

CWDM+DWDM Passive Filter ISP (Indoor Use)

Product Description:



ISP Thin Film CWDM & DWDM Filters combined in the same module with the following options:

- Upgrade/Express/1310 Wideband Ports
- Test Ports
- LGX and 1RU Rack Mount Form Factors
- UPC/APC Connectors
- Industrial Temperature Hardened

Product Ordering Information

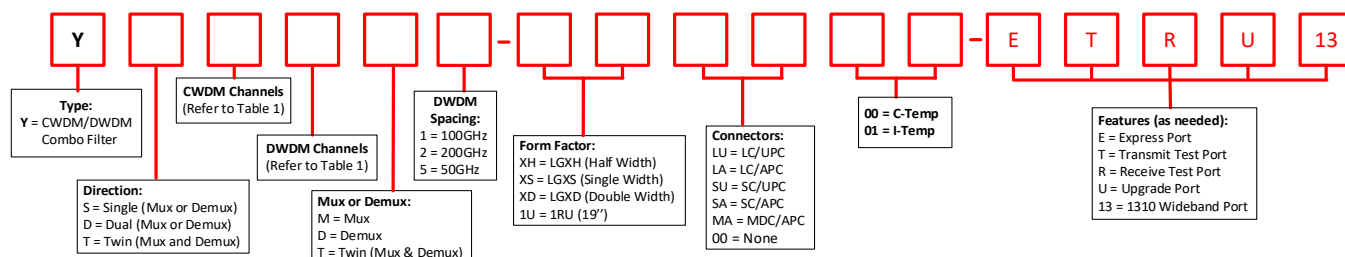


Table 1

CWDM CHANNEL DESIGNATION	DWDM CHANNEL DESIGNATION
4 = ITU 1471, 1491, 1591, 1611	4 = ITU C21, C22, C24, C26
8 = ITU 1431-1511, 1571-1611	8 = ITU C21-C28

*NOTE: Customized channel configurations are available as needed

Part Number / Description Example

Part Number	Description
YD44D1-XSLA00-ETRU	CWDM & DWDM Dual (Demux), 4 CWDM Channels (1471, 1491, 1591, 1611), 4 DWDM Channels (21, 22, 24, 26), 100GHz, LGX Single-width, LC/APC Connectors, Express Port, Tx & Rx Test Ports, Upgrade Port
YD44M1-XSLA00-ETRU	CWDM & DWDM Dual (Mux), 4 CWDM Channels (1471, 1491, 1591, 1611), 4 DWDM Channels (21, 22, 24, 26), 100GHz, LGX Single-width, LC/APC Connectors, Express Port, Tx & Rx Test Ports, Upgrade Port
YS88D1-XSLU00-U13	CWDM & DWDM Single (Demux), 8 CWDM Channels (1431-1511, 1571-1611), 8 DWDM Channels (21-28), 100GHz, LGX Single-width, LC/UPC Connectors, 1310 Wideband Port, Upgrade Port
YS88M1-XSLU00-U13	CWDM & DWDM Single (Mux), 8 CWDM Channels (1431-1511, 1571-1611), 8 DWDM Channels (21-28), 100GHz, LGX Single-width, LC/UPC Connectors, 1310 Wideband Port, Upgrade Port

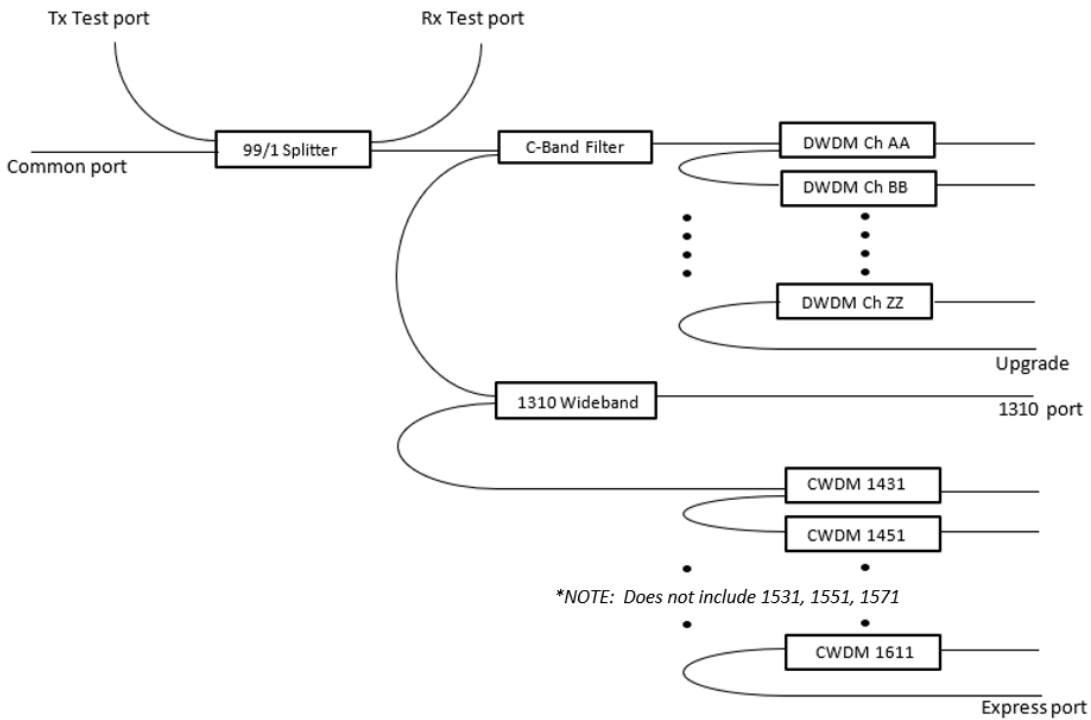
Optical Characteristics

Parameter	CWDM	DWDM	Unit
Available Channels	1271-1511, 1591, 1611	ITU 14 to 62	
Channel Spacing	20nm	100GHz	
Channel Passband	ITU ±6.5	ITU ±0.125	nm
Passband Insertion Loss @ -0.5dB	4-CH: ≤ 2.5	4-CH: ≤ 2.5	dB
	8-CH: ≤ 3.0	8-CH: ≤ 3.0	dB
Express Passband (less CWDM channels used)	1260-1520 (1420-1520 w/ 1310 Port) 1570-1635		nm
Express Insertion Loss @ -0.5dB	With 4-CH CWDM: ≤ 2.5 With 8-CH CWDM: ≤ 3.0		dB
Upgrade Passband (less DWDM channels used)	ITU wavelengths within ITU 14 to 62		nm
Upgrade Insertion Loss @ -0.5dB	With 4-CH DWDM: ≤ 2.5 With 8-CH DWDM: ≤ 3.0		dB
1310 Passband	1260-1360		nm
1310 Insertion Loss @ -0.5dB	≤ 1.5		dB
Passband Ripple	≤ 0.5		dB
Isolation - Adjacent Channel	≥ 30		dB
Isolation - Non-adjacent Channel	≥ 40		dB
Isolation - Express	≥ 14		dB
Isolation - Upgrade	≥ 12		dB
Return Loss (with connectors)	≥ 45		dB
Channel Directivity	≥ 50		dB
Polarization Dependent Loss	≤ 0.2		dB
Polarization Mode Dispersion	≤ 0.2		ps
Maximum Optical Power	300		mW
Operating Temperature			
Commercial Temp (standard)	-5 to 75		°C
Industrial Temp	-40 to 85		
Storage Temperature	-40 to 85		°C
Fiber Type	SMF-28 (G.657.A1) or equivalent		--
Fiber Jacket	900µm loose tube		--
Passband Insertion Loss @ -0.5dB	≤ 4.5	≤ 3.0	dB
Upgrade Passband			
Upgrade Insertion Loss @ -0.5dB			

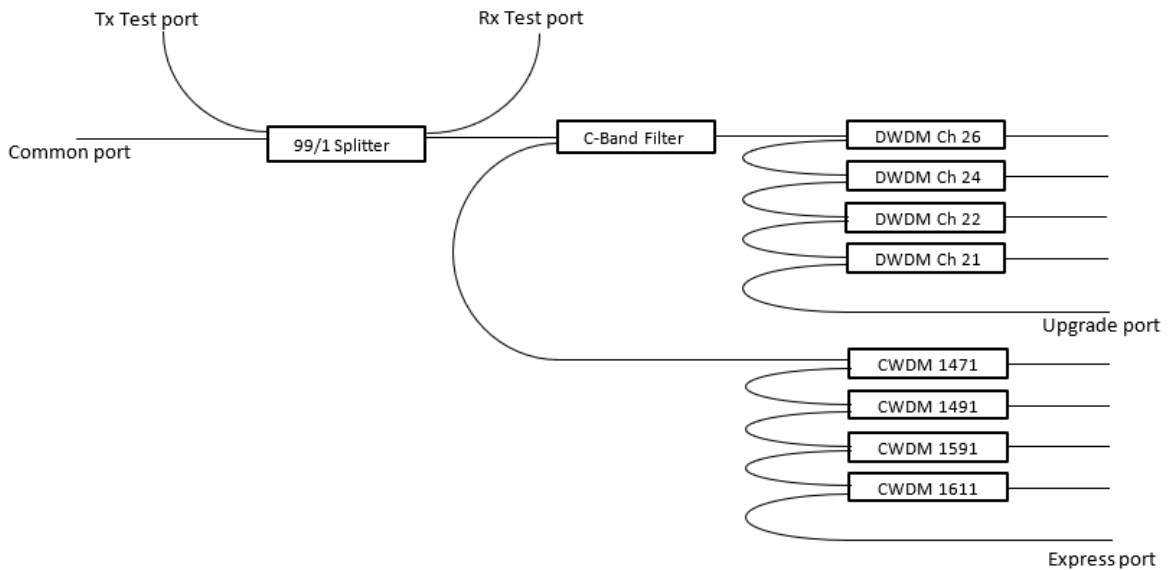
*NOTE: Alternate Specs for YS88D1-XSLU00-U13 & YS88M1-XSLU00-U13

Parameter	CWDM	DWDM	Unit
Passband Insertion Loss @ -0.5dB	≤ 4.5	≤ 3.0	dB
Upgrade Passband	ITU wavelengths within ITU 29 to 62		nm
Upgrade Insertion Loss @ -0.5dB	≤ 4.5		dB

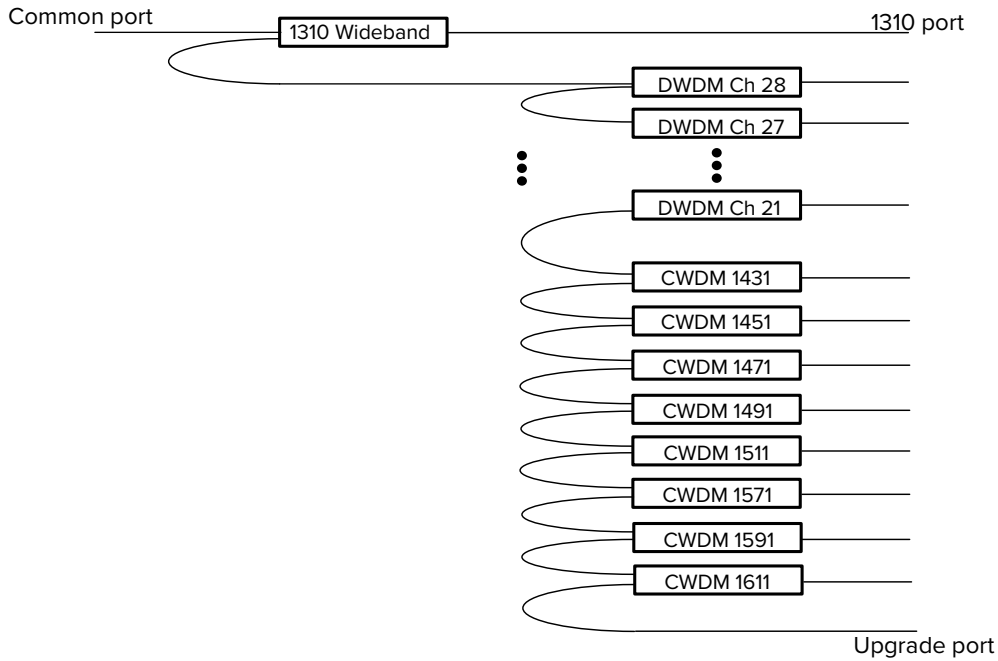
Filter Optical Design



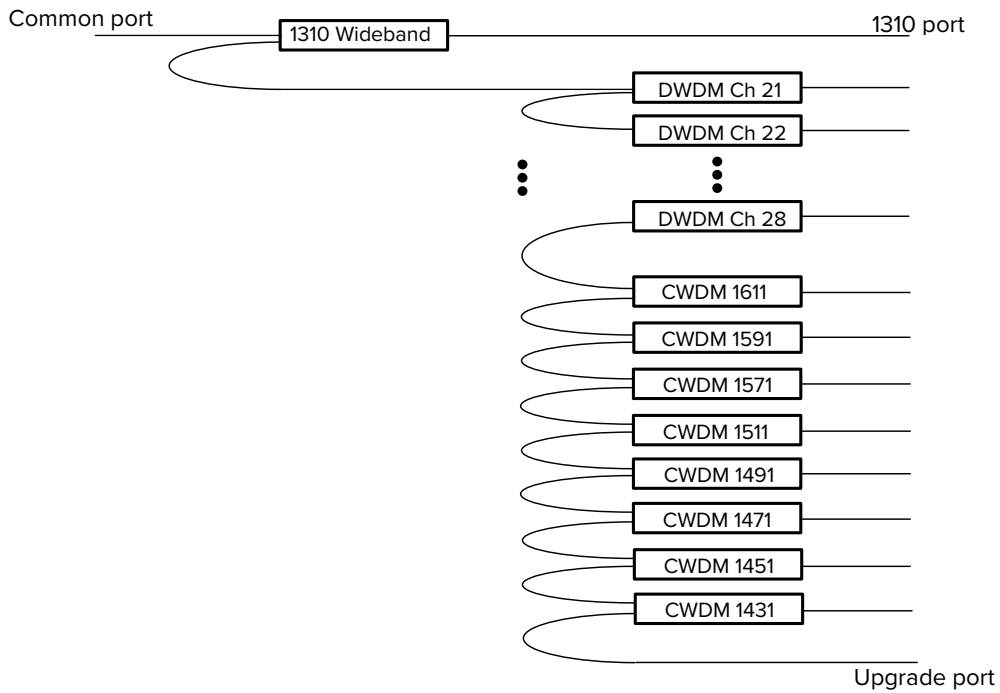
CWDM + DWDM High Level Design Example



4-Ch CWDM / 4-Ch DWDM Design Example

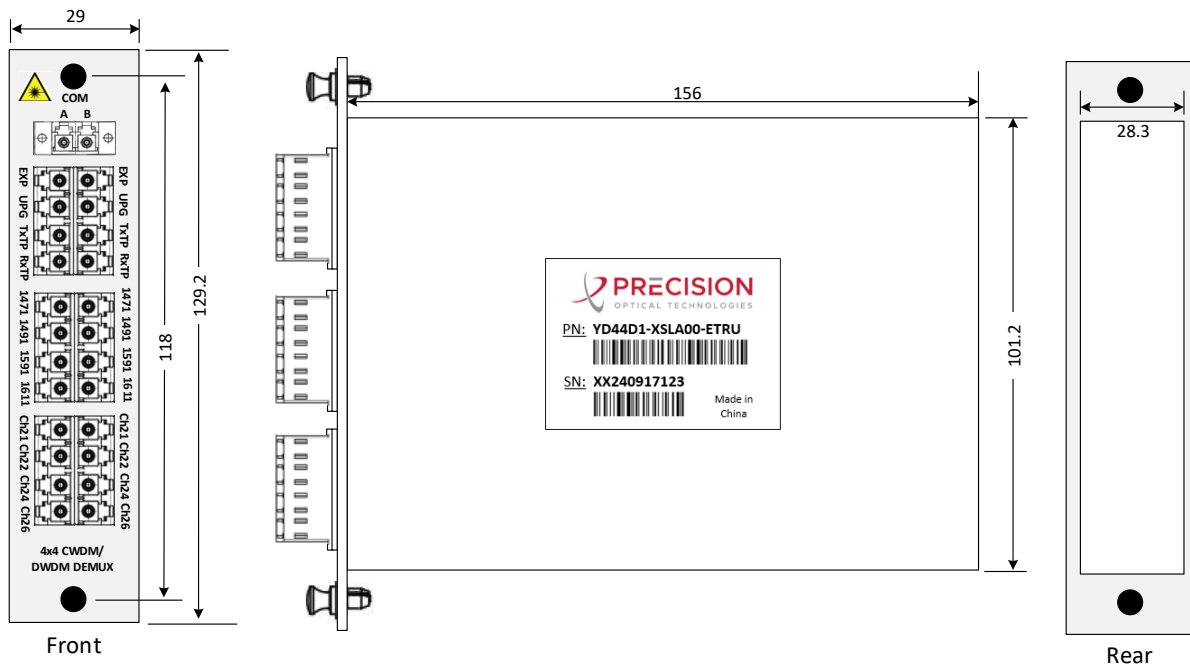


8-Ch CWDM / 8-Ch DWDM Mux Design Example w/ 1571 CWDM
(YS88M1-XSLU00-U13)

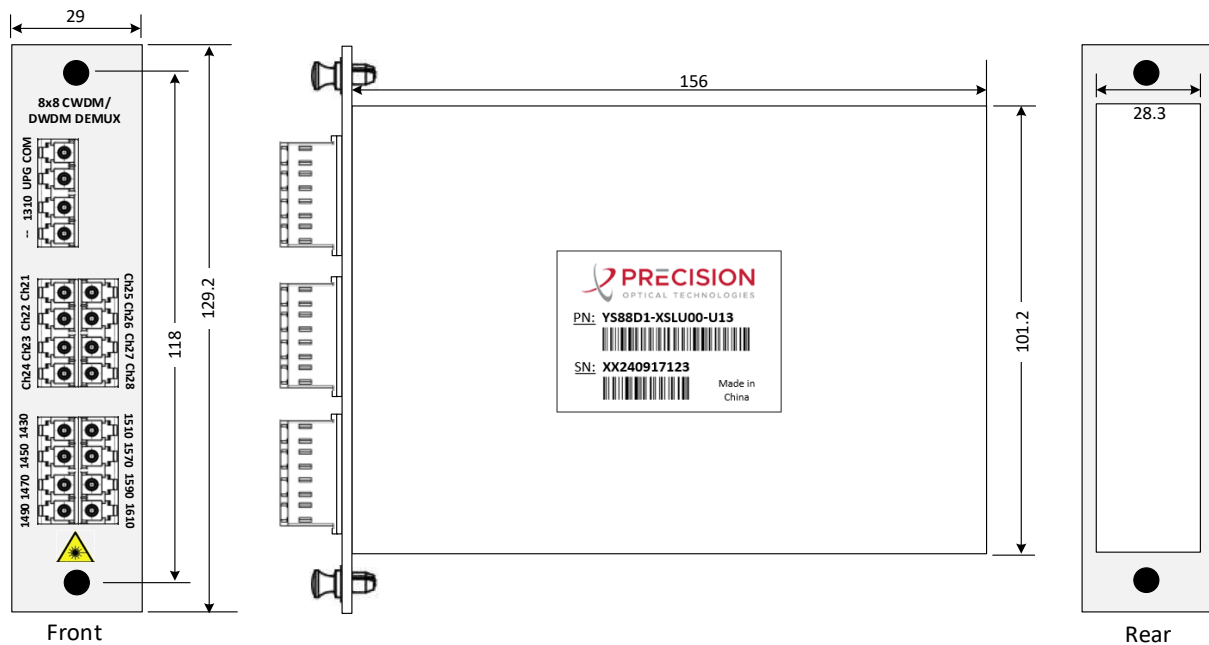


8-Ch CWDM / 8-Ch DWDM Demux Design Example w/ 1571 CWDM
(YS88D1-XSLU00-U13)

Filter Physical Design



4-Ch CWDM / 4-Ch DWDM External Design (mm)
(YD44D1-XSLA00-ETRU shown)



8-Ch CWDM / 8-Ch DWDM External Design (mm)
(YD88D1-XSLU00-U13 shown)