Fiber Optic Retroreflector

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Agiltron Fiber Optic Retroreflector is designed to reflect light input backward through the fiber. Our retroreflectors are available with single mode (SM), polarization-maintaining (PM), or multimode (MM) fiber. A specially made mirror is used in our device that achieves high reflection up to 99% and high optical power handling up 5W.

Applications

- Fiber Interferometer
- Fiberoptic Sensor
- Fiber Instruments

Features

- Low Insertion Loss
- High Power
- High Reliability
- Low Cost
- Environmental Stability

Specifications

Parameter	Min	Typical	Max	Unit
Central Wavelength (λc)	630		2200	nm
Typical Spectral Width (Δλ)	± 30		± 50	nm
Typical Insertion Loss (λc, 23°C, no connector)	0.35		2	dB
Polarization Extinction Ratio (PM Fiber)	18		30	
Reflection Percentage	96		99	%
PDL (λc, 23°C)	≤ 0.10			dB
Operating Temperature	-5		+70	°C
Storage Temperature	-40		+85	°C
Optical Power Handling	0.2		5	W
Package Dimensions	∅5.5 x L35			mm

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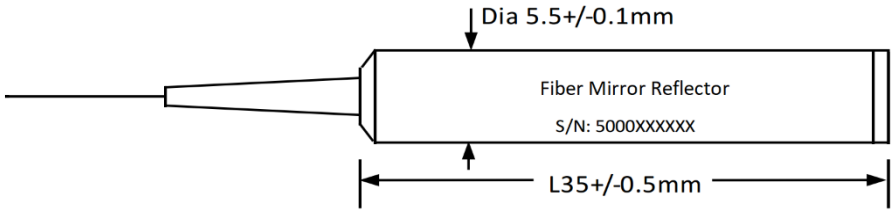
Dimensions (mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information (Part Number)

	☐	☐	☐☐	☐	☐☐	☐	☐	☐
Prefix	**Type**	**Wavelength**	**Reflection**	**Package**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector [1][2]**
FOMR-	Regular = R High Power = H	1064nm = 1 1310nm = 3 1550nm = 5 1800nm = 2 850nm = 8 780nm = 7 980nm = 9 650nm = 6 460nm = 4 Special = 0	100% = 11 10% = 10 20% = 20 Special = 00	ø5.5x35 = 2 ø3.5x15 = 1 Special = 0	Choose from table below Special = 0	900µm Tube = 3 Bare Fiber = 1 Special = 0	0.25m = 1 0.5m = 2 1.0m = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/UPC = U Special = 0

[1]. Regular fiber connector has PER ~22dB. Connector with PER >27 dB is available using special process

[2]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.

Fiber Type Selection Table:

01	**SMF-28**	34	**PM1550**	71	**MM 50/125µm**
02	**SMF-28e**	35	**PM1950**	72	**MM 62.5µm**
03	**Corning XB**	36	**PM1310**	73	**105/125µm**
04	**SM450**	37	**PM400**	74	**FG105LCA**
05	**SM1950**	38	**PM480**	75	**FG50LGA**
06	**SM600**	39	**PM630**	76	**STP 50/125**
07	**Hi780**	40	**PM850**		
08	**SM800**	41	**PM980**		
09	**SM980**	42	**PM780**		
10	**Hi1060**	43	**PM350**		
11	**SM400**	44	**PM405**		
12	**SM780**	45	**PM460**		
13		46			

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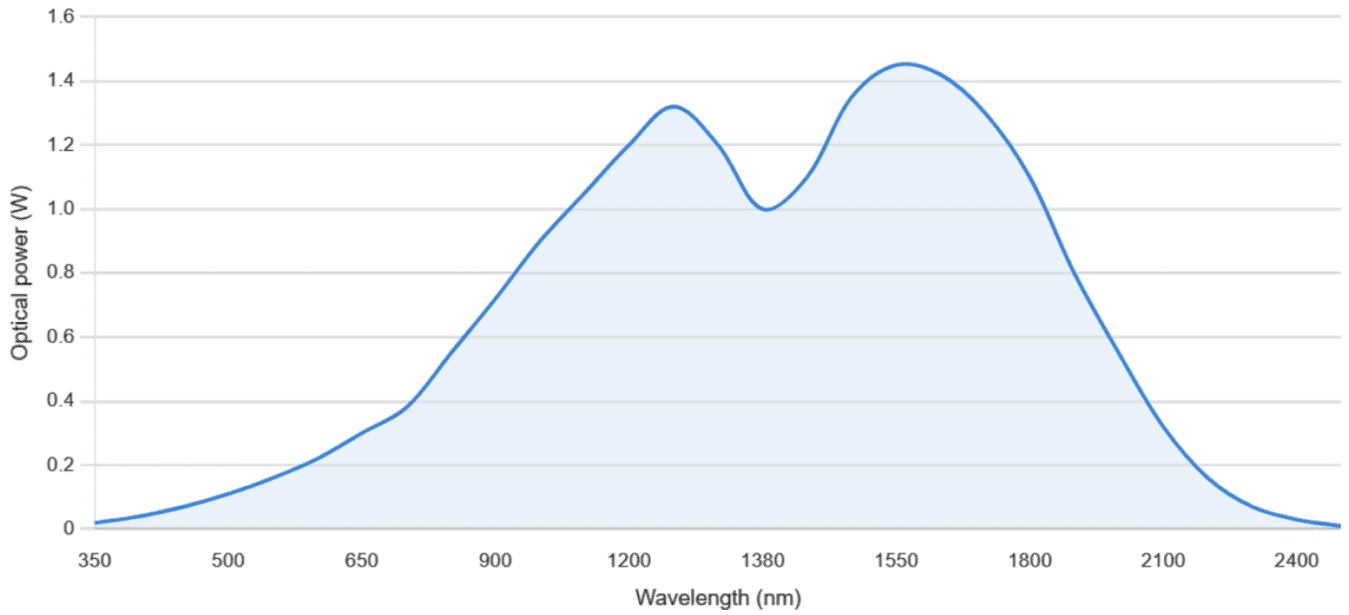
Regular Single Mode / Polarization Maintaining Fiber Optical Power Handing vs Wavelength



Single mode fiber optical power is limited by nonlinear effects in addition to absorption that increase loss and generate heat. The curve shows the approximate safe CW power envelope for standard single-mode fiber. Actual limits depend on fiber design, core size, length, and laser characteristics. Specialty fibers can significantly increase the power limit.

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