

Power Solution Multimode (PSm)

For High-Power Reliable Connections



Products



The Diamond E-2000® PSm and DMI PSm have been developed to guarantee an enhanced reliability towards high-power optical transmission up to 100W. The main target application for PSm technology is the integration of pump lasers within larger systems.

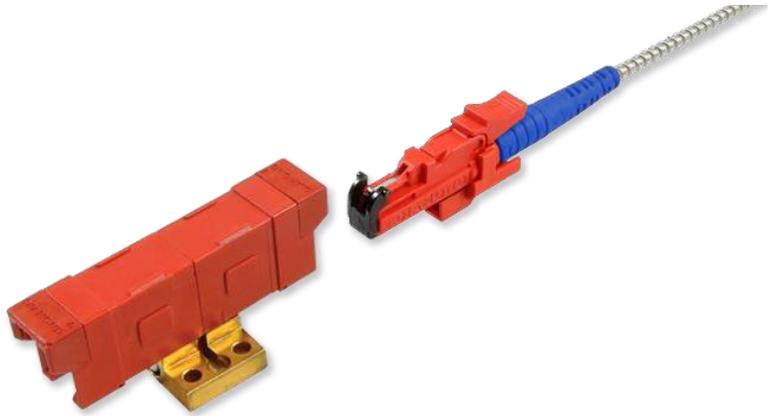
Benefits

- Enables modularity
- Eliminates the need for fiber splices between multiple optical elements (light sources, amplifiers, couplers/splitters, etc.)
- Allows for faster maintenance: avoid down time when sending back entire laser system to the manufacturer.
- Provides a Contact solution
- Low Insertion loss
- More efficient thermal management



DMI PSm
For PC board embedded applications

The Interlock Version



E-2000® PSm Interlock

The Diamond **E-2000® PSm Interlock** fiber optic connector and mating adapter with integrated electrical circuit breaker.

- Suitable for situations where light must be rapidly interrupted for safety and protection reasons.
- Beneficial in laser systems where it is preferred to block the emission by means of an external shutter (mechanical) rather than alter the internal driving conditions of the laser (unstable light emitting).
- Avoid damaging the laser from sudden shutdown.

IMPORTANT SAFETY INFORMATION

The Interlock feature in the E-2000® connector has to be considered as part of a complete safety system and cannot be deemed as a stand-alone safety device.

Optical and Environmental Specifications

Optical specifications

	MM105 PC 0°	MM200 PC 0°	UNITS	TEST CONDITIONS
Numerical Aperture, NA	0.22			
Core / Cladding	105 / 125	200 / 240	microns	
Insertion Loss (IL)	≤ 0.2 (0.1 typ)*	≤ 0.2 (0.1 typ)**	dB	IEC 61300-3-4
Optical power handling	100***		W	IEC 61300-2-14
Service life	50		mate/demate	IEC 61300-2-2

* With launch condition from light source: conditioning patchcord, 300m of 100/140 fiber and 30m of 105/125 fiber

** With launch condition from light source: conditioning patchcord, 300m of 100/140 fiber and 30m of 200/220 fiber

*** Tested with CW laser. Requires cooling of the mating adapter basement to 20°C. Thermal power to dissipate: max. 5 W

Environmental specifications

MEASUREMENT / TEST	PARAMETERS	METHOD
Change of temperature	-40°C / +85°C / 1 h dwell / 12 cycles	IEC 61300-2-22
Cold	-40°C / 96 h	IEC 61300-2-17
Dry heat	+85°C / 96 h	IEC 61300-2-18
Damp heat, cyclic	+25°C / +55°C / 95% r.h. / 6 cycles	IEC 61300-2-46
Operating temperature	-40°C / +85°C*	
Storage temperature	-40°C / +90°C	

* Requires cooling of the mating adapter basement to 20°C.

E-2000® PSm and DMI PSm Construction

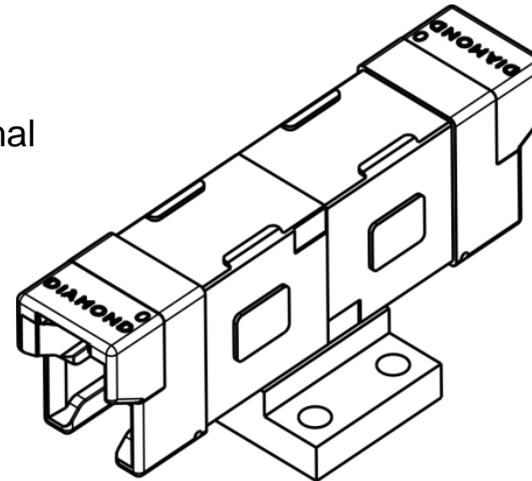
Connector:

- Two-component ferrule (Zirconia-Titanium)
- Flat surface along the ferrule's side for air release
- Optimized polishing for convex surface on MM large core fibers
- Softer first crimp to prevent changes in the optical fiber characteristics (IL)

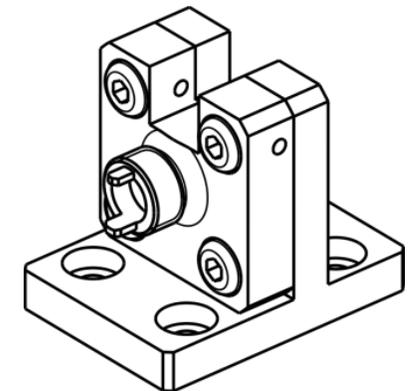


Mating Adapters:

- E-2000® with hard metal high precision sleeve (for thermal dissipation)
- DMI in Cu-Ni, without sleeve



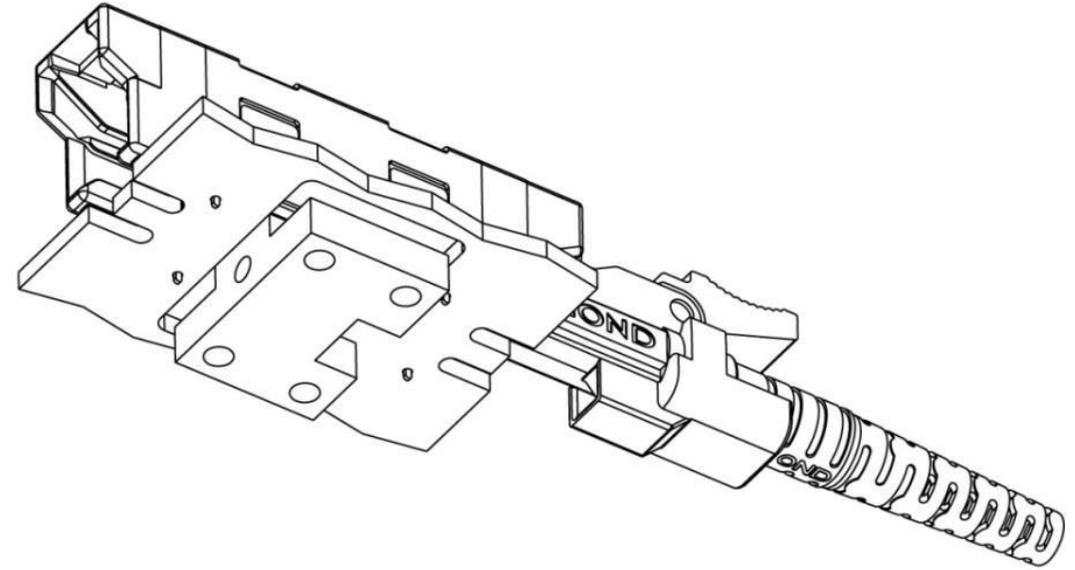
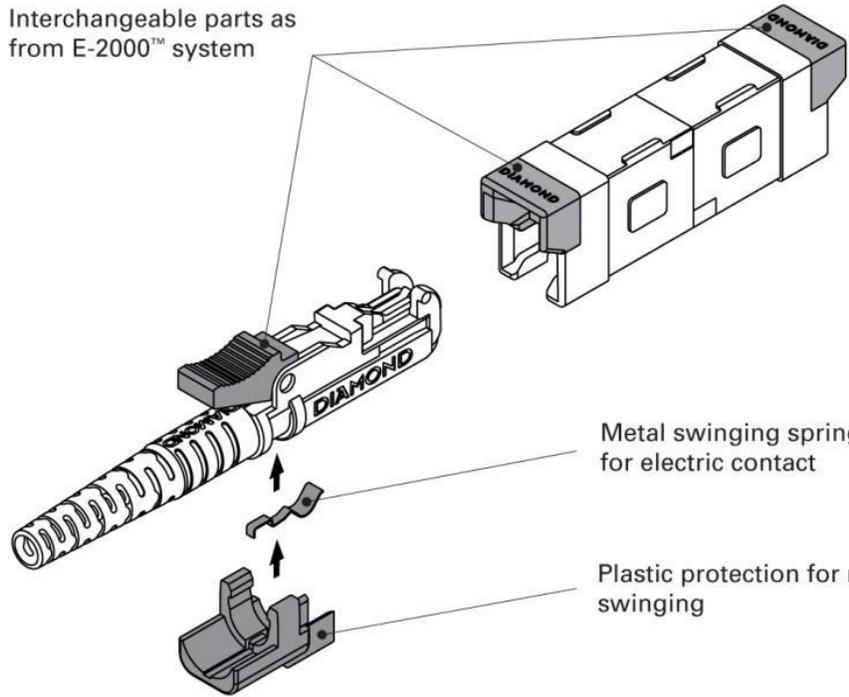
Ni-plated Cu base mount



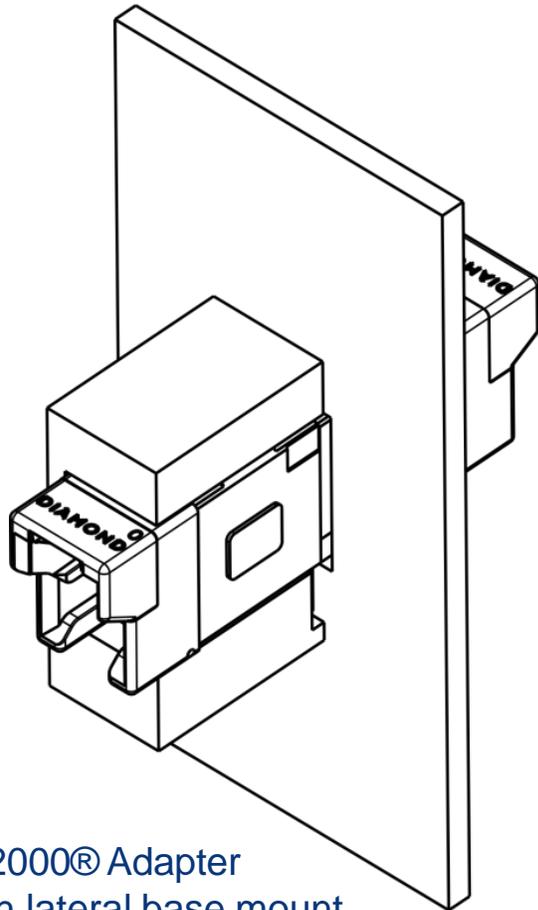
Aluminum base mount

E-2000® PSm Interlock Construction

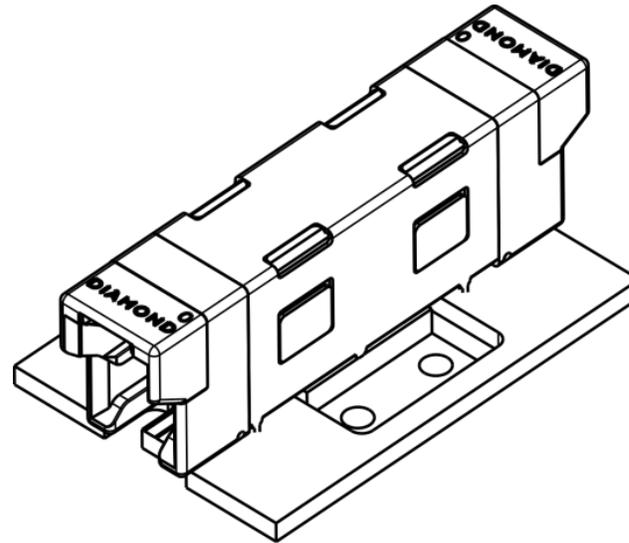
Interchangeable parts as from E-2000™ system



Optional Mating Adapter Fixturing



E-2000® Adapter
with lateral base mount



E-2000® Adapter
with bottom base
mount for PCB

Future Developments

- PSm for higher power (up to 750 W)



- PSm Mini-AVIM

For more info, visit www.diamond-fo.com



The screenshot shows the DIAMOND website homepage. At the top left is the DIAMOND logo with the tagline "the fiber meeting". To the right is a navigation menu with links for Products, Markets, Technologies, Services, About us, and Contact us. Further right are icons for location, language (EN), and search. On the far right is a "Product Finder" button with a filter icon. The main content area features a large image of a fiber optic interconnect being processed by a machine. Overlaid on this image is the text "High Power Interconnects up to 16W" and a paragraph describing the enhanced and upgraded series of Power Solution (PS) Interconnects. A "Learn more" button is positioned below the text. In the bottom right corner of the image area, there is a blue notification box with a megaphone icon, containing the text "We are hiring" and "Check job openings" with a right-pointing arrow.

DIAMOND
the fiber meeting

Products ▾ Markets ▾ Technologies ▾ Services ▾ About us ▾ Contact us

EN ▾

Product Finder

High Power Interconnects up to 16W

The enhanced and upgraded series of Power Solution (PS) Interconnects withstands up to 16 watts optical power in Single-mode optical fiber maintaining exceptional Insertion Loss (IL) and Return Loss (RL) values.

[Learn more](#)

We are hiring

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Fiber Optic - powerful and reliable fiber optic components





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