

## 21 Channel 25G Ready Double Fiber Hybrid MUX/DEMUX DHMD-21

### Product Description:

DHMD-21 is part of our Industrial Passive xWDM filter series and supports 21 channel interconnection over double fiber using 9 CWDM channels, 1331-1371nm and 1471-1571nm wavelength from ITU-T G.694.2 grid and 12 LWDM (LAN-WDM) channels, 1269.23-1318.35nm wavelength. DHMD-21 is a 1U unit deployed in a standard 19-inch telecom subrack, is simple to install, requires zero configuration or maintenance and is fully passive - no power supply or cooling required. DHMD-21 is deployed in the main site and used together with Industrial DCMD-9I deployed in the middle site and DLMD-12I which is deployed in the far end site. Both Industrial DCMD-9I, DLMD-12I are deployed in harsh outdoor environments. DHMD-21 uses Compact CWDM and LWDM TFF (thin-film filters) technology with band skip filters to achieve  $\leq 4.0$  dB insertion loss. Unit has a monitor port, which ensures easy troubleshooting without downtime.

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 DCMD-21 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:

- 21 CWDM/LWDM Data services over Double SMF
- Connect to DCMD-9I and DLMD-12I
- Compact: 1U Standard 19" Rack
- Low Insertion Loss:  $\leq 4$  dB
- Compact CWDM & TFF with band skip filters
- Monitoring Port for easy troubleshooting
- 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

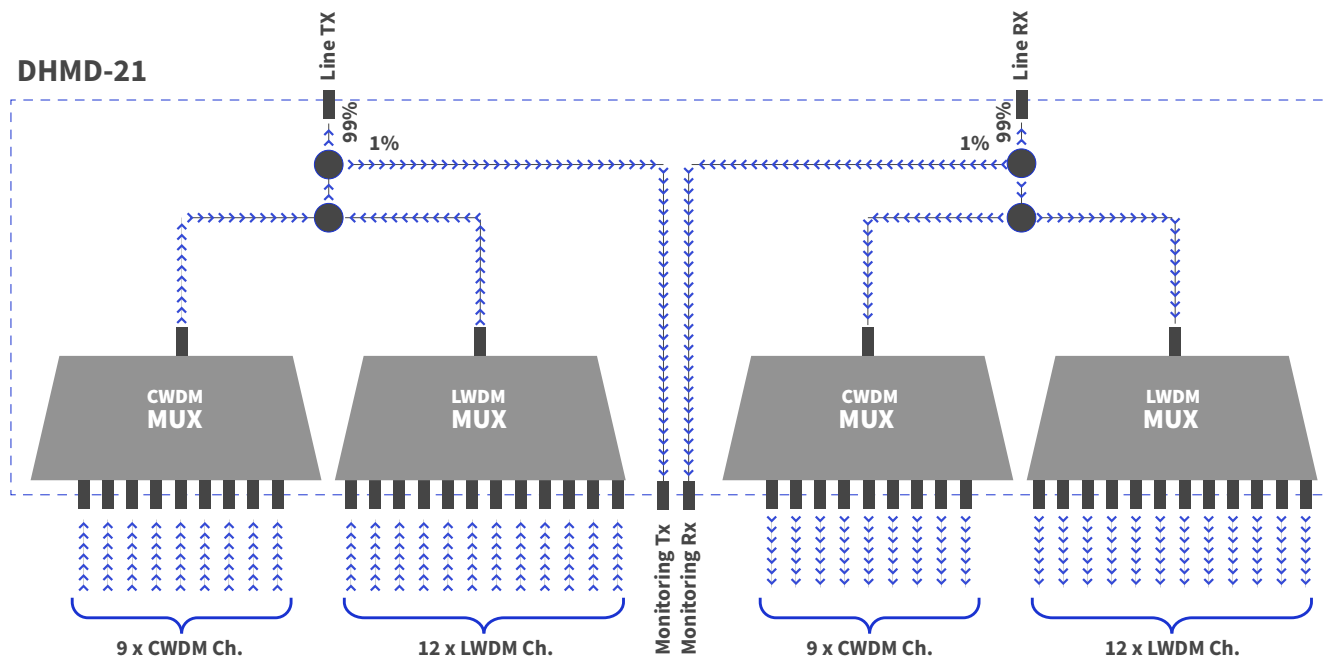


## Product Specification:

Parameter		Unit	Value
Product Type:			Double Fiber Hybrid xWDM Unit
Number of Data Channels:			21
Number of Wavelength			9 CWDM Channels According ITU-T G.694.2 / 12 LWDM (LAN-WDM) Channels
Transport Media:			Single Fiber Single Mode Fiber (SMF)
Operating Wavelengths:	center	nm	<ul style="list-style-type: none"> <li>9 Channels CWDM ITU-T G.694.2 1331-1571nm</li> <li>12 Channels LWDM 1269.23-1318.35nm</li> </ul>
Filter Technology:			CCWDM (Compact CWDM - Free Space Technology) for CWDM & TTF for LWDM
Passband:	$\lambda_{center}$	nm	CWDM $\pm 7.5$ nm / LWDM $\pm 1.5$ nm
Channel Spacing:		nm	CWDM 20 nm / LWDM 4.5 nm
Insertion Loss <small>Passband:</small>	Max	dB	$\leq 4$ dB
Monitoring Port Type:			Yes - 1% Monitoring Port
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:			TIA/EIA 604-10 compliant LC UPC Connectors
Operating Temperature:		(°C)	5~+70 (°C)
Storage Temperature:		(°C)	-40~+85 (°C)
Dimensions (W x H x D):		mm	440 x 43.6 x 260
Relative Humidity:		%	0 - 90%
Compliance:			ITU-T G.694.2, CE, RoHS

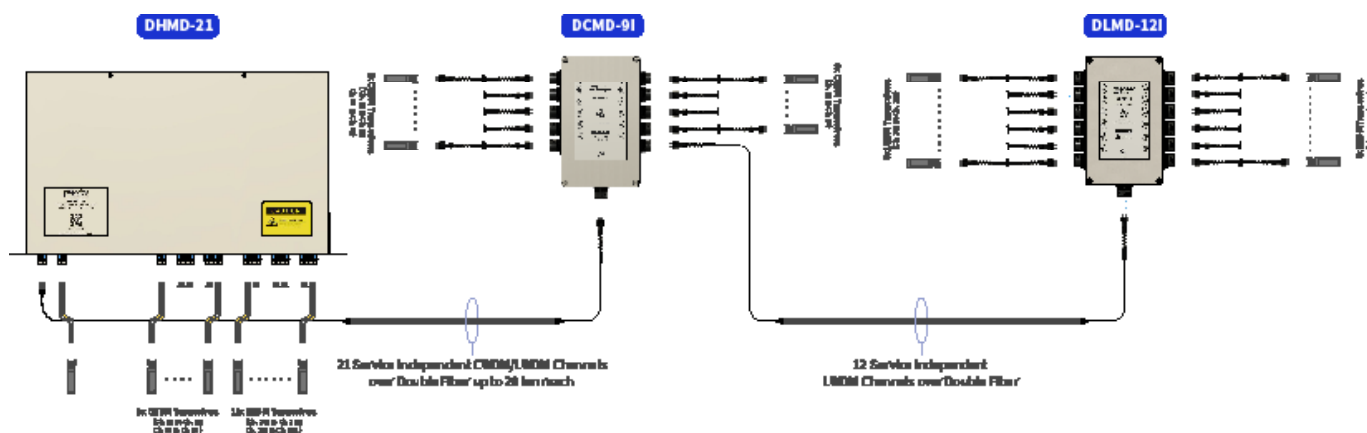


## Functional Diagram:

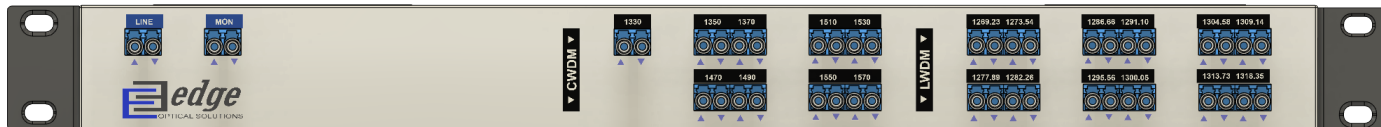


## Network Diagram:

DHMD-21 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 21 x 25G services capacity CWDM line over double fiber, it's possible to use pair of DHMD-21 (Indoor Scenario) or DHMD-21 (Outdoor Scenario) in one end of line and both - DCMD-9I & DLMD-12I Industrial version fully outdoor mux on other end.



## Front Panel:



**LINE:** Line interface for common signal

**MON:** 1% Monitoring Port

**1330 - 1570:** CWDM Channel colored interfaces

**1269.23 - 1318.35:** LWDM Channel colored interfaces

## Ordering Information:

PN	Description
DHMD-21	21 Channel Hybrid CWDM/LWDM Double Fiber Passive Mux/Demux, 9 Channels CWDM ITU-T G.694.2 1331-1571nm, 12 Channels LWDM 1269.23-1318.35nm, IL below 4 dB with Monitor port, Temp. 0-70C, 1U 19' Rack Type

## 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.

