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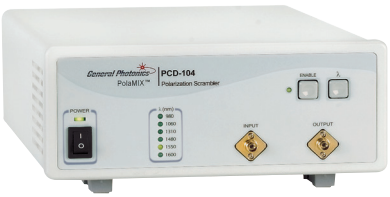
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Polarization Scrambler - PolaMix™ (PCD-104)



General Photonics' Polarization Scrambler uses a breakthrough all-fiber technology to effectively randomize polarization states. Depolarizing by polarization scrambling has many important applications. Scrambling the input polarization can eliminate measurement uncertainties caused by the polarization sensitivity of the testing device. Performance degradation due to polarization dependent gain (PDG) induced in optical amplifiers can also be suppressed by polarization scrambling. In addition, polarization scrambling can be used in systems to facilitate and simplify PMD monitoring. Based on a patented, award-winning all-fiber technology, the PCD-104 delivers superior performance, including extremely low insertion loss, back reflection, and residual phase and amplitude modulation.

Specifications:

Insertion Loss[1]	< 0.05 dB (without connectors) < 0.6 dB (with connectors)
Center Operating Wavelength[2]	λ range 1: 1310, 1480, 1550, 1600nm λ range 2: 980, 1060, 1310nm
Operating Wavelength Range[3]	> 100 nm
Output Degree of Polarization[4,5]	< 5%
Average PMD	< 0.05 ps
Intrinsic PDL	< 0.05 dB
Optical Return Loss	> 65 dB (without connectors)
Optical Power Handling	> 1000 mW
Residual Amplitude Modulation	< ±0.01 dB
Residual Phase Modulation	< 0.1π
Power Supply	100 – 240 VAC, 50 – 60 Hz
Power Consumption	12 W typical
Scrambling Frequencies[4]	Factory set 4 fixed frequencies distributed between DC and > 700 kHz
Communication Interfaces	RS-232, Ethernet, GPIB
Operating Temperature	10 to 45 °C
Storage Temperature	-10 to 50 °C
Dimensions	2U, 19" half rack width, 14" (L) x 8.5" (W) x 3.5" (H)

Notes:
1. For SMF-28 compatible fiber. Other fibers may have higher loss, especially wtih connectors.
2. Please note that the fiber used determines the operating wavelength range. The standard fiber covers wavelengths in the 1260 to 1620 nm range. The PCD-104 can also be configured to cover the 980 to 1310 nm range using a different fiber. This fiber can handle wavelengths up to 1650nm, but if it is coupled to SMF-28 fiber, the performance may not be quite as good as normal due to mode mismatch. Please contact General Photonics for details.
3. Center wavelength ±50 nm.
4. At 500Hz detection bandwidth.
5. Measured by a photodetector at the PCD-104 output using a spectrum analyzer. A polarizer is placed in front of the photodetector to convert polarization modulation to amplitude modulation.

Features:

- Minimal Insertion Loss and Back Reflection
- Low Residual Phase and Amplitude Modulation
- Built-in RS-232,GPIB and Ethernet ports
- Remote Operation Wavelength Control

Applications:

- PDG Mitigation
- Elimination of Polarization Sensitivity
- Facilitating PMD Emulation
- Facilitating PMD Compensation
- Facilitating PDL Measurement

Related Products:

- Polarization Scrambler Modules (PCD-003, PCD-005)
- Rack Mount Kit (RCK-001)
- Components

Tech Info:

- Scrambling to Minimize Polarization Related Impairments

FAQ:

- Scramblers

Ordering Information:

PCD — 104 — □ — □

Wavelength Range:
1 = 1260 - 1620nm
2 = 980 - 1310nm

Connector Type:
FC/PC, FC/APC,
SC/PC, SC/APC
Others specify

Note:
See PCD-005 spec sheet for typical performance data.

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