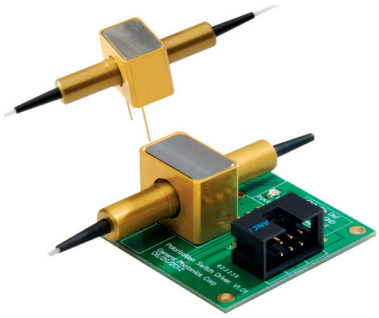
Polarization Submodules

Polarization Switch – PolaSwitch™



General Photonics' all solid-state polarization switch can quickly and repeatably rotate the SOP of incoming light by a fixed angle, either 45 or 90 degrees. Both single mode and PM fiber pigtailed versions are available. With the PM option, the device functions as a TE to TM converter, switching the SOP between being aligned with the slow and fast axes of the PM fiber, or between the slow axis and 45 degrees from the slow axis. With the SM option, the device simply rotates the polarization ellipse either 45 or 90 degrees. The device can be used for polarization sensitive OCT, polarization sensitive OTDR or OFDR, PMD monitoring, polarization modulation, polarization detection, and polarization metrology.

Specifications:

Operation Wavelength	1550 ± 30nm or 1310 ± 30nm
Polarization Rotation (at λc, 23° C)	45 ± 0.5° or 90 ± 0.5°
Polarization Rotation (All Wavelengths, All Temp.)	45 ± 5° or 90 ± 5°
Rotation Angle Temperature Dependence	-0.1 degree / °C for 45° version -0.2 degree / °C for 90° version
Insertion Loss	< 0.5 dB
Return Loss	> 55 dB
Switching Current	< 130 mA
Switching Voltage	2.5 V
Latching Current	~ 80 mA
Latching Voltage	1.5 to 2 V
Switching Time	100 μs typical
Extinction Ratio[1]	> 18 dB for PM model
Operating Temperature	0° to 50 °C
Storage Temperature	-40° to 85 °C
Fiber Type	PM Panda, SMF-28 or compatible
Dimensions	Optical head: 1.57" (L) x 0.69" (W) x 0.53" (H) Board: 1.50" (L) x 1.50" (W) x 0.58" (H)

Note: Values referenced without connectors.
1. Both output states of 90° PM PSW with input polarizer at 23 °C.

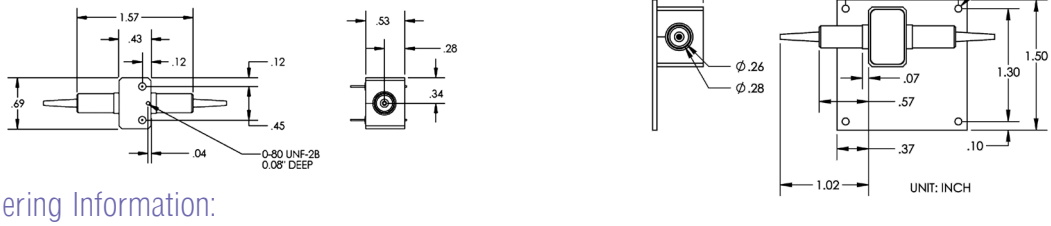
Applications:

- Polarization diversified detectors and sensors
- Polarization sensitive OCT
- Polarization metrology
- Polarization sensitive OTDR or OFDR
- PMD monitoring

Unique Features:

- Fast
- No moving parts
- Low insertion loss
- Compact

Dimensions (in inches):



Ordering Information:

PSW – 002 – □□ – □□ – □□ – □ – □ – □

Wavelength:	Polarization Rotation:	Fiber Type:	Input Polarizer (for PM PSW):	Connector Type:	Board:
15 = 1550 13 = 1310	90 = 90° 45 = 45°	SS = SM to SM PP = PM to PM	0 = no polarizer P = Input polarizer (slow axis)	FC/PC, FC/APC or NC = No Connectors Others specify	D = with driver board No character here if without driver board