

Polarization Controllers

PR Series

JDS Uniphase Polarization Controllers provide an efficient way of creating any polarization state at any point along a single-mode fiber. The unit can be used as part of a polarization-state analyzer. The polarization controllers can be combined with other instruments to complete a measurement test system, such as erbium-doped fiber amplifier (EDFA) and single-mode component testing for polarization sensitivity.

This controller provides more accurate polarization control than a simple fiber coil design. Changes to the state of polarization are produced by three optical elements: a high extinction ratio polarizer, a quarter-wave retardation plate, and a half-wave retardation plate. Each element can be controlled locally from the front panel or through the GPIB and RS232 interfaces.

The polarization controller has two ports for in-line connection in a test system. The ports are equipped with connectorized fiber pigtails.



→ Key Features & Benefits

- Complete polarization control*
- Output polarized to greater than 40 dB*
- Accurate manipulation of polarization state*
- GPIB and RS232 remote control*
- CE and cULus compliant*

→ Applications

- Polarization sensitivity measurements for single-mode fiberoptic components*
- EDFA signal-to-noise measurements*
- Analysis of polarization state changes*
- Compensation for changes in birefringence in systems*



Insist on performance. We do.

Technical Specifications

| PARAMETER ¹ | PR2000 | PR2070 |
|---|---|-----------------------------|
| Operating wavelength range | 1530-1560 nm | 1200-1600 nm |
| Insertion loss ² | 1.5 dB | 3.0 dB |
| Insertion loss variation with wavelength ² | ± 0.1 dB | ± 0.1 dB |
| Insertion loss variation with rotation ² | ± 0.1 dB | ± 0.35 dB |
| Extinction ratio ³ | > 40 dB | > 40 dB |
| Maximum optical input power | 100 mW | 100 mW |
| Fast axis alignment accuracy at home position | < ± 1° | < ± 2° |
| Angular accuracy | ± 0.03° | ± 0.03° |
| Rotational resolution | 0.075° | 0.075° |
| Maximum rotational speed | 144 degrees/second (24 RPM) | 144 degrees/second (24 RPM) |
| Return loss | > 45 dB | > 40 dB |
| Power supply | 100-240 V AC, 50-60 Hz | |
| Power consumption | 30 VA | |
| Fiber type | single-mode 9/125 µm with a 3 mm jacket, 1.5 m pigtails | |
| Dimensions W x H x D | 18.5 x 14.7 x 31.2 cm | |
| Weight | 7 kg | |
| Operating temperature | 10 to 40 °C | |
| Storage temperature | - 40 to 60 °C | |
| Humidity | maximum 95 % RH from 10 to 40 °C | |

1. The state of polarization (S.O.P.) is accurately controlled exiting the PR2000's optical elements. The absolute S.O.P. exiting the launch fiber is subject to fiber conditions.
2. For linearly polarized light aligned with internal polarizer's axis.
3. Measured with a (> 45 dB) polarized narrow spectral line source.

Sample Order: PR2000+1FA

PR20 0+1

| code | model |
|------|------------------|
| 0 | 1550 nm |
| 7 | 1310 and 1550 nm |

| code | connector type |
|------|----------------|
| FP | FC/HPC |
| FA | FC/APC |
| NC | No connector |

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Indicate your requirements by selecting one option from each configuration table. Print the corresponding codes in the available boxes to form your part number.

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