# *iConverter*®

# **MULTI-SERVICE PLATFORM**

#### *iConverter*<sup>®</sup> Multimode CWDM/X

4 and 8 Channel Multimode Multiplexer/Demultiplexer

The iConverter Multimode CWDM/X 4 and 8 Channel Coarse Wave Division Multiplexing (CWDM) Multiplexer and Demultiplexer plug-in modules increase in the capacity of existing multimode fiber networks. Multimode multiplexers are ideal for in-buildings or campuses where regulatory or economical limitations make it difficult to replace existing multimode fiber.

iConverter Multimode CWDM/X multiplexers are protocol and rate transparent, allowing Ethernet, Fibre Channel, SDH/SONET, and other services up to 10Gbps each to be transported across the same multimode fiber link. The CWDM/X Multimode modules support ITU-T G.694.2 standard CWDM wavelengths between 1270nm to 1610nm in 20nm increments.

iConverter Multimode CWDM/X modules are passive devices that require no external power. They can be installed in any iConverter chassis with iConverter media converters and transponders to enable connectivity between existing equipment and CWDM multiplexers.

The small and compact size of the Multimode CWDM/X modules yields one of the highest port densities in the industry. Using the 2U high iConverter compact chassis, 38 CWDM/X multimode modules can be installed, providing up to 684 connectors or up to 608 simplex channels or 304 duplex channels.





# **KEY FEATURES**

- 4 and 8 channels (wavelengths) multiplexer/ demultiplexer modules for OM1 multimode fiber
- Protocol transparent to combine individual wavelengths for services ranging from Ethernet, EPON, Fibre Channel, TDM and other protocols
- Compact iConverter form factor yields one of the highest port densities in the industry
- 10Gbps rates supported per wavelength
- Minimal and uniform optical loss facilitates predictable network planning and efficient use of optical power budget
- Seamless integration with other iConverter media converters and chassis for multi-service applications
- Industry standard LC connectors
- Compatible with LGX chassis using the iConverter LGX Adapter
- Commercial (0 to 50°C) and wide (-40 to 60°C) temperature ranges
- Made in the USA
- One (1) Year Warranty and Free 24/7 Technical Support



#### **APPLICATION EXAMPLE**

The application diagram below illustrates how transponders and Multimode CWDM/X multiplexers are used to expand the capacity of OM1 multimode fiber. The existing fiber is currently at capacity with two switches connected via multimode fiber (Before). Additional data channels are required between Location A and Location B, and additional switches are deployed (After). Multimode CWDM/X multiplexers will be used to increase the capacity of the expanded infrastructure.

The switches have fixed fiber multimode ports, so iConverter xFF transponders are used to convert the standard multimode wavelengths to CWDM single-mode wavelengths. Mode conditioning cables are used connect the transponder to the Multimode CWDM/X multiplexer.

The Multimode CWDM/X multiplexer multiplexes and demultiplexes the four data channels over the multimode CWDM common fiber between Location A and Location B.

The iConverter xFF transponders and 4-Channel Multimode CWDM/X multiplexer are installed in a highdensity 19-module chassis. The Gigabit Ethernet traffic from the fiber switches is converted from standard 850 wavelengths to four CWDM wavelengths. Each CWDM SFP supports a wavelength that matches the appropriate channel port wavelength on the CWDM/X module, and is connected to the CWDM/X module with mode conditioning cables.

NOTE: If the existing switches support SFP fiber transceivers, then CWDM SFPs can be installed in the switches and connected directly to the Multimode CWDM/X multiplexer with mode conditioning cables.





# **SPECIFICATIONS**

Optical Characteristics				
Parameter	Units	Values		
Common Port Operating Wavelength	nm	1270 - 1610		
CWDM Center Channel	nm	1271, 1291, 1311, 1331, 1351, 1371, 1431, 1451, 1431, 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611		
CWDM Channel Spacing	nm	20		
4-Channel Insertion Loss	dB	< 1.8		
8-Channel Insertion Loss	dB	< 2.3		
Adjacent Channel Isolation	dB	> 30		
Non-Adjacent Channel Isolation	dB	> 40		
Return Loss (filtered channel)	dB	> 20		

Description	<i>iConverter</i> Multimode CWDM/X		
Description	4 and 8 Channel Multimode Multiplexer/Demultiplexer		
Regulatory Compliances	UL, CE, FCC Class A, RoHS, WEEE, REACH		
Port Types	Fiber:	4 or 8 Channels: LC (UPC)	
Cable Types	Fiber:	Multimode: 62.5/125µm (OM1) Channel Ports: Dual Fiber Common Port: Dual Fiber	
DC Power Requirements	DC Input (backplane):	3.3VDC, 0.025A @ 3.3VDC (when management is required, otherwise passive operation)	
Dimensions W x D x H	0.85" x 4.5" x 2.8" (21.6 mm x 114.3 mm x 71.1 mm)		
Weight	12 oz. (340.2 grams)		
Temperature	Commercial: Wide: Storage:	0 to 50°C -40 to 60°C -40 to 80°C	
Humidity	5 to 95% (non-condensing)		
Altitude	-100m to 4,000m		
MTBF (hrs)	> 1,000,000		
Warranty	One (1) year warranty with 24/7/365 free Technical Support		





### ORDERING INFORMATION

Model Number	Model Type	Channel Port ITU Center Wavelengths (nm)	
8861-901t	4-Channel Multimode Lower Band MUX/DEMUX with LC UPC Connectors	1271, 1291, 1311, 1331	
8861-900t	4-Channel Multimode Upper Band MUX/DEMUX with LC UPC Connectors	1511, 1531, 1551, 1571	
8863-901t	8-Channel Multimode Lower Band MUX/DEMUX with LC UPC Connectors	1271, 1291, 1311, 1331, 1351, 1371, 1431, 1451	
8863-900t	8-Channel Multimode Upper Band MUX/DEMUX with LC UPC Connectors	1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611	
Base Model Number: 88xx-xt			
Select the model from ordering table above.			
Add operating temperature range (t) to the model type selected.			
Operating Temperature Options (t):			
<li><leave blank=""> = Commercial temperature (0 to 50°C)</leave></li> <li>W = Wide temperature (-40 to 60°C)</li>			
Contact Omnitron for other port configurations, extended temperature (-40 to 75°C) and RoHS (5/6) compliant models.			
See chassis and mounting options at: iConverter Chassis and Mounting Option web page.			



#### **Logical Diagrams**

4-Channel MUX/DEMUX



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iConverter CDWM/X MM