H-MD-09-xxx-yyy
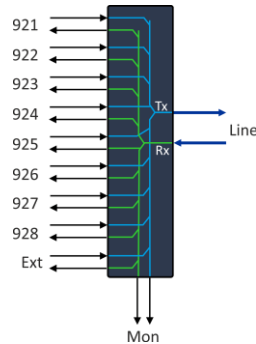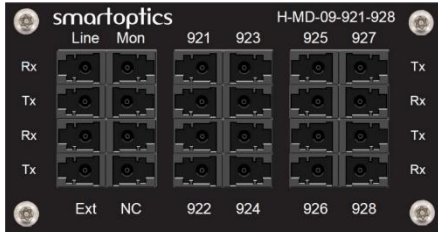## 8-channel DWDM Mux/Demux with Extension and Monitor ports


OVERVIEW

The H-MD-09-xxx-yyy filters are a range of passive 8-channel DWDM protocol transparent Mux/Demux units. They operate with 100GHz spacing and have an additional DWDM Extension port so that additional channels can be seamlessly added to increase capacity. The channels operate in the standard C-band in dual fiber working configuration. The H-MD-09-xxx-yyy has two Monitor ports that tap off 1% of the transmitted and received line signal. This provides the ability to monitor the channel power levels via a connected Optical Channel Monitoring (OCM) device or an optical spectrum analyzer.

The H-MD-09-xxx-yyy is to be seated in the chassis H-CHASSI-1RU. The H-Series supports the industrial temperature range of -40ºC to +85ºC (-40°F to +185°F) which gives an extended application range into sites without temperature control.

The number of channels can be extended by connecting two or more filters via the Extension ports. The filters can be combined in any order i.e. need not be connected in consecutive channel order as shown in figure below.
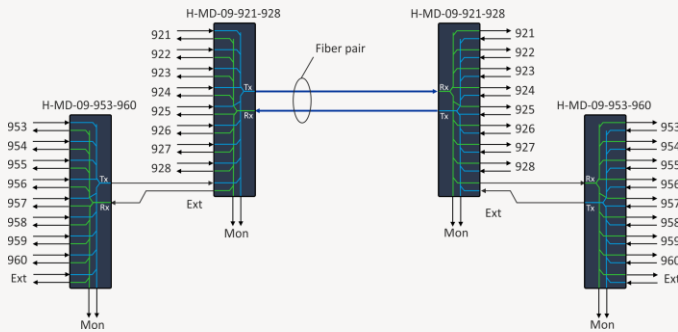
FUNCTIONAL OVERVIEW AND PORT DESCRIPTION
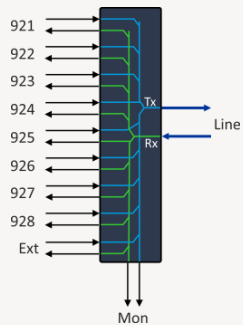
| Line Rx	Mon Tx	921 Rx	923 Tx	925 Rx	927 Tx
Line Tx	Mon Rx	921 Tx	923 Rx	925 Tx	927 Rx
Ext Rx	NC	922 Rx	924 Tx	926 Rx	928 Tx
Ext Tx	NC	922 Tx	924 Rx	926 Tx	928 Rx
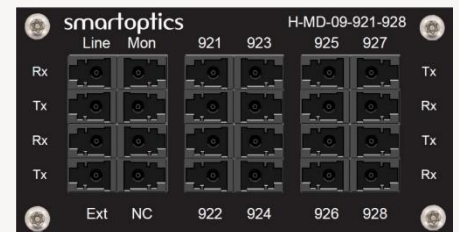
The port allocation and overlay example is for H-MD-09-921-922. Note column dependent location of Tx and Rx ports.

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TECHNICAL SPECIFICATIONS

Parameter	C-temp conditions	I-temp Conditions
Channels H-MD-09-921-928	192.1 to 192.8 THz	⇐
H-MD-09-929-936	192.9 to 193.6 THz	⇐
H-MD-09-937-944	193.7 to 194.4 THz	⇐
H-MD-09-945-952	194.5 to 195.2 THz	⇐
H-MD-09-953-960	195.3 to 196.0 THz	⇐
Passband Ext-port	1525.68-1564.68nm / 191.6 to 196.5 THz excl. ch passband	⇐
Channel spacing	100GHz	⇐
Channel passband	ITU±0.11nm	⇐
Link loss, per channel (A)	Typical 3.8dB Max 4.3dB	Typical 4.0dB Max 4.5dB
Insertion loss, per channel (B)	Typical 2.6dB Max 2.9dB	Typical 2.8dB Max 3.1dB
Insertion loss, extension port (C)	Typical 3.0dB Max 3.2dB	Typical 3.2dB Max 3.5dB
Insertion loss, monitor	18dB to 22dB	⇐
Isolation, adjacent channel	Min 28dB	⇐
Isolation, non-adjacent channel	Min 40dB	⇐
Ripple, passband	Max 0.5dB	⇐
Directivity	Min 45dB	⇐
Return loss	Min 40dB	⇐
Polarization dependent loss	Max 0.2dB	⇐
Polarization mode dispersion	Max 0.20ps	⇐
Max optical power	Max 500mW	⇐
Operating temperature	0ºC to +70ºC	-40ºC to +85ºC
Storage temperature	-40ºC to +85ºC	⇐
Connector type	LC/UPC	⇐

Note! A typical loss value is to be seen as a value that ~90% of a population has at beginning of life and at room temperature. The max value is the guaranteed worst-case value over time and over temperature.
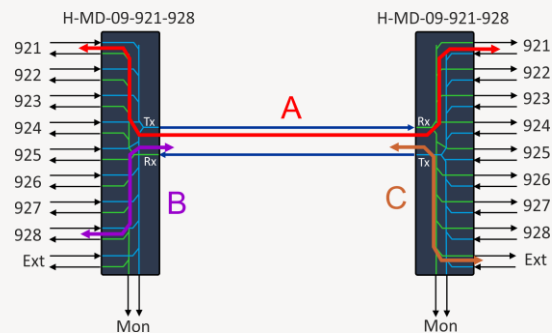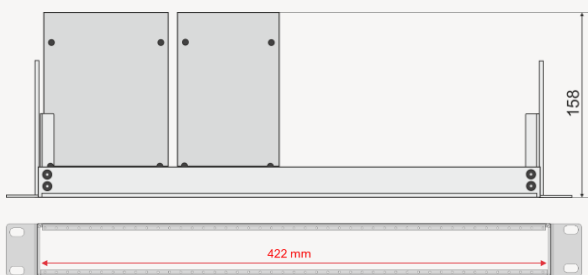
ORDER INFORMATION

Part number	Description
H-MD-09-921-928	H-Series: 8ch DWDM Mux/Demux + Ext- & Mon-port, 192.1 to 192.8THz, 84mm, LC/UPC
H-MD-09-929-936	H-Series: 8ch DWDM Mux/Demux + Ext- & Mon-port, 192.9 to 193.6THz, 84mm, LC/UPC
H-MD-09-937-944	H-Series: 8ch DWDM Mux/Demux + Ext- & Mon-port, 193.7 to 194.4THz, 84mm, LC/UPC
H-MD-09-945-952	H-Series: 8ch DWDM Mux/Demux + Ext- & Mon-port, 194.5 to 195.2THz, 84mm, LC/UPC
H-MD-09-953-960	H-Series: 8ch DWDM Mux/Demux + Ext- & Mon-port, 195.3 to 195.6THz, 84mm, LC/UPC