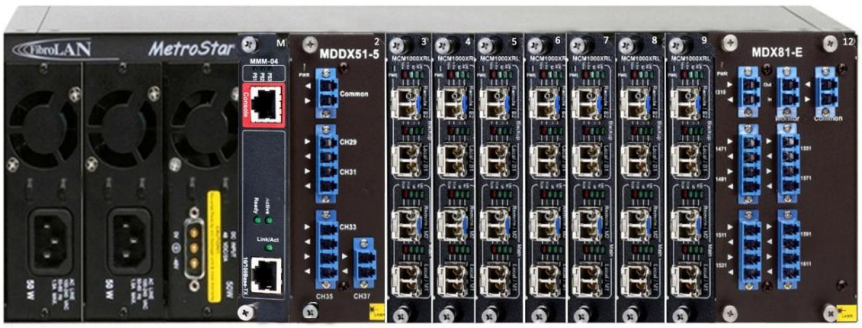
WDM solutions



- FibroLAN WDM series include MetroStar modules and Stand-Alone devices
- FibroLAN WDM provides attractive solutions for medium/large enterprise and carriers
- A variety of CWDM Mux/Demux devices
- DWDM ITU Grid Channel Mux/Demux devices
- Single Fiber CWDM/DWDM Multiplexers
- Single wavelength WDM Add Drop Mux/Demux (OADM) devices
- Monitors ports allow live monitoring and troubleshooting of the WDM signals.
- Expansion port may be used for management

FibroLAN's **WDM** series include *MetroStar*™ Modules, small form Stand-alone devices, and a comprehensive DWDM over CWDM solutions. The WDM equipment includes Multiplexers, OADMs, Transponders and SFP interfaces.

DS2800R0715

Product Overview

The recent progress in telecommunication applications for voice, video and data has placed additional demands for fiber optic networks. Adding more fiber to existing networks can be cost- prohibitive to service providers. A better and less costly solution is provided by WDM technology.
FibroLAN's **WDM** series comprises many WDM building blocks that are fully integrated within the MetroStar system.
"Monitor" ports allow live monitoring and troubleshooting of the WDM signals, without interrupting any activity and traffic flow.
Auxiliary ports may be used for management,
FibroLAN's **WDM** equipment allows users and service providers to increase the capacity of the existing fiber with CWDM wavelengths and DWDM channels; FibroLAN WDM provides attractive solutions for large enterprise and carriers.
The devices are designed to fully fulfill ITU G.694.1, ITU G.694.2, ITU G.695 standard and RoHS requirements.
The product family provides greater flexibility and performance to its users

FibroLAN solution allows enterprises and service providers to support scalable and easy-to-deploy, Ethernet, Fast Ethernet, Gigabit Ethernet 10GE, TDM and Fiber Channel services in their networks. The product set helps to enable the flexible design of highly available and scalable multiservice networks.

Product Listing

Model	P/N	CWDM MetroStar Passive Modules
MDX21	2805	2 channels CWDM MUX/DEMUX module, 1550nm/1310nm , Duplex LC connectors, occupies 2 slots
MDX41-E	2880	5 channels CWDM multiplexer-demultiplexer, (1471/1511/1551/1591nm) ,w/expansion channel (1310 nm) and one Monitor port, LC connectors, occupies 2 slots
MDX41-3	2852	4 channels CWDM multiplexer-demultiplexer, (1270/1290/1310/1330nm), LC/UPC connectors, occupies 2 slots
MDX41-E/2	2881	4 channels CWDM multiplexer-demultiplexer, (1470/1490/1510/1530nm) , plus expansion channel (1310nm), and one Monitor port, Duplex LC connectors, occupies 2 MetroStar slots
MDX41-SFA	2808	4 channels CWDM **Single Fiber** working multiplexer-demultiplexer (47/49/51/53), Monitor port, Simplex/Duplex LC connectors, occupies 2 slots
MDX41-SFB	2809	4 channels CWDM **Single Fiber** working multiplexer-demultiplexer (55/57/59/61), Monitor port, Simplex/Duplex LC connectors, occupies 2 slots
MDX81-SFA	2888	8 channels, Single Fiber CWDM MUX/DEMUX device, (31,35,39,43,47,51,53,57) with monitor, LC connectors, occupies 3 slots
MDX81-SFB	2889	8 channels, Single Fiber CWDM MUX/DEMUX device, (33,37,41,45,49,61,55,59) with monitor, LC connectors, occupies 3 slots
MDX81-E	2807	8 channels CWDM multiplexer-demultiplexer, (1470/1490/1510/1530/1550/1570/1590/1610nm) , plus expansion channel (1310nm), and one Monitor port, Duplex LC connectors, occupies 3 slots

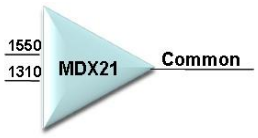
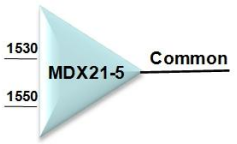
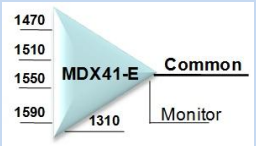
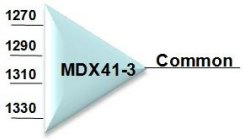
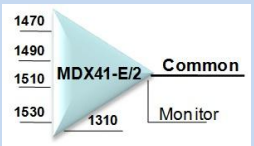
Model	P/N	DWDM MetroStar Passive Modules
MDDX51-5	2806	5 ITU grid channels DWDM multiplexer-demultiplexer, C-Band (channels 29/31/33/35/37), Duplex LC Connectors, 2 slots module
MDDX51-3	2819	5 ITU grid channels DWDM multiplexer-demultiplexer, C-Band (channels 51/53/55/57/59),10Gbs bandwidth, Duplex LC Connectors, 2 slots module
MDDX61-SFA	2872	6channels DWDM **Single Fiber** working multiplexer- demultiplexer, ITU (6 wave lengths - 21,23,25,27,29,31) Monitor port, Simplex/Duplex LC connectors, occupies 2 slots
MDDX61-SFB	2873	6 channels DWDM **Single Fiber** working multiplexer-demultiplexer, ITU (6 wave lengths – 45,47,49,51,53,55), Monitor port, Simplex/Duplex LC connectors, occupies 2 slots
MDDX81-E	2876	DWDM multiplexer-demultiplexer MetroStar module, 8 ITU grid channels, C-Band (channels 27/29/31/33/35/37/39/41), w/auxiliary channel (1510nm) and monitor port, occupies 3 MetroStar slots, Duplex LC connectors
MDDX81-E/31	2894	8 ITU grid channels DWDM multiplexer-demultiplexer module, C-Band (channels: 31,32,33,34,35,36,37,38), with express expansion channel (1510nm) and Monitor port, Duplex LC Connectors, 3 slots module installed in MetroStar system

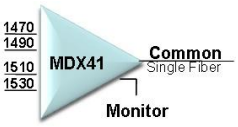
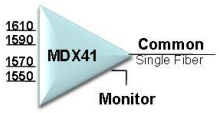
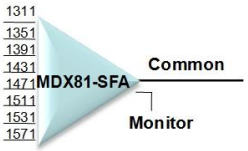
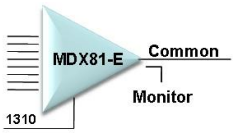
Model	P/N	CWDM Stand-Alone Passive Devices
MDX21/SA	2812	2 channels CWDM MUX/DEMUX device, 1550nm/1310nm , 10Gbs bandwidth, Duplex LC connectors, Half 19"/1RU enclosure
MDX21-5/SA	2862	CWDM multiplexer-demultiplexer stand-alone device, 2 channels 2:1 channels - 1550nm/1530nm , Duplex LC connectors, Half 19"/1RU enclosure
MDX41-E/SA	2875	5 channels CWDM multiplexer-demultiplexer, stand-alone device (1471/1511/1551/1591nm), w/expansion channel (1310) and one Monitor port LC connectors, occupies 2 slots
MDX41-3/SA	2853	4 channels CWDM multiplexer-demultiplexer device (1270/1290/1310/1330nm), 2.5Gbs bandwidth, LC/UPC connectors. Half 19"/1RU enclosure
MDX41-3/2/SA	2882	4 channels stand-alone CWDM multiplexer-demultiplexer device, (1470/1490/1510/1530nm) ,plus expansion channel (1310nm) and one Monitor port, Duplex LC connectors, Half 19"/1RU enclosure
MDX41-SFA/SA	2815	4 channels CWDM **Single Fiber** working multiplexer-demultiplexer (47/49/51/53), Monitor port, Simplex/Duplex LC connectors, Half 19"/1RU enclosure
MDX41-SFB/SA	2816	4 channels CWDM **Single Fiber** working multiplexer-demultiplexer (55/57/59/61), Monitor port, Simplex/Duplex LC connectors, Half 19"/1RU enclosure
MDX81-E/SA	2814	8 channels stand-alone CWDM multiplexer-demultiplexer device, (1470/1490/1510/1530/1550/1570/1590/1610nm) ,plus expansion channel (1310nm) and one Monitor port , 10Gbs bandwidth, Duplex LC connectors, Half 19"/1RU enclosure
MDX81-SFA/SA	2886	8 channels, Single Fiber CWDM MUX/DEMUX device (31, 35, 39, 43, 47, 51, 53,57) with monitor, LC connectors stand alone. Half 19"/1RU enclosure
MDX81-SFA/SB	2887	8 channels, Single Fiber CWDM MUX/DEMUX device, (33, 37, 41, 45, 49, 61, 55, 59 channels) with monitor, LC connectors stand alone. Half 19"/1RU enclosure

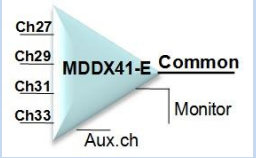
Model	P/N	DWDM Stand-Alone Passive Devices
MDDX41-SFA/SA	2863	DWDM multiplexer-demultiplexer stand-alone device, 4 ITU grid channels, C-Band (channels 21/23/25/27), **Single Fiber** working/side A Simplex/Duplex LC connectors, w/monitoring port, Half 19"/1RU enclosure
MDDX41-SFB/SA	2864	DWDM multiplexer-demultiplexer stand-alone device, 4 ITU grid channels, C-Band (channels 43/45/47/49), **Single Fiber** working/side B, Simplex/Duplex LC connectors, w/monitoring port, Half 19"/1RU enclosure
MDDX41-E/SA	2859	4 ITU grid channels stand-alone DWDM multiplexer-demultiplexer device, C-Band (channels 27/29/31/33), Duplex LC Connectors, Half 19"/1RU enclosure, w/ monitor port and auxiliary channel
MDDX51- 3/SA	2854	5 ITU grid channels DWDM multiplexer-demultiplexer device, C-Band (channels 51/53/55/57/59, Duplex LC Connectors, Half 19"/1RU enclosure
MDDX51- 5/SA	2813	5 ITU grid channels DWDM multiplexer-demultiplexer device, C-Band (channels 29/31/33/35/37), Duplex LC Connectors, Half 19"/1RU enclosure
MDDX61-SFA/SA	2870	6 ITU grid channels DWDM Multiplexer/Demultiplexer device, C band channels (21/23/25/27/29/31), Monitor port, Simplex/Duplex LC Connector.
MDDX61-SFB/SA	2871	6 ITU grid channels DWDM Multiplexer /Demultiplexer device, C band channels (45/47/49/51/53/55), Monitor port, Simplex/ Duplex LC Connector.
MDDX81-E/SA	2877	DWDM multiplexer-demultiplexer Stand-Alone device , 8 ITU grid channels, C-Band (channels 27/29/31/33/35/37/39/41), w/auxiliary channel (1510nm) and monitor port, , Duplex LC connectors
MDDX81-E31/SA	2895	8 ITU grid channels DWDM multiplexer-demultiplexer stand-alone device, C-Band (channels: 31,32,33,34,35,36,37,38)), with express expansion channel (1510nm) and Monitor port, Duplex LC Connectors, Half 19"/1RU enclosure
MDDX101-E/SA	2879	10 ITU grid channels DWDM multiplexer-demultiplexer, C-Band (channels 27/29/31/33/35/37/39/41/43/45), with express expansion channel (1510nm) and Monitor port, Duplex LC Connectors, Half 19"/1RU enclosure
MDDX161-5/SA	2855	DWDM multiplexer-demultiplexer stand-alone device, 16 ITU grid channels, C-Band (channels 27 through 42), 100G spacing, Duplex LC Connectors, w/monitoring port, 19"/1RU enclosure
MDDX321/SA	2866	DWDM multiplexer-demultiplexer stand-alone device, 32 ITU grid channels, C-Band (channels 21 through 52), 100G spacing, Duplex LC Connectors, w/monitoring port, 19"/1RU enclosure
MDDX401/SA	2867	DWDM multiplexer-demultiplexer stand-alone device, 40 ITU grid channels, C-Band (channels 21 through 60), 100G spacing, Duplex LC Connectors, w/monitoring port, 19"/1RU enclosure

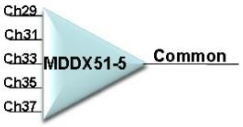
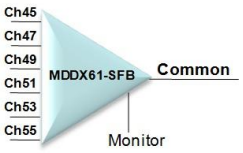
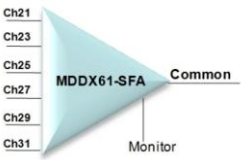
Model	P/N	CWDM/DWDM OADM Devices
FADM1/XX/SA	2817-XX	Single wavelength (1xx1nm) single channel CWDM Optical Add-Drop MUX-DEMUX (OADM), Duplex LC connectors, with Backbone ports (West/East), (XX=denotes specific wavelength), Half 19"/1RU enclosure
FADM2/XX/SA	2818-XX	Single wavelength (1xx1nm) dual channel (Redundant), CWDM Optical Add-Drop MUX-DEMUX (OADM) with Monitor and Backbone ports, Duplex LC connectors, (XX=denotes specific wavelength), Half 19"/1RU enclosure
FADDM2/XX/SA	2865-XX	Single wavelength (1xx1nm) dual channel (Redundant), CWDM Optical Add-Drop MUX-DEMUX (OADM) with Monitor and Backbone ports, Duplex LC connectors, (XX=denotes specific wavelength), Half 19"/1RU enclosure

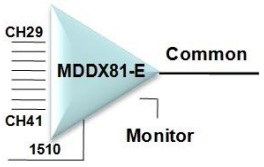
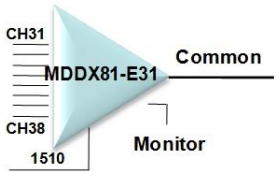
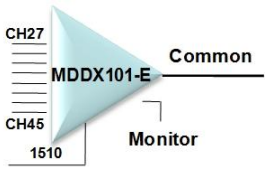
Technical Specifications

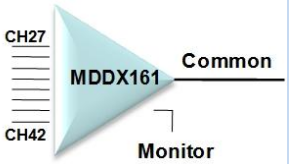
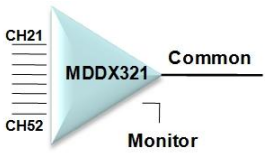
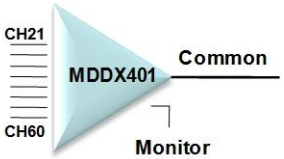
Module typ	Standalone device	Schematic Diagram	General Description	Performance Specifications
MDX21	**MDX21/SA**		2 channels CWDM MUX/DEMUX 1550nm/1310nm , Duplex LC connectors, 2 slots module/ Stand-Alone device	Insertion Loss: Pass Channel (1550nm) = Max.=0.7, Typical =0.5.dB Reflect Channel (1310nm)= Max.=0,5, Typical =0,3.dB Optical Input Return Loss:≥ 45dB, Operating Temperature: 0 ~ 65 °C
	MDX21-5/SA		CWDM MUX/DEMUX stand-alone device, 2 channels 2:1 channels - 1550nm/1530nm , Duplex LC connectors, Half 19"/1RU enclosure (stand-alone device)	Passband @0.5dB = ITU +/-6.5nm Channel spacing = 20nm Max Insertion Loss:Mux/Demux= ≤ 0.8/≤ 1.2 Db. PMD =≤ 0.1ps Link Loss: ≤ 1.6 dB Adjacent channel isolation: ≥ 30dB, Optical Input Return Loss: ≥ 45dB, Operating Temperature: 0 ~70 °C
MDX41-E	**MDX41-E/SA**		4 channels CWDM MUX/DEMUX, (1470/1510/1550/1590nm) , plus expansion channel (1310nm), and one Monitor port, Duplex LC connectors, occupies 2 MetroStar slots/ Stand-Alone device	Passband @0.5dB = ITU +/-6.5nm Channel spacing = 20nm Max Link Loss: Mux / Demux pair only= ≤ 4.1dB (RX to TX) Adjacent channel isolation: ≥ 30dB Non Adjacent channel isolation: ≥ 40dB (both isolation for Demux) Optical Input Return Loss: ≥ 45dB, Operating Temperature: 0 ~70 °C
MDX41-3	**MDX41-3/SA**		4 channels CWDM multiplexer-demultiplexer, (1270/29/31/1330nm), LC/UPC connectors, occupies 2 slots (when used in conjunction with other '-E' devices' expansion channel, the 1270nm channel is not usable)	Passband @0.5dB = ITU +/-6.5nm Channel spacing = 20nm Max. Insertion Loss = 1.6dB Max Link Loss: 2.5dB Adjacent channel isolation: ≥ 30dB Non Adjacent channel isolation: ≥ 40Db (both isolation for Demux) Optical Input Return Loss: ≥ 45dB Polarization Mode Dispersion: ≤ 0.1 Operating Temperature: 0 ~70 °C
MDX41-E/2	**MDX41E/2/SA**		4 channels CWDM MUX/DEMUX, (1470/49/51/1530nm) , plus expansion channel (1310nm), and one Monitor port, Duplex LC connectors, occupies 2 MetroStar slots /Stand Alone device	Passband @0.5dB = ITU +/-6.5nm Channel spacing = 20nm Max Link Loss: Mux / Demux pair only= ≤ 5.7dB (RX-C to TX-C) Adjacent channel isolation: ≥ 30dB Non Adjacent channel isolation: ≥ 40db both isolation for DEMUX) Optical Input Return Loss: ≥ 45dB, Operating Temperature: 0 ~70 °C

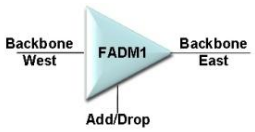
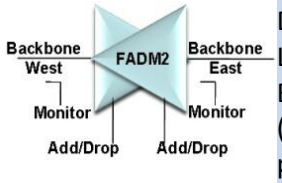
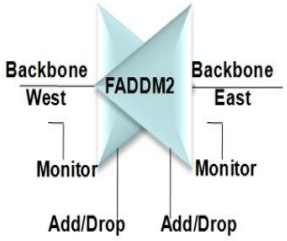
Module type	Standalone device	Schematic Diagram	General Description	Performance Specifications
MDX41-SFA	**MDX41SFA/SA**		4 channels Single Fiber working CWDM MUX/DEMUX (47/49/51/53nm),one monitor port, Simplex/Duplex LC connectors, 2 slots module/Stand-Alone device (may work in pair with MDX41- SFB module or MDX41-SFB/SA device)	Passband @0.5dB = ITU +/- 6.5nm Channel spacing = 20nm Insertion Loss: Com to drop: ≤ 3.0dB Add to Com: ≤ 2.0dB Link Loss: ≤ 4.0dB Adjacent channel isolation: ≥ 35dB, Optical Input Return Loss: ≥ 45dB, Operating Temperature: 0 ~70 ºC
MDX41-SFB	**MDX41-SFB/SA**		4 channels Single Fiber working CWDM MUX/DEMUX (55/57/59/61nm) one monitor port, Simplex/Duplex LC connectors, 2 slots module/Stand-Alone device (may work in pair MDX41-SFA module or MDX41-SFA/SA device)	Passband @0.5dB = ITU +/- 6.5nm Channel spacing= 20nm Insertion Loss: Com to drop: ≤ 3.0dB Add to Com: ≤ 2.0dB Link Loss: ≤ 4.0dB Adjacent channel isolation: ≥ 35dB, Optical Input Return Loss: ≥ 45dB, Operating Temperature: 0 ~70 ºC
MDX81-SFX	**MDX81-SFX/SA**		The **MDX81-SFx** modules and the **MDX81-SFx/SA** stand-alone devices are 8 channels MUX/DEMUX units with Monitor port and LC connectors. The MDX81-SFA device(1311,35,39,43,47, 51,53,1571) may work in pair with the MDX81-SFB unit (33,37,41,45,49,61,55,59)	Passband @0.5dB = ITU +/- TU+/-0.1nm Channel spacing= 20nm Max. Insertion Loss: 4.5dB Max.Link Pair Insertion Loss:5.5dB Adjacent channel isolation: ≥ 30dB. Non Adj chan loss: ≥ 40dB Return Loss: ≥ 45dB: Operating Temperature: 0 ~70 °C
MDX81-E	**MDX81-E/SA**		8 channels CWDM MUX/DEMUX, (1471/1491/1511/1531/1551/1571/1591/1611nm) and one monitor port, Duplex LC connectors, 3 slots module/ Stand-Alone Device. (may work in pair with another MDX81-E module or MDX81-E/SA device) Monitor and 1310nm(+30 , -50) Expansion channel	Passband @0.5dB = ITU +/- 6.5nm.Channel spacing= 20nm Max. Insertion Loss: : ≤ 3.0dB Max. Link Loss (MUX+DEMUX Pair only) 1530/1550nm: ≤ 2.3dB 1570nm: ≤ 3.0dB 1310nm: ≤ 3.6dB-Expansion chan. 1470-1610nm: ≤ 5.1dB Adjacent Channel Isolation (DEMUX): ≥30dB Optical Input Return Loss: ≥ 45dB Operating Temperature: 0~70 °C

Module type	Standalone device	Schematic Diagram	General Description	Performance Specifications
MDDX41-SFA	**MDDX41SFA/SA**		DWDM multiplexer-demultiplexer stand-alone device, 4 ITU grid channels, C-Band (channels 21/23/25/27), Single Fiber working/side A Simplex/Duplex LC connectors, w/ monitoring port, stand-alone Half 19"/1RU enclosure	Channel Spacing: 0.8 nm Passband@0.5dB: ITU +/0.1nm Insertion Loss: Add to COM: ≤ 2.1dB COM to Drop: ≤ 3.3 dB Adjacent channel isolation: ≥ 25dB Non- Adjacent Channel Isolation: ≥ 35 dB Link Loss: Add to Drop: ≤ 4.7 dB Optical Input Return Loss: ≥ 45dBb Operating Temperature: 0 ~70 °C
MDDX41-SFB	**MDDX41/SFB/SA**		DWDM multiplexer-demultiplexer stand-alone device, 4 ITU grid channels, C-Band (channels 43/45/47/49), Single Fiber working/side B Simplex/Duplex LC connectors, w/ monitoring port, Half 19"/1RU enclosure	Channel Spacing: 0.8 nm Passband@0.5dB: ITU +/0.1nm Insertion Loss: Add to COM: ≤ 2.1dB COM to Drop: ≤ 3.3 dB Adjacent channel isolation: ≥ 25dB Non- Adjacent Channel Isolation: ≥ 35 dB Link Loss: Add to Drop: ≤ 4.7 dB Optical Input Return Loss: ≥ 45dB Operating Temperature: 0 ~70 °C
MDDX41-E	**MDDX41-E/SA**		4 ITU grid channels stand-alone DWDM multiplexer-demultiplexer device, C-Band (channels 27/29/31/33), ,Duplex LC Connectors, Half 19"/1RU enclosure, w/ monitor port and auxiliary channel(1510nn)	Channel Spacing: 0.8 nm Passband@0.5dB: ITU +/0.1nm Insertion Loss: RX to COM= 2.7dB Adjacent channel isolation: ≥ 25dB Non- Adjacent Channel Isolation: ≥ 35 dB Link Loss: RXto TX= 4.2dB Optical Input Return Loss: ≥ 45dB Operating Temperature: 0 ~70 °C

Module type	Standalone device	Schematic Diagram	General Description	Performance Specifications
M **MDDX51-5** CH29-CH37 **MDDX51-3** CH51-CH59	**MDDX51-5/SA** CH29-CH37 **MDDX51-3/SA** CH51-CH59		5 ITU grid channels DWDM MUX/DEMUX, C-Band (channels 29/31/33/35/37), (channels 51/53/55/57/59) Duplex LC Connectors, 2 slots module/ Stand-Alone device (may work in pair with MDDX51-5 module or MDDX51-5/SA stand-alone device)	Passband @0.5dB = ITU +/- 0.1nm Max. Insertion Loss: ≤ 2.4dB Max. Link Loss: ≤ 3.5dB Adjacent Channel Isolation (DEMUX): ≥ 30dB Optical Input Return Loss: ≥ 45dB Operating Temperature: 0~70 °C
MDDX61-SFA	**MDDX61SFA/SA**		DWDM multiplexer-demultiplexer stand-alone device6 ITU grid channels, C-Band (channels 21/23/25/27/29/31), Single Fiber working/side A Simplex/Duplex LC connectors, w/ monitoring port, Half 19"/1RU enclosure	Channel Spacing: 0.8 nm Passband@0.5dB: ITU +/0.1nm Insertion Loss: Add to COM: ≤ 2.1dB COM to Drop: ≤ 3.3 dB Adjacent channel isolation: ≥ 25dB Non- Adjacent Channel Isolation: ≥ 35 dB Link Loss: Add to Drop: ≤ 4.7 dB Optical Input Return Loss: ≥ 45Db Operating Temperature: 0 ~70 °C
MDDX61-SFB	**MDDX61-SFB/SA**		DWDM multiplexer-demultiplexer stand-alone device, 6 ITU grid channels, C-Band (channels 45/47/49/51/53/55), Single Fiber working/side B, Simplex/Duplex LC connectors, w/ monitoring port, Half 19"/1RU enclosure	Channel Spacing: 0.8 nm Passband@0.5dB: ITU +/0.1nm Insertion Loss: Add to COM: ≤ 2.1dB COM to Drop: ≤ 3.3 dB Adjacent channel isolation: ≥ 25dB Non- Adjacent Channel Isolation: ≥ 35 dB Link Loss: Add to Drop: ≤ 4.7 dB Optical Input Return Loss: ≥ 45Db Operating Temperature: 0 ~70 °C

MDDX81-E	**MDDX81-E/SA**		8 ITU grid channels DWDM multiplexer-demultiplexer, C-Band (channels 27/29/31/33/35/37/39/41, with express expansion channel (1510nm) and Monitor port, Duplex LC Connectors, Half 19"/1RU enclosure	Channel Spacing: 0.8 nm Passband@0.5dB: ITU+/0.1nm Max.Insertion Loss: RX to COM-M: ≤ 4.0dB Adjacent channel isolation: ≥ 30dB Non- Adjacent Channel Isolation: ≥ 35 dB (both for DEMUX) Max.Link Loss: (RX to TX) 5.7dB Optical Input Return Loss: ≥ 45dB Polarization M. Dispersion: ≤ 0.1ps Polarization . Depend Loss: ≤ 0.1dB Operating Temperature:0 ~70 °C
MDDX81E31	**MDDX81E31/SA**		8 ITU grid channels DWDM multiplexer-demultiplexer, C-Band (channels 31 through ch38), with express expansion channel (1510nm) and Monitor port, Duplex LC Connectors, occupies 3 MetroStar slots	Channel Spacing: 0.8 nm Passband@0.5dB: ITU+/0.1nm Max.Insertion Loss: RX to COM-M: ≤ 4.3dB Adjacent channel isolation: ≥ 30dB Non- Adjacent Channel Isolation: ≥ 35 dB (both for DEMUX) Max.Link Loss: ≤ 5.7 dB (RX to TX) Optical Input Return Loss: ≥ 45dB Polarization M. Dispersion: ≤ 0.1ps Polarization. Depend Loss: ≤ 0.1dB Operating Temperature:0 ~70 °C
	MDDX101-E/SA		10 ITU grid channels DWDM multiplexer-demultiplexer, C-Band (channels 27/29/31/33/35/37/39/41/43/45),10Gbs bandwidth, with express expansion channel (1510nm) and Monitor port, Duplex LC Connectors, Half 19"/1RU enclosure	Channel Spacing: 0.8 nm Passband@0.5dB: ITU+/0.1nm Max.Insertion Loss: RX to COM: ≤ 5.0dB Adjacent channel isolation: ≥ 30dB Non- Adjacent Channel Isolation: ≥ 35 Db (both for DEMUX) Max.Link Loss☹RX to TX) 7,12dB Optical Input Return Loss: ≥ 45dB Polarization M. Dispersion: ≤ 0.1ps Polarization . Depend Loss: ≤ 0.1dB Operating Temperature:0 ~70 °C

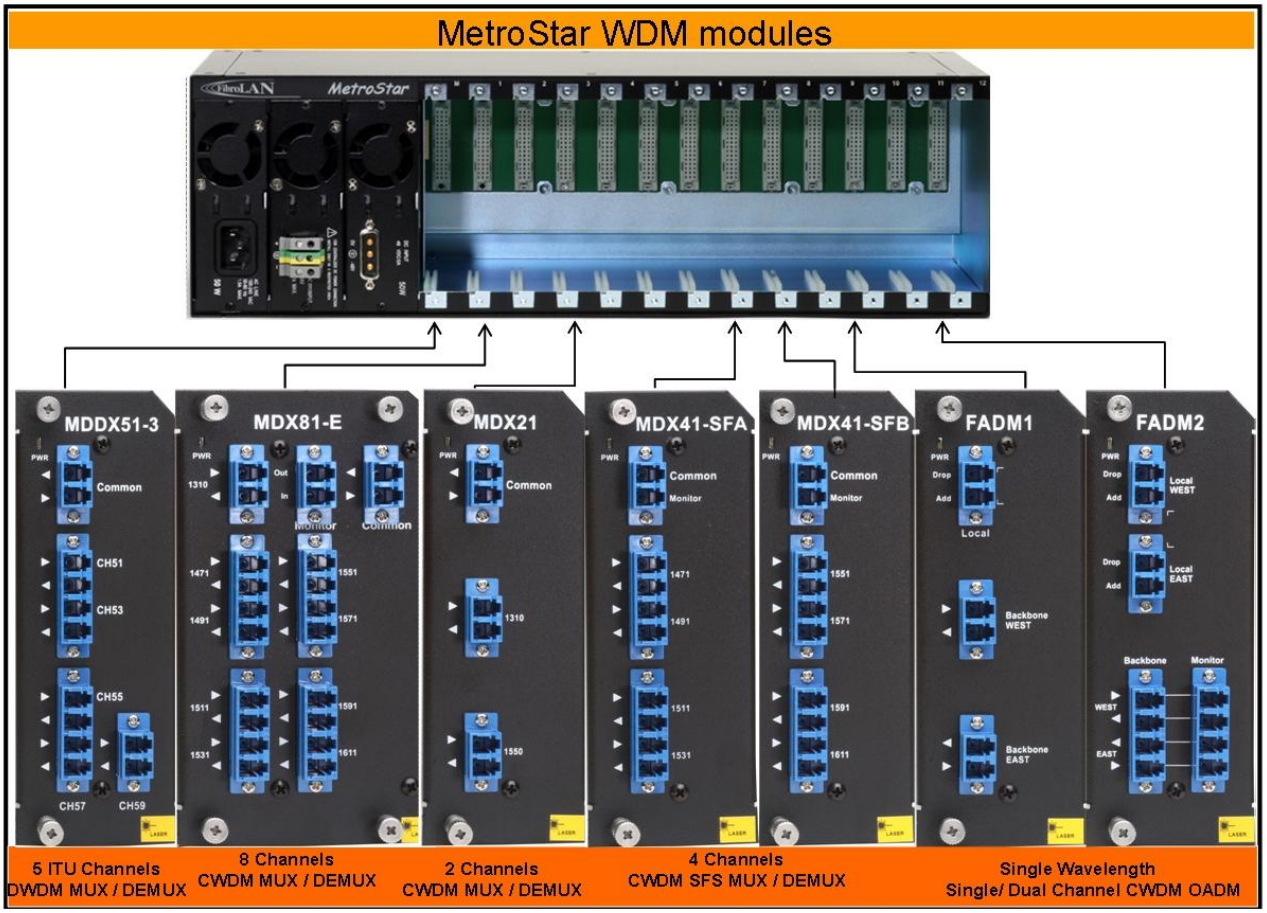
MDDX161-5/SA		DWDM multiplexer-demultiplexer stand-alone device, 16 ITU grid channels, C-Band (channels 27 through 42), 100G spacing, 10Gbs channel bandwidth, Duplex LC Connectors, w/ monitoring port, 19"/1RU enclosure	Channel Spacing: 100 GHz Reference Passband: ITU+/0.1nm Max.Insertion Loss: RX to COM-M: ≤ 4.3dB Adjacent channel Crosstalk:: -27dB Non- Adjacent Channel Crosstalk:: ≥ 30 dB Insertion Loss:TYP=3.5 dB MAX= 4.0dB Return Loss: 45dB Polarization Mode Dispersion: 0.5ps Polarization. Depend Loss: 0.5dB Operating Temperature:0 ~70 °C
MDDX321/SA		DWDM multiplexer-demultiplexer stand-alone device, 32 ITU grid channels, C-Band (channels 21 through 52), 100G spacing, 10Gbs channel bandwidth, Duplex LC Connectors, w/ monitoring port, 19"/1RU enclosure	Channel Spacing: 100 GHz Reference Passband: ITU+/0.1nm Max.Insertion Loss: RX to COM-M: ≤ 4.3dB Adjacent channel Crosstalk:: -27dB Non- Adjacent Channel Crosstalk:: ≥ 30 dB Insertion Loss:TYP=3.5 dB MAX= 4.0dB Return Loss: 45dB Polarization Mode Dispersion: 0.5ps Polarization. Depend Loss: 0.5dB Operating Temperature:0 ~70 °C
MDDX401/SA		DWDM multiplexer-demultiplexer stand-alone device, 40 ITU grid channels, C-Band (channels 21 through 60), 100G spacing, 10Gbs channel bandwidth, Duplex LC Connectors, w/ monitoring port, 19"/1RU enclosure	Channel Spacing: 100 GHz Reference Passband: ITU+/0.1nm Max.Insertion Loss: RX to COM-M: ≤ 4.3dB Adjacent channel Crosstalk:: -27dB Non- Adjacent Channel Crosstalk:: ≥ 30 dB Insertion Loss:TYP=3.5 dB MAX= 4.0dB Return Loss: 45dB Polarization Mode Dispersion: 0.5ps Polarization. Depend Loss: 0.5dB Operating Temperature:0 ~70 °C

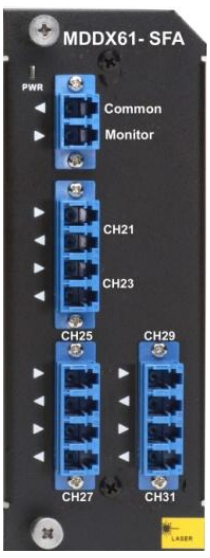
FADM1/xx **FADM1/xx/SA**		Single wavelength (1xx1nm) single channel CWDM Optical Add-Drop MUX-DEMUX (OADM), Duplex LC connectors, with Backbone ports (West/East), 2 slots module/Stand-Alone device Operating Wavelength: 1260~1620nm	Passband @0.5dB = ITU +/- 6.5nm Channel spacing= 20nm Insertion Loss: Input to Drop or Add to Output: ≤ 1.2dB Output: ≤ 1.0dB Adjacent channel isolation: ≥ 30dB, Optical Input Return Loss:≥ 45dB, Operating Temperature: 0~70 °C
FADM2/xx **FADM2/xx/SA**		Single wavelength (1xx1nm) Dual channel, Redundant, CWDM Optical Add-Drop MUX-DEMUX (OADM), Duplex LC connectors, with Backbone ports (West/East), Monitor ports, 2 slots module/Stand-Alone Operating Wavelength: 1460~1620nm	Passband @0.5dB = ITU +/- 6.5nm Channel spacing= 20nm Insertion Loss: ≤ 1.6dB Line x to Monitor x = ≤ 23dB Adjacent channel isolation: ≥ 30dB Optical Input Return Loss: ≥ 45dB Operating Temperature: 0~70 °C
FADDM2-xx **FADDM2/xx/SA**		Single wavelength Dual channel, Redundant, DWDM Optical Add-Drop MUX-DEMUX (OADM Duplex LC connectors, with Backbone ports (West/East), Monitor ports, 2 slots module/Stand-Alone Operating Wavelength: DWDM ITU Grid Channel	Passband @0.5dB = ITU +/- 0.1nm Channel spacing= 0.8(100GHZ Max Insertion Loss: (In >Out) ≤ 1.6dB Com In > Drop Ch= ≤1.9dB Add Ch.> Com Out = ≤ 1.9dB Adjacent channel isolation: ≥ 25dB Return Loss: ≥ 45dBb PMD : ps ≤ 0.15 Operating Temperature: 0~70 °C

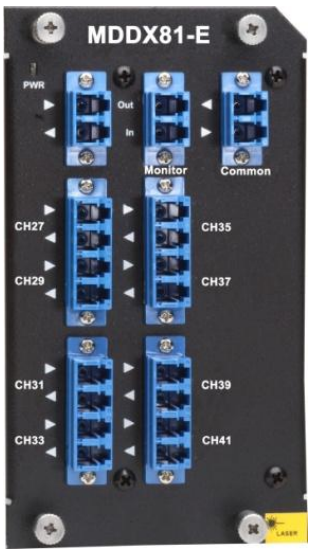
Specifications are subject to change w/without prior notice

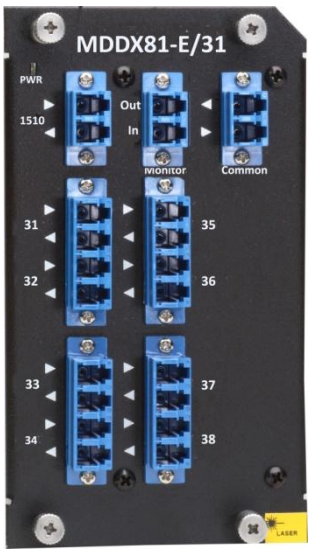
For a complete list of the Performance Specifications, contact Fibrolan

WDM Modules and Stand-Alone Devices-









MDX81-E/SA = 8 channels CWDM MUX/DEMUX **MDDX51-X/SA = 5 ITU Grid channels DWDM**

MDX41-SFX/SA = 4 Channels CWDM SFS MUX/DEMUX

MDX21/SA = 2 channels CWDM MUX/DEMUX **FADM1/2/xx = Single WV Single/Dual Channel OADM**

Solution Highlights

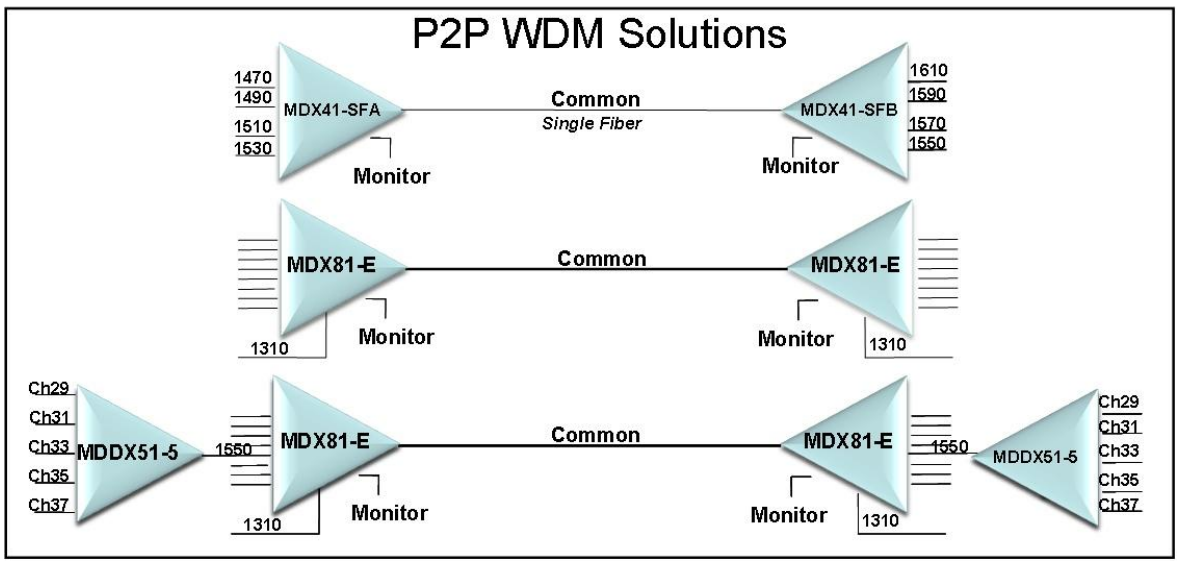
- ITU Standard channels
- Single, robust
- Cost effective
- Broad portfolio
- Customized products

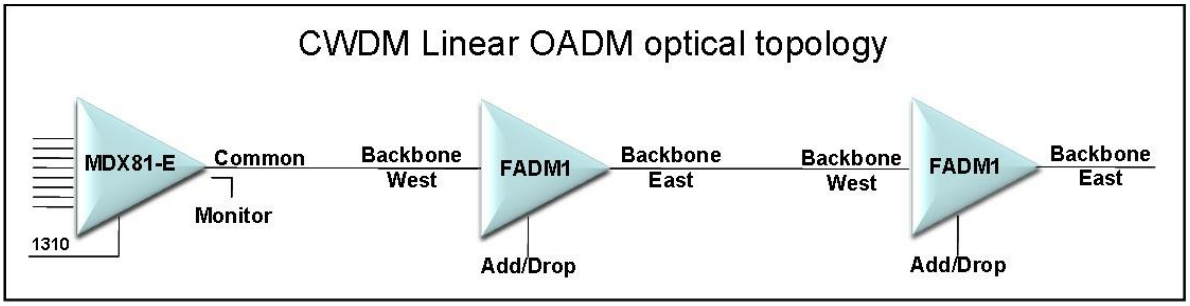
Typical Applications

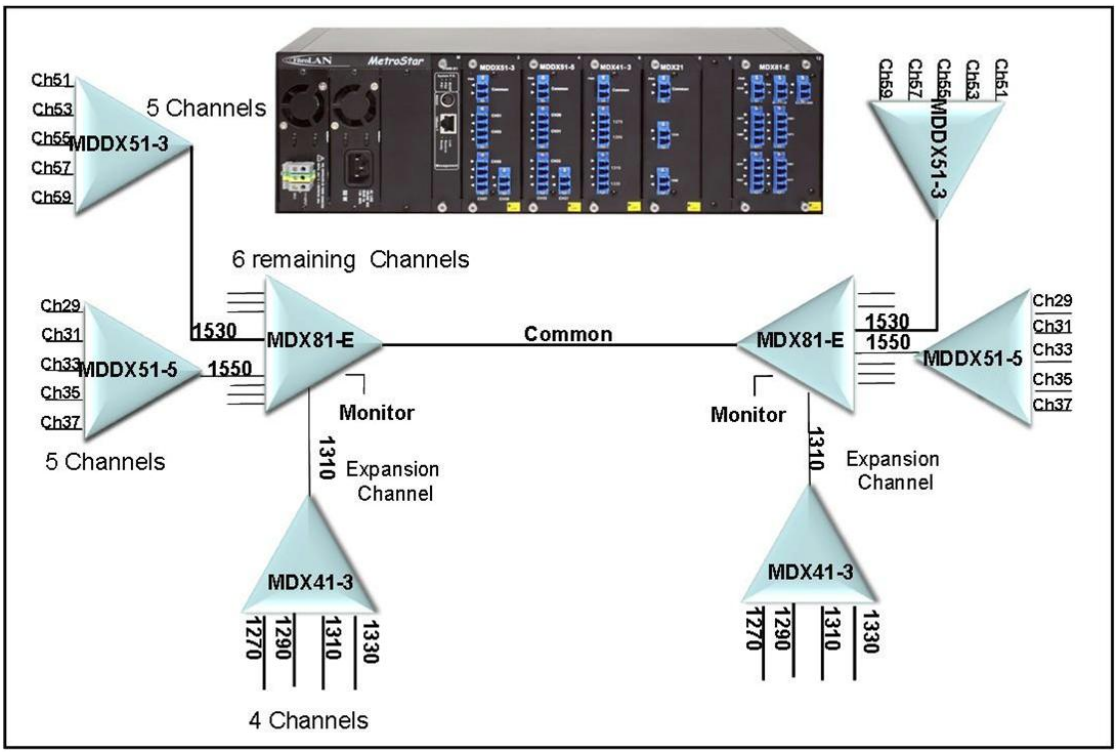
Access fiber

- Campus Networks
- Data Centers
- FTTx
- WDM PON

Typical topologies







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