

NETWORK CUBE
CWDM-MUX-4+1310 Module

C-1708_Rev.B

Product Description

- CWDM module for integration in 1 slot of the CUBO NETWORK CUBE WDM-Modular-Shell (C-1608).
- The module contains 2 pieces of 4 channel CWDM multiplexers (1 mux, 1 demux).
- CWDM multiplexers to mux and demux 4 channels from 1511 to 1571nm; these correspond to the transceiver wavelengths from 1510 to 1570 nm.
- The 1310 WWDMs multiplex, respectively demultiplex the 1310nm from the 1550nm band.
- The CWDM multiplexers are compliant with the ITU G.694.2 standard and Telcordia GR1221 (former Bellcore) standard and are designed to meet NEBS level 3.
- The sub-system interoperates with any router, switch, DSLAM, SFP and GBIC, which supports the CWDM ITU G.694.2 standard.
- Front panel is equipped with adapters according to customer choice (see below).

- Product Description: NETWORK CUBE CWDM-MUX-4+1310 Module
- Product Code: C-1708
- Connector Code: -XY (choose from table) →
- Revision Level: -Rev.A

Example Order Code: **C-1708-15-Rev.B** for a module with SC/PC on all common / trunk ports and LC/PC on all CWDM and WWDM channel ports

(X) Common ports (Y) CWDM ports	Code
SC/PC	1
FC/PC	2
SC/APC	3
FC/APC	4
LC/PC	5
MU/PC	6
E2000	7
E2000/HRL	8
ST/PC	9



Revision History

No	Description	Date	Created by
A	Initial release	09.06.05	Sven Krüger
B	Revised optical data	29.03.07	Thomas Paatzsch
B	Included typical insertion loss value	03.02.10	Islah Touhtouh

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General Specifications

Operating Temperature	+0°C to +70°C
Storage Temperature	-40°C to +80°C
Max. optical Power	< 250 mW
Fiber Type	SMF-28 compatible Ø 9 / 125 / 250µm
Optical Adapters	
Common ports	to be selected by customer via order code
CWDM channel ports	to be selected by customer via order code

Optical Performance of each of the 2 Multiplexers (1 mux, 1 demux)

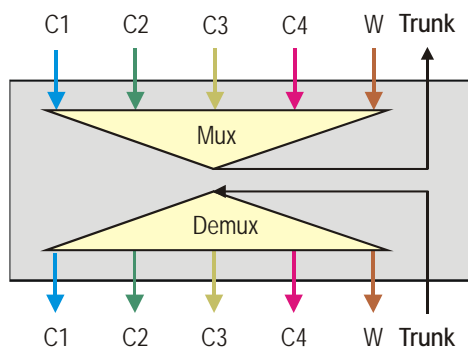
Operating channel		
CWDM ports [nm]	C1=1511 C2=1531 C3=1551 C4=1571	
WWDM [nm]	W = 1310	
Channel Width		
CWDM channels	>13 nm	
WWDM channel	+/- 50 nm	
Insertion Loss	max ¹	typical ²
CWDM channels	< 2.5 dB	1,6 dB
WWDM channel	< 1.6 dB	1.2 dB
Isolation		
CWDM adjacent channel	> 30 dB	
CWDM non-adjacent channel	> 40 dB	
CWDM ch's at WWDM port	> 45 dB (Demux), > 15 dB (Mux)	
WWDM ch's at CWDM port	> 40 dB (Demux), > 15 dB (Mux)	
Isolation spectral range	1260 nm to 1620nm	
Optical Return Loss	> 45 dB	

¹ Max. insertion loss over channel bandwidth, valid over full operating temperature range and all states of polarization with optical connectors. The typical connector loss is 0.4 dB for a pair of connectors

² Typical insertion loss is defined as typical value over channel bandwidth, full operating temperature range and methods from actual production data to reflect the majority of cases.

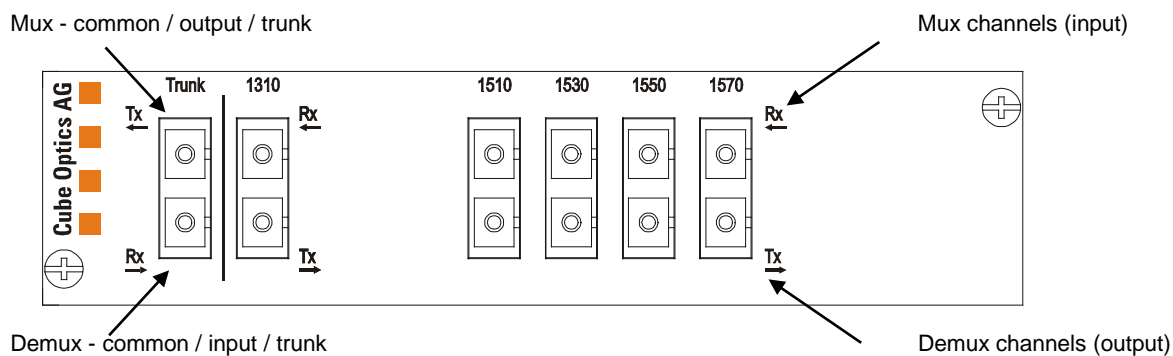
Package Dimensions and Front Plate design

Logical setup



Connection Scheme

- The module contains the adapters for one multiplexer (C1-C4, W) on the top and one demultiplexer (C1-C4, W) on the bottom.
- The channels are marked with "1470", "1490", "1590" and "1610" corresponding to the 4 corresponding transceiver wavelengths, respectively as "1310" for the WWDM port.
- The common ports are marked as "Trunk".



Please note, that the actual layout depends on the chosen connector type as well as other factors. However, the principal scheme stays the same.

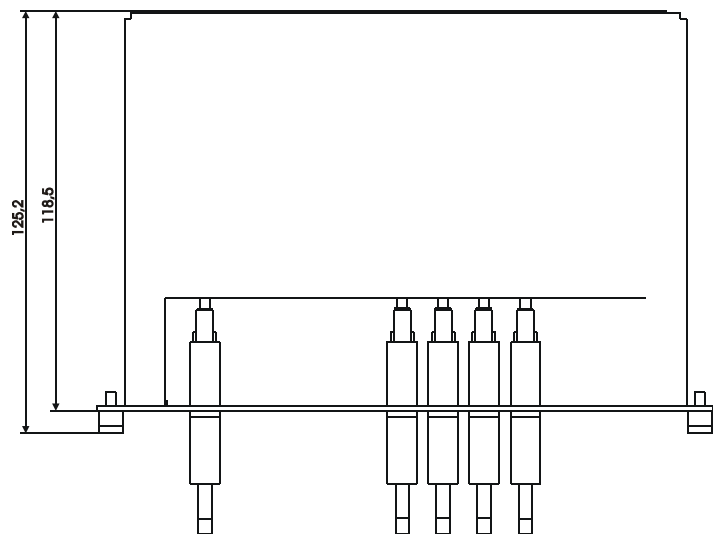
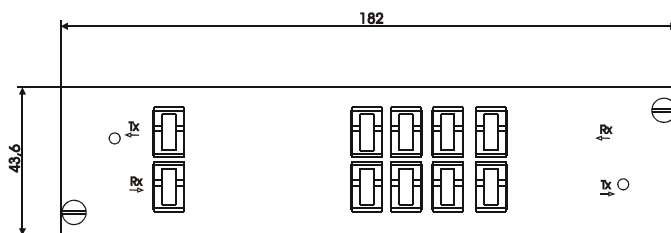
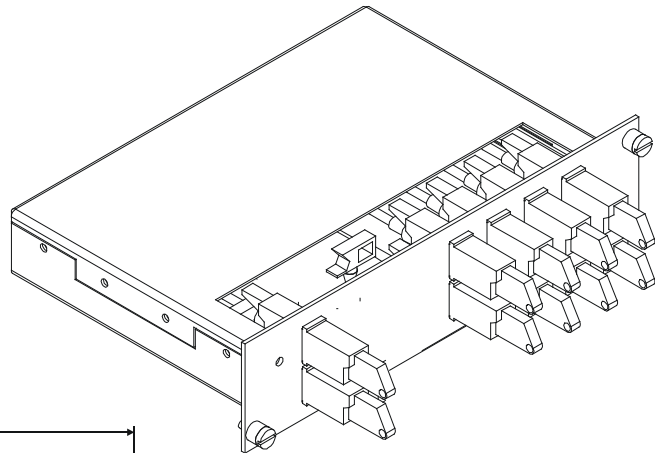
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Layout and dimensions

- Width: 166 / 182 mm
- Height: 25.75 / 44 mm
- Depth: 118.5 / 125.2 mm
- The color of the module is light gray
- All fonts and labels are printed in black.



Please note, that the drawings shown here only show the dimensions and do not the specific configuration of the module!

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is certified according to ISO 9001.

WAIVER

It is exclusively in written agreements that we provide our customers with warrants and representations as to the technical specifications and/or the fitness for any particular purpose. The facts and figures contained herein are carefully compiled to the best of our knowledge, but they are intended for general informational purposes only.

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