

WE'RE WELL CONNECTED

MULTIPLE FIBER

Multiple Fiber System (MFS)
A very compact connector developed by Diamond based on MT ferrule technology. Available in 4-, 8- and 12-channels, as simplex or backplane (up to 48-channels), MM/SM, PC/APC.

Multiple Fiber Push-On (MPO)
A multifiber connector that complies with worldwide standards based on the MT ferrule. Available in 4-, 8- and 12-channels, as simplex, MM/SM, PC/APC.

Fan-Out
Efficient cable installation by means of pre-assembled cables and connectors. Characterized by excellent mechanical and thermal properties. Available in different lengths and connector types.

POWER SOLUTIONS

Power Solution Multimode (PSm)
Designed to handle all optical fibers in higher power applications. The optical interface can transmit 100W optical power on a 105um core. Available with E-2000® and Micro AVIM® connectors.

F-SMA Power Solution Injection (PSI) mode stripper
Removes unwanted cladding modes from the fiber and is used when emphasis is made on the preservation of the beam parameter product (Small spot diameter and low numerical aperture). Available with the F-SMA connector for MM fibers from 100µm to 1000µm.

F-SMA Power Solution Injection (PSI) mode guider
Allows all modes, including cladding modes, to be transmitted with minimum attenuation, resulting in less heat and more power available at the cable output. Available with the F-SMA connector for MM fibers from 100µm to 1000µm.

ACCESSORIES

Optical Transmission Adapters (UGT) and Sacrificial Interfaces (SI)
UGT are in-line adapters for PC to APC or reverse transition. SI are in-line components used to protect front panel connectors from damage due to repeated matings.

Terminators
High attenuation of return loss. Used for open output signals.

In-line Attenuators
Used to adapt the transmitted light power to the characteristics of the receiver.

Optical Gold Reflectors (OGR)
Used as a fiber termination with the highest possible reflection.

Hybrid Mating Adapters
Used for connection of different types of connectors.

CUSTOM PRODUCTS

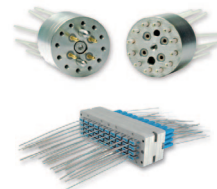
Vacuum Feedthrough
Obtained feedthrough benefits from a very low leak rate. It can be ordered for many types of fiber, including SM, MM, PM, PS, large core MM or others. Multichannel systems are also available.

Interface Module (IMOD)
The IMOD is a half adapter used for free space applications of optical connectors. Available in different accuracy variants.

Laser and LED transmitter modules (MAT) / photodiode receiver modules (MAR)
They are transceiver modules with an E-2000® interface. Both types are designed to minimize light coupling losses and provide high optical stability in a wide variety of environmental conditions.

MULTI FIBER, POWER SOLUTION & ACCESSORIES

CUSTOMIZED SOLUTIONS



Many applications require complex, customized solutions. The highly qualified research and development team at Diamond will partner with you to develop the best mechanical and optical solution for your specific project. The technical team has in-depth experience in many different technologies. Diamond offers many years of experience in designing, manufacturing and testing high quality fiber optic components.



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DIAMOND SA



Diamond SA is headquartered in Losone TI, Switzerland. Our operation is focused on the manufacture and assembly of high performance fiber optic interconnect solutions. Diamond's production facility employs state-of-the-art methods and techniques, enabling connector termination of singlemode, multimode and polarization maintaining assemblies, using a variety of fibers.



FIELD REPAIR EQUIPMENT

ZEUS D50 HE
The Fusion Splice Kit is designed to assemble or repair fiber optic connections in the field. The kit contains everything needed to prepare, handle and splice fibers and robust outdoor/military and industrial cables and connectors.

Splice-on connectors (SOC)
Fast, easy and reliable field installation of factory-quality terminations. Available connectors: E-2000®, F-3000®, SC, ST and FC.

Splice Repair Kit
Innovative fiber/cable repair option requires minimal strip lengths and no bulky splice sleeves.

CLEANING & INSPECTION

Cleaning Kit
The kit contains a hand held microscope for connector end-face inspection and all necessary tools for cleaning, including in-adapter cleaners.

Video Microscope Kit
The kit contains all necessary tools for inspection and cleaning of a connector end-face. The Video inspection microscope OLP-82P with 3.5-inch display and a built-in power-meter meets today's requirements for safety, reliability and quality. The P5000i digital inspection probe allows mated connectors to be inspected. The probe may be connected to a laptop. A variety of inspection tips and adapters are available for both kits.

Inspection Adapter
A variety of inspection tips and adapters are available for the video and handheld microscope to inspect all Diamond connectors.

MEASUREMENT

Reference patch cord
In order to limit the variability of attenuation measurement using reference connectors, Diamond uses selected single mode fiber with restricted tolerances on the mode field diameter (MFD) as specified within the IEC 61755-2-4/-2-5 standard. Available connectors: E-2000®, F-3000®, SC, FC.

Launch fiber box
Suitable for characterization of fiber optic networks using an optical time domain reflectometer (OTDR) measurement device. Available with standard telecom connectors or harsh environment revos E-2000® and HE-2000® connectors.

Optical Attenuating Fiber (OAF)
The OAF-Patch is a product family of wavelength independent fixed attenuation patchcords suitable for each connector type. Offering a large choice of nominal attenuation from 2dB to 30dB on fiber type 9/125 µm.

SERVICES

Testing and Calibration Lab
Accredited by the Swiss Accreditation Service SAS as testing laboratory for fiber optic components and as calibration laboratory for fibre optic measurement instruments in accordance with the standard ISO / IEC 17025:2017.

Cleanroom
ISO 7 clean room (class 10,000 according to FED STD 209E) to supply products, such as pigtailed, patch cords, adapters and mechanical parts that have to be packed in a controlled environment.

Training
Diamond has more than 40 years experience in fiber optics. We offer several different training courses, both standard and customized to meet your needs.





E-2000®

Unique connector with spring cap that provides outstanding optical performance, along with excellent handling characteristics.

- Available versions:**
- ▶ 0.1dB class
 - ▶ SX, DX, Compact DX, Low profile DX
 - ▶ Backplane (2-6 channels)
 - ▶ Fusion
 - ▶ IP65
 - ▶ Non-magnetic
 - ▶ Interlock
 - ▶ PM, PS, PSm
 - ▶ XB

- Features:**
- ▶ Color and mechanical coding
 - ▶ Interchangeable fixing clips
 - ▶ Sterilizable

- Standards:**
- ▶ IEC 61754-15 LSH

F-3000®

The F-3000® connector family is designed according to international standards and is LC compatible.

- Available versions:**
- ▶ Simplex
 - ▶ Duplex
 - ▶ Junior Duplex
 - ▶ Backplane (2-4 channels)
 - ▶ Fusion

- Features:**
- ▶ Small-Form-Factor (SFF)
 - ▶ Interchangeable fixing clips

- Standards:**
- ▶ IEC 61754-28 LF3

The F-3000®s connector comes without protective cap and thumb latch button. It has been specifically developed for use with active network devices (e.g. SFP).

DiaLink

A round, slim connector well-suited for use in medical, sensing and in-building cabling applications. The pull cap feature enables easy installation into conduit pipes.

- Available versions:**
- ▶ DiaLink-Saver
 - ▶ DiaLink male
 - ▶ DiaLink female
 - ▶ Threaded version

- Features:**
- ▶ Compact design
 - ▶ High packing density
 - ▶ Sterilizable
 - ▶ Non-magnetic version
 - ▶ Pull cap for max. 300N

- Standards:**
- ▶ IEC 61754-32 DiaLink

SC

A push-pull connector ideal for industrial, medical, sensing and telecom measurement.

- Available versions:**
- ▶ Simplex
 - ▶ Duplex
 - ▶ Fusion
- Features:**
- ▶ Push-pull mechanism

- Standards:**
- ▶ IEC 61754-4 SC

FC

A metal connector used for industrial, medical, sensing applications and telecom measurement.

- Available versions:**
- ▶ Standard
 - ▶ Mini
 - ▶ Fusion
 - ▶ Alberino (plastic)
 - ▶ PM, PSm
 - ▶ Mating adapter with square, hexagonal or round flange

- Features:**
- ▶ High precision anti-rotation keys
 - ▶ Nickel-plated brass housing
 - ▶ Compatible with TIA-604-4B, IEC 61754-13, EN50377-1-2

- Standards:**
- ▶ IEC 61754-13 FC PC wk
 - ▶ TIA-604-4B FC PC and APC
 - ▶ EN50377-1-2 FC APC nk

ST

A bayonet style connector often used in industrial, medical, sensing applications, telecom and LAN applications.

- Available versions:**
- ▶ Standard
 - ▶ Fusion
- Features:**
- ▶ Spring loaded (10N)
 - ▶ Bayonet locking mechanism

- Standards:**
- ▶ IEC 61754-2 BFOC/2.5

AVIM®

Developed in the mid-90s, the AVIM® was designed for vibration resistance in avionics, space and mobile platforms.

- Available versions:**
- ▶ SM, MM, PM
 - ▶ PS, PSm, PM-PS (Mini AVIM® only)
 - ▶ Space Qualified (ESCC certificate 355)
- Features:**
- ▶ High vibration resistance (35 gRMS)
 - ▶ High Shock resistance (500g)
 - ▶ Space flight experience

- Standards:**
- ▶ ESCC 3420/002

Midi AVIM® / Mini AVIM®

Designed for compactness and ruggedness in dynamic small environments such as space, avionics and mobile platforms.

- Available versions:**
- ▶ SM, MM, PM and PZ
 - ▶ PS, PSm, PM-PS (Mini AVIM® only)
 - ▶ Space Qualified (ESCC certificate 355)
- Features:**
- ▶ High vibration resistance (35 gRMS)
 - ▶ High Shock resistance (500g)
 - ▶ Titanium design

- Standards:**
- ▶ ESCC 3420/001 Mini AVIM®

Micro AVIM® / DMI

The Micro AVIM® or Diamond Micro Interface (DMI) connector requires minimal space making it ideal for use on Printed Circuit Boards.

- Available versions:**
- ▶ PM, PM-PS and PZ
 - ▶ PS, PSm
- Features:**
- ▶ Very compact (4.5mm x 21mm)
 - ▶ Standard Clip System
 - ▶ Tested successfully up to 35 gRMS
 - ▶ Very high precision anti-rotation keys
 - ▶ Titanium design (Micro AVIM®)

- Standards:**
- ▶ Diamond

F-SMA

Designed for use with multimode fiber, including large core multimode fiber for higher power levels.

- Available versions:**
- ▶ MM Standard
 - ▶ MM Large core
- Features:**
- ▶ External parts: Inox
 - ▶ Ferrule ø 3,175 mm
 - ▶ MM, PC

- Standards:**
- ▶ IEC 61754-22

HE-2000®

A rugged and reliable harsh environment push-pull connector with superior optical and mechanical performance.

- Available versions:**
- ▶ Connector and bulkhead assembled with cable, tube or fiber. The ferrule front face can be PC, APC or APC4° polished for MM, SM, PM, PS, large core or small core fibers. Available also as XB.
- Features:**
- ▶ 4 optical/electrical channels
 - ▶ Automatic protection shutter
 - ▶ Protection IP67
 - ▶ Push-Pull
 - ▶ Field repairable
 - ▶ Vibration resistant
 - ▶ Allows mixing of fiber types

- Standards:**
- ▶ IEC 61754-35

MIL-38999 DM4 Family

The well-known MIL style connector with superior optical and mechanical properties.

- Available versions:**
- ▶ Connector and bulkhead assembled with cable, tube or fiber. The ferrule front face can be PC, APC or APC4° polished for MM, SM, PM, PS, large core or small core fibers. Available also as XB.
- Features:**
- ▶ 4 to 12 optical / electrical channels
 - ▶ Resistant metal shell
 - ▶ Protection IP67
 - ▶ Field repairable
 - ▶ Vibration resistant locking system
 - ▶ Allows mixing of fiber types

- Standards:**
- ▶ MIL-DTL-38999

MIL-83526 DM4

A ruggedized housing allows for easy handling in industrial environments.

- Available versions:**
- ▶ Connector and bulkhead assembled with cable, tubes or fibers. The ferrule front face can be PC, APC or APC4° polished for MM, SM, PM, PS, large core or small core fibers. Available also as XB.
- Features:**
- ▶ 4 optical/electrical channels
 - ▶ Resistant metal shell
 - ▶ Protection IP68
 - ▶ Fiber types mix (keep consistent)
 - ▶ Field repairable
 - ▶ Vibration resistant
 - ▶ Allows mixing of fiber types

- Standards:**
- ▶ MIL-DTL-83526

X-BEAM

This lensed connector ensures the data connection can be easily maintained even in heavily polluted and other harsh environments.

- Available versions:**
- ▶ Connector and bulkhead assembled with cable or tube. The ferrule front face can be PC or APC polished for MM and SM fibers. Available also as XB.
- Features:**
- ▶ 2 optical channels
 - ▶ Robust IP65-rated enclosure
 - ▶ Integrated caps and shutters
 - ▶ E-2000® connector with ACA
 - ▶ Easy locking lever
 - ▶ Automatic protection shutter

- Standards:**
- ▶ IEC 61754-15

revos E-2000®

A rugged design makes this connector particularly suitable for industrial applications requiring long transmission distances and high data rates.

- Available versions:**
- ▶ Connector and bulkhead assembled with cable or tubes. The ferrule front face can be PC, APC or APC4° polished for MM and SM fibers. Available also as XB.
- Features:**
- ▶ 2 optical channels
 - ▶ Protection IP68
 - ▶ Field repairable
 - ▶ Vibration resistant

- Standards:**
- ▶ IEC 61754-15

DiaFlex

A multifiber connector system based on the MT ferrule and a mechanical design that provides excellent optical properties.

- Available versions:**
- ▶ Male and female connectors are assembled with cable or fan outs. The ferrule front face can be PC or APC polished for MM and SM fibers.
- Features:**
- ▶ 8-24 optical channels
 - ▶ Resistant metal shell
 - ▶ Protection IP68
 - ▶ Easy locking system
 - ▶ Protective cap with feed-in eye
 - ▶ Small external diameter

- Standards MT Ferrule:**
- ▶ IEC 61754-5

* E-2000®, F-3000®, AVIM® and HE-2000® are registered trademarks of DIAMOND SA in the European Union and other countries.

* The pictures of the connectors are not scaled true to the original

SINGLE FIBER CONNECTORS

TECHNOLOGIES

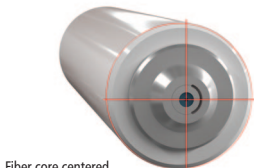


Crimping

Active Core Alignment (ACA)

The goal of ACA is to achieve the best Insertion loss values by minimizing the fiber eccentricity to the ferrule outer diameter, as well as, achieving a perfectly aligned exit angle. As part of the ACA process, the metallic end-face of the two component ferrule is shaped so that one side of the material deformation causes the fiber core to align to the middle of the central axis of the ferrule in a controlled manner.

Available connectors: All connector types

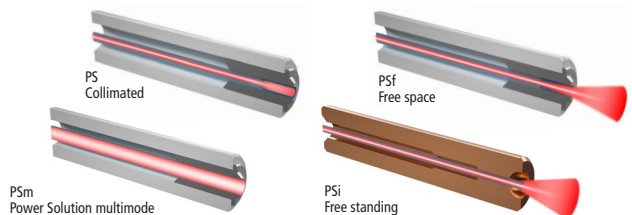


Fiber core centered

High Power (PS)

Diamond Power Solution (PS) connections utilize various beam expansion methods (Expanded Beam (EB)), which can vary greatly depending on the scope of the application. The different PS types available are as follows: PS Collimated (contact), PM-PS (contact), PSm (contact), PSI (free standing), PSc (collimator), PSF Free Space (diverging), PSb Ball Lens (expanded beam), PSI Lensed (focused).

Available connectors: E-2000®, F-3000®, Mini AVIM®, DMI, FC, X-Beam and more upon request



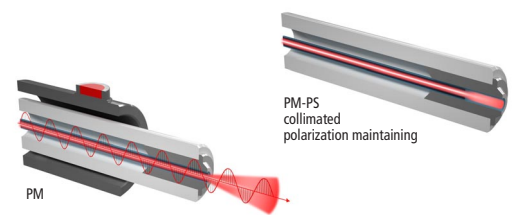
PSm Power Solution multimode

PSi Free standing

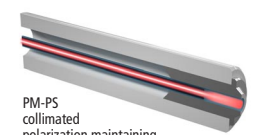
Polarization Maintaining (PM)

Diamond Polarization Maintaining (PM) connectors are renowned for their exceptional performance. The Active Core Alignment (ACA) process minimizes core offset to ensure low insertion loss. Active Polarization Orientation (APO) guarantees optimal alignment of polarization axes for high extinction ratio on PM and polarizing (PZ) fibers.

Available connectors: E-2000®, F-3000®, LSA (DIN), FC, SC, DMI, AVIM® family and others upon request



PM



PM-PS collimated polarization maintaining

Expanded Beam (XB)

Diamond has developed an ultra-low tolerance optical sub-assembly with a microlens and ferrule embedded in a high precision guide ceramic sleeve. The result is a high performance, exceedingly reliable lensed-ferrule assembly offering compact size and highly repeatable low insertion loss. A Diamond lensed-ferrule assembly can fit standard connector bodies, as well as, many different connectivity solutions, due to its modular conception, and can be used as a substitute of physical contact (PC) ferrules, when mating-cycles, dust insensitivity, reliability and low losses matter.

Available connectors: E-2000®, XB2, HE-2000®, MIL-83526 DM4, MIL-38999 DM4 Family, revos E-2000®

