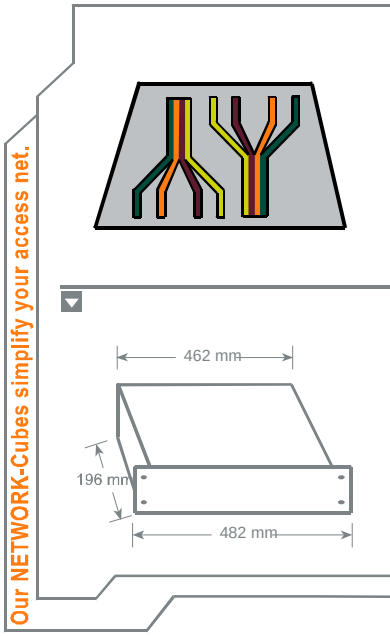
NETWORK-Cube Module
> CWDM-MUX-4FS

C-1658-Rev. A

Product Description

- Module for integration in 1 slot of the CUBO NETWORK CUBE WDM-Modular-Shell (C-1608).
- The module contains 1 piece of an 8 channel CWDM multiplexer at 1471 to 1611nm.
- The multiplexer operates bi-directional for a up- and downstream transmission over 1 single fiber: The common / trunk works as input and output, each channel port may either be used to multiplex the Tx transceiver signal to the trunk port or to demultiplex the trunk signal to the Rx transceiver input – so typically 4 channels upstream and 4 channels downstream over 1 fiber.
- The CWDM multiplexer is compliant with the ITU G.694.2 standard and Telcordia GR1221 (former Bellcore) standard and is 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-4FS Module
- Product Code: C-1658
- Connector Code: -XY (choose from table below)
- Revision Level: -Rev.A

(X) Common ports (Y) WWDM channel 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

Example Order Code: C-1658-15-Rev.A for a module with SC/PC on the common / trunk ports and LC/PC on all CWDM channel ports

Revision History

No.	Description	Date	Created by	Approved by
A	Initial release	17.10.05	Sven Krüger	
A	Included typical insertion loss	24.02.10	Islah Touhtouh	

Cube Optics AG

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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 ∅ 9 / 125 / 250µm
Optical Adapters	
Common ports	to be selected by customer
CWDM channel ports	to be selected by customer

Optical Performance of the Multiplexer (bi-directional)

Operating Channels		
CWDM ports [nm]	C1=1471 C2=1491 C3=1511 C4=1531 C5=1551 C6=1571 C7=1591 C8=1611	
	each one may be either used as mux input or as demux output	
Channel Width		
CWDM channels	> 13 nm	
Insertion Loss	max [1]	typical [2]
CWDM channels	< 2.8 dB	1.8 dB
Isolation		
CWDM adjacent channel	> 30 dB	
CWDM non-adjacent channel	> 40 dB	
Isolation spectral range	1460 nm to 1620nm	
Optical Return Loss	> 45 dB (for the component, also depends on connector type!)	
Directivity	> 50 dB (when used as multiplexer)	
Polarization Dependent Loss	< 0.2 dB	

Notes:

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 methods from actual production data to reflect the majority of cases.

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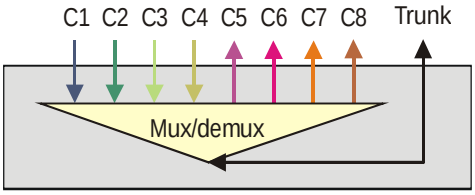
Package Dimensions and Front Plate design

Logical setup:

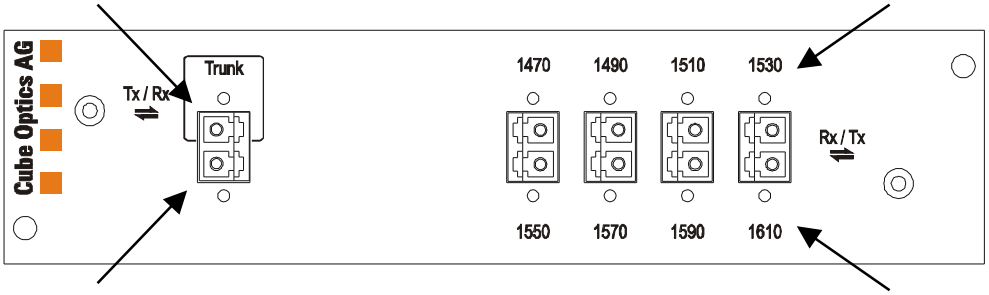


Connection Scheme:.

- The module contains the adapters for one multiplexer / demulitplexer (C1-C8).
- The channels are marked with “1470”, “1490”, … “1610”corresponding to the eight corresponding transceiver wavelengths.
- The common ports are marked as “Trunk”.

Common / output / trunk

Mux channels input or output (1470, 1490, 1590, 1610)



Empty

Mux channels input or output (1510, 1530, 1550, 1570)

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

Layout and dimensions (see also next page)

- 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.

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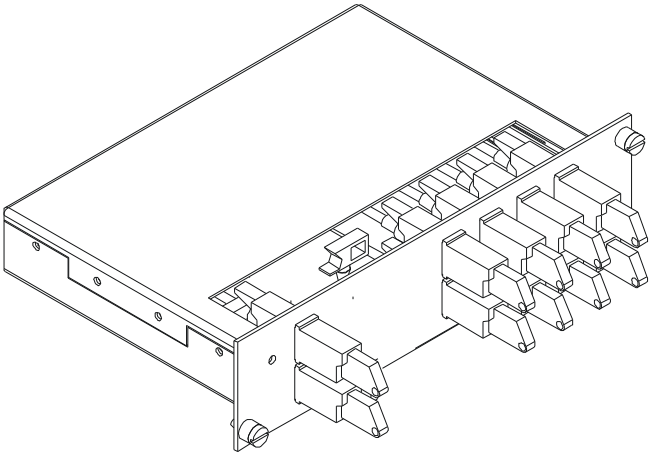
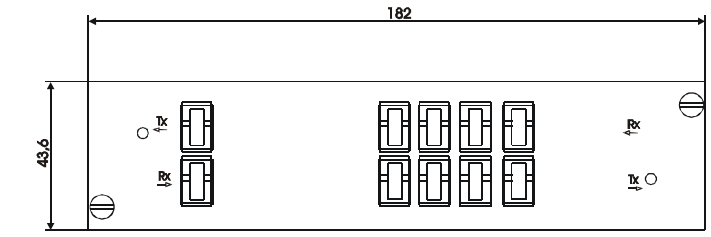
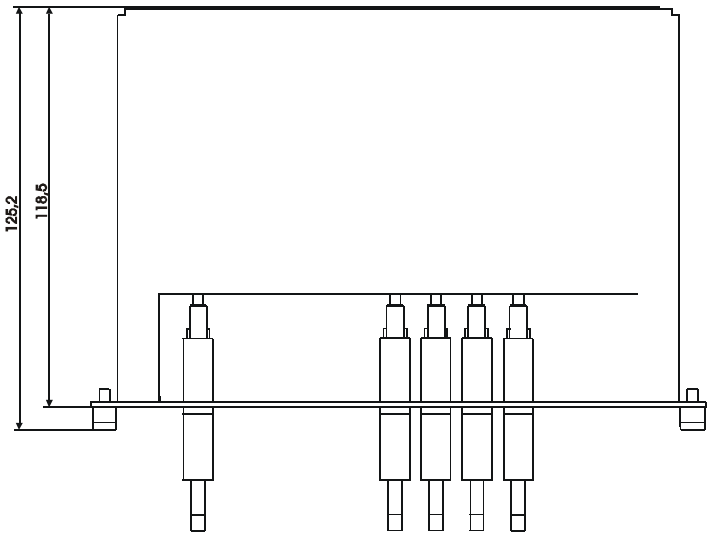


Please, note that the drawings shown here only show the dimensions and do not the specific configuration of the module!





Corporate Office:
Cube Optics AG
Robert-Koch-Strasse 30
55129 Mainz
Germany

Fon: +49-6131-69851-0
Fax: +49-6131-69851-79
e.mail: sales@cubeoptics.com

www.cubeoptics.com