

DIAMOND

Fiber Optic Components

PM Family

(Polarization Maintaining)

E-2000™ PM, F-3000™ PM - SC PM
- FC PM - LSA (DIN) PM - AVIM PM,
Mini AVIM PM - DMI PM



CABLE ASSEMBLIES AND ADAPTERS

DIAMOND supplies high-quality solutions to polarization maintaining (PM) and polarizing (PZ) fiber optical interfaces for optimal control of the signal's polarization state. Low insertion losses (IL) combined with high polarization extinction ratios (PER) and higher return losses (RL) are achieved over very broad spectral ranges thanks to a combination of accurate optical and mechanical design.

APPLICATION FIELDS

The field of application of PM elements has expanded beyond traditional markets to brand new ones, from research to industrial environments:

- ▶ Biomedicine
- ▶ Spectroscopy
- ▶ Metrology
- ▶ Sensorics
- ▶ Telecommunications
- ▶ Lasertechnology
- ▶ Surveillance & Security
- ▶ Lithography

FEATURES AND BENEFITS

- ▶ Proprietary Active Core Alignment (ACA) process for minimal eccentricity between fiber's core and ferrule to guarantee unmatched low insertion losses
- ▶ Active Polarization Orientation (APO) procedure for optimal alignment between the mechanical connector's key and the true polarization (fast or slow) axis to guarantee the highest PER in a mated configuration
- ▶ Optimized polishing techniques for excellent return losses values
- ▶ 100% front face inspection

AVAILABLE AS

- ▶ Terminated connector

QUALITY & STANDARDS

Products quality is guaranteed in compliance with international standards defining PM fibers and connectors. These include the IEC 61755-3-7/8 standards (PC, resp. APC 2.5 mm and 1.25 mm composite ZrO₂ with Titanium ferrules) dedicated to standard single-mode fibers at conventional telecom wavelengths (1310/1550 nm bands).

CONNECTOR SPECIFICATIONS

WAVELENGTH (nm)	Angular Error ϕ	IL (dB)		PER (dB)		RL (dB)	
		Typ	97% (TBC)	Typ	Min (TBC)	PC 0°	APC 8°
1625 - 1550 - 1310	< $\pm 2^\circ$	0.15	0.30	30	27	50*	70*
1060 - 980		0.20	0.40	30	26	50	60*
830 - 780		0.25	0.50	28	25	40	60**
680 - 635		0.30	0.60	28	25	40	60**
532 - 460		0.40	0.80	27	24	35	60**
405		0.75	1.20	23	21	35	60**
TEST CONDITIONS		IEC 61300-3-34 Random mating		IEC 61300-3-40 Low coherence		IEC 61300-3-6 *OLCR method <OCWR method **Limited by test conditions	
Lifetime	500 mate/demate cycles						

- Optical values specified at room temperature, and based upon high-quality Panda and Bow-Tie fibers qualified by Diamond (fiber's NA 0.12 \pm 0.02).
- Performances based upon E-2000™ optical interfaces; other mechanical interfaces may lead to slightly different results. Please contact Diamond for details.
- Diamond performs PER measurements according to the crossed-polarizer method (similar to IEC 61300-3-40) that relies upon high-extinction Glan-Thomson polarizers and incoherent light sources (bandwidth > 10 nm).
- For any other requirement, please contact Diamond.



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Specifications subject to change
without notice

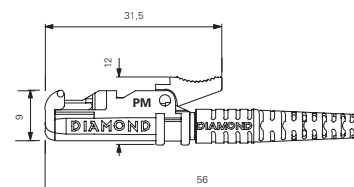
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CONNECTOR TYPES AND DIMENSIONS

E-2000™-PM

Available types:
 Ferrule material:
 External parts:

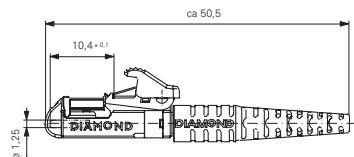
E-2000™ PM - PC and APC
 Zirconia/metal insert
 Plastic



F-3000™-PM

Available types:
 Ferrule material:
 External parts:

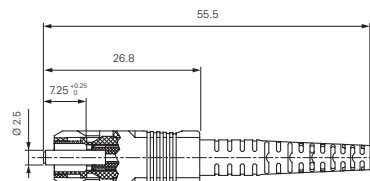
F-3000™ PM PC and APC
 Zirconia/metal insert
 Plastic



SC-PM

Available types:
 Ferrule material:
 External parts:

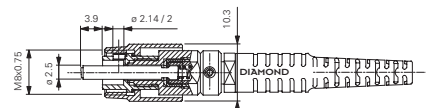
SC PM - PC and APC
 Zirconia/metal insert
 Plastic



FC-PM

Available types:
 Ferrule material:
 External parts:

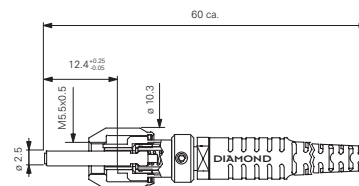
FC PM - PC and APC (Key 2.14 or 2 mm)
 Zirconia/metal insert
 Ni-plated brass



LSA (DIN)-PM

Available types:
 Ferrule material:
 External parts:

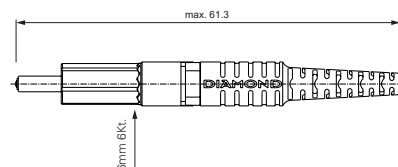
DIN PM - PC and APC
 Zirconia/metal insert
 Copper-nickel alloy



AVIM-PM

Available types:
 Ferrule material:

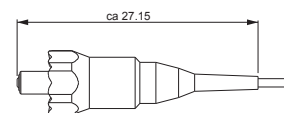
AVIM PM - PC and APC
 Zirconia/metal insert, custom upon request



Mini-AVIM-PM

Available types:
 Material:

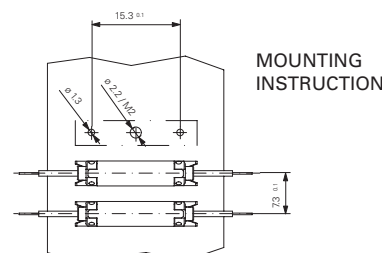
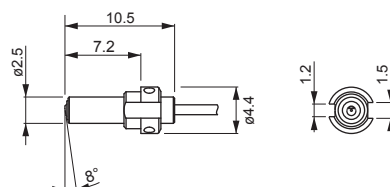
Mini-AVIM PM - PC and APC
 According to part list



DMI-PM

Available types:
 Ferrule material:
 External parts:

DMI PM - PC and APC
 Zirconia/metal insert
 Metal

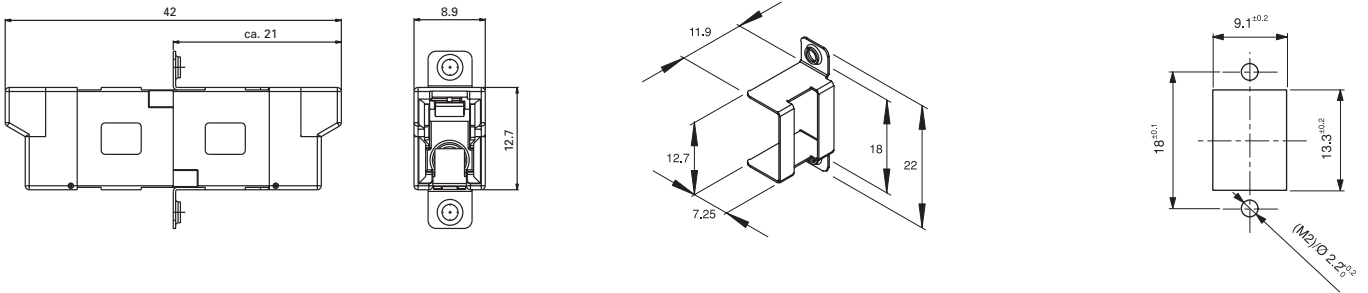


NOTE Standard plastic connector and adapter colors are Blue for PC and Green for APC.

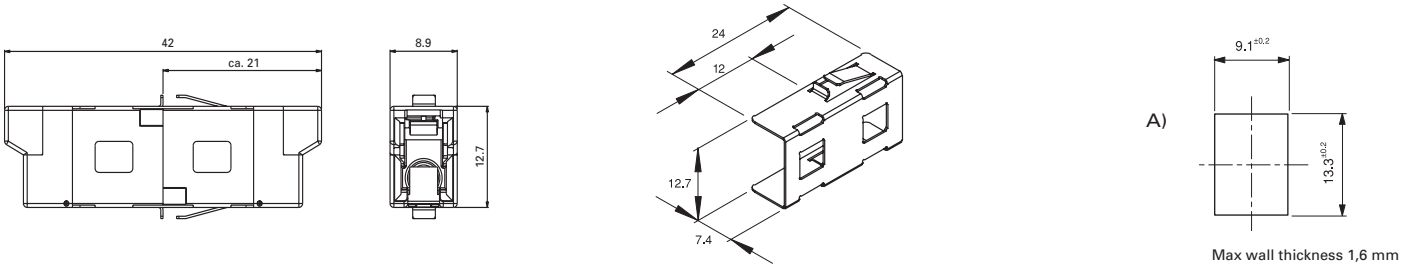
ADAPTER TYPES AND DIMENSIONS

E-2000™ Simplex PM mating adapter with screw fixing clip

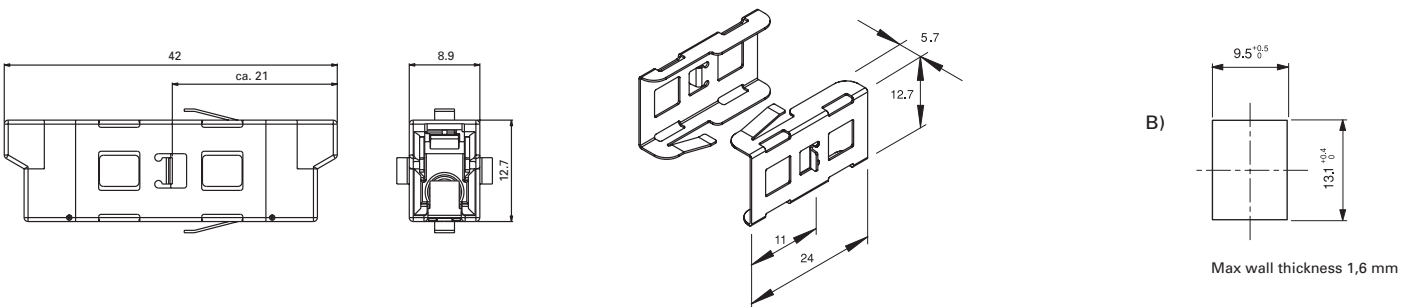
CUTOUT DIMENSIONS



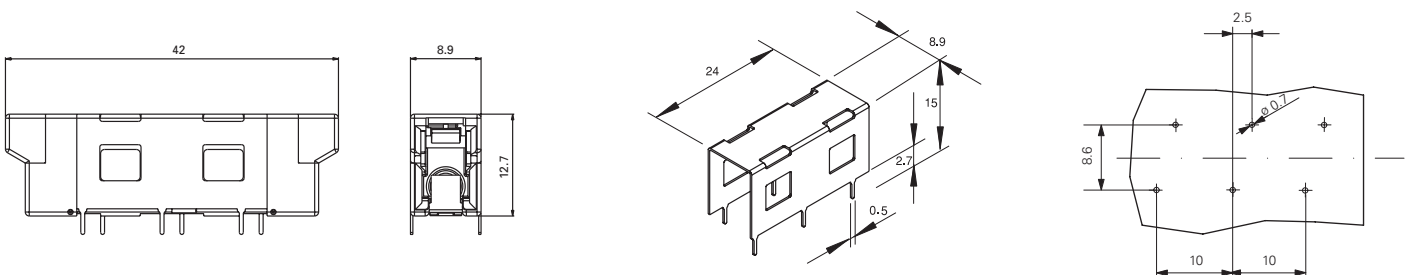
E-2000™ Simplex PM mating adapter with quick fixing clip
(Type A: for higher packaging density within E-2000™ cutout)



E-2000™ Simplex PM mating adapter with quick fixing clips
(Type B: for excellent stability within SC cutout.)

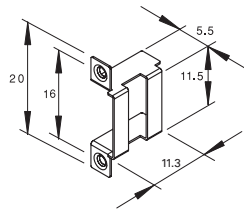
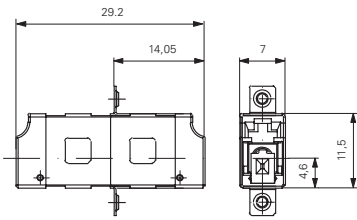


E-2000™ Simplex PM mating adapter with print fixing clip

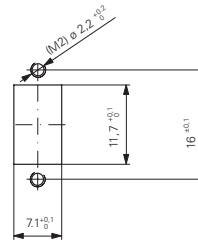


F-3000™ Simplex PM mating adapters

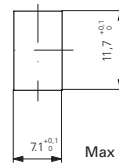
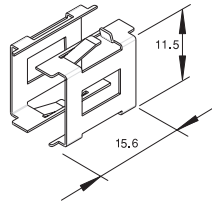
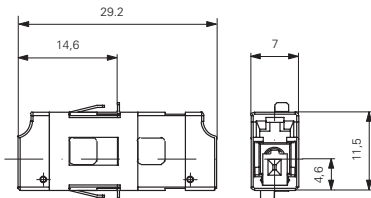
Screw fixing clip



CUTOUT DIMENSIONS

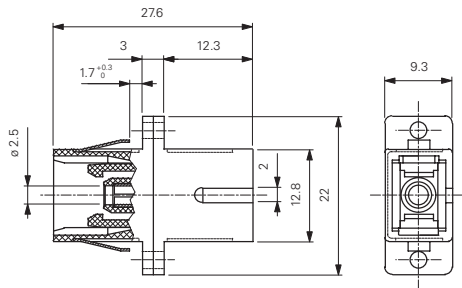


Quick fixing clip

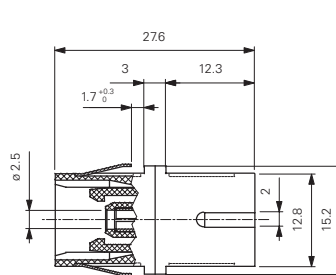


SC-PM mating adapters

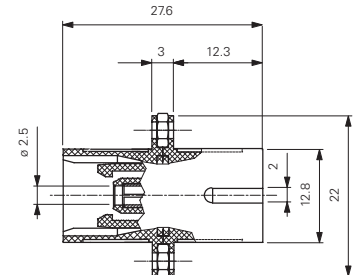
Screw and clip fixing type



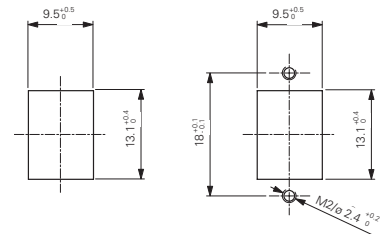
Small clip fixing type



Screw nut fixing type

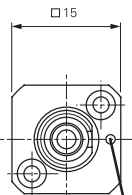
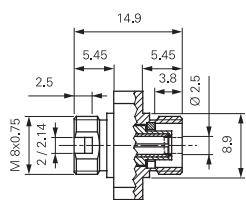


CUTOUT DIMENSIONS



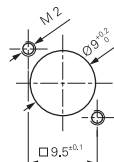
FC PM mating adapters

Square flange

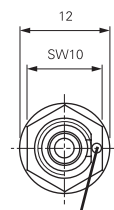
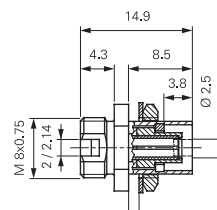


Sign of recognition for key ϕ 2mm

CUTOUT DIMENSIONS



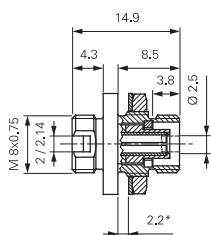
Hexagonal flange



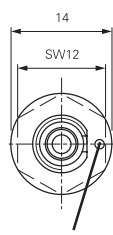
Sign of recognition for key ϕ 2mm

* Max thickness

Round flange

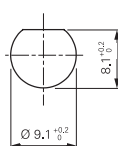


* Max thickness

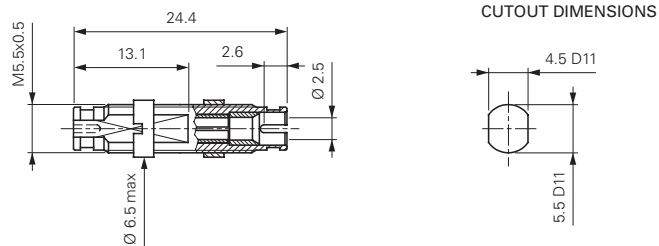


Sign of recognition for key ϕ 2mm

CUTOUT DIMENSIONS

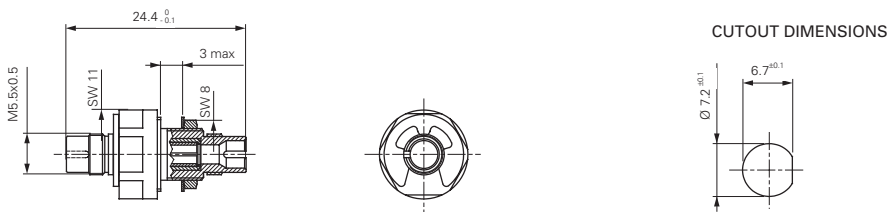


LSA (DIN) PM mating adapter

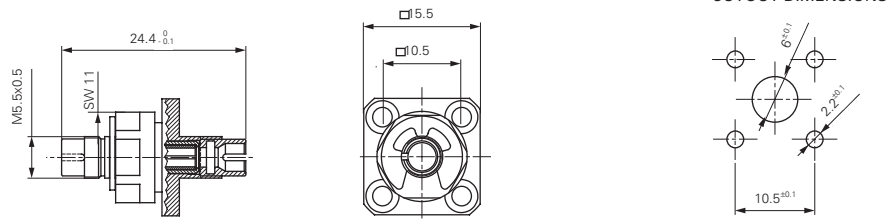


AVIM PM mating adapter

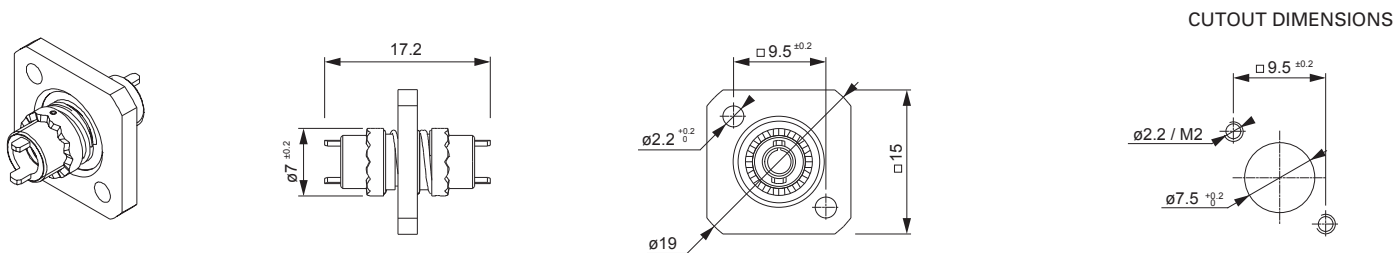
Hexagonal flange



Square flange

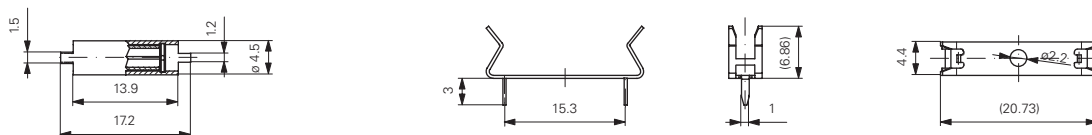


Mini-AVIM PM mating adapter



DMI PM mating adapter

DMI-PM mating adapter clip



ORDER INFORMATION

Please refer to the part numbers provided in the separate P/N list. For assemblies or other configurations, please contact your nearest local Diamond representative or fill in the contact form available on the www.diamond-fo.com website.