INSTRUMENTS

POLARIZATION MANAGEMENT MODULES

TIMING/DELAY MANAGEMENT MODULES

SPECIAL POLARIZATION COMPONENTS

ACCESSORIES
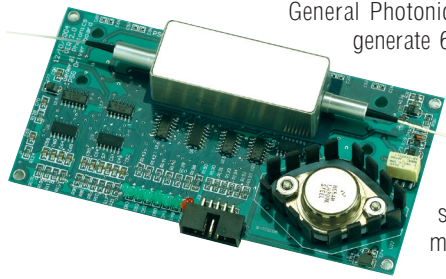
APPLICATION GUIDE

FAQS

POLARIZATION MANAGEMENT MODULES

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 - 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 +12VA power supply
Software	None
Operating Temperature	0 ~ 50 ˚C
Storage Temperature	-40 ~ 80 ˚C
Board Dimensions	135 (L) x 70 (W) x 23 (H) mm

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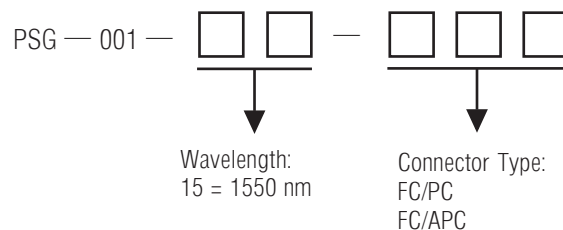
Features:

· 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

Tech Info: pp. 106, 109, 119, 152

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