

# Collimator Micro Lens Fiber Optic Assemblies

The collimating micro lens fiber optic assemblies are designed to offer either collimation of an emitted beam or focusing of a coupling beam.

The assemblies can be customized with a variety of connector types and lens shapes to suit the customer's desired application.

With the full portfolio of diverse specialty optical fibers, the collimating fiber optic assemblies can be made for just about any application.

In addition, Coherent has sophisticated testing capability to fully characterize even the most complex optical assemblies.

## FEATURES & BENEFITS

- High coupling efficiency
- Environmentally stable
- High polarization extinction ratios (polarization maintaining fiber)
- Anti-reflection coated lens (optional)

## APPLICATIONS

- Diode Coupling
- Sample Irradiation
- Optical Beam Transportation



| SPECIFICATIONS                                     |   |
|--|---|
| Wavelengths (nm)                                   | 350 to 1550                             |
| Connector  | FC/UPC; FC/APC; SC; LC; MU; SMA         |
| Cable Types  | Hytrel; PTFE; Armor Monocoil; Polyimide |
| Cable Diameters                                    | 250 μm; 900 μm; 3 mm                    |
| Numerical Apertures                                | 0.05 to 0.22                            |
| Core Diameters (μm)                                | 2.5 to 10 (Single-mode)                 |
| Fiber Types  | Single-mode; Polarization Maintaining   |
| Spatial Mode (Polarization Maintaining)            | TEM <sub>00</sub>                       |
| Polarization Ratio                                 | 20:1 to >100:1                          |
| Slow-Axis Alignment (Polarization Maintaining) (°) | ±4                                      |
| Concentricity (μm)                                 | <100                                    |
| Pointing (°)                                       | <0.5                                    |
| Coupling Efficiency (%)                            | >70                                     |
| AR Coated Lens, Wavelength Range (nm)              | 400 to 1550                             |
| AR Coated Lens, Reflectivity (%)                   | <0.5                                    |
| Operating Temperature                              | -15 to +40°C (5 to 104°F)               |
| Operating Humidity (% RH)                          | 5 to 85                                 |
| Storage Temperature                                | -40 to +85°C (-40 to 185°F)             |
| Storage Humidity (% RH)                            | 0 to 95                                 |
| Internal Back Reflection (dB)                      | ≤-60                                    |
| Return Loss (dB)                                   | ≤-30                                    |
| Insertion Loss (dB)                                | <0.5                                    |

| KEY CONSIDERATIONS OF A FIBER ASSEMBLY AND COMMON OPTIONS <sup>1</sup> |  |
|--|--|
| Operating Wavelength (nm)  | 488   630   980   1310   1550                                      |
| Fiber  | Single Mode   Multimode   Polarization Maintaining                 |
| Cable  | 900 micron Hytrel   3 mm PVC + Kevlar   250 micron acrylate jacket |
| Connector  | FC/APC   FC/UPC   LC/APC   |

<sup>1</sup> Custom requests welcome.

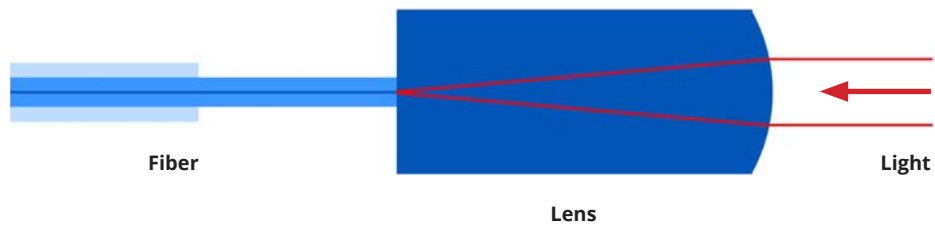
**Typical Fiber Assembly with an FC/APC Connector**



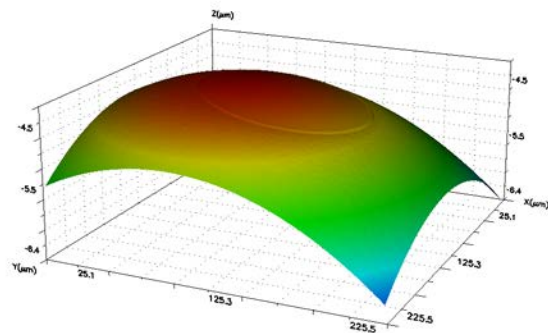
Lens

## COLLIMATION / FOCUSING

The attached lens can either collimate the emitted light, or focus incoming light. The lens' curvature and size can be tuned to suit the NA of the fiber and the application. The drawing depicts a focusing situation.



## INTERFEROMETRY CONNECTOR END-FACE PROFILING



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Collimating Fiber Assemblies. For full details of this warranty coverage, please refer to the Service section at [www.coherent.com](http://www.coherent.com) or contact your local Sales or Service Representative. MC-012-19-0M0519 Copyright ©2019 Coherent, Inc.

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