

Optical Fiber Depolarizer

750nm to 2000nm, DOP<5%, IL<1dB



The Optical Fiber Depolarizer is a passive all-fiber device to render a polarized input into a random polarization output, featuring low cost, high reliability, and high power handling. However, the performance is related to the input laser wavelength and light linewidth. We perform design optimization according to the laser characters. This type of depolarizer is more suitable for volume production for a specific laser. The operation is based on Lyot depolarizer's principle by splitting and transiting different optical paths to the output, where they are recombined with differential time delays between the two orthogonal polarization states. We produce two types of depolarizers: Polarization-sensitive type, in which the input polarization is linear along the axis of a PM fiber. These devices are uni-directional. Arbitrary type in which the input polarization is unknown and/or varies with time. These devices are bi-directional. For both categories, the output fiber is SMF by default.

Note: This product does not work for narrow-line lasers. This product requires the customer to send the laser to us to tune; otherwise, it may not work.

Features

- Low Loss
- Low Cost
- Low Degree of Polarization
- High Reliability
- High Power Handling
- Wide Temperature Operation

Applications

- Laser System
- Sensor Systems
- Instruments

Specifications

Parameter	Min	Typical	Max	Unit
Center Wavelength	750		2200	nm
Wavelength Range (\pm center)		50		nm
Insertion Loss ^[1]	0.4	0.7	1	dB
Return Loss	55	70		dB
Source Linewidth ^[2]	0.1			nm
Degree of Polarization ^[3]			5	%
Residual Extinction Ratio	0.2			dB
Operating Temperature	-40		70	°C
Storage Temperature	-40		85	°C
Optical Power Handling		5		W

Notes:

[1]. Without a connector, each connector adds 0.25dB

[2]. The DOP is dependent upon the source spectrum, please select when placing the order.

BB – Broadband sources such as ASE, SLD, ELED

NB – Laser sources with linewidths from 0.1nm

RM – Raman pump source laser

[3]. The DOP increases as wavelength increasing. Across the specified band the DOP is within 5%

Optical Fiber Depolarizer

750nm to 2000nm, DOP<5%, IL<1dB



Mechanical Dimensions (mm)

Ordering Information

Prefix	Input Light	Wavelength	Type	Package	Input Fiber	Fiber Protection	Connector
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FDPO-	Broadband = BB Narrowband = NB Raman = RM	1550nm = 1 1310 = 2 1060nm = 3 850nm = 8 980nm = 9 780nm = 7 Special = 0	Regular = 1 Special = 0	Box = 1 Coil = 2 Special = 0	PM1550 = 1 PM1310 = 3 PM 1060 = 2 PM 980 = 9 PM 780 = 7 SM28 = 5 Hi1060 = 6 Hi980 = 8 Special = 0	Bare = 1 0.9mm Tube = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

Red color for special order

NOTE:

- PM1550 fiber works well for 1310nm