

### NETWORK CUBE

### DWDM-OADM-3 Unit

C-1944\_Rev.A

#### Product Description

- Passive DWDM System for 19" rack type installation (1 HU)
- The module contains two pieces of three channel Add&Drop components for redundant ("East-and-West-traffic") OADM ring architectures.
- Each Add&Drop component to add and drop the same three 100 GHz DWDM channel in the C-band (any out of ITU channel number C21-C60).
- The DWDM multiplexers are compliant with ITU-T G.694.1 and Telcordia GR1221 (former Bellcore) standards and are designed to meet NEBS level 3
- The System interoperates with any router, switch, DSLAM, SFP and GBIC, which supports the DWDM ITU G.694.1 standard.

- Product Description: NETWORK CUBE DWDM-OADM-3 Unit
- Product Code: C-1944
- Channel Code 1: -Z1 (1<sup>st</sup> ITU channel number)
- Channel Code 2: -Z2 (2<sup>nd</sup> ITU channel number)
- Channel Code 3: -Z3 (3<sup>rd</sup> ITU channel number)
- Connector Code: -XY (choose from table)
- Revision Level: -Rev.A

refer to table on last page  
for ITU channel table

(X) Common ports (Y) Add&drop 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-1944-21-22-23-15-Rev.A** for a sub-system with ITU C21, C22 and C23 add&drop channels, SC/PC on all common / trunk ports and LC/PC on all add&drop ports



#### Revision History

No	Description	Date	Created by
A	Initial release	18.02.08	Carsten Marheine

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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
add & drop ports	to be selected by customer via order code

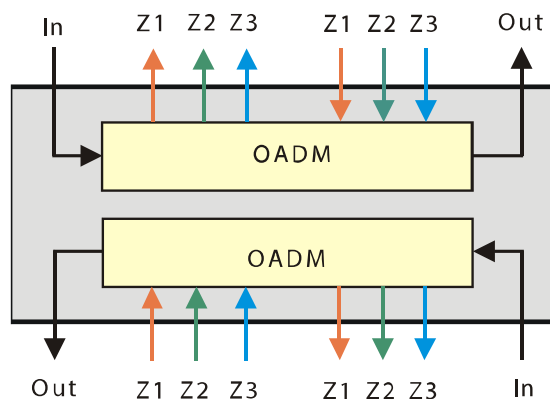
#### Optical Performance of each of the 2 components of 3 channel Add&Drop

<b>Number of channels</b>	3 add&drop, 37 pass channels	
<b>Operating channel</b>	DWDM add & drop channel (Z1, Z2)    any ITU channels out of C21, C22, ... C60 (to be define via order code)	
<b>Channel Spacing</b>	DWDM channels    100 GHz	
<b>Insertion Loss</b>	<b>max</b>	<b>typical</b>
In to Drop	< 2.0 dB (including connectors and adapters)	
Add to Out	< 2.0 dB (including connectors and adapters)	
In to Out	< 2.2 dB (including connectors and adapters)	
<b>Isolation <sup>1</sup></b>		
DWDM adjacent ch's at DWDM drop port	> 25 dB	
DWDM non-adj. ch's at DWDM drop port	> 40 dB	
Add channels at drop ports	> 50 dB	
Drop channels at output port	> 27 dB	
<b>Optical Return Loss</b>	> 45 dB (for the component, also depends on connectors)	
<b>Polarization Dependent Loss</b>	< 0.15 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 0.2 dB for a pair of connectors.

#### Package Dimensions and Front Plate design

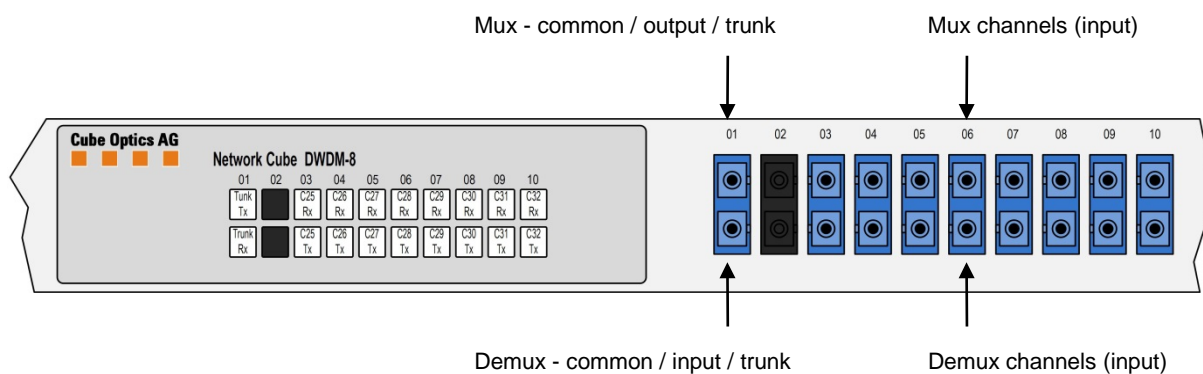
##### Logical setup



The descriptions Z1,-Z2 correspond to above specified DWDM channel numbers.

##### Connection Scheme

- The module contains the adapters for one multiplexer at the top and one demultiplexer at the bottom.
- The channels are marked with above specified ITU channel numbers (e.g. C24, C25, ...).
- The common ports are marked as "Trunk".



Please note, that above layout refers to a DWDM-MUX-8 Unit and is taken only as example. The actual layout of the unit described in this document depends on a number of factors such as channel number and connector type. However, the principal scheme will stay the same.

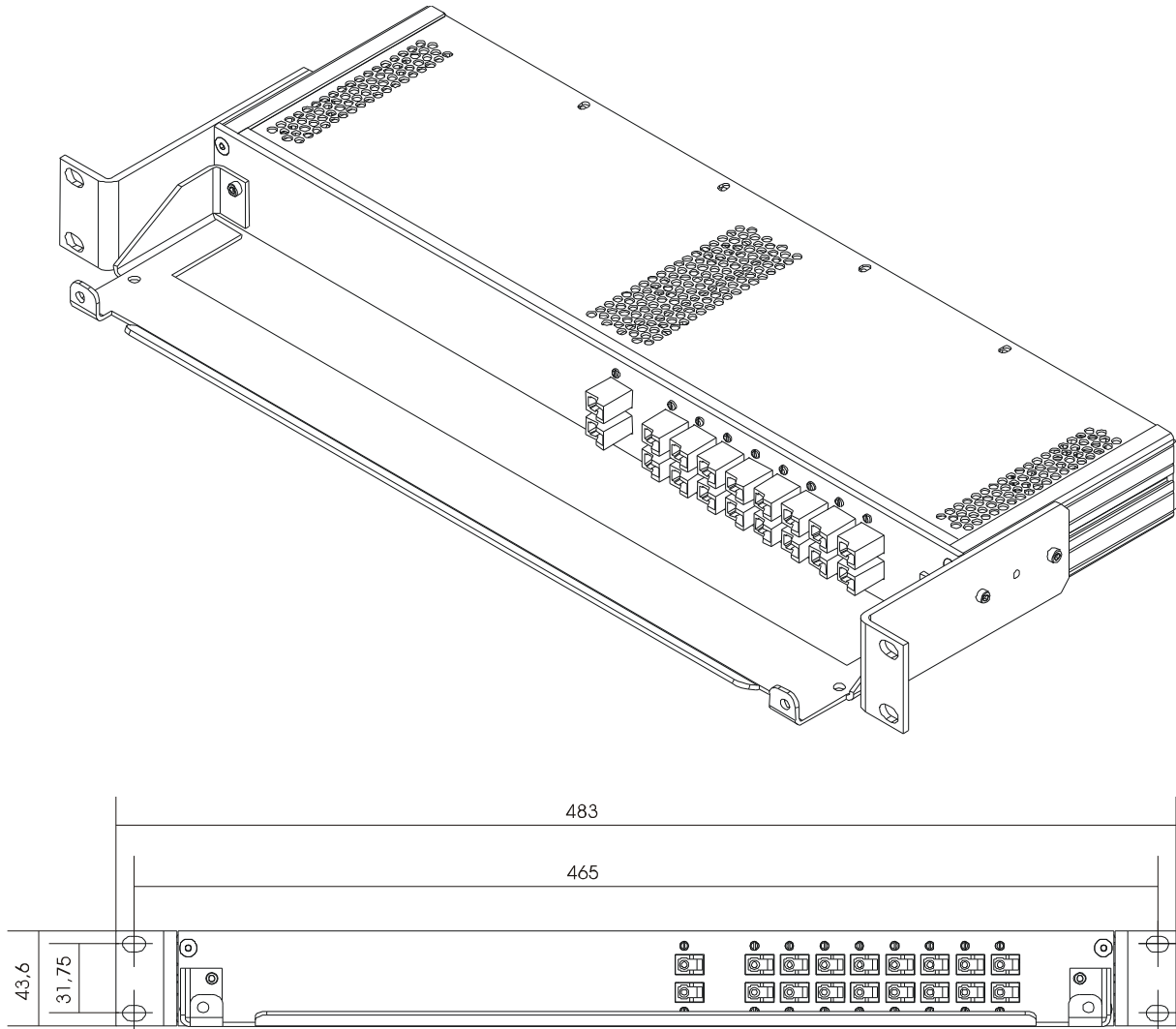
## NETWORK CUBE

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#### Layout and dimensions

- Width: 483 mm (19"), 532 mm (ETSI)
- Height: 43.6 mm (1.732") / 1HU
- Depth: 125 / 214.2 mm (without / with patch cord shelf)
- 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!

#### ITU Grid Standard Wavelength Reference Table

Channel Number	Frequency (GHz)	Wavelength (nm)	Channel Number	Frequency (GHz)	Wavelength (nm)
C21	192100	1560.61	C41	194100	1544.53
C22	192200	1559.79	C42	194200	1543.73
C23	192300	1558.98	C43	194300	1542.94
C24	192400	1558.17	C44	194400	1542.14
C25	192500	1557.36	C45	194500	1541.35
C26	192600	1556.55	C46	194600	1540.56
C27	192700	1555.75	C47	194700	1539.77
C28	192800	1554.94	C48	194800	1538.98
C29	192900	1554.13	C49	194900	1538.19
C30	193000	1553.33	C50	195000	1537.40
C31	193100	1552.52	C51	195100	1536.61
C32	193200	1551.72	C52	195200	1535.82
C33	193300	1550.92	C53	195300	1535.04
C34	193400	1550.12	C54	195400	1534.25
C35	193500	1549.32	C55	195500	1533.47
C36	193600	1548.51	C56	195600	1532.68
C37	193700	1547.72	C57	195700	1531.90
C38	193800	1546.92	C58	195800	1531.12
C39	193900	1546.12	C59	195900	1530.33
C40	194000	1545.32	C60	196000	1529.55

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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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