

General Description

The PDR DWDM Mux/DeMux series provides dense wavelength division multiplexing and demultiplexing across ITU-T channels C20 to C60 within the 1520–1570 nm operating window, with a minimum channel spacing of 100 GHz. Available in two form factors — a compact ABS module for inline deployment and a 1U rack equipment chassis for system integration — the series supports 4, 8, and 16 channel configurations. Low insertion loss, high adjacent-channel isolation exceeding 30 dB, and a return loss greater than 45 dB ensure reliable signal integrity across all channel counts. Compatible with Corning SMF-28 fiber and available with multiple pigtail diameters and connector options to suit diverse installation requirements.



ABS Compact Module



1U Rack Equipment

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Key Features

- Available in compact ABS module (100×80×10 mm / 120×80×18 mm) and 1U rack equipment form factors
- Supports 4, 8, and 16 channel configurations covering ITU-T channels C20 to C60
- Low insertion loss: ≤ 2.0 dB (4ch), ≤ 3.0 dB (8ch), ≤ 4.8 dB (16ch) for ABS module
- Operating wavelength range 1520–1570 nm with 100 GHz minimum channel spacing
- High channel isolation: >30 dB adjacent channel, >40 dB non-adjacent channel
- Low passband ripple (≤ 0.30 dB) and polarization dependent loss (≤ 0.30 dB)
- Return loss >45 dB and directivity >50 dB for excellent signal integrity
- Compatible with Corning SMF-28 fiber; maximum optical input power 500 mW
- Multiple pigtail diameter options (0.9 mm, 2.0 mm, 3.0 mm) and connector styles (FC/APC, FC/UPC, LC/UPC, LC/APC)
- High stability ABS module construction suitable for CATV, WDM, and test and measurement systems

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Technical Specifications

Parameter	Specification
Channel Configurations	4 Channel 8 Channel 16 Channel
Insertion Loss — ABS Module	4ch: ≤ 2.0 dB 8ch: ≤ 3.0 dB 16ch: ≤ 4.8 dB
Insertion Loss — 1U Rack Equipment	4ch: ≤ 2.2 dB 8ch: ≤ 3.2 dB 16ch: ≤ 5.0 dB
ITU Channels	C20 – C60 (C20, C21, C22 ... C58, C59, C60)
Operating Wavelength	1520 – 1570 nm
Min. Channel Spacing	100 GHz
Passband (–0.5 dB bandwidth)	± 0.11 nm
Isolation — Adjacent Channel	> 30 dB
Isolation — Non-Adjacent Channel	> 40 dB
Passband Ripple	≤ 0.30 dB
Polarization Dependent Loss (PDL)	≤ 0.30 dB
Polarization Mode Dispersion (PMD)	< 0.10 ps
Return Loss	> 45 dB
Directivity	> 50 dB
Maximum Optical Power	500 mW
Operating Temperature	-5°C to $+75^{\circ}\text{C}$
Storage Temperature	-40°C to $+85^{\circ}\text{C}$
Fiber Type	Corning SMF-28
Package — ABS Module	100 × 80 × 10 mm or 120 × 80 × 18 mm
Package — Rack Equipment	1U Rack

Applications

- CATV and cable television headend signal multiplexing and distribution
- Dense WDM (DWDM) transport systems for long-haul and metro network capacity expansion
- Optical network monitoring and wavelength management in carrier-grade systems
- Test and measurement equipment for wavelength-selective optical characterisation
- Data center interconnect (DCI) and enterprise WDM backbone deployments
- Telecommunications switching and aggregation systems requiring high channel density

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Ordering Information

Type	Port Type	Wavelength	Pigtail Type	Fiber Type	Length	Connector
M=Mux	4=4ch	C21=1560.61	900=900μm	1=SMF-28e		NE=None
D=Demux	8=8ch	C23=1558.98	Loose Tube			FA=FC/APC
	16=16ch		2000=2mm			FC=FC/UPC
			3000=3mm			LC=LC/UPC
						LA=LC/APC
						XX=Other

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