

tBG2 - FO splice module 6x E2000 Compact SM 3U/7HP with pigtails 9/125μ



## tBG II - tde Subrack

The newest generation of tde - Subracks is developed especially for the application by loose tube cables with high fiber counts. Up to 288 fibers can be distributed to 12 splice modules. Alternative up to 12 tML<sup>®</sup> modules. By the application deep-adjustable 84HP Subrack with 7HP-grid is a simple module mounting possible. The modules are fixed by screws. Cable over lengths are accommodated certainly in a cable tray. The cable tray is removable. The cable entry is on the left and right back side. On the front side is a patch cord management panel with 5 rings integrated.

tBG II - tde subrack 19"/4U is for the equip of up to 12 x tBG II - splice modules 3U/7HP with high component density.

The tBG II – FO splice module 3U/7HP is intended for the installation in tBG II - subracks (for 12 x modules).

### Features:

- Available for all standard FO connectors: E2000, FC/PC, LC, SC and ST



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## tBG2 - FO splice module 6x E2000 Compact SM 3U/7HP with pigtails 9/125μ

- Integrated loose tube strain relief
- Module mounting with screws

### Technical Data

|                         |   |
|-------------------------|---|
| Pre-mounted             | 6 E2000 PC compact adapters<br>12 E2000 PC Fiber pigtails 9/125μ OS2<br>12 Crimp Splice protectors<br>1 Splice cassettes<br>1 Splice holder<br>1 Splice cover |
| Alternative pre-mounted | TBG2-M06-xxE2C9S  |
| xx                      | (01 - 06) quantity of adapters  |

|             |  |
|-------------|--|
| Type        | Front panel for 6 x E2000 Compact      |
| Color       | Anodized E6 EV1                        |
| Inscription | 1 - 12 Screen printing by label strips |
| Material    | Alu- AIMG3 G22                         |
| Dimensions  | 3U/7HP                                 |

|            |                              |
|------------|------------------------------|
| Type       | Module slot for rack 3U/84HP |
| Dimensions | app. 250 x 100 mm            |

### FO Adapters

|                                      |   |
|--------------------------------------|---|
| Standardisation                      | acc. to IEC61754-15, DIN EN 186270  |
| Mating cycles                        | min. 1000   |
| Pull-out force                       | min. 70 N   |
| Number of connectors (A)             | 1   |
| Connector type (A)                   | E2000™ Compact  |
| Protection class (IP) connector (A)  | 20  |
| Polishing connector (A)              | PC  |
| Attenuation grade IL - connector (A) | ≤ 0.2 dB, testing method acc. to IEC 61300-3-4                                    |
| Connector color (A)                  | blue  |
| Lever- frame-coding connector (A)    | color   |
| Frame color connector (A)            | blue-blue   |
| Sleeve material                      | Zirkonia Straight Split   |
| Adapter fastening method             | flange snap   |
| Holder for connector / module        | Snap-In frame   |
| Fiber type                           | Singlemode (SM)   |
| Dimensions                           | 74.7 / 42 x 14.7 x 13 / 15.4 mm   |
| Material                             | steel: X10CrNi18-8 (1.4310) / plastic: PBT, fiber-glass reinforced (halogen-free) |
| Manufacturer                         | R&M   |

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### FO Pigtails Standard

#### FO Connectors

|                       |          |
|-----------------------|----------|
| Type                  | E2000 PC |
| Ferrule               | Ceramic  |
| Ferrule Hole          | 125.5 μ  |
| Ferrule Concentricity | ≤ 0.6 μ  |
| Connector Colour      | Blue     |
| Lever Colour          | Blue     |
| Boot colour           | Blue     |
| Manufacturer          | RDM      |

#### Optical performance

| Fiber  | Type     | Wavelength | Inesertion loss typ. | Insertion loss max. | Return loss min. |
|--------|----------|------------|----------------------|---------------------|------------------|
| 9/125μ | E2000 PC | 1550 nm    | ≤ 0.20 dB            | 0.45 dB             | 45 dB            |

#### FO Cables

|              |  |
|--------------|--|
| Tight Buffer | Low smoke (IEC 61034 and EN 50268) and free of halogens (LSOH)   |
|              | Non corrosive after IEC 60754-2 and EN 50267                     |
|              | Flame resistant after IEC 60332-3C and EN 50266-2-4              |
|              | Completely dry design  |
|              | Free from metal, no grounding problems and potential differences |
|              | Tight Buffer for simple and direct connector mounting            |

#### Characteristics

|  |                  |
|--|------------------|
| Fiber Count                              | 1 (Tight Buffer) |
| Core-Ø                                   | 0.9 mm           |
| Coreweight                               | 1 kg/km          |
| Min. Bending radius - Installation       | 30 mm            |
| Min. Bending radius - Operation          | 30 mm            |
| Removal                                  | 1500 mm          |
| Fire load                                | 0.15 MJ/m        |
| Temperature range - Installation         | -5 to +50°C      |
| Temperature range - Operation            | -20 to +60°C     |
| Temperature range - Transport / Lagerung | -25 to +70°C     |

#### FO Fiber

|      |  |
|------|--|
| Type | Corning Ultra SMF-28 <sup>®</sup> 09/125μ OS2 singlemode fiber |
|------|--|

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|   |   |
|---|---|
| Maximum Attenuation                         | At 1310 nm max. 0.32 dB/km<br>At 1383 nm max. 0.32 dB/km<br>At 1490 nm max. 0.21 dB/km<br>At 1550 nm max. 0.18 dB/km<br>At 1625 nm max. 0.20 dB/km  |
| Attenuation vs. Wavelength                  | Range: 1285 - 1330 nm; Ref. λ: 1310 nm; Max. Difference: 0.03 dB/km<br>Range: 1525 - 1575 nm; Ref. λ: 1550 nm; Max. Difference: 0.02 dB/km  |
| Macrobend Loss                              | Mandrel Radius: 10mm; Number of Turns: 1; Wavelength: 1550nm; Induced Attenuation: ≤ 0.50 dB<br>Mandrel Radius: 10mm; Number of Turns: 1; Wavelength: 1625nm; Induced Attenuation: ≤ 1.5 dB<br>Mandrel Radius: 15mm; Number of Turns: 10; Wavelength: 1550nm; Induced Attenuation: ≤ 0.05 dB<br>Mandrel Radius: 15mm; Number of Turns: 10; Wavelength: 1625nm; Induced Attenuation: ≤ 0.30 dB<br>Mandrel Radius: 25mm; Number of Turns: 100; Wavelength: 1310nm, 1550nm, 1625nm; Induced Attenuation: ≤ 0.01 dB |
| Point Discontinuity                         | Wavelength: 1310 nm; Point Discontinuity: ≤ 0.05 dB<br>Wavelength: 1550 nm; Point Discontinuity: ≤ 0.05 dB  |
| Cable Cutoff Wavelength (λ <sub>ccf</sub> ) | λ <sub>ccf</sub> ≤ 1260 nm  |
| Mode-Field Diameter                         | At 1310 nm = 9.2 ± 0.4 μm<br>At 1550 nm = 10.4 ± 0.5 μm   |
| Dispersion                                  | At 1550 nm = ≤ 18.0 [ps/(nm*km)]<br>At 1625 nm = ≤ 22.0 [ps/(nm*km)]  |
|   | Zero Dispersion Wavelength (λ <sub>0</sub> ): 1304 nm ≤ λ <sub>0</sub> ≤ 1324 nm<br>Zero Dispersion Slope (S <sub>0</sub> ): ≤ 0.092 ps/(nm <sup>2</sup> *km)   |
| Polarization Mode Dispersion (PMD)          | PMD Link Design Value = ≤ 0.04 ps/√km<br>Maximum Individual Fiber = ≤ 0.1 ps/√km  |

### Dimensional Specifications

|                                |                             |
|--------------------------------|-----------------------------|
| Fiber Curl                     | ≥ 4.0 m radius of curvature |
| Cladding Diameter              | 125.0 ± 0.7 μm              |
| Core-Clad Concentricity        | ≤ 0.5 μm                    |
| Cladding Non-Circularity       | ≤ 0.7%                      |
| Coating Diameter               | 242 ± 5 μm                  |
| Coating-Cladding Concentricity | < 12 μm                     |

### Environmental Specifications

| Environmental Test           | Test Condition              | Induced Attenuation 1310 nm, 1550 nm & 1625 nm |
|------------------------------|-----------------------------|--|
| Temperature Dependence       | -60°C to +85°C              | ≤ 0.05   |
| Temperature Humidity Cycling | -10°C to +85°C up to 98% RH | ≤ 0.05   |
| Water Immersion              | 23°C ± 2°C                  | ≤ 0.05   |
| Heat Aging                   | 85°C ± 2°C                  | ≤ 0.05   |
| Operating Temperature Range  | -60°C to +85°C              |  |

### Mechanical Specifications

|            |   |
|------------|---|
| Proof Test | The entire fiber length is subjected to a tensile stress ≥ 100 kpsi (0.69 GPa). |
| Length     | Fiber lengths available up to 63.0 km/spool.                                    |

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### Performance Characterizations

|  |  |
|--|--|
| Core Diameter  | 8.2 μm   |
| Numerical Aperture   | 0.14   |
| Effective Group Index of Refraction                        | 1310 nm: 1.4676<br>1550 nm: 1.4682                               |
| Fatigue Resistance Parameter (nd)                          | 20   |
| Coating Strip Force  | Dry: 0.6 lbs (3N)<br>Wet: 14 days room temperature: 0.6 lbs (3N) |
| Rayleigh Backscatter Coefficient<br>(for 1 ns Pulse Width) | 1310 nm: -77 dB<br>1550 nm: -82 dB                               |

### Product variants & accessories

| Art.-No.            | Description  |
|---------------------|--|
| TBG2-M06-06E2AC9AS  | tBG2 - FO splice module 6x E2000 Compact APC SM 3U/7HP with pigtails 09/125μ |
| TBG2-M06-06E2C50-3S | tBG2 - FO splice module 6x E2000 Compact MM 3U/7HP with pigtails 50/125μ OM3 |
| TBG2-M06-06E2C50-4S | tBG2 - FO splice module 6x E2000 Compact MM 3U/7HP with pigtails 50/125μ OM4 |
| TBG2-M06-06E2C50S   | tBG2 - FO splice module 6x E2000 Compact MM 3U/7HP with pigtails 50/125μ     |
| TBG2-M06-06E2C62S   | tBG2 - FO splice module 6x E2000 Compact MM 3U/7HP with pigtails 62,5/125μ   |
| TBG2-M06-06E2C9S    | tBG2 - FO splice module 6x E2000 Compact SM 3U/7HP with pigtails 9/125μ      |