

NETWORK CUBE  
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)
- Revision Level: -Rev.A

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

(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	17.10.05	Sven Krüger
A	Included typical insertion loss	24.02.10	Islah Touhtouh

### NETWORK CUBE CWDM-MUX-4FS

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#### General Specifications

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

#### Optical Performance of the Multiplexer (bi-directional)

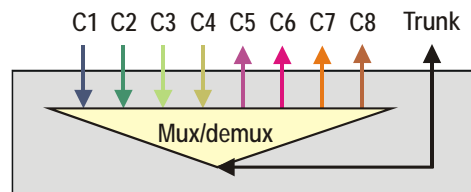
<b>Operating channel</b>	
CWDM ports [nm]	C1=1471 C2=1491 C3=1511 C4=1531 C5=1551 C6=1571 C7=1591 C8=1611 each one may be either used as mux input or as demux output
<b>Channel Width</b>	
CWDM channels	> 13 nm
<b>Insertion Loss</b>	<b>max</b> <sup>1</sup> <b>typical</b> <sup>2</sup>
CWDM channels	< 2.4 dB 1,8 dB
<b>Isolation</b>	
CWDM adjacent channel	> 30 dB
CWDM non-adjacent channel	> 40 dB
Isolation spectral range	1460 nm to 1620nm
<b>Optical Return Loss</b>	> 45 dB (for the component, also depends on connector type!)
<b>Directivity</b>	> 50 dB (when used as multiplexer)
<b>Polarization Dependent Loss</b>	< 0.2 dB

<sup>1</sup> 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.

<sup>2</sup> 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.

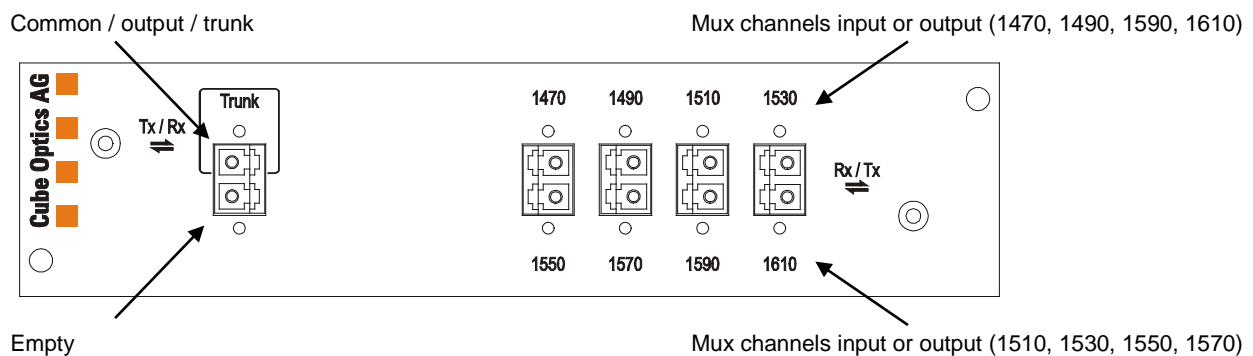
#### Package Dimensions and Front Plate design

##### Logical setup



##### Connection Scheme

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



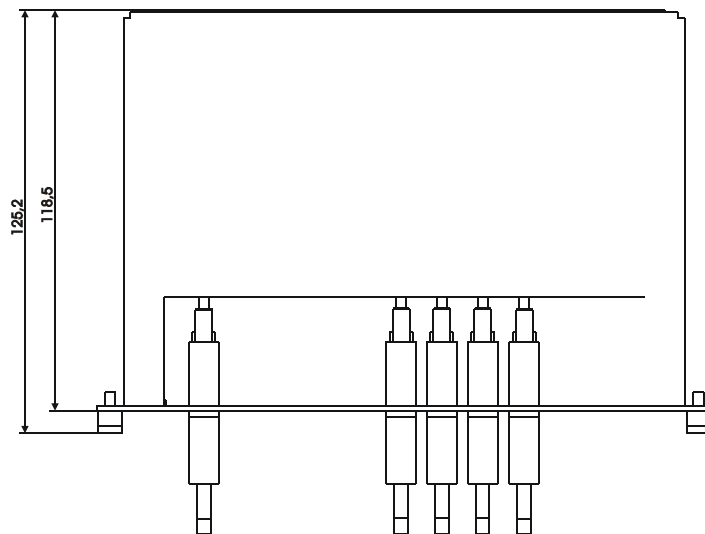
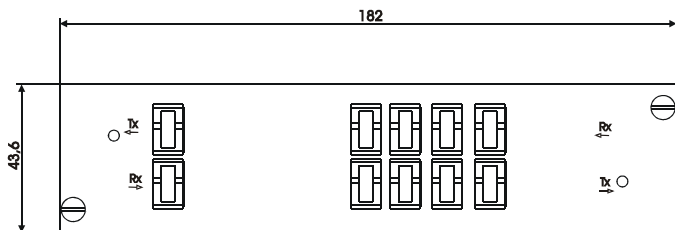
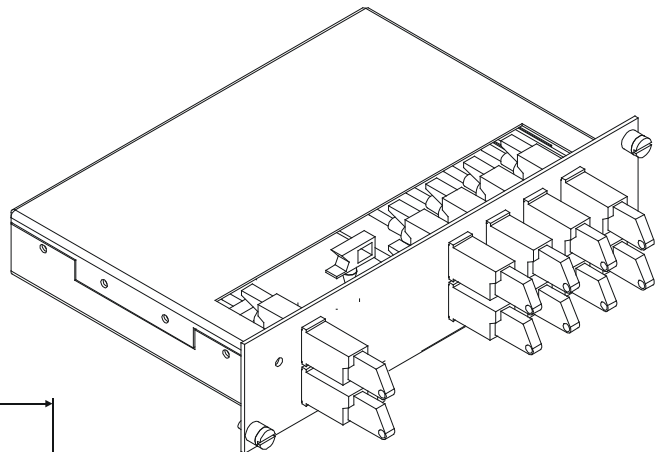
Please, note that the actual layout depends on the chosen connector type as well as other factors. However, the principal scheme stays the same.

## NETWORK CUBE CWDM-MUX-4FS

**C-1658\_Rev.A**

### 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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