Passive DWDM 4 Channel Filter

Jabil Photonics DWDM optical filters have low insertion and low polarization dependent losses.

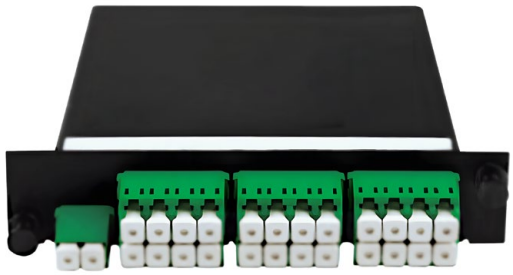
Different filters are available for the add/drop of 1, 2, 4, 8, 16 channels (in any combination as per customer requirements).
In addition it is possible to monitor the signal at the ingress or at the egress of the line system, and to provide additional features like the possibility to add/drop a bandwidth or to manage at the same time CWDM and DWDM wavelengths.

The filter can be packaged in an LGX compatible module but also customization is possible. It is designed to be used in extreme temperature environments within a temperature range of -40° to +85°C.

Standard version is the two fiber pair (one fibers for RX and one fiber for TX) at 100GHz channel spacing, with LC/APC connectors, monitoring port and upgrade port. Customized versions are available.

FEATURES

- MUX/DMUX/OADM
- Low insertion loss, wide bandwidth and high isolation
- High stability and high reliability
- Any combination of ITU wavelength plan
- Fully customized to customer requirements
- Telcordia GR-1209, GR-1221-CORE qualified
- Mini-cassette, fiber tray, LGX & rackmount



APPLICATIONS

- Data center interconnect
- Enterprise networking
- Access networks
- CATV fiber optic links

COMPLIANCES

- Compliant with Telcordia GR-1209, GR-1221-CORE
- Compliant with RoHS-6

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Environmental Specifications

PARAMETER	MIN	TYP	MAX	UNIT
Operation Temperature	-40		+85	°C
Storage Temperature	-40	-	+85	°C
Operation Humidity*	5	-	95	%
Storage Humidity	5	-	95	%

(*) not condensing

Optical Specifications

PARAMETER	VALUE	NOTE	UNIT
Channel Spacing	100		GHz
Channel Pass Band@0.5dB	± 0.125nm		nm
Operating Wavelength	1527.22 - 1564.68	C16-63	nm
UPG Wavelength	1527.22 - 1564.68 (Except channel used)		nm
EXP Wavelength Range	1260-1520, 1570-1635		nm
MON Insertion Loss	19-21	Only coupler	dB
Ripple	≤ 0.5		dB
UPG & EXP Isolation	≥ 12		dB
Adjacent Channel Isolation	≥ 28		dB
Non-adjacent Channel Isolation	≥ 40		dB
PDL	≤ 0.25		dB
PMD	≤ 0.2		ps
Return Loss	≥ 45		dB
IL Thermal Stability	≤ 0.005		dB/°C
Wavelength Thermal Stability	≤ 0.002		nm/°C
Directivity	≥ 45		dB
Maximum Input Power	≤ 300		mW
MAX Channel Insertion Loss	2.4		dB
MAX UPG Insertion Loss	2.4		dB
MAX EXP Insertion Loss	1		dB

Ordering Information

WDM	TYPE	#CHANNELS	GRID	FORM	TECHNOLOGY	CH PLAN	CONNECTOR
CWDM	MUX/ DEMUX	4CH	100GHZ		TFF		

SINGLE / DUAL FIBER	EXPRESS	UPGRADE	MON	FIBER LENGTH	FIBER DIA	OTHERS
DUAL	EXP	UPG	TXRXMON			

1. WDM
   - DWDM for Dense WDM
   - CWDM for Coarse WDM
2. TYPE
   - MUX/DEMUX: it can also act as OADM function, requiring UPG port (see dedicated field)
   - MUX: unidirectional application with only MUX function
   - DEMUX: unidirectional application with only DEMUX function
3. #CHANNELS
   - Number of add/dropped channels 2CH, 4CH, 8CH, 16CH, 40CH, etc.
4. GRID
   - (applicable only to DWDM) 50GHZ, -100GHZ, -200GHZ
5. FORM
   - Form factor (available CGM, LGX 1RU, LGX 2RU, HDLGX1, HDLGX2)
6. TECHNOLOGY
   - TFF (typically for 4,8,16)
   - AAWGM (typically for 40,48,64)
7. CHANNEL PLAN: it can indicate the first and the last channel in case of consecutive channels or the specific channels to be managed
   - CHxx-CHyy
   - CHxx, CHyy, CHzz
8. CONNECTOR
   - LCA (LC/APC)
   - LCU (LC/UPC)
   - SCA (SC/APC)
   - SCU (SC/UPC)
   - FCU (FC/UPC)
   - FCA (FC/APC)
9. SINGLE/DUAL FIBER
   - Single fiber application: it means that only one connector is provided for each port, and some channels are used for TX and others for RX
   - Dual fiber application: pair of connector (IN/OUT) for each port

THE FOLLOWING ARE INSTEAD OPTIONAL FIELDS NEEDED TO SPECIFY ADDITIONAL REQUESTS:

10. EXPRESS: it indicates if additional bandwidth is extracted before filtering the channels. This typically applies to cases where mix of CWDM and DWDM network is managed:
    - EXP: it indicates that EXPRESS port (or port pair) is requested

11. UPGRADE: it indicates that the rest of the channels (not dropped) is sent to an UPGRADE port. This applies to OADM configurations and to Terminal MUX with the possibility of expanding the number of terminated channels
    - EXP: it indicates that EXPRESS port (or port pair) is requested
12. MONITORING: it indicates that monitoring port is requested. There are some options possible:
    - RXMON: monitoring associated to the Ingress COM interface (ingress line)
    - TXMON: monitoring associated to the Egress COM interface (egress line)
    - TXRXMON: pair of monitoring ports associated to both the Ingress COM interface (ingress line) and to Egress COM interface (egress line)
    - BIDMON: monitoring associated to the single COK (single fiber application)
13. FIBER LENGTH:
    - 0.5M: 50cm
    - 1M: 1 meter
    - 2M: 2 meter
14. FIBER DIAMETER:
    - 900um
    - 250um
    - 1.2mm
    - 2mm
    - 3mm
15. OTHERS: it is also possible to specify other characteristics

Channel Plan

CHANNEL (NM)	FREQUENCY (THZ)	50GHZ GRID CHANNEL NUMBER	100GHZ-200GHZ GRID CHANNEL NUMBER
191.70	1563.86	170	17
191.75	1563.45	175	
191.80	1563.05	180	18
191.85	1562.64	185	
191.90	1562.23	190	19
191.95	1561.83	195	
192.00	1561.42	200	20
192.05	1561.01	205	
192.10	1560.61	210	21
192.15	1560.20	215	
192.20	1559.79	220	22
192.25	1559.39	225	
192.30	1558.98	230	23
192.35	1558.58	235	
192.40	1558.17	240	24
192.45	1557.77	245	
192.50	1557.36	250	25
192.55	1556.96	255	
192.60	1556.55	260	26
192.65	1556.15	265	
192.70	1555.75	270	27
192.75	1555.34	275	
192.80	1554.94	280	28
192.85	1554.54	285	

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CHANNEL (NM)	FREQUENCY (THZ)	50GHZ GRID CHANNEL NUMBER	100GHZ-200GHZ GRID CHANNEL NUMBER
192.90	1554.13	290	29
192.95	1553.73	295	
193.00	1553.33	300	30
193.05	1552.93	305	
193.10	1552.52	310	31
193.15	1552.12	315	
193.20	1551.72	320	32
193.25	1551.32	325	
193.30	1550.92	330	33
193.35	1550.52	335	
193.40	1550.12	340	34
193.45	1549.72	345	
193.50	1549.32	350	35
193.55	1548.91	355	
193.60	1548.51	360	36
193.65	1548.11	365	
193.70	1547.72	370	37
193.75	1547.32	375	
193.80	1546.92	380	38
193.85	1546.52	385	
193.90	1546.12	390	39
193.95	1545.72	395	
194.00	1545.32	400	40
194.05	1544.92	405	
194.10	1544.53	410	41
194.15	1544.13	415	

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CHANNEL (NM)	FREQUENCY (THZ)	50GHZ GRID CHANNEL NUMBER	100GHZ-200GHZ GRID CHANNEL NUMBER
194.20	1543.73	420	42
194.25	1543.33	425	
194.30	1542.94	430	43
194.35	1542.54	435	
194.40	1542.14	440	44
194.45	1541.75	445	
194.50	1541.35	450	45
194.55	1540.95	455	
194.60	1540.56	460	46
194.65	1540.16	465	
194.70	1539.77	470	47
194.75	1539.37	475	
194.80	1538.98	480	48
194.85	1538.58	485	
194.90	1538.19	490	49
194.95	1537.79	495	
195.00	1537.40	500	50
195.05	1537.00	505	
195.10	1536.61	510	51
195.15	1536.22	515	
195.20	1535.82	520	52
195.25	1535.43	525	
195.30	1535.04	530	53
195.35	1534.64	535	
195.40	1534.25	540	54
195.45	1533.86	545	

CHANNEL (NM)	FREQUENCY (THZ)	50GHZ GRID CHANNEL NUMBER	100GHZ-200GHZ GRID CHANNEL NUMBER
195.50	1533.47	550	55
195.55	1533.07	555	
195.60	1532.68	560	56
195.65	1532.29	565	
195.70	1531.90	570	57
195.75	1531.51	575	
195.80	1531.12	580	58
195.85	1530.72	585	
195.90	1530.33	590	59
195.95	1529.94	595	
196.00	1529.55	600	60
196.05	1529.16	605	
196.10	1528.77	610	61
196.15	1528.38	615	
196.20	1527.99	620	62
196.25	1527.60	625	
196.30	1527.22	630	63
196.35	1526.83	635	
196.40	1526.44	640	64
196.45	1526.05	645	