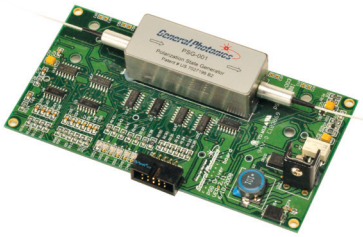
# High-Speed Polarization State Generator – PolaPal™



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 | 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) | |

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

Tech Info: pp. 148, 167, 170

## Applications:

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

## Ordering Information:

PSG – 001 – □ □ – □

Wavelength:
15 = 1550 nm
13 = 1310 nm

Connector Type:
FC/PC
FC/APC

## Dimensions (in inches):