

ISO 9001 TL 9000 ISO 14001

tBL® - DIN rail splice housing SM 6x SC APC Duplex OS2, splice ready prepared



# tBL® - tde Basic Link (FO Enclosures)

The FO enclosures of the tBL<sup>®</sup> - tde Basic Link series are optimized products with a high functionality and an easy handling at the installation. The program includes splice and breakout boxes for 19 inch, wall and DIN rail mounting. These products are characterized by a high port density and an optimal fiber management, so that the permissible bending radii can't be undercut. Moreover, there are no sharp corners or edges, to avoid damage to the pigtails and buffer tubes. The front plates are removable. There are versions for E2000, FC, PC, LC, MPO / MTP, MTRJ, MU, SC, and ST. These products can be obtained with or without equipment. In addition, there are also special versions with IP66 for outdoor and offshore applications.



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# **Technical Data**

Pre-mounted	6 SC APC duplex adapters SM 12 SC APC Fiber pigtails 9/125μ OS2 2.0 meters tde attenuation class B, 12 x Colors, splice ready prepared 12 Crimp Splice protectors 1 Splice cassette 1 Splice holder 1 Cabel entry vertical 1 Mounting clip (for mounting on rail housing) 1 Gland M20 for cable entry
Alternative pre-mounted	TBL-H06-xxSCAD9APyz (see below)
хх	(01 - 06) quantity of adapters
у	(S)plice ready prepared
Z	With(O)ut Crimp Splice protectors

## FO DIN rail splice module

Housing	Alu-sheet, 1 mm
Dimensions	141.4 x 141 x 42.8 mm
Colour	powdered in RAL 9005 (black)

### FO DIN rail splice module

Front panel	Alu-sheet	
	incl. labeling strip	
Configuration	Attachment up to 6x SC Duplex, 6x LC Quad (6x LCD), 6x ST Duplex adapters	

## **FO Adapters**

Туре	SC Duplex	
Application	Singlemode OS2 APC	
Design	One-Piece with flange	
Connector style	SC Duplex	
Color	Green	
Material	Plastic	
Sleeve	Zirconia Straight Split	
Shutter		
Manufacturer	tde	

## **FO Pigtails Premium**

## **FO Connectors**

Connector Type	SC APC Simplex
Housing	Plastic, Green



Ferrule	Zirconia Straight Split, Spring-loaded Axially	
Ferrule Hole	125.5 µ	
Ferrule Concentricity	≤ 0.6 μ	
Mating Cycles	500	
Operating Temperature	-40°C up to +75°C	
Manufacturer	tde	
Simplex/Duplex Clip	Separately on request	

#### **Optical performance**

Fiber	Туре	Wavelength	Insertion loss typ.	Insertion loss max.	Return loss min.
9/125µ	SC APC	1550 nm	$\leq 0.10 \text{ dB}$	0.25 dB	75 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 resistent after IEC 60332-3C and EN 50266-2-4
	Completly 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

Туре	Corning Ultra SMF-28® 09/125µ OS2 singlemode fiber
	At 1310 nm max. 0.32 dB/km At 1383 nm max. 0.32 dB/km At 1490 nm max. 0.21 dB/km At 1550 nm max. 0.18 dB/km At 1625 nm max. 0.20 dB/km
0	Range: 1285 - 1330 mm; Ref. $\lambda$ : 1310 nm; Max. Difference: 0.03 dB/km Range: 1525 - 1575 mm; Ref. $\lambda$ : 1550 nm; Max. Difference: 0.02 dB/km



Macrobend Loss	Mandrel Radius: 10mm; Number of Turns: 1; Wavelength: 1550nm; Induced Attenuation: $\leq 0.50$ dB Mandrel Radius: 10mm; Number of Turns: 1; Wavelength: 1625nm; Induced Attenuation: $\leq 1.5$ dB Mandrel Radius: 15mm; Number of Turns: 10; Wavelength: 1550nm; Induced Attenuation: $\leq 0.05$ dB Mandrel Radius: 15mm; Number of Turns: 10; Wavelength: 1625nm; Induced Attenuation: $\leq 0.30$ dB Mandrel Radius: 25mm; Number of Turns: 100; Wavelength: 1310nm, 1550nm, 1625nm; Induced Attenuation: $\leq 0.01$ dB
Point Discontinuity	Wavelength: 1310 nm; Point Discontinuity: $\leq$ 0.05 dB Wavelength: 1550 nm; Point Discontinuity: $\leq$ 0.05 dB
Cable Cutoff Wavelength (λccf)	$\lambda ccf \le 1260 \text{ nm}$
Mode-Field Diameter	At 1310 nm = 9.2 $\pm$ 0.4 $\mu$ m At 1550 nm = 10.4 $\pm$ 0.5 $\mu$ m
Dispersion	At 1550 nm = $\leq$ 18.0 [ps/(nm*km)] At 1625 nm = $\leq$ 22.0 [ps/(nm*km)]
	Zero Dispersion Wavelength ( $\lambda_0$ ): 1304 nm $\leq \lambda_0 \leq$ 1324 nm Zero Dispersion Slope ( $S_0$ ): $\leq$ 0.092 ps/(nm <sup>2</sup> *km)
Polarization Mode Dispersion (PMD)	PMD Link Design Value = $\leq$ 0.04 ps/ $\sqrt{km}$ Maximum Individual Fiber = $\leq$ 0.1 ps/ $\sqrt{km}$

#### **Dimensional Specifications**

Fiber Curl	$\geq$ 4.0 m radius of curvature
Cladding Diameter	125.0 ± 0.7 µm
Core-Clad Concentricity	≤ 0.5 μm
Cladding Non-Circularity	$\leq 0.7\%$
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 $\geq$ 100 kpsi (0.69 GPa).
Length	Fiber lengths available up to 63.0 km/spool.

#### **Performance Characterizations**

Core Diameter	8.2 µm
Numerical Aperture	0.14
Effective Group Index of Refraction	1310 nm: 1.4676 1550 nm: 1.4682



Fatigue Resistance Parameter (nd)	20
0 1	Dry: 0.6 lbs (3N) Wet: 14 days room temperature: 0.6 lbs (3N)
Rayleigh Backscatter Coefficient (for 1 ns Pulse Width)	1310 nm: -77 dB 1550 nm: -82 dB

### **FO Splice Accessories**

Туре	splice cassette for DIN rail splice housing
Material	sheet steel
Colour	powdered in RAL 9005 (black)
Configuration	uo to 2x 12 splices

## **FO Splice Accessories**

Туре	FO Splice holder for 12 x Crimp splice protectors
Dimensions	40 x 26 x 6 mm
Material	Bright ABS, similar RAL 1013

### **FO Splice Accessories**

Туре	Crimp splice protector
Dimensions	31 x 3 x 1 mm

Туре	Cable tie
Dimensions	75 x 2.5 mm

### **FO Splice Accessories**

Туре	Cable gland M20
Color	light grey

Туре	Locknut for cable gland M20
Color	light grey

## FO DIN rail splice module

Colour	Alu-zinc



## FO DIN rail splice module

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Colour	zinced

### FO DIN rail splice module

Colour	Alu-zinc
Opening	for 1x M20 (PG13.5)

### FO DIN rail splice module

Housing	Alu-sheet, 1 mm
Colour	powdered in RAL 7035 (grey)
Cable entry	over metric gland
Attachment	mounting clip

# Product variants & accessories

ArtNo.	Description
TBL-H06-06SCAD9APS	tBL® - DIN rail splice housing SM 6x SC APC Duplex OS2, splice ready prepared
TBL-H06-06SCD50-3PS	tBL® - DIN rail splice housing MM 6x SC Duplex OM3, splice ready prepared
TBL-H06-06SCD50-4PS	tBL® - DIN rail splice housing MM 6x SC Duplex OM4, splice ready prepared
TBL-H06-06SCD9PS	tBL® - DIN rail splice housing SM 6x SC Duplex OS2, splice ready prepared