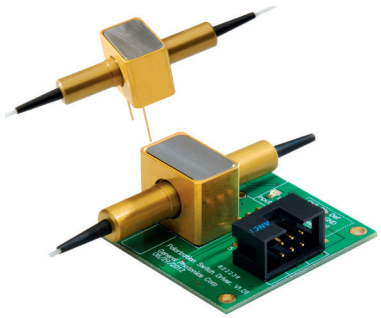
# Polarization Switch - PolaSwitch™ (PSW-002)



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. An optional driver board simplifies switch control by allowing the user to control the output SOP using TTL levels.

## Specifications:

| | |
|---|---|
| Operation Wavelength | 1550 ± 30nm or<br>1310 ± 30nm |
| Polarization Rotation<br>(at λc, 23° C) | 45 ± 0.5° or 90 ± 0.5° |
| Polarization Rotation<br>(All Wavelengths, All Temp.) | 45 ± 5° or 90 ± 5° |
| Rotation Angle Temperature Dependence | -0.1 degree / °C for 45° version<br>-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)<br>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.

## Features:

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

## Applications:

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

## Related Products:

- Polarization State Generator (PSG-001)
- Polarization Synthesizer (PSY-201)

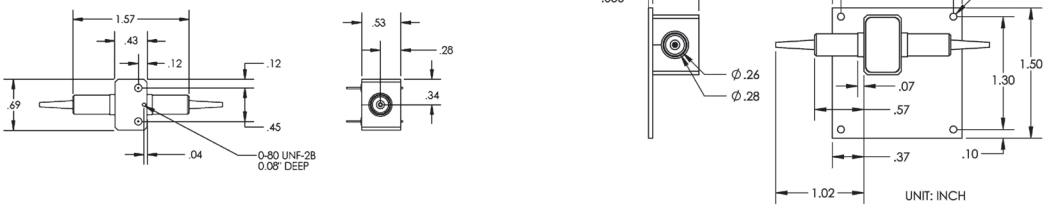
## Tech Info:

- What is Polarization?

## FAQ:

- Other products

## Dimensions (in inches):




## Ordering Information:

**PSW — 002 — □□ — □□ — □□ — □ — □ — □**

**Wavelength:**
15 = 1550
13 = 1310

**Polarization Rotation:**
90 = 90°
45 = 45°

**Fiber Type:**
SS = SM to SM
PP = PM to PM

**Input Polarizer (for PM PSW):**
0 = no polarizer
P = Input polarizer (slow axis)

**Connector Type:**
FC/PC, FC/APC or
NC = No Connectors
Others specify

**Board:**
D = with driver board
No character here if without driver board