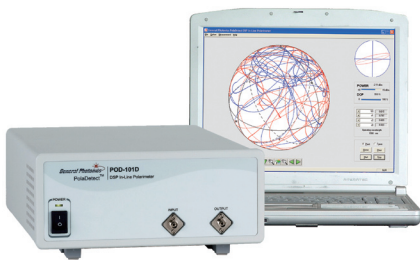


## DSP In-line Polarimeter – PolaDetect™



The POD-101D is a DSP (digital signal processor) powered in-line polarimeter specially designed for high-speed polarization analysis and monitoring. The instrument uses four channels to simultaneously obtain the four Stokes parameters and measure the instantaneous state of polarization (SOP) and degree of polarization (DOP) of an input light beam. A simple USB interface enables data to be transferred directly to a computer without the need for any additional hardware. Thanks to the high speed DSP electronics, this polarimeter easily monitors and analyzes fast polarization changes with a sampling rate of up to 625 kS/s. The POD-101D comes with PolaView™ software for real-time graphic display of polarization state either on a Poincaré Sphere window for viewing SOP traces or on an oscilloscope window for tracking polarization

changes over time. The oscilloscope window has three operation modes: continuous scan mode, for instantaneous display of various polarization parameters; external trigger mode, for capturing transient events; and long term monitoring mode, for recording only the polarization changes above a predetermined threshold, in order to save hard drive space. This instrument can be quickly and easily calibrated using its built-in self-calibration program to optimize DOP and SOP measurement and control at special wavelengths and temperatures. The POD-101D is ideal for PMD compensation, polarization stabilization, system polarization monitoring, polarization analysis, and sensor analysis.

### Specifications:

Operating Wavelength Range <sup>1</sup>	1480 - 1620 nm
Analog Bandwidth	100 kHz or 1 MHz
Sampling Rate	625 kS/s Max., user selectable
SOP Accuracy <sup>2</sup>	1% max.
DOP Accuracy <sup>2</sup>	± 2%
DOP Accuracy (self-calibrated)	± 1%
PER Measurement Range	0-40 dB
PER Resolution	0.1 dB
Insertion Loss	1.2 dB max. at 1550 nm
Return Loss	55 dB
PDL	< 0.25 dB
PMD	< 0.1 ps
Operating Power Range <sup>3</sup>	-35 dBm to +10 dBm
Optical Power Accuracy	± 0.25 dB
Optical Power Damage Threshold	300 mW
Operating Temperature	0 ~ 40 °C
Storage Temperature	-20 ~ 60 °C
Computer Interface	USB 2.0
Electrical Power Supply	100 - 120 VAC, 50 - 60 Hz or 200 - 240 VAC, 50 - 60 Hz
Software	PolaView™ (included)
Dimensions	2U 19" half rack width 3.5" (H) x 8.5" (W) x 14" (L)

Notes: Loss specifications are referenced without connectors.

1. Contact General Photonics regarding other wavelengths.

2. At calibrated wavelength, 64-pt average, power ≥ - 25 dBm for 100 kHz bandwidth or ≥ - 15 dBm for 1 MHz bandwidth.

3. Display spot on Poincaré Sphere will have solid angle < 2° for 64-pt average, with stationary input polarization.



## INSTRUMENTS

## DSP In-line Polarimeter – PolaDetect™

## Features:

- Up to 625 kS/s polarization sampling rate
- Analog bandwidth up to 1MHz
- Real-time Poincaré sphere display
- Continuous scan mode
- External trigger mode
- Long-term monitoring mode

## Applications:

- PMD monitoring and compensation
- SOP/DOP monitoring
- Polarization analysis
- Polarization stabilization
- Sensor systems
- Optical SNR monitoring/measurement

Tech Info: pp. 91, 157  
FAQ: p. 174

## PolaView™ Display Interfaces

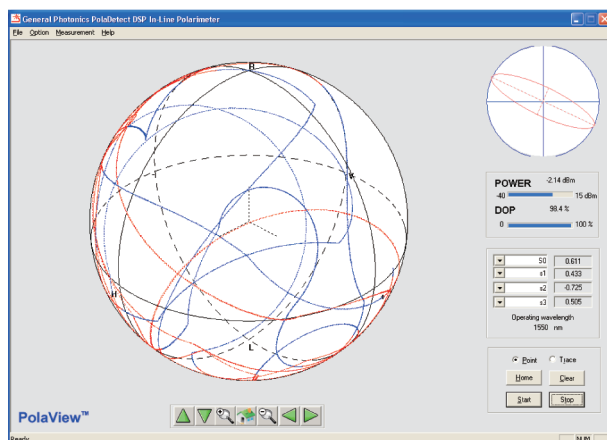


Figure 1. Poincaré Sphere display

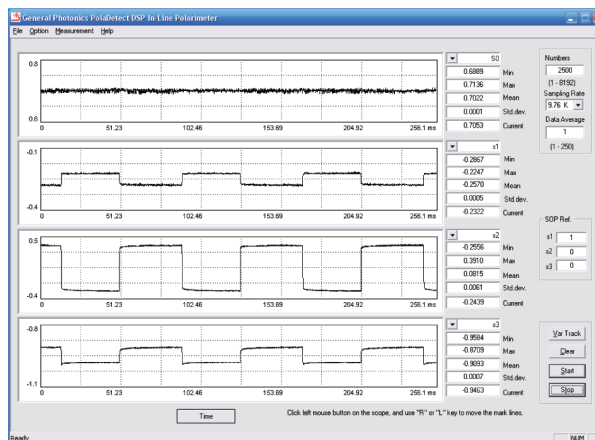
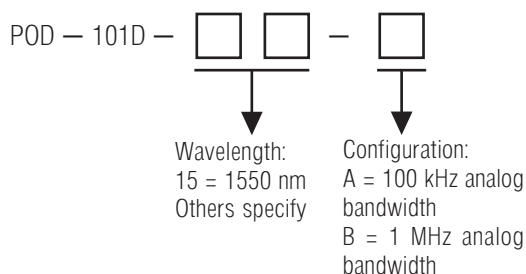


Figure 2. Oscilloscope display

## Ordering Information:



## Accessories:

NoTail™ Isolator p. 79  
NoTail™ Polarizer p. 78

Note: Please specify power supply and connector type when ordering.

