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Polarization Modules for Communications and Sensor Systems

High-Speed Polarization State Generator – PolaPal™

General Photonics' high-speed polarization state generator (PSG) module provides the ability to generate 6 states of polarization (-45°, 0°, 45°, 90°, RHC & LHC) across the Poincaré Sphere in less than 250 μs, with an impressive repeatability of less than 0.1 degrees. In addition, it comes as a compact module ideal for integration into systems that require precise generation of these 6 polarization states or precise 90° polarization rotation. Applications include Mueller matrix-based measurements, polarization OTDR, performance monitoring, and swept frequency component measurement systems. The PSG is easily controlled with a 6-bit TTL signal either from a microcontroller or a computer.

Specifications:

Wavelength Range [1]	1480 to 1620 nm
Maximum Optical Power	300 mW min.
Insertion Loss	1.0 dB typical
Insertion Loss Variation	0.1 dB max. for all SOP states
Wavelength Dependent Loss	0.3 dB typical across C band
Return Loss	55 dB min.
SOP Repeatability	± 0.1 degrees on Poincaré Sphere
Rotation Angle Wavelength Dependence	-0.068 deg./ nm
Rotation Angle Temperature Dependence	0.1 deg./ °C
Angle Between SOP States	90 ± 10 degrees on Poincaré Sphere
Transient Loss	0.6 dB per bit max.
Number of Control Bits	6
SOP Switching Speed	250 μs max.
Electrical Interface	10-pin digital port to accept any 6 bit TTL control signal, with +12 V power supply
Software	None
Operating Temperature	0 to 50 °C
Storage Temperature	-40 to 80 °C
Board Dimensions	135 (L) x 70 (W) x 23 (H) mm

Note: Values are referenced without connectors.
1. Calibrated over 1500 to 1580 nm. Please contact General Photonics for information on other wavelength options.

Features:

· Digitally Switched SOP
· Switching Speed 250 μs or less
· 0.1 degree SOP Repeatability
· 6-bit TTL Control
· Compact

Applications:

· Polarization OTDR
· Polarization Rotation
· Mueller Matrix-based Polarization Analysis
· Swept-Frequency Measurement

Ordering Information:

PSG — 001 — ☐☐ — ☐☐☐

Wavelength:
15 = 1550 nm

Connector Type:
FC/PC
FC/APC

AInnoTech
(주)에이이노텍

FiberAll
www.FIBERALL.co.kr
광통신 전문 쇼핑몰! 파이버올!

www.AINNOTECH.com
Email: korea@ainnotech.com
TEL:02.409.3222 FAX.02.409.3229
서울시 송파구 가락동 10-9 현성 B/D 2F