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
- Telecommunications
- Spectroscopy
- Lasertechnology
- Metrology
- Surveillance & Security
- Sensors
- 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

<table>
<thead>
<tr>
<th>WAVELENGTH (nm)</th>
<th>Angular Error</th>
<th>IL (dB)</th>
<th>PER (dB)</th>
<th>RL (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Typ</td>
<td>97% (TBC)</td>
<td>Typ</td>
</tr>
<tr>
<td>1625 - 1550 - 1310</td>
<td>&lt; ±2°</td>
<td>0.15</td>
<td>0.30</td>
<td>30</td>
</tr>
<tr>
<td>1000 - 980</td>
<td></td>
<td>0.20</td>
<td>0.40</td>
<td>30</td>
</tr>
<tr>
<td>830 - 780</td>
<td></td>
<td>0.25</td>
<td>0.50</td>
<td>28</td>
</tr>
<tr>
<td>680 - 635</td>
<td></td>
<td>0.30</td>
<td>0.60</td>
<td>28</td>
</tr>
<tr>
<td>532 - 460</td>
<td></td>
<td>0.40</td>
<td>0.80</td>
<td>27</td>
</tr>
<tr>
<td>405</td>
<td></td>
<td>0.75</td>
<td>1.20</td>
<td>23</td>
</tr>
</tbody>
</table>

TEST CONDITIONS
- IEC 61300-3-34 Random mating
- IEC 61300-3-40 Low coherence
- IEC 61300-3-6 *OLCR method

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± 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.
CONNECTOR TYPES AND DIMENSIONS

**E-2000™-PM**
- Available types: **E-2000™ PM - PC and APC**
- Ferrule material: Zirconia/metal insert
- External parts: Plastic

**F-3000™-PM**
- Available types: **F-3000™ PM PC and APC**
- Ferrule material: Zirconia/metal insert
- External parts: Plastic

**SC-PM**
- Available types: **SC PM - PC and APC**
- Ferrule material: Zirconia/metal insert
- External parts: Plastic

**FC-PM**
- Available types: **FC PM - PC and APC (Key 2.14 or 2 mm)**
- Ferrule material: Zirconia/metal insert
- External parts: Ni-plated brass

**LSA (DIN)-PM**
- Available types: **DIN PM - PC and APC**
- Ferrule material: Zirconia/metal insert
- External parts: Copper-nickel alloy

**AVIM-PM**
- Available types: **AVIM PM - PC and APC**
- Ferrule material: Zirconia/metal insert, custom upon request

**Mini-AVIM-PM**
- Available types: **Mini-AVIM PM - PC and APC**
- Material: According to part list

**DMI-PM**
- Available types: **DMI PM - PC and APC**
- Ferrule material: Zirconia/metal insert
- External parts: Metal

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**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

Quick fixing clip

SC-PM mating adapters

Screw and clip fixing type

Small clip fixing type

Screw nut fixing type

CUTOUT DIMENSIONS

Max wall thickness 1.6 mm

FC PM mating adapters

Square flange

Hexagonal flange

Round flange

* Max thickness

Sign of recognition for key ø 2 mm
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.