

# DIAMOND

## Fiber Optic Components

### CABLE ASSEMBLIES AND ADAPTERS

Telecommunications and Fiber Optics are developing at an incredible speed. To keep up with tomorrow's requirements the F-3000™ Small-Form-Factor (SFF) connector family was developed. SFF components themselves enable port spacing similar to RJ-45 design.

Thanks to the experience and good results obtained with the Diamond E-2000™ connector standard, the F-3000™ connector includes many of the already proven features in combination with the SFF construction.

The F-3000™ connector has been recently standardized as LF3 connector, thus clarifying and ensuring the mechanical compatibility of the F-3000™ connector with the LC adapter. This opens access to a broad field of existing applications, and will be increased with new customer specific solutions.

### APPLICATIONS

- ▶ Telecommunications Networks
- ▶ CATV
- ▶ Local Area Networks (LAN)
- ▶ Data Processing Networks
- ▶ FTTx

### STANDARDS

- ▶ IEC 61 754-28 "Fiber optic interconnecting devices and passive components - Type LF3 connector family"
- ▶ EN 50377-16-1 Product specification: Part 16-1: Type LF3 APC simplex terminated on IEC 60793-2-50 category B1.1 and B1.3 single mode fibre with titanium composite ferrule for Category C

The LF3 connector is compatible with all IEC 61 754-20 compliant adapters

### AVAILABLE AS

- ▶ Terminated connector
- ▶ Connector set, (to be terminated with Diamond special equipment)

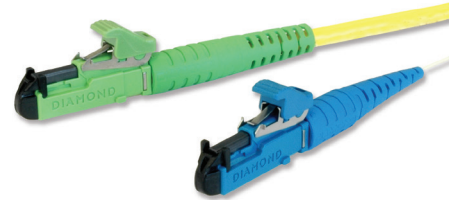
### SPECIFICATIONS

STANDARD	MULTIMODE 0° PC	SINGLE MODE 0° PC	SINGLE MODE 8° APC	UNITS	TEST CONDITIONS
Insertion Loss (IL)	typ. 0.15 max. 0.4	typ. 0.1 max. 0.4	typ 0.1 max. 0.4	dB	IEC 61300-3-4; $\lambda = 1300/1550\text{nm}$
Return Loss (RL)	typ. 40	min. 50	min. 70*	dB	IEC 61300-3-6; $\lambda = 1300/1550\text{nm}$
Repeatability of IL	max. $\pm 0.1$			dB	IEC 61300-2-2; $\lambda = 1300/1550\text{nm}$
LOW IL VERSION		SINGLE MODE 0° PC	SINGLE MODE 8° APC		
Insertion Loss (IL)	-	typ. < 0.1 max. 0.15	typ. < 0.1 max. 0.15	dB	IEC 61300-3-4; $\lambda = 1300/1550\text{nm}$
Return Loss (RL)	-	min. 50	min. 85*	dB	IEC 61300-3-6; $\lambda = 1300/1550\text{nm}$
Storage temperature	-40/+90**			°C	

\* Measured with high precision reflectometer

### F-3000™ Simplex

SINGLE MODE PC/APC  
MULTIMODE PC



## ENVIRONMENTAL CONDITIONS

MEASUREMENT / TEST	PARAMETERS	METHOD
Change of temperature (Reliability)	-40°C / +85°C / 1 h dwell / 500 cycles	IEC 61300-2-22
Low temperature	-51°C / 96 h	MIL-STD-810F
Dry heat (Reliability)	+85°C / 2'000 h	IEC 61300-2-18
Thermal shock	-51°C / +71°C / 1 h dwell / 3 cycles	MIL-STD-810
Low pressure, procedure II	4'572 m / 1 h	MIL-STD-810
Low pressure, procedure III	2'438 m to 12'192 m / 60 s	MIL-STD-810
Damp heat, cyclic (Reliability)	+25°C / +55°C / 95% r.h. / 100 cycles	IEC 61300-2-46
Extended humidity (Reliability)	+85°C / 85% rh / 2'000 h	Telcordia GR-326-CORE
Salt mist	+35°C / 50 g/l / 96 h	IEC 61300-2-26

## MECHANICAL CONDITIONS

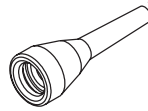
Tensile strength of coupling mechanism	40 N / 2 min	IEC 61300-2-6
Cable retention	100 N / 2 min	IEC 61300-2-4
Static side load	1 N / 1 h on cable version 0.2 N / 5 min on fibre version	IEC 61300-2-42
Cable torsion	15 N / ±180° / 25 cycles	IEC 61300-2-5
Twist	1.35 Kg / ±1'800° / 10 cycles	Telcordia GR-326-CORE
Vibration, sinusoidal	10 Hz - 55 Hz / 1.5 mm / 30 min	IEC 61300-2-1
Impact (free fall)	1.5 m / 5 drops	IEC 61300-2-12
Bending moment	10 N / 2 min	IEC 61300-2-7
Mating durability (Couplings)	500 cycles	IEC 61300-2-2
Flexing of strain relief	2 N / +/-90° / 100 cycles	IEC 61300-2-44

DIAMOND two component ferrule Ø 1,25 mm

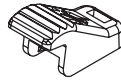
- ▶ Active Core Alignment minimizes fiber core offset (<0.2 µm) and ensures optimal connector performance

Alberino F-3000™  
fiber version

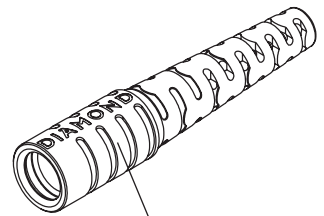
Bend protection boot for fiber



Easy handling thanks  
to additional  
operating button



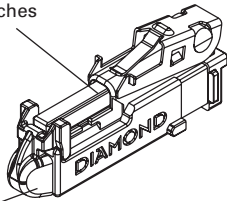
Crimping sleeve



Cable-boot

Compact injection molded housing

- ▶ Connector housing totally encloses ferrule to optimally protect it from dust, contaminants and scratches



Positive latching mechanism

- ▶ Offers superior retention under axial load
- ▶ Allows higher packing densities

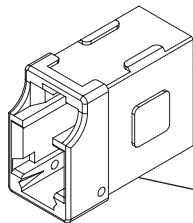
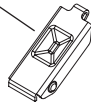
Alberino F-3000™  
cable version

Integrated metal protective caps

- ▶ Automatically protects personnel from eye-damaging laser radiation
- ▶ Closes automatically upon extraction to protect ferrule from dust and scratches

Metal shutters with integrated spring function

- ▶ Engages automatically to protect personnel from eye-damaging laser radiation
- ▶ Angled, anti-reflection surface ensures low reflectance in unmated state, inducing light diffusion



Alignment  
sleeve (zirconia)

- ▶ Modular designed compact mating adapter with interchangeable mounting brackets
- ▶ Permits dense packing
- ▶ Offers several installation solutions

**NOTE** As standard, Diamond uses colored connector bodies, cable boots and mating adapter housings to identify the fiber type (SM or MM 50/62.5µm) and ferrule polish (PC or APC).

Diamond's standard **connector/boot/adaptor** colors are as follows: Beige/Black/Beige for MM PC 50µm, Beige/Beige/Beige for MM PC 62.5µm, Blue/Blue/Blue for SM PC, and Green/Green/Green for SM APC. Other colors are available upon request.

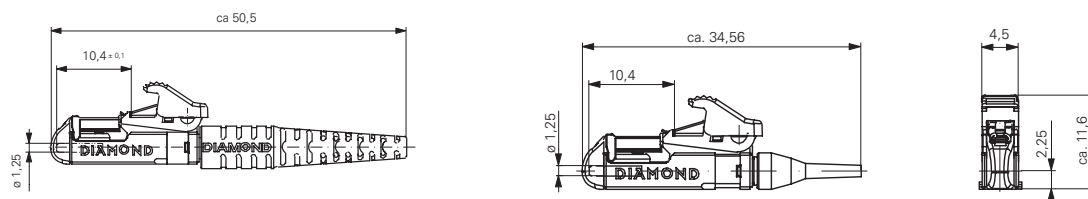
## CONNECTOR TYPES AND DIMENSIONS

F-3000™ Simplex connectors 900 µm - 3 mm boot style

Available types: **F-3000™ Simplex PC**  
**F-3000™ Simplex APC**  
**F-3000™ Simplex APC Low IL**

Ferrule material: Zirconia/metal insert

External parts: Plastic



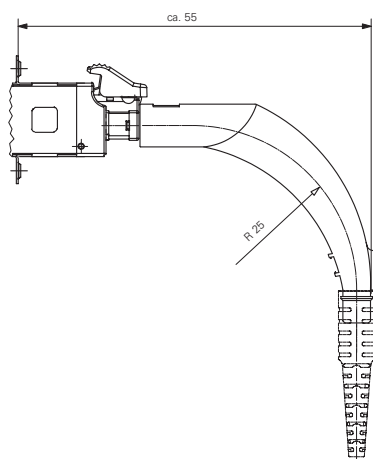
F-3000™ s Simplex connectors 900 µm - 3 mm boot style

Available types: **F-3000™ s Simplex PC**  
**F-3000™ s Simplex APC**  
**F-3000™ s Simplex APC Low IL**



The new F-3000™ s without protection cap and bottom is a simplified version of the F-3000 standard connector.

F-3000™ Simplex connectors 90° boot style (only for 1.6 mm - 3 mm cables)



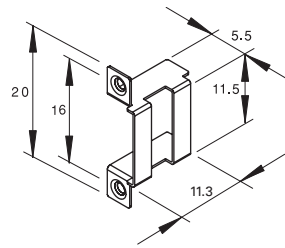
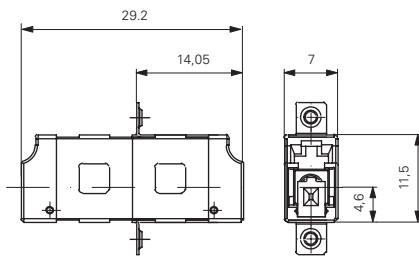
## ORDER INFORMATION

Please refer to the part numbers provided in the separate P/N list.

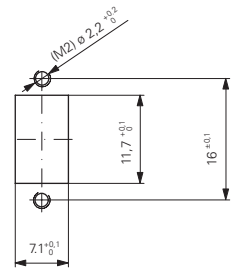
For other configurations, please contact your nearest local Diamond representative or fill in the contact form available on the [www.diamond-fo.com](http://www.diamond-fo.com) website.

## ADAPTER TYPES AND DIMENSIONS

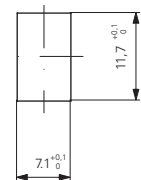
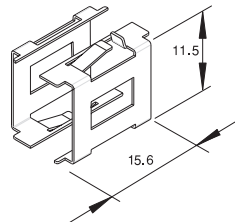
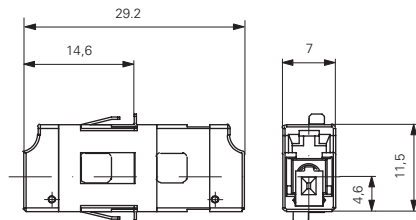
### F-3000™ Simplex mating adapter with screw fixing clip



#### CUTOUT DIMENSIONS



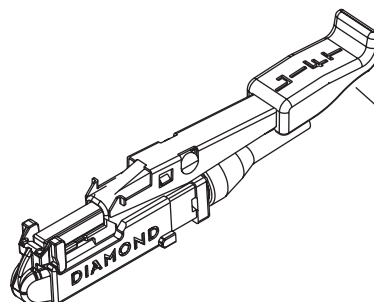
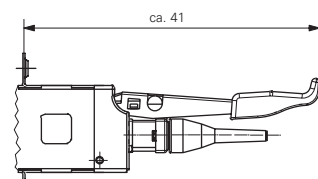
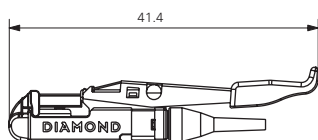
### F-3000™ Simplex mating adapter with quick fixing clip



Max wall thickness 1.6 mm

## OPTION: LONG THUMB-LATCH

The ideal solution for special applications with difficult access



Lift the lever to release the connector

**NOTES:** - Please contact your local Diamond representative for additional information