

Superior Performance Fiber Optic Depolarizer

All fiber Lyot type device producing pseudo random polarization

Product Overview

The depolarizer is an all-fiber Lyot type device producing pseudo-random polarization output, with low degree of polarization (DOP), for any input state of polarization (SOP).

The depolarizer is a passive device utilizing the coherence properties of the source to randomize the SOP. For optimum performance, the depolarizers are designed to match the source spectrum and will meet the differing requirements of optical sources from broadband ASE's to high power amplifier pump lasers.

High Performance Range

There are two options within the high performance range of depolarizers, both offering superior specification to the standard range of depolarizers. Targeted at measurement applications in which the lowest possible degree of polarization is required, these wideband devices are designed to operate over a large bandwidth of telecommunications wavelengths and provide <1% DOP. For specific requirements, please contact us.



Features

- Extremely low DOP
- Low insertion loss
- Near zero back reflection
- All-fiber construction
- Wide wavelength operating range

Applications

- Optical source polarization randomization
- ASE, SLD, and ELED sources
- Polarization measurement systems
- Fiber optic gyroscopes
- Optical fiber sensor system

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| Wavelength range ¹ | 1280nm - 1640nm |
| Residual extinction ratio ² | <0.1 dB |
| Degree of Polarization ³ | <1% |
| Insertion loss ⁴ | <0.5dB |
| Return loss ⁵ | >70dB |
| Source linewidth ⁶ | >5nm |
| Operating temperature range ⁷ | -5°C to 70°C |
| Transportation/storage ⁸ | -40°C to 85°C |
| Input Fiber type | SMF28 / PANDA/BOW TIE (PM) |
| Output Fiber type | SMF28 / PANDA/BOW TIE (PM) |
| Pigtails | 1m fiber standard, 900um loose tube optional |

| Dimensions (mm) LxWxH | | | |
|-----------------------|--------------|--------------|--------------|
| BB | 150x95x10 | 150x95x10 | 150x95x10 |
| LS | 160x103x35.5 | 160x103x35.5 | 160x103x35.5 |
| RM | N/A | 150x95x10 | 150x95x10 |

Notes to Specifications:

All specifications are worst case for the wavelength range.

All depolarizers are individually tested.

- 1. The devices will provide depolarization over a wide wavelength range for which the fiber is single mode.*
- 2. The residual extinction ratio (RER) is measured for each device during manufacture to ensure specification.*
- 3. The DOP varies with wavelength increasing at longer wavelengths. Across the specified band the DOP is within the specified value.*
- 4. Linewidths of 1nm - 5nm can be accommodated, please contact our sales representative.*
- 5. The operating temperature range is specified for typical telecommunications operation. Please discuss with the sales representative if operation outside the specified range is required.*
- 6. The devices are very robust for storage and transportation.*

Ordering Code

