

MICROSENS

Modular Passive CWDM Multiplexers (Cassettes)

Overview

Getting the most out of your network is critical in today's capital-constrained environment. Deploying dedicated fiber runs to every location is both impractical and expensive so reaching as many customers as possible from your existing fiber plant is critical to your success as a network operator. With MICROSENS' line of low-cost Optical Add/Drop Multiplexers (OADMs), you can aggregate traffic from multiple locations and deploy service to any customer without disrupting existing traffic. MICROSENS provides a broad line of OADM solutions for any network environment and any channel count. Whether you need to add or drop a single wavelength or multiple wavelengths in only one direction or both east and west, or whether you have a dual fiber network or only single, MICROSENS has the solution for you.

With up to four OADM modules hosted in a single 1RU enclosure, we provide a high density, low cost platform in the least amount of space to minimize the impact on your operations and your bottom line.

The MICROSENS solution is based on a 1RU passive chassis which can hold a mix of various elements such as Optical Multiplexers and OADMs. The OADM modules support either 1-, 2-, 4- or 8 channel add/drop capability on dual fiber spans covering the S- and C-bands from 1271 nm to 1611 nm. For single fiber configuration, the OADMs support 1-, 2- or 4-channels of add/drop and can be uni- or bi-directional. OADMs can be one-degree adding and dropping traffic from a single side, or two-degree adding and dropping traffic in both the east and west directions. All OADMs are designed for operation in Extended Temperature Range (ETR) environments from -40°C to +65°C.

KEY FEATURES & BENEFITS

- 1-, 2-, 4- or 8-channel add/drop modules to match your network requirements
- Supports both uni- and bi-directional traffic
- Solutions for both single and dual fiber spans
- Dense footprint with 4 modules hosted in 1RU
- Extended Temperature Range (ETR) -40°C to +65°C — supported on all modules
- Completely passive, no power or maintenance required

APPLICATIONS

- Aggregation of multiple antenna sites for Mobile Backhaul (MBH) /Mobile Fronthaul (MFH)
- Intermediate traffic add/drop on long-haul networks
- Cost-effective metro ring expansion

Optical parameters

Dual sided, dual fiber OADMs

Parameters	MS430741MX-DS	MS430742MX-DS	MS430744MX-DS
Wavelength Range (nm)	1260+-1620	1260+-1620	1260+-1620
Channel Spacing (nm)	20	20	20
Channel Clear Passband (nm)	ITU \pm 7	ITU \pm 7	ITU \pm 7
Number of Channels	1	2	4
Add/Drop Port Insertion Loss-Max. (dB)	1,5	2	2
Exp In/Out Insertion Loss-Max. (dB)	1,5	2	2
Passband Ripple-Max. (dB)	0,5	0,5	0,5
Add Adjacent Channel Isolation-Min (dB)	15	15	15
Drop Adjacent Channel Isolation-Min. (dB)	25	25	25
Return Loss-Min. (dB)	45	45	45
Directivity-Min. (dB)	45	45	45
Polarization Dependent Loss-Max. (dB)	0,1	0,1	0,1
Maximum Power Handling (mW)	300	300	300

Single sided, dual fiber OADMs

Parameters	MS430741MX	MS430742MX	MS430744MX	MS430748MX
Wavelength Range (nm)	1260+-1620	1260+-1620	1260+-1620	1260+-1620
Channel Spacing (nm)	20	20	20	20
Channel Clear Passband (nm)	ITU \pm 7	ITU \pm 7	ITU \pm 7	ITU \pm 7
Number of Channels	1	2	4	8
Add/Drop Port Insertion Loss-Max. (dB)	1,5	1,8	2	3
Exp In/Out Insertion Loss-Max. (dB)	1,25	1,5	2	1
Passband Ripple-Max. (dB)	0,5	0,5	0,5	0,5
Adjacent Channel Isolation-Min (dB)	30	30	30	30
Non-Adjacent Channel Isolation-Min. (dB)	45	45	45	45
Return Loss-Min. (dB)	45	45	45	45
Directivity-Min. (dB)	45	45	45	45
Polarization Dependent Loss-Max. (dB)	0,1	0,1	0,1	0,1
Maximum Power Handling (mW)	300	300	300	300

Dual sided, single fiber OADMs

Parameters	MS430741MX-SF2	MS430742MX-SF2	MS430744MX-SF2
Wavelength Range (nm)	1260+-1620	1260+-1620	1260+-1620
Channel Spacing (nm)	20	20	20
Channel Clear Passband (nm)	ITU ± 7	ITU ± 7	ITU ± 7
Number of Channels	1	2	4
Add/Drop Port Insertion Loss-Max. (dB)	1,5	2	2
Exp In/Out Insertion Loss-Max. (dB)	1,5	2	2
Passband Ripple-Max. (dB)	0,5	0,5	0,5
Add Adjacent Channel Isolation-Min (dB)	15	15	15
Drop Adjacent Channel Isolation-Min. (dB)	25	25	25
Return Loss-Min. (dB)	45	45	45
Directivity-Min. (dB)	45	45	45
Polarization Dependent Loss-Max. (dB)	0,1	0,1	0,1
Maximum Power Handling (mW)	300	300	300

Single sided, single fiber OADMs – A versions

Parameters	MS430741MX-SF1A	MS430742MX-SF1A	MS430744MX-SF1A
Wavelength Range (nm)	1271, 1311, 1351, 1391, 1431, 1471, 1511, 1551, 1591		
Channel Spacing (nm)	20	20	20
Channel Clear Passband (nm)	ITU ± 7	ITU ± 7	ITU ± 7
Number of Channels	1	2	4
Add/Drop Port Insertion Loss-Max. (dB)	1,5	1,8	2
Exp In/Out Insertion Loss-Max. (dB)	1,25	1,5	2
Passband Ripple-Max. (dB)	0,5	0,5	0,5
Add Adjacent Channel Isolation-Min (dB)	30	30	30
Drop Adjacent Channel Isolation-Min. (dB)	25	25	25
Return Loss-Min. (dB)	45	45	45
Directivity-Min. (dB)	45	45	45
Polarization Dependent Loss-Max. (dB)	0,1	0,1	0,1
Maximum Power Handling (mW)	300	300	300

Single sided, single fiber OADMs – B versions

Parameters	MS430741MX-SF1B	MS430742MX-SF1B	MS430744MX-SF1B
Wavelength Range (nm)	1291, 1331, 1371, 1411, 1451, 1491, 1531, 1571, 1611		
Channel Spacing (nm)	20	20	20
Channel Clear Passband (nm)	ITU ± 7	ITU ± 7	ITU ± 7
Number of Channels	1	2	4
Add/Drop Port Insertion Loss-Max. (dB)	1,5	1,8	2
Exp In/Out Insertion Loss-Max. (dB)	1,25	1,5	2
Passband Ripple-Max. (dB)	0,5	0,5	0,5
Add Adjacent Channel Isolation-Min (dB)	30	30	30
Drop Adjacent Channel Isolation-Min. (dB)	25	25	25
Return Loss-Min. (dB)	45	45	45
Directivity-Min. (dB)	45	45 </td <td>45</td>	45
Polarization Dependent Loss-Max. (dB)	0,1	0,1	0,1
Maximum Power Handling (mW)	300	300	300

Physical parameters

- Module size: 1 slot
- Operating temperature: -40° C to +65° C
- Storage temperature: -40° C to +85° C
- Optical connectors: LC/PC
- Fiber type: SMF 28e
- Fiber length: 0.35+/-0.03m



Figure: MICROSENS modular passive CWDM Solution

Order Information

Art. No.	Description
Modules	
MS430741MX	1 Channel single sided CWDM OADM "Add/Drop to/from Line", Extended Temperature Range (-40 to 65°C)
MS430742MX	2 Channel single sided CWDM OADM "Add/Drop to/from Line", dual sided, ETR (-40 to 65°C)
MS430744MX	4 Channel single sided CWDM OADM "Add/Drop to/from Line", dual sided, ETR (-40 to 65°C)
MS430748MX	8 Channel single sided CWDM OADM "Add/Drop to/from Line", dual sided, ETR (-40 to 65°C)
MS430741MX-DS	1 Channel CWDM OADM, dual sided, ETR (-40 to 65°C)
MS430742MX-DS	2 Channel CWDM OADM, dual sided, ETR (-40 to 65°C)
MS430744MX-DS	4 Channel CWDM OADM, dual sided, ETR (-40 to 65°C)
MS430741MX-SF1A	1 Channel Pair single sided CWDM OADM "Add/Drop to/from Line", (Pair 5), Adds A lambda , Drops B-lambda , Single Fiber, ETR (-40 to 65°C)
MS430741MX-SF1B	1 Channel Pair single sided CWDM OADM "Add/Drop to/from Line", (Pair 5), Adds B lambda , Drops A-lambda , Single Fiber, ETR (-40 to 65°C)
MS430742MX-SF1A	2 Channel Pair single sided CWDM OADM "Add/Drop to/from Line", (Pairs 5-6), Adds A lambdas , Drops B-lambdas , Single Fiber, ETR (-40 to 65°C)
MS430742MX-SF1B	2 Channel Pair single sided CWDM OADM "Add/Drop to/from Line", (Pairs 5-6), Adds B lambdas , Drops A-lambdas , Single Fiber, ETR (-40 to 65°C)
MS430744MX-SF1A	4 Channel Pair single sided CWDM OADM "Add/Drop to/from Line", (Pairs 5-8), Adds AB lambdas , Drops A-lambdas , Single Fiber, ETR (-40 to 65°C)
MS430744MX-SF1B	4 Channel Pair single sided CWDM OADM "Add/Drop to/from Line", (Pairs 5-8), Adds B lambdas , Drops A-lambdas , Single Fiber, ETR (-40 to 65°C)
MS430741MX-SF2	1 Channel Pair CWDM OADM starting Pair 5, dual sided, Single Fiber, Extended Temperature Range
MS430742MX-SF2	2 Channel Pairs CWDM OADM starting Pair 5, dual sided, Single Fiber, Extended Temperature Range
MS430744MX-SF2	4 Channel Pairs CWDM OADM starting Pair 5, dual sided, Single Fiber, Extended Temperature Range
Chassis	
MS430731M	Optical Passive Rack, 1HU, 4 Cartridges capacity, Extended Temperature Range (-40 to 65°C)

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