

DIAMOND

Fiber Optic Components

CABLE ASSEMBLIES AND ADAPTERS

Constant innovation in the field of fiber optics has created demand for products with ever increasing performance requirements. Diamond has responded to this challenge and expanded the E-2000™ connector system to address these needs throughout all market segments.

The E-2000™ 0.1 dB offers unparalleled 0.1 dB maximum insertion loss random mating, exceptional repeatability, while maintaining the already well established, superior features of the E-2000™ connector family.

Diamond E-2000™ components are EtO-sterilizable and, with optional O-ring seals, IP65-rated, meeting today's requirements for safety, reliability, and quality in biomedical markets and applications subject to special environmental conditions.

FEATURES AND BENEFITS INCLUDE

- ▶ Color-coding and mechanical keying to ensure correct matings.
- ▶ Spring-loaded protective cap for high power applications providing increased safety protection
- ▶ Modular designed mating adapters with metal protective shutters for high power applications
- ▶ E-2000™ body designed to prevent endface damages during mating process

STANDARDS

- ▶ EN 86 275-801 „Connector sets of assessed quality for optical fibers and cables - Type LSH universal“
- ▶ EN 86 275-802 „Connector sets of assessed quality for optical fibers and cables - Type LSH-HRL universal“
- ▶ TIA/EIA 604-16 Fiber Optic Intermateability standard - Type LSH
- ▶ IEC 61 754-15 “Fiber optic connector interfaces – Part 15: Type LSH connector family”

AVAILABLE AS

- ▶ Standard terminated connector, and as optional IP65-rated versions, also for polarization-maintaining (PM) fiber and Power Solutions for applications up to 6W
- ▶ Connector set (to be terminated with Diamond special equipment)

SPECIFICATIONS

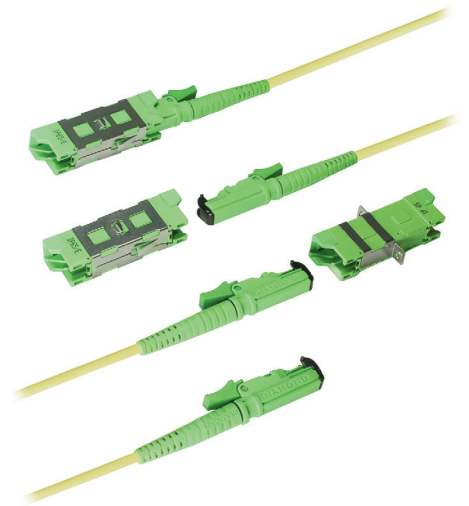
	MULTIMODE 0° PC	SINGLE MODE 0° PC	SINGLE MODE 8° APC	SINGLE MODE 8° 0.1 dB	UNITS	TEST CONDITIONS
Insertion Loss (IL)	typ. 0.15 max 0.4	typ. 0.2 max 0.4	typ. 0.2 max 0.4	max 0.1	dB	IEC 61300-3-4; $\lambda = 1300/1550\text{nm}$
Return Loss (RL)	typ. 40	min 50	min 70*	min 85*	dB	IEC 61300-3-6; $\lambda = 1300/1550\text{nm}$
Repeatability of IL	max ± 0.1			-	dB	IEC 61300-2-2; $\lambda = 1300/1550\text{nm}$
Service life	1000 mate/demate cycles				-	According to field experience
Storage temperature	-40/+90**				°C	

* Measured with high precision reflectometer

** May be further limited by cable specifications

E-2000™ Simplex

SINGLE MODE PC/APC
MULTIMODE PC

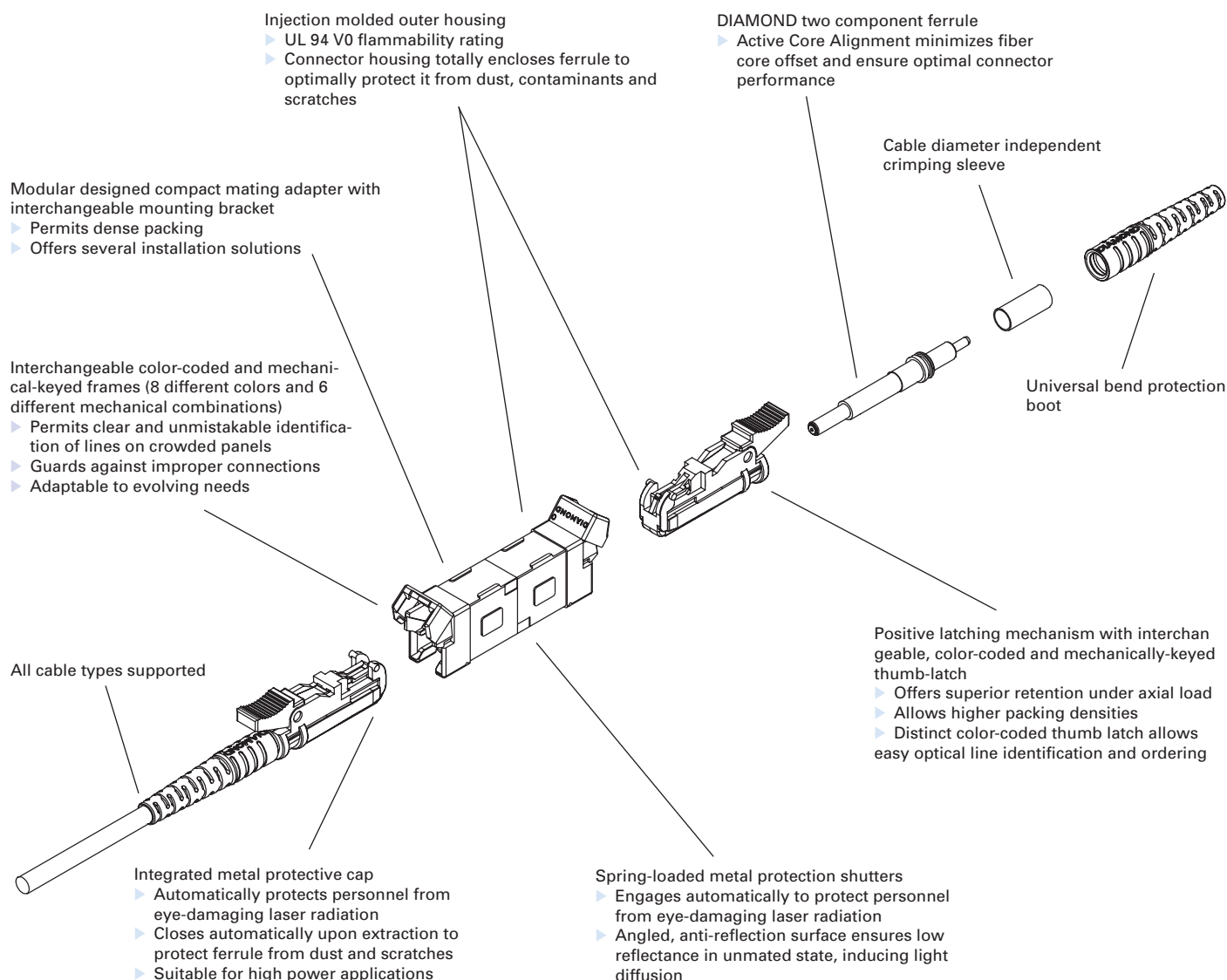


ENVIRONMENTAL CONDITIONS

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-810F
Low pressure, procedure II	4'572 m / 1 h	MIL-STD-810F
Low pressure, procedure III	2'438 m to 12'192 m / 60 s	MIL-STD-810F
Damp heat, cyclic (Reliability)	+25°C / +55°C / 95% r.h. / 100 cycles	IEC 61300-2-46
Composite temperature-humidity cycling	-10°C / +25°C / +65°C / 93% r.h. / 15 cycles	IEC 61300-2-21
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
Proof at 0°	4.5 Kg - 6.8 Kg / 5 s	Telcordia GR-326-CORE
Proof at 90°	2.3 Kg - 3.4 Kg / 5 s	Telcordia GR-326-CORE
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 (freefall)	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



COLOR KEYING

The E-2000™ system permits the user to specify the color of the thumb-latch and the mating adapter frame so that different line types, uses, destinations and points of origin, etc. can be readily identified. The thumb-latch and frame are available in eight distinct colors:

- | | |
|------------------|-----------|
| 1. Blue | 5. Orange |
| 2. Beige (White) | 6. Yellow |
| 3. Black | 7. Green |
| 4. Red | 8. Violet |

MECHANICAL KEYING

Additionally, it will become increasingly necessary to guard against improper connection in multiple-service patch facilities. The E-2000™ system permits the inclusion of a mechanical keying mechanism to ensure channel differentiation.

The mechanical keying options are also color-coded as follows:

- | | |
|------------------|-------------------------|
| Key Nr. 1 Red | Key Nr. 4 Orange |
| Key Nr. 2 Brown | Key Nr. 5 Violet |
| Key Nr. 3 Yellow | Key Nr. 6 Beige (White) |

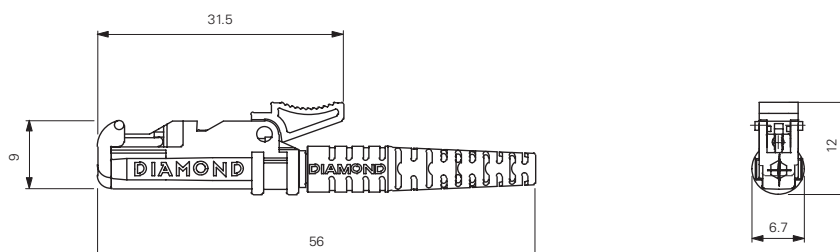
NOTE As standard, Diamond uses colored connector bodies, cable boots and mating adapter housings to identify the fiber type (SM or MM 50/62.5µm) and ferrule polish (PC or APC). Diamond's standard **connector/boot/adaptor** colors are as follows: Beige/Black/Beige for MM PC 50µm, Beige/Beige/Beige for 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

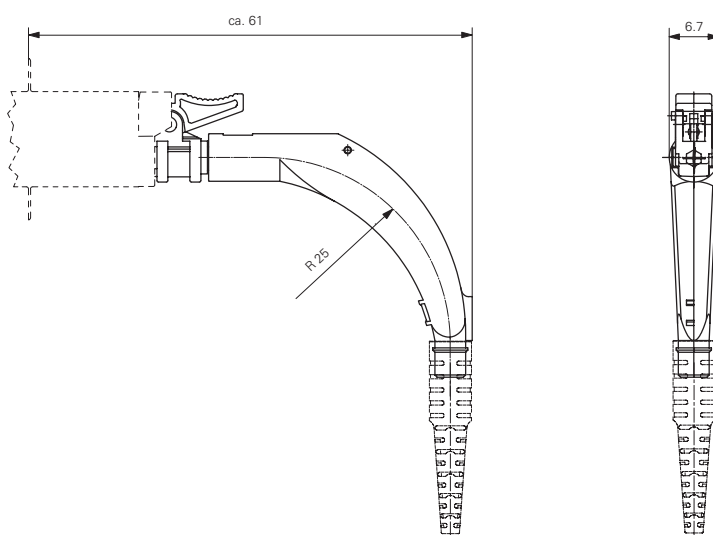
E-2000™ Simplex connectors 900 µm - 3 mm boot style

Available types: **E-2000™ Simplex PC**
E-2000™ Simplex APC
E-2000™ Simplex APC 0.1 dB

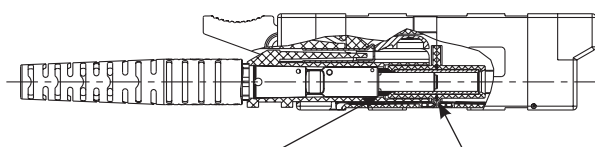
Ferrule material: Zirconia/metal insert
 External parts: Plastic



E-2000™ Simplex connectors 900 µm - 3 mm 90° boot style



E-2000™ IP65 connection



Optional O-ring seals on E-2000™ connectors and mating adapters result in sealed, IP65-rated connections

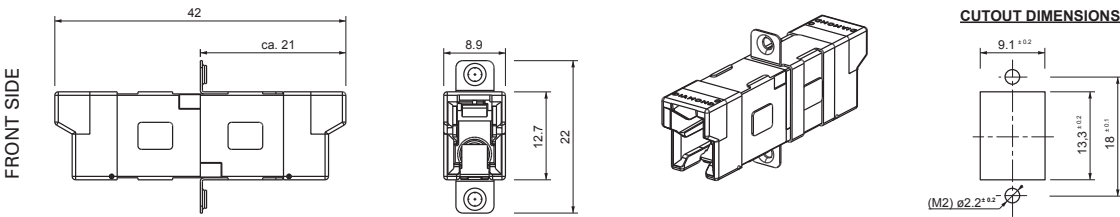
ORDER INFORMATION

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

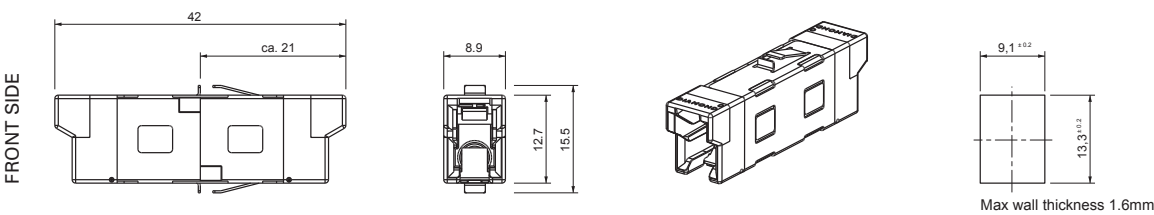
For other configurations, please contact your nearest local Diamond representative or fill in the contact form available on the www.diamond-fo.com website.

ADAPTER TYPES AND DIMENSIONS

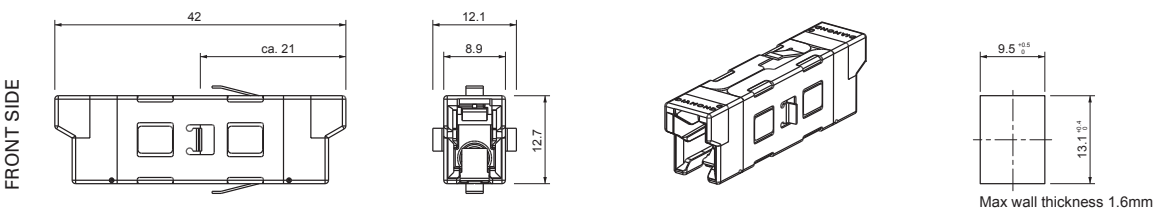
E-2000™ Simplex mating adapter with screw fixing clip



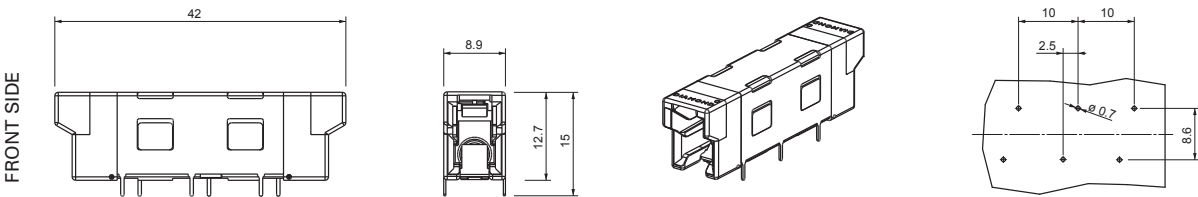
E-2000™ Simplex mating adapter with quick fixing clip
(Typ A: for higher packaging density within E-2000™ cutout)



E-2000™ Simplex mating adapter with quick fixing clip
(Typ B: for excellent stability within SC cutout)



E-2000™ Simplex mating adapter with print fixing clip



E-2000™ Simplex mating adapter with 45° screw fixing clip

