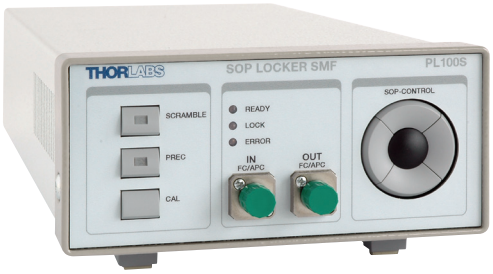
State of Polarization Locker



PL100S

Applications

- Deterministic Polarization Control and Locking
- Replacement for the Looped Fiber (Paddle) Controllers
- SOP Scrambler

The PL100S State of Polarization (SOP) Locker is a stand-alone in-line deterministic polarization controller. This benchtop device offers accurate high-speed, low-loss control of the output polarization state, independent of the input SOP. The SOP locker can be used as a stand-alone device or it can be controlled by a computer through a USB port. A USB cable and software drivers are included. Drivers for LabVIEW™ and LabWindows/CVI™ programming environments are included. Similar to the DPC5500 Deterministic Polarization Controller (page 1183), the PL100S SOP Locker controls the output polarization using a closed-loop system consisting of several piezo-electric fiber squeezers, a fast in-line polarimeter, and a digital signal processor (DSP). For low-power signals, there is a precision mode that increases the averaging time, which allows the system to maintain precise control over the output SOP. Also, a button on the front panel toggles the active control of the output polarization on/off. Note that when the active control of the output SOP is off, the output polarization will be dependent on the input polarization. The PL100S has a built-in calibration routine that can be initiated via a button on the front panel.

The output polarization is set by using the up, down, right, and left buttons on the front panel. Pressing one of these buttons results in a 1° change in the output SOP along a longitudinal (up/down buttons) or latitudinal (right/left buttons) grid superimposed on the Poincaré Sphere. The SOP of the output light is stored in memory so that when the PL100S is turned off for some period of time and then turned back on the output SOP will not change. An additional operating mode on the PL100S produces a pseudo-depolarized output. In this mode, the polarization of the output light is rapidly changed such that all SOPs have an almost equal probability of occurring at any particular instant in time, thus scrambling the polarization.

ITEM #	PL100S*
Output Fiber	Single Mode
Wavelength Range	1510 - 1640 nm
SOP Accuracy	±0.25° on Poincaré Sphere
DOP Accuracy**	±0.25%
Insertion Loss	<1.1 dB
PDL	<0.05 dB
Dynamic Range	35 dB (-20 to 15 dBm)
Accessible SOP's	Full Poincaré Sphere
SOP Setting Time in Normal Mode	150 µs for <10° Deviation 1 ms for <1° Deviation
Regulation Period Normal Mode	90 µs
Regulation Period Precision Mode	3 ms
SOP Repeatability	<0.1°
Input and Output Connectors	FC / APC
Power Supply	100 - 240 V ±10%, 50 - 60 Hz

*All specifications valid at 23 ± 5°C and 45 ± 15% relative humidity **Input Power: +3 dBm

ITEM #	$	£	€	RMB	DESCRIPTION
PL100S	$ 9,984.00	£ 7,188.48	€ 8.686,08	¥ 79,572.48	SOP Locker for SM Fiber, FC/APC Connectors*

*Other connectors available upon request.