

DIAMOND

Fiber Optic Components

OPTICAL INTERFACE

Applications using non-telecom wavelength single mode and PM fibers exist in various sectors such as Biomedical, Measurement instruments, Laser source and delivery, sensing. The VIS/NIR Optical Interface specification is a complement to IEC 61755-3-7; -8 that defines only SM fibers for telecom 1310/1550nm applications.

DIAMOND offers the **VIS/NIR** optical interface for these low wavelengths and small core fibers (for PM, please refer to the appropriate Optical Interface datasheet).

Using Diamond Active Core Alignment (ACA) technology, we can achieve unrivaled low IL performance.

This technology is applicable on most connector interfaces.

Specifications for the **VIS/NIR** optical interface:

- ▶ 0.1dB Grade ferrules with diameter tolerance < 0.2μm
- ▶ ACA with Ultra low eccentricity < 0.125μm
- ▶ Exit angle < 0.6°
- ▶ Ultra polish with 100% Endface inspection

The end-face geometry has been improved from the standard as described below::

- ▶ Ferrule radius 10÷20mm
- ▶ Core Apex 50μm
- ▶ Protrusion 50÷200nm (undercut negative)

The following fixed low wavelengths are standard for Diamond: 1050nm, 980nm, 800nm, 680nm, 635nm, 532nm and 405nm. For other wavelengths, please, contact Diamond.

STANDARDS

- ▶ IEC 61755-3-7, -8 PC, resp. APC 2.5mm and 1.25mm composite ZrO2 - Titanium ferrules

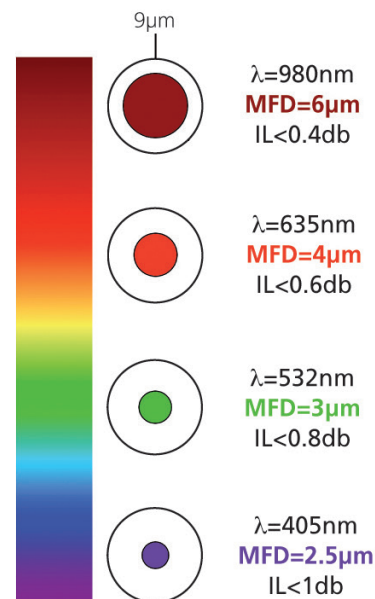
BENEFITS

- ▶ Extremely low lateral offset for Low Insertion loss
- ▶ Ultra high polish for High return loss

AVAILABLE AS

- ▶ Pigtailed and patchcords on the following connector interfaces:
 - E-2000™
 - F-3000™
 - DMI
 - FC, narrow and wide key
 - LSA(DIN)
 - AVIM
 - Mini-AVIM
 - SC

VIS/NIR - Low Wavelength



SPECIFICATIONS

WAVELENGTH (nm)	MFD (μm)	IL random 97% (dB)	IL max (dB)	RL	
				PC (dB)	APC (dB)
1060 - 980	6.6	0.2	0.3	45	60*
830 - 780	5.2	0.3	0.4	40	60*
635	4.4	0.4	0.6	40	60*
532 - 460	3.5	0.5	0.8	35	60*
405	2.9	0.6	1	35	50*
TEST CONDITIONS		IEC 61300-3-34 Random mating	IEC 61300-3-4	IEC 61300-3-6 OCWR method	

NOTE - The above values are intended for E-2000™ connector. Other connector mechanical interface display higher values. Please contact Diamond for values on your specific connector type.

- NA 0.12

- The Mode Field Diameter (MFD) of a SM or PM fiber, depends on the ratio between the following two parameters: Wavelength, and Numerical Aperture. $MFD=f(\lambda/NA)$.

* Limited by test conditions

ORDER INFORMATION

To order your connectors using VIS/NIR technology, please specify:

- ▶ The connector type (E-2000™ VIS/NIR, F-3000™ VIS/NIR, etc.), wavelength and end-face (PC or APC)
Example: DMI VIS/NIR 635 APC or E-2000™ VIS/NIR 980 APC
- ▶ Fiber specification: MFD, NA, fiber/cable structure and material, operation wavelength
- ▶ Please refer to the individual data sheets for detailed specifications on individual connector types