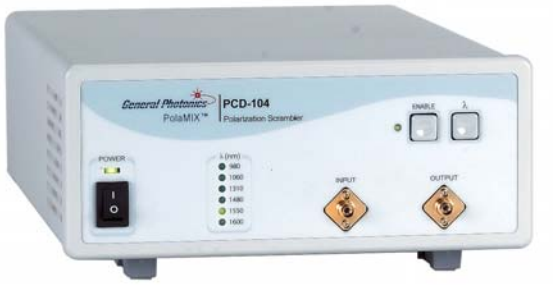
Polarization Scrambler

PolaMIX™

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 to facilitate and simplify PMD monitoring or to measure the PDL of optical components and systems. 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

Fiber Input Connector	FC/PC, FC/APC, SC/PC or SC/APC
Fiber Output Connector	FC/PC, FC/APC, SC/PC or SC/APC
Insertion Loss	< 0.05 dB (without connectors) < 0.6 dB (with connectors)
Center Operating Wavelength[1]	Remote or manual selection of 980nm, 1060nm, 1310nm, 1480nm, 1550nm, 1600nm
Operating Wavelength Range [2]	> 100 nm
Output Degree of Polarization	< 5% [3, 4]
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	< 0.1 π
Power Supply[5]	100-120 VAC, 50-60 Hz or 200-240VAC, 50-60 Hz
Power Consumption	Typical 12W
Scrambling Frequencies	Factory set 4 fixed frequencies Distributed between DC to >700 KHz [4]
Operating Temperature	10 °C to 45 °C
Storage Temperature	-10 °C to 50 °C
PC Interface	RS-232, Ethernet, GPIB
Dimensions	2U, 19" half rack, width 3.5" (H) × 8.5" (W) ×14" (L)

Notes:

1. Please note that the fiber used determines the operating wavelength range. The standard fiber covers wavelengths in the 1260-1650nm range. The PCD-104 can also be configured to cover the 970-1300nm 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.
2. Center wavelength ±50 nm.
3. At 500 Hz detection bandwidth.
4. Measured from a photo detector at PCD-104 output using a spectrum analyzer. A polarizer is placed in front of photodetector to convert polarization modulation to amplitude modulation.
5. Universal power supply.

Applications:

- PDG mitigation
- Elimination of polarization sensitivity
- Facilitating PMD emulation
- Facilitating PMD Compensation
- Facilitating PDL measurement

Unique Features:

- No insertion loss & no back reflection
- Low residual phase and amplitude modulation
- Built-in RS-232, GPIB, and Ethernet ports
- Remote operation & wavelength control

Ordering Information:

PCD – 104 – XXX – X

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

Wavelength Range:
1 = 1260-1650
2 = 970-1300

Making Light Work Lighter
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