



# NETWORK CUBE > CWDM-MUX-8+1310 Module

C-1651-Rev. B

## Product Description

- CWDM over WWDM module for integration in 1 slot of the CUBO NETWORK CUBE WDM-Modular-Shell (C-1608).
- The module contains 2 pieces of High Isolation Wideband Wavelengths Division Multiplexers and 2 pieces of 8 channel CWDM multiplexers (1 mux, 1 demux each).
- The WWDMs multiplex, respectively demultiplex the 1310nm from the 1550nm band. The 1550nm port is internally connected to the 8 channel CWDM mux, respectively demux, The 1310nm port is available at the front plate as an adapter.
- CWDM multiplexers to mux and demux 8 channels from 1471 to 1611 nm; these correspond to the transceiver wavelengths from 1470 to 1610 nm.
- 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-8+1310 Module

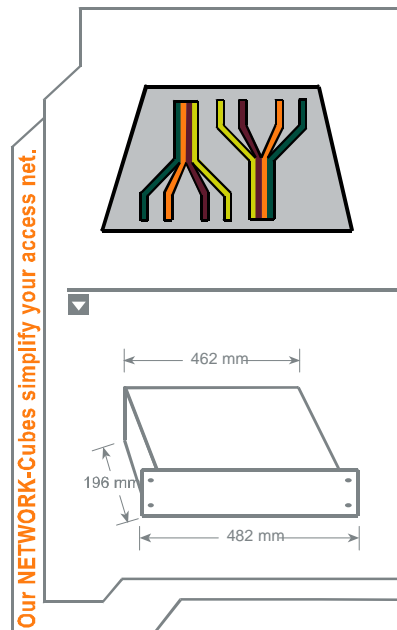
■ Product Code: C-1651

■ Connector Code: -XY (choose from table below)

■ Revision Level: -Rev.B

(X) Common ports	(Y) CWDM / 1310 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-1651-15-Rev.B for a module with SC/PC on all common / trunk ports, LC/PC on all CWDM channel ports and 1310nm ports.



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## Revision History

No.	Description	Date	Created by	Approved by
A	Initial release	03.03.05	Sven Krüger	
B	Revised optical data	11.03.06	Thomas Paatzsch	
B	included typical insertion loss value	26.01.10	Islah Touhtouh	

## NETWORK CUBE

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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	
Package Dimensions	Width: 166 / 182 mm, Height: 25.75 / 44 mm, Depth: 118.5 / 125.2 mm	
Fiber Type	SMF-28 compatible $\varnothing$ 9 / 125 / 250 $\mu$ m	
Optical Adapters	as defined by customer via order code	

#### Optical Performance of each of the 2 Multiplexers (1 mux, 1 demux, incl. WWDM)

Operating Channels		
CWDM ports [nm]	C1=1471 C2=1491 C3=1511 C4=1531 C5=1551 C6=1571 C7=1591 C8=1611	
WWDM port	W1 = 1310 nm	
Channel Width		
CWDM channels	> 13 nm	
WWDM channel	+/- 50 nm	
Insertion Loss	max <sup>1</sup>	typical <sup>2</sup>
CWDM channels	< 3.2 dB	2.5 dB
WWDM port	< 1.2 dB	0.9 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 ports	> 45 dB (Demux), > 15 dB (Mux)	
Isolation spectral range	1260 nm to 1620nm	
Polarization Dependent Loss	< 0.2 dB	

#### Notes:

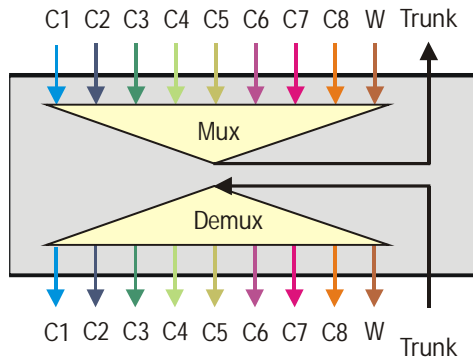
1. Max. insertion loss over channel bandwidth, valid over full operating temperature range and all states of polarization with optical connectors. The typical connector loss is 0.4 dB for a pair of connectors
2. Typical insertion loss is defined as typical value over channel bandwidth, full operating temperature range and methods from actual production data to reflect the majority of cases.

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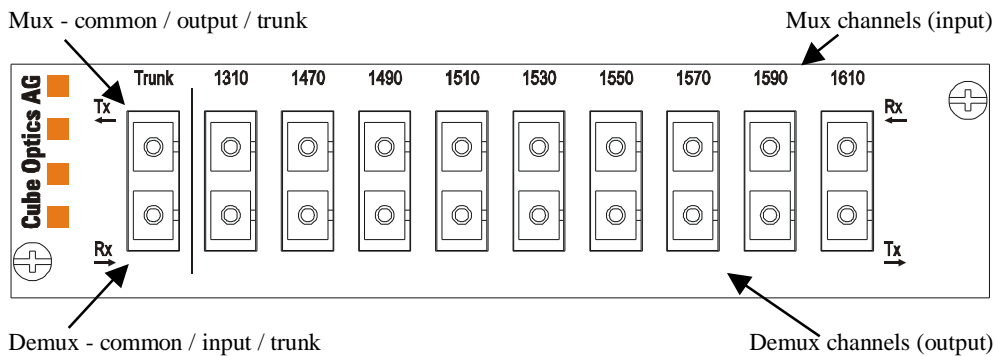
Package Dimensions and Front Plate design

Logical setup:



Connection Scheme:

- The module contains the adapters for one multiplexer (C1-C8, W) at the top and one demultiplexer (C1-C8, W) at the bottom.
- The channels are marked with “1470”, “1490”, “1510”, “1530”, “1550”, “1570”, “1590” and “1610” corresponding to the 8 corresponding transceiver wavelengths, respectively as “1310” for the WWDM port.
- The common ports are marked as “Trunk”.



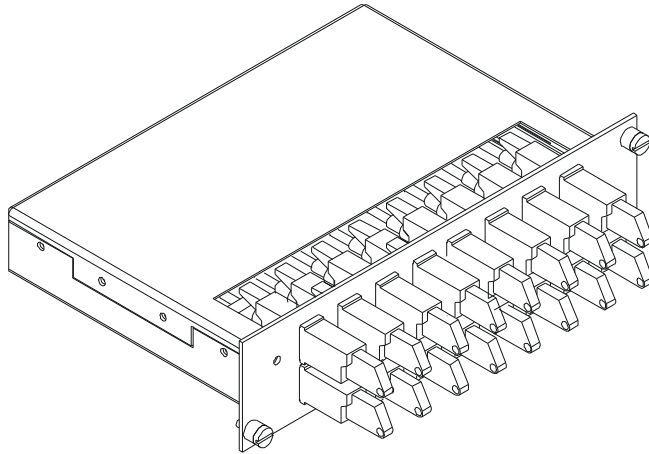
Please, note that the actual layout depends on the chosen connector type as well as other factors. However, the principal scheme stays the same.

Layout and dimensions (see also next page)

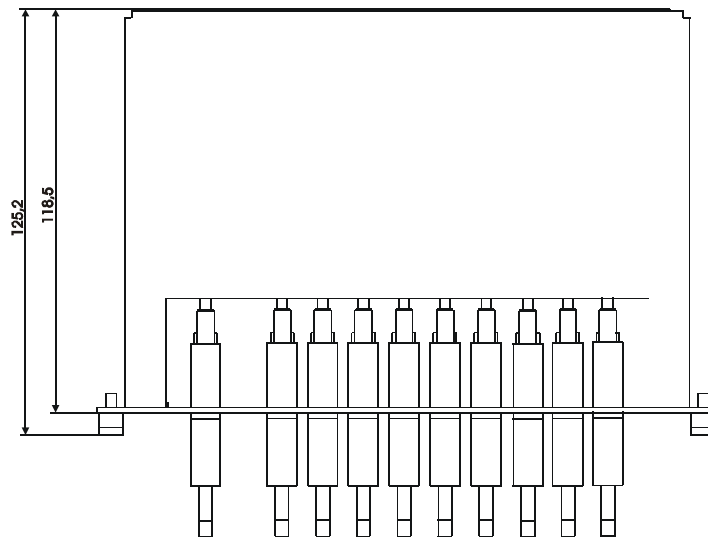
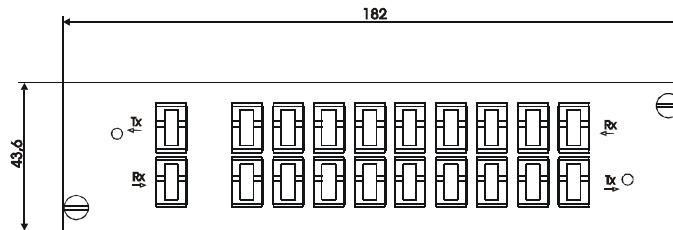
- Width: 166 / 182 mm
- Height: 25.75 / 44 mm
- Depth: 118.5 / 125.2 mm
- The color of the module is light gray
- All fonts and labels are printed in black.

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



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