



## Passive DWDM Components



EM316DWMUX16

EM316DWMUX32

### Features

- 32-, 16- and 8-channel passive DWDM Mux/Demux
- 1-, 2-, 4- and 8-channel DWDM OADM
- 100 GHz (0.8 nm) ITU Grid, C Band
- Transparent operation - protocol and topology independent
- Secure physical separation between data channels
- Low insertion loss
- Fully passive devices - require no power
- High density form factor

### Overview

The Fiber Driver DWDM Passive Mux/Demux and OADM modules deliver the benefits of a Dense Wave Division Multiplexer in a fully passive solution. With matching Mux/Demux units placed at each end of an optical link, 8, 16 or 32 Full Duplex data channels can be combined and transmitted over a Singlemode fiber trunk. The passive OADM modules can be used to add/drop 1 to 8 wavelength-specific data channels at any point along the trunk.

Protocol and topology independent, the operation of these passive components remains transparent to both the network and the end user. With plug-n-play setup and a design that minimizes budget loss, they can readily and seamlessly be integrated into an existing environment. Their small form factor and no power requirement means they can be placed virtually anywhere.

For additional information on these or any of the full line of MRV Communications products, including pricing and availability, contact your MRV Communications representative.

### Physical Specifications

<b>Operating Temperature</b>	-5°C to 50°C (23°F to 122°F)
<b>Storage Temperature</b>	-55°C to 85°C (-67°F to 185°F)
<b>Relative Humidity</b>	85% maximum, non-condensing
<b>Storage Humidity</b>	5% to 95%, non-condensing
<b>Physical Dimensions: one-slot module</b>	25 mm x 90 mm x 170 mm deep (1" x 3.56" x 6.67" deep)
<b>two-slot module</b>	50 mm x 90 mm x 170 mm deep (2" x 3.56" x 6.67" deep)
<b>Approximate Weight: one-slot module</b>	0.8 kg (1.8 lb)
<b>two-slot module</b>	1.4 kg (3.1 lb)
<b>Regulatory Compliance</b>	FCC Part 15 (Class A); IC (Class A); EMC Directive: Emission (Class A) and Immunity; RoHS Directive; China RoHS; WEEE Directive

\* If operated in a non-powered chassis, temp range is -5° C to 70° C (23° F to 158° F)


**PASSIVE DWDM MUX/DEMUX**

Ordering Information							
Model	Description	Connectors Ports/Link	Wavelengths Ports & Link (nm)	Max. Insertion Loss (dB)	Max. Link Insertion Loss per Pair (dB)	Adjacent Ch. Isolation (dB)	Non Adj. Ch. Isolation (dB)
EM316DWMX8	One Slot, passive 8-Ch. DWDM Mux. Channels 31 - 38 (Red)	MU (x8) / SC	100 GHz ITU Grid, C Band	3.0	4.3	≥25	≥40
EM316DWMX8	One Slot, passive 8-Ch. DWDM Demux. Channels 31 - 38 (Red)	MU (x8) / SC	100 GHz ITU Grid, C Band	3.0	4.3	≥25	≥40
EM316DWMX8-R1	One Slot, passive 8-Ch. DWDM Mux. Channels 21 - 28 (Red)	MU (x8) / SC	100 GHz ITU Grid, C Band	3.4	4.7	≥25	≥40
EM316DWMX8-R1	One Slot, passive 8-Ch. DWDM Demux. Channels 21 - 28 (Red)	MU (x8) / SC	100 GHz ITU Grid, C Band	3.4	4.7	≥25	≥40
EM316DWMX8-R2	One Slot, passive 8-Ch. DWDM Mux. Channels 29 - 36 (Red)	MU (x8) / SC	100 GHz ITU Grid, C Band	3.0	4.3	≥25	≥40
EM316DWMX8-R2	One Slot, passive 8-Ch. DWDM Demux. Channels 29 - 36 (Red)	MU (x8) / SC	100 GHz ITU Grid, C Band	3.0	4.3	≥25	≥40
EM316DWMX8-R2B	One Slot, passive 8-Ch. DWDM Mux. Channels 29 - 36 (Red) with band splitter.	MU (x8) / DMU (x2)	100 GHz ITU Grid, C Band	3.2	4.6	≥25	≥40
EM316DWMX8-R2B	One Slot, passive 8-Ch. DWDM Demux. Channels 29 - 36 (Red) with band splitter.	MU (x8) / DMU (x2)	100 GHz ITU Grid, C Band	3.2	4.6	≥25	≥40
EM316DWMX8-B1	One Slot, passive 8-Ch. DWDM Mux. Channels 43 - 50 (Blue).	MU (x8) / SC	100 GHz ITU Grid, C Band	3.2	4.6	≥25	≥40
EM316DWMX8-B1	One Slot, passive 8-Ch. DWDM Demux. Channels 43 - 50 (Blue).	MU (x8) / SC	100 GHz ITU Grid, C Band	3.2	4.6	≥25	≥40
EM316DWMX8-B2B	One Slot, passive 8-Ch. DWDM Mux. Channels 51 - 58 (Blue).	MU (x8) / DMU (x2)	100 GHz ITU Grid, C Band	3.2	4.6	≥25	≥40
EM316DWMX8-B2B	One Slot, passive 8-Ch. DWDM Demux. Channels 51 - 58 (Blue).	MU (x8) / DMU (x2)	100 GHz ITU Grid, C Band	3.2	4.6	≥25	≥40
EM316DWMX8-CW3	One Slot, passive 8-Ch. DWDM Mux. Channels 56 - 63 (Blue).	MU (x8) / SC	100 GHz ITU Grid, C Band	3.9	5.7	≥25	≥40
EM316DWMX8-CW3	One Slot, passive 8-Ch. DWDM Demux. Channels 56 - 63 (Blue).	MU (x8) / SC	100 GHz ITU Grid, C Band	3.9	5.7	≥25	≥40
EM316DWMX8-CW5	One Slot, passive 8-Ch. DWDM Mux. Channels 31 - 38 (Red).	MU (x8) / SC	100 GHz ITU Grid, C Band	3.0	4.3	≥25	≥40
EM316DWMX8-CW5	One Slot, passive 8-Ch. DWDM Demux. Channels 31 - 38 (Red).	MU (x8) / SC	100 GHz ITU Grid, C Band	3.0	4.3	≥25	≥40
EM316DWMUX16-R	One Slot, passive 16-Ch. DWDM Mux. Channels 21 - 36 (Red).	MU (x16) / SC	100 GHz ITU Grid, C Band	4.5	7	≥25	≥40
EM316DWMUX16-R	One Slot, passive 16-Ch. DWDM Demux. Channels 21 - 36 (Red).	MU (x16) / SC	100 GHz ITU Grid, C Band	4.5	7	≥25	≥40
EM316DWMUX16-B	One Slot, passive 16-Ch. DWDM Mux. Channels 43 - 58 (Blue).	MU (x16) / SC	100 GHz ITU Grid, C Band	4.5	7	≥25	≥40
EM316DWMUX16-B	One Slot, passive 16-Ch. DWDM Demux. Channels 43 - 58 (Blue).	MU (x16) / SC	100 GHz ITU Grid, C Band	4.5	7	≥25	≥40
EM316DWMUX16-BE	One Slot, passive 16-Ch. DWDM Mux. Channels 43 - 58 (Blue) with Band splitter.	MU (x16) / LC	100 GHz ITU Grid, C Band	4.5	7	≥25	≥40
EM316DWMUX16-BE	One Slot, passive 16-Ch. DWDM Demux. Channels 43 - 58 (Blue) with Band splitter.	MU (x16) / LC	100 GHz ITU Grid, C Band	4.5	7	≥25	≥40



## Datasheet

## PASSIVE DWDM MUX/DEMUX (CONTINUED)

Ordering Information							
Model	Description	Connectors Ports/Link	Wavelengths Ports & Link (nm)	Max. Insertion Loss (dB)	Max. Link Insertion Loss per Pair (dB)	Adjacent Ch. Isolation (dB)	Non Adj. Ch. Isolation (dB)
EM316DWMUX32	Two slot, passive 32-Ch. DWDM Mux. Channels 21 - 52.	MU (x32) / SC	100 GHz ITU Grid, C Band	6.3	9.9	≥25	≥40
EM316DWMX32	Two slot, passive 32-Ch. DWDM Demux. Channels 21 - 52.	MU (x32) / SC	100 GHz ITU Grid, C Band	6.3	9.9	≥25	≥40
EM316DWMUX32-RB	Two slot, passive 32-Ch. DWDM Mux. Channels 21-36 & 43 - 58.	MU (x32) / SC	100 GHz ITU Grid, C Band	4.9	8.4	≥25	≥40
EM316DWMX32-RB	Two slot, passive 32-Ch. DWDM Demux. Channels 21-36 & 43 - 58.	MU (x32) / SC	100 GHz ITU Grid, C Band	4.9	8.4	≥25	≥40

## PASSIVE DWDM OADM

Ordering Information								
Model	Description	Data Port Connector	Trunk Connector In/Out	Trunk Add/Drop Wavelength (nm)	Max. Add/Drop Insertion Loss (dB)	Max. Other Chan. Insertion Loss (dB)	Adjacent Ch. Isolation (dB)	Non Adj. Ch. Isolation (dB)
EM316DPADxx*	One slot, 1 channel passive DWDM OADM.	MU (x2)	DLC/DLC	Select from 100 GHz ITU Grid, C Band channels 20-60	1.5	0.8	≥25	≥10
EM316DPADxxyy*	One slot, 2 channel passive DWDM OADM.	MU (x4)	DLC/DLC	Select from 100 GHz ITU Grid, C Band channels 20-60	1.8	0.9	≥25	≥40
EM316DPAD4xx*	One slot, 4 channel passive DWDM OADM.	MU (x8)	DLC/DLC	Select from 100 GHz ITU Grid, C Band channels 20-60	2.4	1.5	≥25	≥40
EM316DPAD8xx*	One slot, 8 channel passive DWDM OADM.	MU (x16)	MU (x2) / MU (x2)	Select from 100 GHz ITU Grid, C Band channels 20-60	3.6	2.5	≥25	≥40
EM316DDADDxx*	Dual Fiber, 1 channel DWDM OADM.	MU (x4)	MU (x2) / MU (x2)	East/West (XX - Wavelength from ITU Grid Table)	1.5	1.0	≥25	≥40
EM316DDADDxxyy*	Dual Fiber, 2 channel DWDM OADM.	MU (x8)	MU (x2) / MU (x2)	East/West (XXYY - Wavelength from ITU Grid Table)	2.0	2.1	≥25	≥40
EM316DSADSxx*	Single Fiber, 1 channel DWDM OADM.	MU (x2)	MU / MU	East/West (XX - Wavelength from ITU Grid Table)	1.3	1.5	≥25	≥40
EM316DSADSxxyy*	Single Fiber, 1 channel DWDM OADM.	MU (x2)	MU / MU	East/West (XXYY - Wavelength from ITU Grid Table)	2.0	2.1	≥25	≥40

\*See ITU Channel Table for **xx** and **yy** substitution values.



## ITU CHANNEL TABLE

<b>ITU Channel (xx or yy)</b>	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
<b>Wavelength (nm)</b>	1560.61	1559.79	1558.98	1558.17	1557.36	1556.56	1555.75	1554.94	1554.13	1553.33	1552.52	1551.72	1550.92	1550.12	1549.32	1548.52	1547.72	1546.92	1546.12	1545.32
<b>ITU Channel (xx or yy)</b>	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
<b>Wavelength (nm)</b>	1544.53	1543.73	1542.94	1542.14	1541.35	1540.56	1539.77	1538.98	1538.19	1537.40	1536.61	1535.82	1535.04	1534.25	1533.47	1532.68	1531.90	1531.12	1530.33	1529.55

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