# Polarization Synthesizer

## Product Overview

Part of the Phoenix Photonics Firebird range, the six state polarization controller module gives polarization state selection and maintenance. The on-board microprocessor is programmed through a simple PC interface to provide a range of pre-selected or user defined operations. The synthesizer complements other control modules in the range including standard polarization control and polarization tracking.

The instrument uses a high extinction ratio, Phoenix all-fiber polarizer to reference the polarization state, giving high precision selection of State of Polarization with high effective extinction ratio. Six states, Vertical, Horizontal, +45 linear, -45 linear, Right circular and Left circular are pre-programmed into the unit.

## Features & Applications

**FEATURES:**
- **Pre-programmed 6 key states**
- **User programmable operation**
- **Compact optical bench module**

**APPLICATIONS:**
- **Polarization control**
- **PDL measurement**
- **Component testing**

## Technical Information

| SPECIFICATION | Units | Each fiber channel |
|---|---|---|
| Wavelength range | nm | 1530 – 1570; 1570 - 1620 |
| Insertion Loss[1] | dB | <0.8 |
| Return Loss[1] | dB | >55 |
| Operating Temperature Range | $^0$C | 0 to 50 |
| Storage Temperature | $^0$C | -40 to +85 |
| Effective extinction ratio of state | dB | >25 (all states, all wavelengths) |
| Parameter setting | | State of Polarization; pre-selected states |
| Communication interface | | USB |
| PC control | | Software for full control |
| Power | | External mains 110V to 240V |