

Structure of Adjustable Focusing Fiber Collimator



Article Overview

An adjustable focusing fiber collimator consists of a fiber connector, a spring-loaded aspheric lens in a non-rotating lens cell, and a mechanical adjustment mechanism to fine-tune the lens-to-fiber distance.

Core Components

Fiber Connector: The collimator typically interfaces with a fiber via standard connectors such as FC, FC/APC, or SMA, allowing easy attachment and removal from the fiber system while maintaining alignment . **Aspheric Lens:** A key optical element is an anti-reflection (AR) coated aspheric lens housed inside a stainless steel or durable mechanical cell. The lens converts the diverging light from the fiber into a collimated beam and can also focus the beam when adjusted . **Lens Cell and Housing:** The lens is mounted in a non-rotating lens cell inside the collimator housing. The housing is typically cylindrical and made of metal for stability and environmental resistance. The lens cell ensures minimal beam pointing error during adjustment .

Adjustment Mechanism

Translation via Barrel Rotation: The outer barrel of the collimator rotates, causing the lens to translate along the optical axis without rotating. This allows precise adjustment of the fiber-to-lens distance, which is critical for achieving optimal collimation or focusing . **Locking Ring:** Once the desired position is reached, a knurled locking ring secures the lens in place, preventing drift and maintaining beam stabili...

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LBTEK-Rotary Adjustable Focus Collimator

The rotary adjustable focus collimator provided by LBTEK features a compact structure and simple, convenient adjustment, making it

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Fiber Collimators

Fiber Collimators Diffraction Limited Features Adjustable focus No epoxy in the optical path No fluorescence or very little Clean

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Highly efficient coherent conformal projection system based on

Adaptive fiber optics collimator (AFOC) has been proved to be an effective and simple approach to realize the tip-tilt

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Focus Adjustable Fiber Collimators

Focus Adjustable Fiber Collimators can adjust beam diameter at specified distance by screwing a ring,

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Fiber, Receptacle Collimators and Focusers

Collimators and Screw-on Focusers; Wavelength UV to IR; Focal Length 10 mm to 76 mm; Single Mode & Multi Mode Fibers,

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LightPath® Fiber Optic Collimators

LightPath Fiber Optic Collimators are used to collimate/focus light exiting a fiber to a desired beam

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Collimation / Coupling

Thorlabs offers a variety of fiber collimation and coupling solutions. FiberPorts can be used to provide a

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FC/PC Adjustable Aspheric Collimators

Thorlabs' Adjustable Focus FC/PC Collimators consist of a spring-loaded, AR-coated aspheric lens mounted inside a stainless steel

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Fiber Collimators-CASTECH INC. _A Leading Photonics Solutions

The non-expanded beam collimator, composed of an optical fiber and a focusing lens, is usually used for beam collimation or

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Fiber Optic Collimators | MEETOPTICS Academy

Figure 1: Fiber Collimator to collimate (top) or refocus (bottom) a laser beam propagating from the tip of an FC/APC, FC/PC, or SMA

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Compact Fiber Collimator Specification

Compact Fiber Collimator Specification Fiber collimator reduces the divergence angle of the light output from an optical fiber. Fiber

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Producing spots by adjusting the fiber collimator

For spots < 10 times the mode field MFD of the fiber, a good quality spot can no longer be achieved by simply refocusing the

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Fiber Collimators – lens, collimated beam, focal length,

Commercially offered collimators may offer several directional adjustments, e.g. through knobs or screws.

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Fiber Optic Collimator, Adjustable Focus, Spherical Lens, FC or

OVERVIEW The FC-SL-X-AFY fiber collimator is designed to accept FC/PC or SMA905 type fiber connectors and collimate light

Sep 13, 2025

Structural design of adaptive fiber optics collimators

The adaptive fiber-optics collimator (AFOC) is a kind of passive fiber-optics device with the capability of fast and

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Fiber collimators & fiber couplers | asphericon

Optimized laser fiber coupling and fiber collimation asphericon's adjustable fiber collimators / fiber couplers ensure perfect alignment

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Large Fiber Collimators

Our adjustable focus collimators can replace 3 or 4 fixed wavelength collimators. You can optimize collimation to your operating

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OZ Optics Fiber Optic Patchcords and Collimators with Adjustable Focus

OZ Optics Fiber Optic Patchcords and Collimators with Adjustable Focus OZ Optics offers a complete line of fiber collimators and

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LBTEK-Adjustable-Focus Collimator

Adjustable focus collimators provided by LBTEK feature a compact structure that simplifies free-space laser-to-fiber coupling. With

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Collimators and Focus Guides | Molex

Can the collimator and focus guide be used in conjunction with one another? Yes, our proprietary design allows you to collimate the

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Adjustable Fiber Optic Collimators

Our adjustable fiber optic collimators allow the user to vary the beam for best collimation at the wavelength

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Adjustable Fiber Collimators-JCOPTIX MALL

The adjustable focus fiber collimator provided by JCOPTIX consists of three parts: an external stainless

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Fiber Collimator / Focusers

Our Fiber collimators / focusers are designed for laser applications which require pure Gaussian beam.

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Achromatic Fiber Couplers and Fiber Collimators

Achromatic Fiber Couplers (Fiber Ports) and Fiber Collimators all designed for coupling multiple wavelengths into single-mode and

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Fiber Optic Collimators / Focusers — Brimrose Corp.

Brimrose offers a complete line of high performance collimators and focusers designed to collimate or focus light exiting from a fiber

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Optical transmission characteristics of Large-tolerance Fiber ...

As the main internal structure of FORJ, fiber collimators are mainly used to realize the collimation transmission of

Contact Us

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