintenance
- Fully passive (No Power Supply or Cooling)
- Protocol & Data Rate neutral
- MTBF: 100+ Years
- 1 Year Warranty

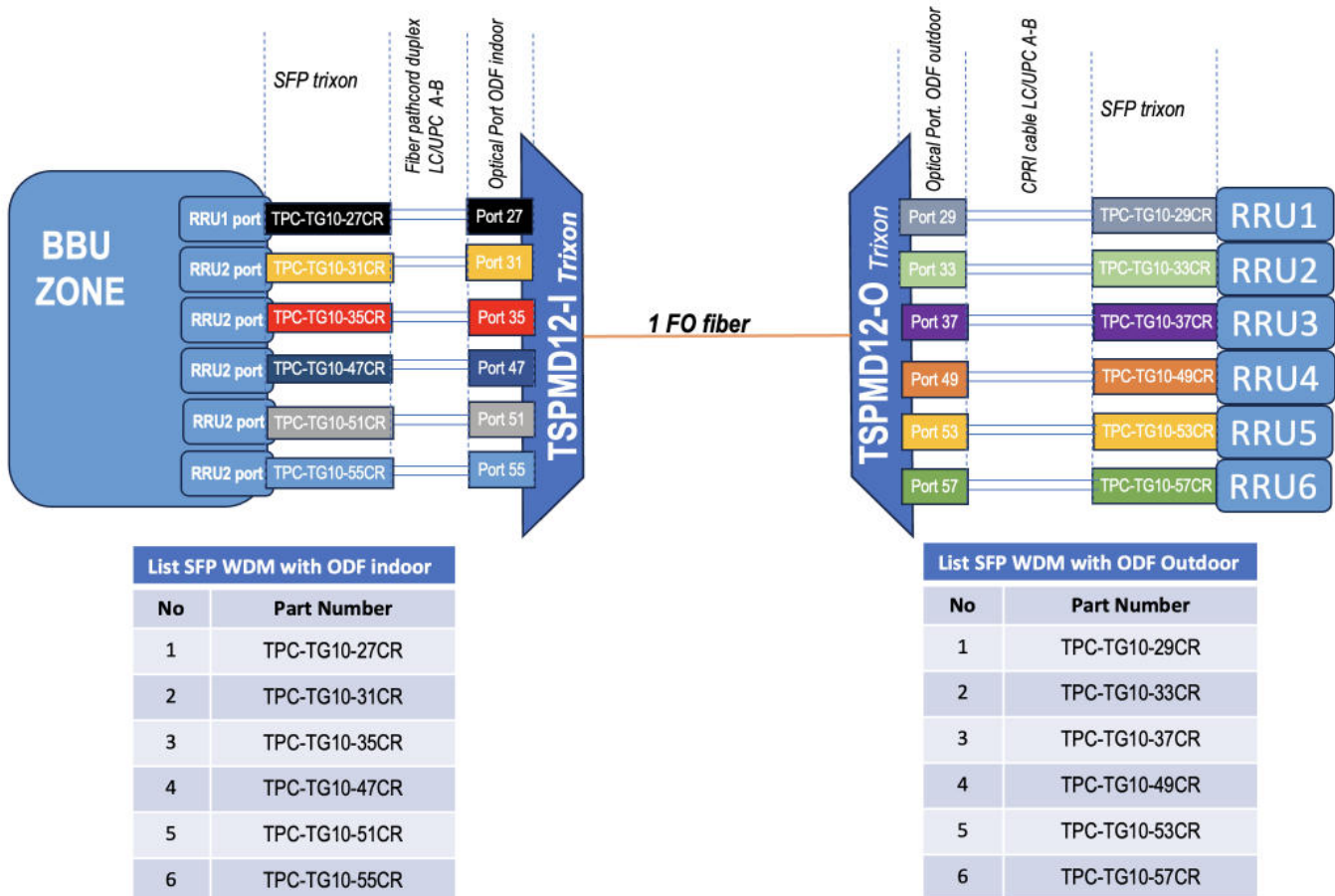
## Product Specification: TSPMD12-O

Parameter		Unit	Value
<b>Product Type:</b>			Single Fiber CCWDM Outdoor unit
<b>Number of Data Channels:</b>			12
<b>Number of Wavelength</b>			12 CWDM Channels According ITU-T G.694.2
<b>Transport Media:</b>			One strand of Fiber Single Mode Fiber (SMF)
<b>Operating Wavelengths:</b>	center	nm	<ul style="list-style-type: none"> <li>• Ch1-Tx: 1291nm</li> <li>• Ch1-Rx: 1271nm</li> <li>• Ch2-Tx: 1331nm</li> <li>• Ch2-Rx: 1311nm</li> <li>• Ch3-Tx: 1371nm</li> <li>• Ch3-Rx: 1351nm</li> <li>• Ch4-Tx: 1491nm</li> <li>• Ch4-Rx: 1471nm</li> <li>• Ch5-Tx: 1531nm</li> <li>• Ch5-Rx: 1511nm</li> <li>• Ch6-Tx: 1571nm</li> <li>• Ch6-Rx: 1551nm</li> </ul>
<b>Filter Technology:</b>			CCWDM (Compact CWDM - Free Space Technology)
<b>Passband:</b>	$\lambda_{center}$	nm	$\pm 6.5$ nm
<b>Channel Spacing:</b>		nm	20 nm
<b>Insertation Loss <small>Passband:</small></b>	Max	dB	$\leq 1.8$ dB
<b>Isolation Adjacent Channels:</b>	Min	dB	30 dB
<b>Isolation Non-Adjacent Channels:</b>	Min	dB	45 dB
<b>Channel Passband Ripple:</b>	Min	dB	0.5 dB
<b>Polarization Dependant Los (PDL):</b>	Max	dB	$< 0.1$ dB
<b>Polarization Mode Dispersion (PMD):</b>	Max	ps/nm	$< 0.1$ ps/nm
<b>Directivity:</b>	Min	dB	$> 50$ dB
<b>Return Loss:</b>	Min	dB	$> 45$ dB
<b>Maximum Power Handling:</b>	Max	mW	500mW = 26.98dBm maximum power pass
<b>Connectors:</b>			LC/UPC or customer specified
<b>Operating Temperature:</b>		(°C)	-5~+70 (°C)
<b>Storage Temperature:</b>		(°C)	-40~+85 (°C)
<b>Dimensions (W x H x D):</b>		mm	Customer specified
<b>Protection Class:</b>		%	IP55 - Water, Dust resistant
<b>Compliance:</b>			ITU-T G.694.2, CE, RoHS, IP55

## Product Specification: TSPMD12-I

Parameter		Unit	Value
Product Type:			Single Fiber CWDM Indoor unit
Number of Data Channels:			12
Number of Wavelength			12 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: 1271nm</li> <li>• Ch1-Rx: 1291nm</li> <li>• Ch2-Tx: 1311nm</li> <li>• Ch2-Rx: 1331nm</li> <li>• Ch3-Tx: 1351nm</li> <li>• Ch3-Rx: 1371nm</li> <li>• Ch4-Tx: 1471nm</li> <li>• Ch4-Rx: 1491nm</li> <li>• Ch5-Tx: 1511nm</li> <li>• Ch5-Rx: 1531nm</li> <li>• Ch6-Tx: 1551nm</li> <li>• Ch6-Rx: 1571nm</li> </ul>
Filter Technology:			CCWDM (Compact CWDM - Free Space Technology)
Passband:	$\lambda_{center}$	nm	$\pm 6.5$ nm
Channel Spacing:		nm	20 nm
Insertation Loss <small>Passband:</small>	Max	dB	$\leq 1.8$ dB
Isolation Adjacent Channels:	Min	dB	30 dB
Isolation Non-Adjacent Channels:	Min	dB	45 dB
Channel Passband Ripple:	Min	dB	0.5 dB
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:			LC/UPC or customer specified
Operating Temperature:		(°C)	-5~+70 (°C)
Storage Temperature:		(°C)	-40~+85 (°C)
Dimensions (W x H x D):		mm	77 x 250 x 72
Protection Class:		%	IP25 - Water, Dust resistant
Compliance:			ITU-T G.694.2, CE, RoHS, IP25

## Functional Diagram:



Note : TSPMD12-x device is recommended for use with the SFP model TPC-TG10-XXDCR

## Obtaining Document

You can visit our website: <http://www.trixontech.com>

Or contact Trixon Inc. listed at the end of the documentation to get the latest document.

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