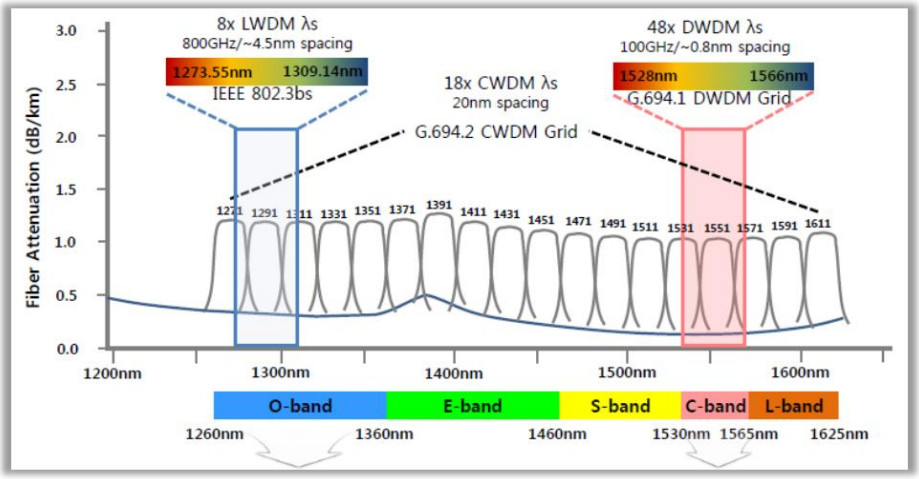
WDM Series Device

Content

Overview

Wavelength-division multiplexing (WDM) technology combines multiple signals onto a single optical fiber by using different wavelengths (colors). This technique enables better fiber utilization, increasing fiber capacity, building effective optical networks.



Product Portfolio

CWDM	2/4/8 Channel	
DWDM	32/40 Channel	

Customized CWDM, DWDM, LWDM, Semi-Active WDM, CWDM Add/Drop products can be provided, please contact sales@firstmile.com.cn for detail.

CWDM Device

Overview

CWDM module is cascaded with 1×2 CWDM components based on proven thin-film filter technology, which can be used in CWDM system. The end result is to save the fiber core in IP or TDM transmission network.

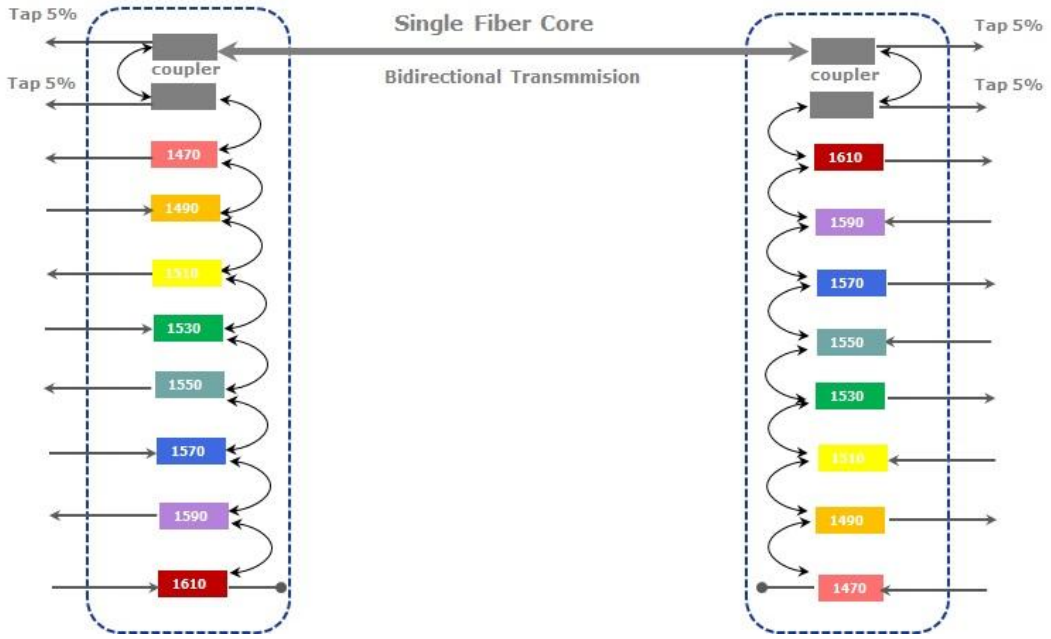
FirstMile's CWDM single fiber module supports near and far bi-directional monitor. Available in Chassis, Stand-alone and Card type.

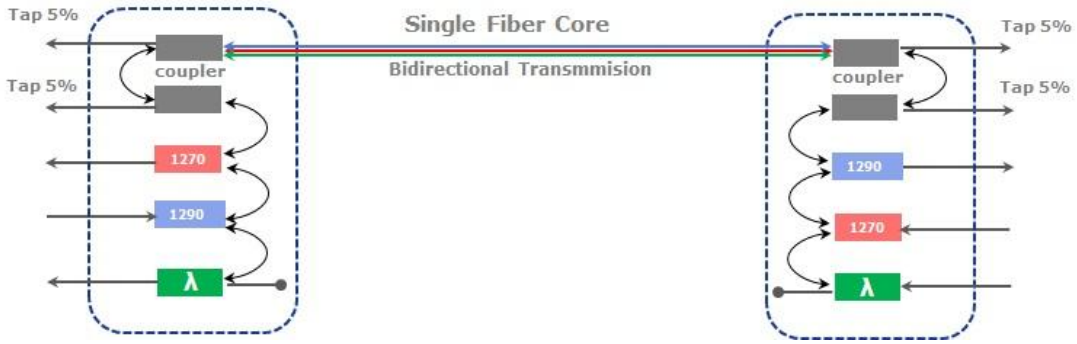
Specification (2ch, 4ch, 8ch)

	Two Channels with one CWDM and one Wideband	Four Channels CWDM Device	Eight Channels CWDM Device
Optical Requirements			
ITU-T G.694.2 Channels	1270nm, 1290nm; wideband: 1304nm--1640nm	1470nm, 1490nm, 1510nm, 1530nm, 1550nm, 1570nm, 1590nm,1610nm	1270nm, 1290nm, 1310nm, 1330nm, 1350nm, 1410nm, 1430nm, 1450nm, 1470nm, 1490nm, 1510nm, 1530nm, 1550nm, 1570nm, 1590nm,

			1610nm
Channel Spacing	20nm	20nm	20nm
Channel Pass Band	±6.5nm	±6.5nm	±6.5nm
Pass Band Ripple	≤0.3dB	≤0.3dB	≤0.3dB
Link insertion loss(A+B))	≤ 4dB	≤4dB	≤5dB
Adjacent Channel Isolation	≥30dB	≥30dB	≥30dB
Non-adjacent Channel Isolation	1270 to wideband≥25dB 1290 to wideband≥25dB	≥40dB	≥40dB
Return Loss	≥50dB	≥50dB	≥50dB
Directivity	≥55dB	≥55dB	≥55dB
Polarization Dependent Loss	≤0.15dB	≤0.15dB	≤0.15dB
Polarization Mode Dispersion	≤0.1ps	≤0.1ps	≤0.1ps
Power Handling	500mw	500mw	500mw
Environmental Requirements			
Operating Temperature	-5~70℃	-5~70℃	-5~70℃
Storage Temperature	-40~85℃	-40~85℃	-40~85℃
Relative Humidity	5%~95%	5%~95%	5%~95%
Miscellaneous Requirements			
Fiber Type	SMF-28	SMF-28	SMF-28
Connector	LC/UPC (SC/UPC for wideband port	LC/UPC	LC/UPC
Physical Package (Card Type)	126*100*40mm	126*100*40mm	170*100*40mm
MTBF / Reliability data	250000hrs	250000hrs	250000hrs

Single Fiber CWDM with Far and Near Monitor Application





Ordering Information

Model	Description
WDM –Chassis-4	Suitable for Card Type 8-ch CWDM Device (v2), 19” 1U, 4 Slots
WDM –Chassis-6	Suitable for Card Type 2-ch / 4-ch CWDM Device (v2), 19” 1U, 6 Slots
SWDM-2-A-c SWDM-2-B-c SWDM-2-A-m SWDM-2-B-m	2-ch CWDM Device (v2)
SWDM-4-A-c SWDM-4-B-c SWDM-4-A-m SWDM-4-B-m	4-ch CWDM Device (v2)
SWDM-8-A-c SWDM-8-B-c SWDM-8-A-m SWDM-8-B-m	8-ch CWDM Device (v2)

Note:

-c : Card type ---19” rack mounted

-m: Standalone type ---If the device will be wall-mounted, we can install a pair of wall mount kits with it

DWDM Device

The specifications serve for C-band AWG flattop MUX/DEMUX in DWDM system.

Specification

Parameter	Specification
Channel Number	32, 40
Channel Spacing (GHz)	100
Reference Passband (GHz)	MAX: ±12.5
1dB Bandwidth (nm)	>0.4
Insertion Loss (including connector loss) (dB)	<5.7
Uniformity (dB)	<1.2
Ripple (dB)	<0.5
Adjacent Channel Isolation (dB)	>25
Non-Adjacent Channel Isolation (dB)	>30
Total Channel Isolator (dB)	>22
PDL (dB)	<0.5
Return Loss (dB)	>45
CD (ps/nm)	-20～+20
PMD (ps)	<0.5
Operating Temperature (℃)	-5～65
Storage Temperature (℃)	-40～85
Connector Type	Customer Specify
Fiber Type	SMF-28e
Packaging Dimension(mm)	19inch 1U Chassis, 431.5*250*44mm

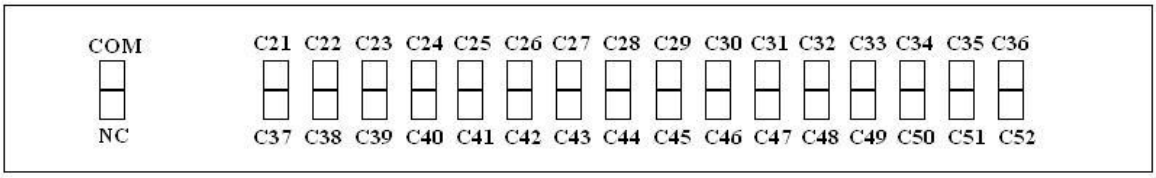
Channel Frequencies and Wavelengths (ITU Grid)

Channel	Frequency (THz)	Wavelength (nm)
1	196.00	1529.553
2	195.90	1530.334
3	195.80	1531.116
4	195.70	1531.898
5	195.60	1532.681
6	195.50	1533.465
7	195.40	1534.250
8	195.30	1535.036
9	195.20	1535.822
10	195.10	1536.609
11	195.00	1537.397
12	194.90	1538.186
13	194.80	1538.976
14	194.70	1539.766
15	194.60	1540.557
16	194.50	1541.349
17	194.40	1542.142
18	194.30	1542.936
19	194.20	1543.730
20	194.10	1544.526

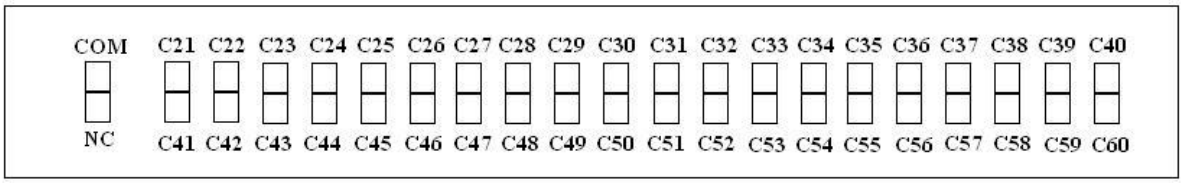
Channel	Frequency (THz)	Wavelength (nm)
21	194.00	1545.322
22	193.90	1546.119
23	193.80	1546.917
24	193.70	1547.715
25	193.60	1548.515
26	193.50	1549.315
27	193.40	1550.116
28	193.30	1550.918
29	193.20	1551.721
30	193.10	1552.524
31	193.00	1553.329
32	192.90	1554.134
33	192.80	1554.940
34	192.70	1555.747
35	192.60	1556.555
36	192.50	1557.363
37	192.40	1558.173
38	192.30	1558.983
39	192.20	1559.794
40	192.10	1560.606

Front Panel Layout

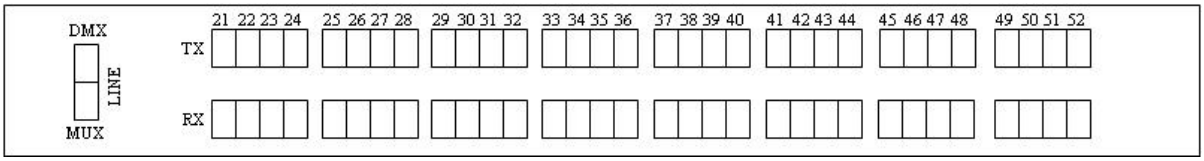
1. 1x32 MUX or DEMUX (Using duplex LC adaptors)



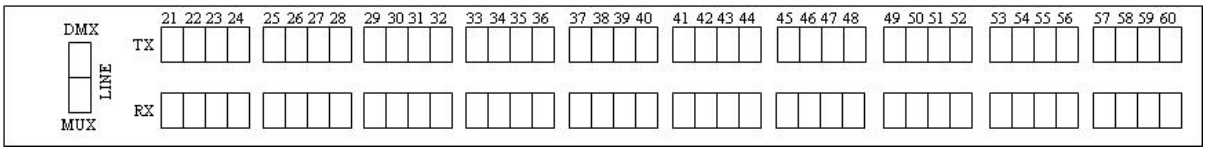
2. 1x40 MUX or DEMUX (Using duplex LC adaptors)



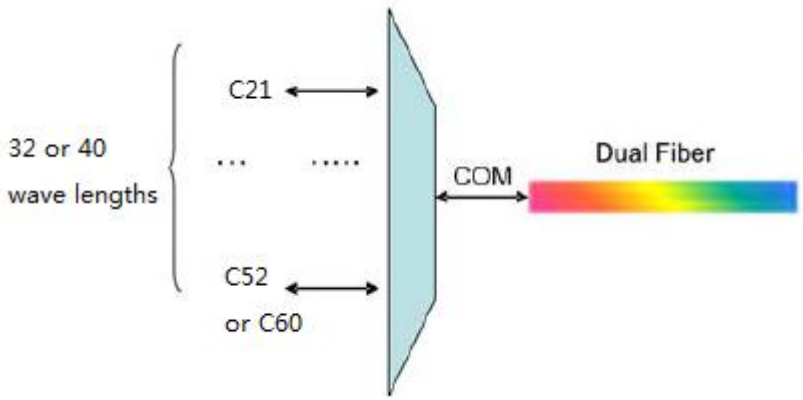
3. 1x32 MUX + DEMUX (Using Quadruple LC adaptors)



4. 1x40 MUX + DEMUX (Using Quadruple LC adaptors)



Application



Ordering Information

Model	Description
DWDM13221	100GHz 32ch MUX+DEMUX, C21~C52, LC/UPC with 1U Mounting Rack
DWDM14021	100GHz 40ch MUX+DEMUX, C21~C60, LC/UPC with 1U Mounting Rack
DWDM23221	100GHz 32ch MUX or DEMUX, C21~C52, LC/UPC with 1U Mounting Rack
DWDM24021	100GHz 40ch MUX or DEMUX, C21~C60, LC/UPC with 1U Mounting Rack