

# High Power Fiber Inline Polarizer

(up to 300W, all fiber types)



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The High Power Fiber In-line Polarizer is designed to pass light with one specific polarization while blocking the other polarization. It can be used to convert no-polarized light into polarized light with high extinction ratio. It can also be used to enhance the extinction ratio of signals with its polarization properties. We offer all possible fiber coupling combinations: PM to PM, SM to PM, SM to SM. It has a third port to guide the unwanted light out. Our design minimizes component assembly costs and module footprint while increasing stability over a wide temperature and wavelength ranges.

## Features

- Low Cost
- All Wavelength
- All Fiber Type
- Compact Design

## Applications

- Laser
- Device
- Instruments

## Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	450		2300	nm
Wavelength Bandwidth	-40		+40	nm
Insertion Loss <sup>[1]</sup>		0.5	1	dB
Polarization Extinction	28	30	33	dB
Optical Power Handling <sup>[2]</sup>			200	W
Return Loss	50			dB
Operating Temperature	-10		75	°C
Storage Temperature	-40		85	°C

**Note:**

- [1]. Insertion Loss excluding connectors
- [2]. For fiber core size > 7µm

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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	Wavelength	Package	Input Fiber	Output Fiber <sup>[1]</sup>	Power	Third Port	Fiber Cover	Fiber Length	Connector <sup>[2]</sup>
<b>FILP-</b>	1060 = 1 1310 = 3 1420 = 4 1550 = 5 980 = 9 850 = 8 780 = 7 650 = 6 550 = W Special = 0	Special = 0	SM28 = 1 PM1550 = 2 PM1310 = 3 Hi1060 = 6 Special = 0	PM1550 = 1 PM1310 = 3 PM1060 = 6 Special = 0 SM28 = 1	5W = A 10W = 1 20W = 2 30W = 3 40W = 4 50W = 5 60W = 6 70W = 7 80W = 8 90W = 9 Special = 0	SM28 = 1 PM1550 = 2 PM1310 = 3 Hi1060 = 6 Special = 0	900umTube = 3 3mm tube = 4 Special = 0	0.25m = 1 0.5m = 2 1.0 m = 3 1.5 m = 5 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 LC/PC = 7 LC/UPC = U Special = 0

[1]. PM1550 fiber works well for 1310nm and lower cost

[2]. The connector cannot be installed directly onto bare fiber, as it 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 can remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SM28 fiber and decreases further with smaller core fibers.

Red is special orders

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## Application Notes

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### Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

### Fiber Cleanliness

Fibers with smaller core diameters ( $<5 \mu\text{m}$ ) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

### Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the handling by expanding the core side at the fiber ends.