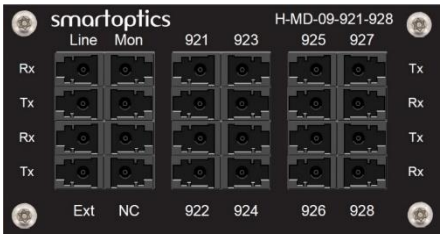
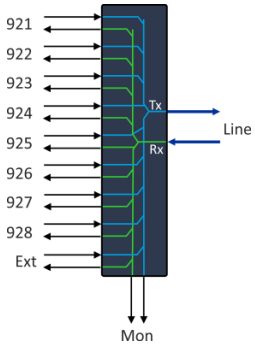
H-MD-09-xxx-yyy

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-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.

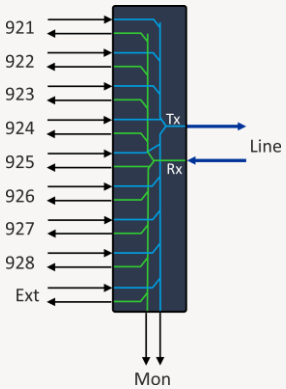
FUNCTIONAL DESCRIPTION

The extension port can be used for the following applications:

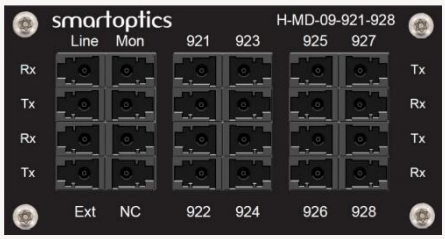
- Connect any of the other H-MD-09-xxx-yyy units to expand with 8 additional DWDM wavelengths.
- Connect any of the H-MD-16-xxx-yyy units to expand with 16 additional DWDM wavelengths.

Monitor ports are used to analyze outgoing and incoming line signals. Compliant with ITU-T G.694.1

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

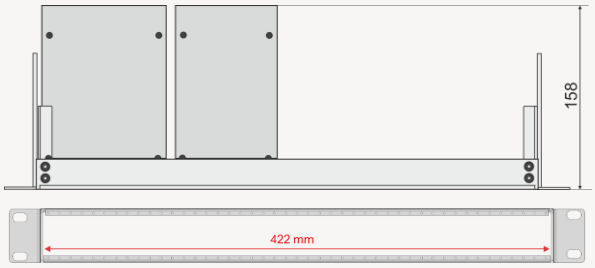


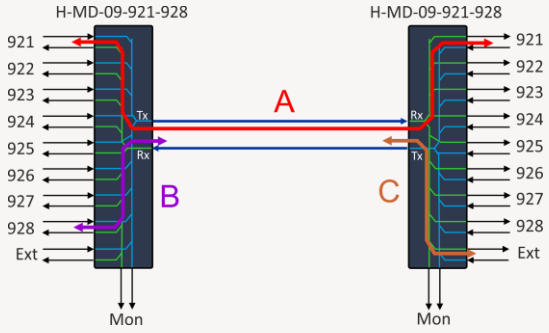
The port allocation and overlay example is for H-MD-09-921-922. Note row dependent location of Tx and Rx ports.

TECHNICAL SPECIFICATIONS

Parameter	Min	Max
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)	4.0 dB typical	4.5 dB max
Insertion loss, per channel (B)	2.8 dB typical	3.1 dB max
Insertion loss, extension port (C)	3.2 dB typical	3.5 dB max
Insertion loss, monitor	18dB	22dB
Isolation, adjacent channel	28dB	
Isolation, non-adjacent channel	40dB	
Ripple, passband		0.5dB
Directivity	45dB	
Return loss	40dB	
Polarization dependent loss		0.2dB
Polarization mode dispersion		0.20ps
Operating temperature	-40°C	+85°C
Connector type	LC/UPC	
Module width	84mm	
Mounting bracket	H-Chassi-1RU (19"), 422mm slot width	

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

The H-MD-09-xxx-yyy is available in 5 different versions depending on desired channel plan. The table below shows the part numbers and a short description.

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