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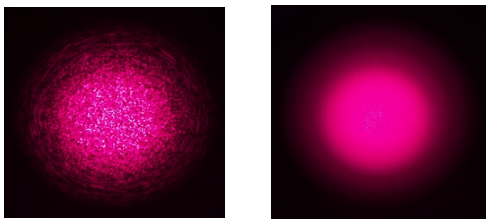
IN-LINE MULTIMODE FIBER SPECKLE HOMOGENIZER

Features

- Over 90% speckle contrast reduction
- In-Line fiber device- zero optical loss
- Plug-and-play integration
- Supports a wide range of wavelengths and optical power levels
- Low power consumption
- USB type C power input
- Compact enclosure- OEM Integration and Laboratory use

More than 90% speckle reduction

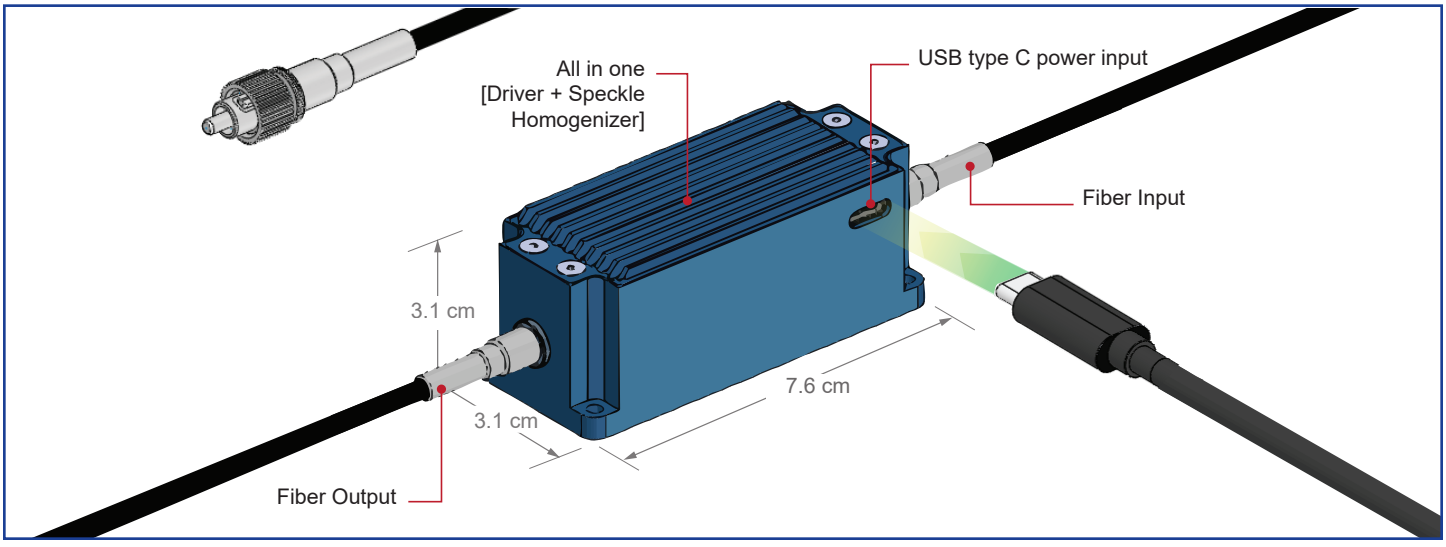


Applications

- Medical endoscopic and optical coherence imaging
- Flow cytometry and DNA sequencing
- Interferometry and Fluorescence Microscopy
- Bioanalytical instrumentation
- Machine vision and laser projection
- Speckle reduction in fiber-delivered laser systems

Product Description

This high-performance optical Speckle Homogenizer is designed to significantly reduce speckle noise in multimode fiber laser systems. Its compact, plug-and-play design integrates both the optics and driving electronics within a single enclosure, simplifying installation and system integration. By delivering high-efficiency speckle suppression in an all-in-one in-line format, it enables superior imaging quality and system reliability across a broad spectrum of applications. With unmatched versatility, it is the go-to solution for optical engineers and system designers looking to unlock the full potential of multimode fiber imaging technology.

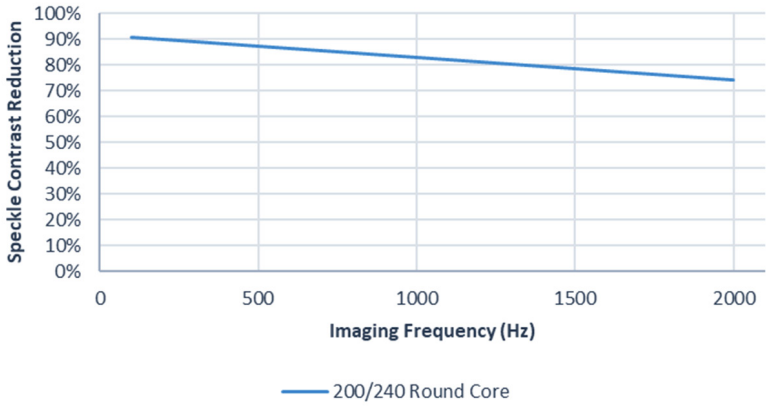


Optical and Electrical Specifications

Part number: FHOM-11-IRVIS-200/240-QM-33-3A-1	
Parameter	**Typical Value**
Wavelength	400 nm – 1550 nm
Fiber core size	100 µm – 400 µm
Fiber core type	Round, Square, Hexagonal
Power Input	Standard USB port C 5V DC, 0.5A
Dimensions	7.6 x 3.1 x 3.1 cm
Weight	130 g

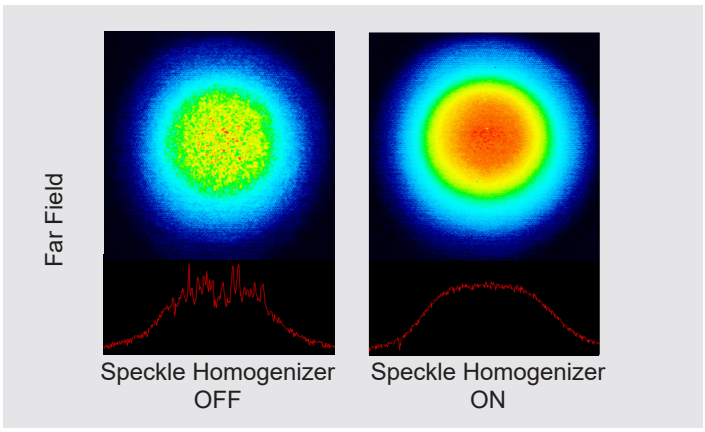
Customizable fiber and connector types
See Oz Standard tables https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf or Contact Us

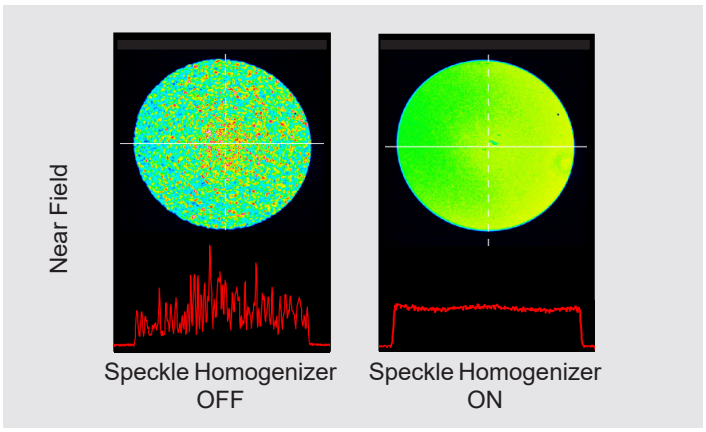
Improvement in Speckle Contrast



$$C(Speckle\ Contrast) = \frac{\sigma(standard\ dev\ of\ intensity)}{I(average\ intensity)}$$

200/240 µm Round Core Fiber at 635 nm Wavelength and 100Hz Frequency





Speckle Homogenizer

FHOM-11-W-a/b-F-XY-JD-L

W: For multimode fibers specify either IRVIS for visible and infrared applications (400–2000 nm), or UVVIS for ultraviolet and visible applications (200–700 nm)

a/b: = Fiber core and cladding diameters, in microns: See tables 1 to 5 of the Standard Tables for standard fiber sizes. https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf

F: Fiber Type:
M = Multimode fiber
QM = High power multimode fiber

XY: = Input and Output Connector Types: Refer to Table 6 of the Standard Tables Data Sheet DTS0079. https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf

JD = Jacket Diameter:
3 = 3 mm OD PVC loose tube with Kevlar
3A = 3 mm OD armored
3AS = 3 mm OD stainless steel armored
5A = 5 mm OD armored
5AS = 5 mm OD stainless steel armored
See table 7 of the Standard Tables for drawings
https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf

L: Patchcord length, in meters

Example: FHOM-11-IRVIS-200/240-QM-33-3A-1