

ACTIVE POLARIZATION MODULES

**High-Speed Polarization State Generator - PolaPal™
(PSG-001)**



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	1480 to 1620 nm ¹	1260 to 1340nm
Insertion Loss	1.0 dB typical	1.2 dB typical
Wavelength Dependent Loss	0.3 dB typical across C band	< 0.3 dB
Maximum Optical Power	300 mW min.	
Insertion Loss Variation	0.1 dB max. for all SOP states	
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	5.30" (L) x 2.74" (W) x 0.75"(H)	
<p>Note: Values are referenced without connectors.</p> <p>1. Calibrated over 1500 to 1580 nm. Please contact General Photonics for information on other wavelength options.</p>		

Features:

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

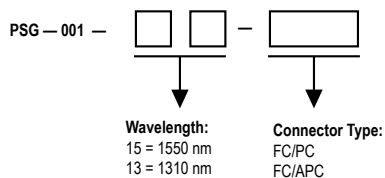
Applications:

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

Tech Info:

- What is Polarization?
- High accuracy polarization measurements using binary polarization rotators
- Highly Repeatable All Solid-State Polarization State Generator
- Self-calibrating Binary Polarization Analyzer

Ordering Information:



Dimensions (in inches):

