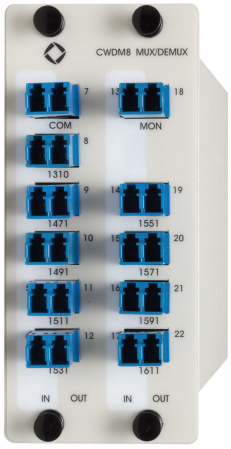
WaveReady™

Coarse Wavelength Division Multiplexer/Demultiplexer (CWDM) Module



Key Features

- Multiplexes and demultiplexes eight or four CWDM (20 nm spaced) channels to a single fiber
- Overlays legacy networks with a 1310 nm bypass channel
- Eliminates need for channel power balancing with ultra-high isolation design
- Environmentally hardened for ambient operating temperatures of -40 to 85°C; suitable for outside plant applications
- Requires no powering because of thermally stable passive optics

Applications

- Maximizes fiber in local loop applications
- Overlays CWDM with existing 1310 nm transmission systems
- Provides bidirectional transmission on a single fiber
- Supports linear (bus) add/drop architectures
- Supports hub-and-spoke ring architectures

The JDSU WaveReady™ Coarse Wavelength Divison Multiplexer/Demultiplexer Module (CWDM Mux/Demux) is a flexible, low-cost solution that enables the expansion of existing fiber capacity. Coupled with highly reliable passive optics certified for environmentally hardened applications, the CWDM Mux/Demux lets operators make full use of available fiber bandwidth in local loop and enterprise architectures.

The CWDM Mux/Demux is a universal device capable of combining nine optical signals into a fiber pair. It is designed to support a broad range of architectures, ranging from scalable point-to-point links to two fiber-protected rings. The market-standard LGX™ packaging of the CWDM Mux/Demux enables easy deployment in existing LGX-compatible frames or WaveReady 3500F shelves.

The CWDM Mux/Demux is designed to interoperate with both the WaveReady line of transponder and optical regenerator solutions as well as CWDM transponders and small form-factor pluggables (SFPs) used in widely available transmission equipment. With billions of field operating hours, the industry-leading JDSU optical multiplexing technology offers unparalleled reliability and leading-edge performance.

Compliance

- ITU-T G.694.2 and G.695
- GR-1221 and 1209

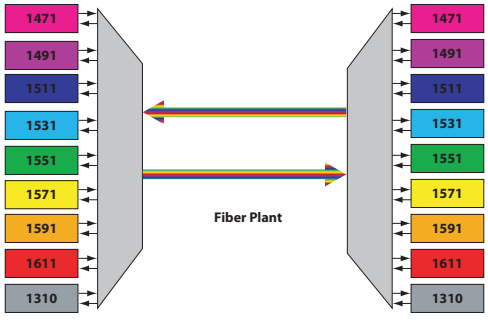


Figure 1: 8-Channel Mux/Demux Application

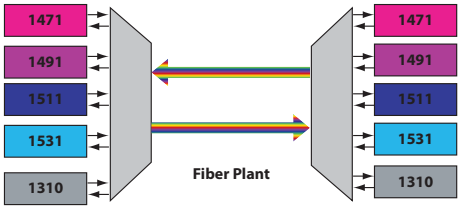


Figure 2: 4-Channel Mux/Demux Application

Specifications

Parameter	Min	Typical	Max
Optical Characteristics			
Channel center wavelengths			
MDX-04MDC001B		1471 nm, 1491 nm, 1511 nm, 1531 nm	
MDX-08MDC001B		1471 nm, 1491 nm, 1511 nm, 1531 nm,1551 nm, 1571 nm, 1591 nm, 1611 nm	
CWDM Channel spacing	—	20 nm	—
Insertion loss—CWDM channels			
MDX-04MDC001B	—	2.0 dB	3.0 dB
MDX-08MDC001B	—	3.2 dB	4.5 dB
Insertion loss—1310 Bypass channel	—	0.8 dB	1.5 dB
Monitor tap ratio	14 dB	17 dB	19.5 dB
CWDM Channel bandwidth		ITU λ±6.5 nm	
1310 Channel bandwidth		1310 ±50 nm	
CWDM Channel isolation			
Adjacent channels	45 dB		
Non-adjacent channels	50 dB	—	—
Polarization dependent loss	—	—	0.2 dB
Polarization mode dispersion	—	—	0.2 ps
Optical return loss, all ports including connectors	40 dB	—	—
Input optical power—sum of all channel ports	—	—	500 mW
Physical Characteristics			
Size (H x W x L)		129.5 x 57.7 x 160.3 mm (5.10 x 2.27 x 6.31 in)	
Optical connector type (all ports)		LC/PC bulkhead	
Fiber type		SMF-28 or equivalent	
Weight		0.45 kg (1 lb)	
Environmental Characteristics			
Normal operating ambient temperature	–5°C	—	70°C
Extended operating ambient temperature	–40°C	—	85°C
Storage temperature	–40°C	—	85°C
Relative humidity (non-condensing)	5%	—	95%

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at sales@jdsu.com.

Product Code	
MDX-04MDC001B	4-channel CWDM mux/demux with 1310 nm bypass
MDX-08MDC001B	8-channel CWDM mux/demux with 1310 nm bypass

Associated Parts

Product Code	Description
MDX-MN0204	4-slot, 2RU Passive Mounting Shelf
MDX-MN0412	12-slot, 4RU Passive Mounting Shelf
MDX-MNMM02	2-slot, Magnetic Wallmount Bracket

30149412 002 0410 CWDM.DS.CMS.TM.AE April 2010