

Datasheet

# RD-DMDXA40

DWDM Fiber Optic Multiplexer and De-Multiplexer



## Overview

The RD-DMDXA40 from MRV is a combined passive forty-channel 100GHz DWDM multiplexer and de-multiplexer (MUX & DeMUX) in a single 1U solution. It combines standard 100GHZ DWDM ITU grid channels 21 through 60, and it may be used in pairs or in combination with any other vendor's ITU grid-compliant DWDM MUX/DeMUX.

The RD-DMDXA40 is ideal for increasing the fiber capacity between two sites without the need for installing or leasing additional fibers.

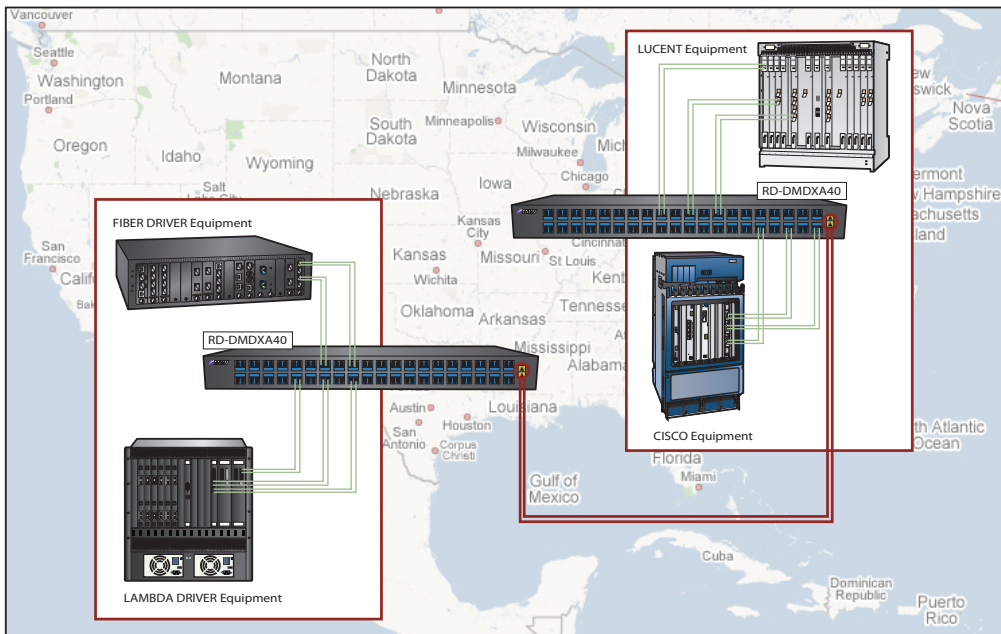
The complete passive solution requires no power cabling and no configuration; it is a true plug and play solution.

## Highlights

- 40 Channel 100 GHz DWDM combined Multiplexer and De-multiplexer (MUX & DeMUX)
- Standalone compact form factor – 1U
- Plug'n play: requires no configuration
- Green product: completely passive, needs no power and no cooling
- Installation friendly: front accessible Dual LC (DLC) connectors for the multiplexed channels and for the aggregated optical link
- Fully transparent at all data rates and protocols from T1 to 40 Gbps
- Uniform insertion loss variation over the 40-channels - less than 1dB (typical 0.6dB) per MUX or DeMUX
- Compatible with 100GHz ITU Grid DWDM active transponders and transceivers from MRV and other third parties
- High reliability, MTBF of 100 years
- Designed for Telcordia / Bellcore GR-1209 and GR-1221

## Applications

- Point-to-point DWDM fiber optimization
- Linear add/drop DWDM fiber optimization



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The RD-DMDXA40 enables separation of the active equipment from wavelength multiplexing components. It may be used in conjunction with active optical devices from MRV (see Fiber Driver®, Lambda Driver®, OptiSwitch™, CrossConnect™, Packet Optical Transport product lines) or from any other DWDM-compliant manufacturers.

The RD-DMDXA40 may be used as a standalone tabletop device or mounted in 1-unit space of

a 19" data rack. Rack mounting options include standard flush front mount or mid-chassis NEBS level 3 configurations. The RD-DMDXA40 front panel features dual LC (DLC) fiber connectors for the 40 DWDM channels as well as a DLC fiber port pair for the multiplexed DWDM trunk link.

With front accessible connections and no need for power, the unit may be fully operational in minutes after unpacking the box.

### Optical Specifications

Parameter	Symbol	Specifications			Unit	Comments
		Min.	Typ.	Max.		
Number of Channels	-	40			-	-
Channel Spacing	-	100			GHz	-
Channel Frequencies	$f_c$	192.10 ~ 196.00			THz	1529.553 ~ 1560.606 nm
Wavelength Accuracy	$\Delta\lambda_c$	-	$\pm 30$	$\pm 50$	pm	Offset from ITU Frequencies
ITU Band	PB	-12.5	-	12.5	GHz	Centered at Each ITU Channel Frequency, $f_c$
Insertion Loss (Passband)	IL	-	3.0	3.75	dB	Per MUX or DeMUX
	IL	-	6.0	7.5	dB	Per Link
Insertion Loss Uniformity	$\Delta IL$	-	0.6	1.0	dB	Over All Channels and PDL
Ripple	R	-	0.6	1.5	dB	Loss Variation within ITU Band
Polarization Dependent Loss	PDL	-	0.35	0.7	dB	Maximum within ITU Band
1 dB Passband	$\delta 1dB$	0.23	-	-	nm	Measure 1dB down from Min IL, Unpolarized
3 dB Passband	$\delta 3dB$	0.41	-	-	nm	Measure 3dB down from Min IL, Unpolarized
Adjacent Channel Isolation	AX	-	-	26	dB	Worst-case within ITU Band
Non-Adjacent Channel Isolation	NX	-	-	40	dB	Worst-case within ITU Band
Total Isolation	TX	-	-	26	dB	Cumulative Sum of All AX and NX
Return Loss	RL	45	55	-	dB	Over All Channels and PDL
Chromatic Dispersion	CD	-20	-	20	ps/nm	Over ITU Band, Guaranteed by Design
Polarization Mode Dispersion	PMD	-	0.3	0.5	ps	Over ITU Band, GBD

**Datasheet****Operating Specifications**

<b>Operating Temperature Range</b>	-5°C to 65°C (23°F to 149°F)
<b>Operating Relative Humidity</b>	85% maximum, non-condensing
<b>Storage Temperature</b>	-40°C to 85°C (-40°F to 185°F)
<b>Storage Relative Humidity</b>	5 to 95% maximum, non-condensing
<b>Physical Dimensions</b>	44 mm x 439 mm x 305 mm deep (1.7" x 17.3" x 12" deep)
<b>Weight</b>	Approximately 2.0 kg (4.4 lb)
<b>Regulatory Compliances</b>	RoHS Directive; China RoHS; WEEE Directive: Wheelie Bin Mark

<b>Ordering Info</b>	<b>Model</b>	<b>Function</b>	<b>Connectors Port/Link</b>	<b>Wavelength (nm)</b>
	<b>RD-DMDXA40</b>	DWDM Passive forty-channel multiplexer and de-multiplexer.	DLC / DLC	1529.55 - 1560.61 (Channel 21-60 ITU Grid)

For more information, visit [www.mrv.com](http://www.mrv.com) or contact your MRV sales representative.

MRV has more than 50 offices throughout the world. Addresses, phone numbers and fax numbers are listed at [www.mrv.com](http://www.mrv.com). Please e-mail us at [info@mrv.com](mailto:info@mrv.com) or call us for assistance.

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