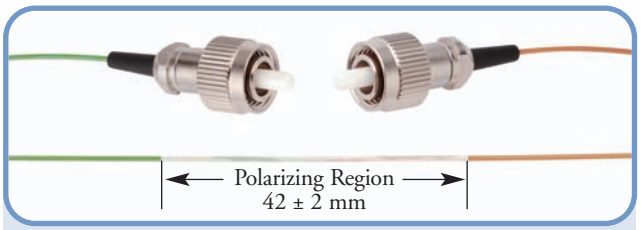
For current pricing, please see our website.

In-Fiber Linear Polarizers

Thorlabs offers these unique in-fiber, linear polarizers, which are manufactured by Chiral Photonics using their proprietary chiral technology. The all-glass in-fiber polarizer provides an extinction ratio in excess of 30 dB over broad spectral and operating temperature ranges. Chiral fibers are made by twisting rectangular core fibers in order to create a double-helical core structure. This double-helical structure causes light with the same handedness as the fiber to be scattered out of the core, while light with opposite handedness propagates through the core in the twisted region of the fiber.



Polarizers without connectors or with other connector styles are available upon request.

(This choice is arbitrary as the device is bi-directional)

Chiral Photonics

Region 1

Light with vertical and horizontal states of polarization is transformed through states of elliptical polarization into orthogonal states of circular polarization.

- For the devices with PM Fiber, the light coupled into the slow axis of the fiber is transformed into a circularly polarized state that has a handedness opposite of the chiral structure so that it stays in the core.
- For the devices with PM fiber, the light coupled into the fast axis of the fiber is transformed into a circularly polarized state that has the same handedness as the chiral structure so that it is scattered from the core

Region 2

Light with the same handedness as the core is scattered out of the fiber, while light with the opposite handedness propagates through the core.

Region 3

The light emerging from Region 2 is transformed back into a linearly polarized state

- For the devices with PM fiber, the linearly polarized state is coupled into the slow axis of the fiber.

Features

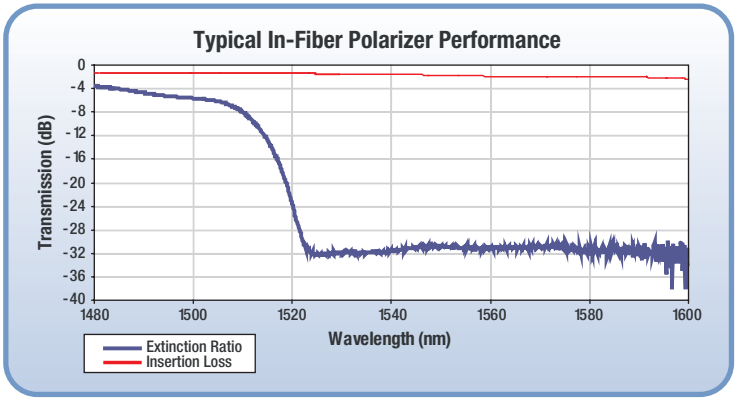
- Passive Fiber Component
- All-Fiber Technology
- Bi-Directional
- Low Loss (<2 dB)
- Wide Wavelength Range (>50 nm)
- Damage Threshold is Not Limited by Polarization Region

Applications

- Polarization Measurement and Control
- Coherent Transmission
- Optical Sensors
- Test and Measurement Instrumentation
- Navigation Instrumentation
- R & D Optical System

SPECIFICATIONS	
Center Wavelength	980 nm, 1064 nm, 1310 nm, 1550 nm
Bandwidth	>50 nm
Extinction Ratio (ER)	>20 dB
Intrinsic ER	>40 dB
Insertion Loss	<2 dB
Polarizer Length	42 ± 2 mm
Package Style	Stainless steel microtubing beneath 900 µm furcation tubing protects device over 280 mm central portion. Entire device is flexible/bendable to 1" radius.
Pigtails	Panda PM* or SM**, 1 m long
Operating Temperature	-40 to 85 °C
Storage Temperature	-70 to 85 °C

*Polarization-Maintaining Fiber **Single Mode Fiber



ITEM #	$	£	€	RMB	CONNECTORS	DESCRIPTION
IFP980PM-FC*	$ 400.00	£ 288.00	€ 348,00	¥ 3,188.00	FC/PC	In-Fiber Polarizer, 980 nm, PM/PM Pigtails, FC/PC Connectors
IFP1064PM-FC*	$ 400.00	£ 288.00	€ 348,00	¥ 3,188.00	FC/PC	In-Fiber Polarizer, 1064 nm, PM/PM Pigtails, FC/PC Connectors
IFP1310PM-FC*	$ 400.00	£ 288.00	€ 348,00	¥ 3,188.00	FC/PC	In-Fiber Polarizer, 1310 nm, PM/PM Pigtails, FC/PC Connectors
IFP1550PM-FC*	$ 400.00	£ 288.00	€ 348,00	¥ 3,188.00	FC/PC	In-Fiber Polarizer, 1550 nm, PM/PM Pigtails, FC/PC Connectors
IFP1550SM-FC*	$ 380.00	£ 273.60	€ 330,60	¥ 3,028.60	FC/PC	In-Fiber Polarizer, 1550 nm, SM/SM Pigtails, FC/PC Connectors

*Slow axis aligned to key