

Polarization Diversity Receiver

FEATURES & BENEFITS

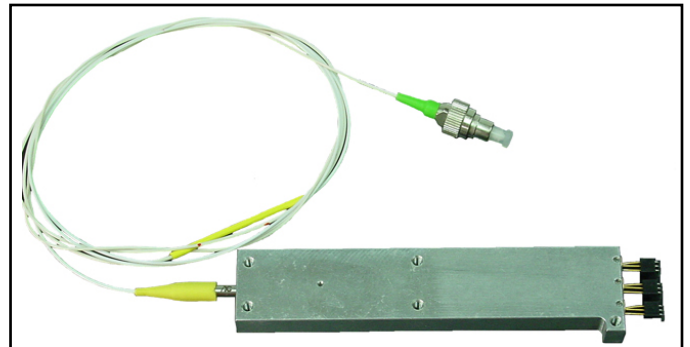
- Eliminates polarization fading
- Maintains signal-to-noise ratio
- Compact package
- PCB mountable
- 1550 or 1310 nm

The *OPTIPHASE* **PDR** is a highly efficient and cost effective Polarization Diversity Receiver for use in interferometric measurement and sensing systems. The PDR eliminates polarization fading in fiber optic interferometers without significant degradation in the signal-to-noise ratio.

The PDR serves as a receiver to fiber optic interferometers that allow for polarization fading through random birefringence fluctuations. The three independent polarized receivers assure that at least one of the outputs have high interferometric visibility.

Input light is split by a 1 x 3 fiber optic coupler made with SMF-28 with low polarization dependent loss. The three outputs are pigtailed to polarized PIN photodiodes (InGaAs). The polarizer orientation of the photodiodes is 0, +60 and -60 degrees.

Housed in a compact and slim package, the *OPTIPHASE*[®] PDR is PCB mountable and easily integrated into your system design. PDRs are available for 1550 or 1310 nm wavelengths.

**MODELS**

PDR-15	Polarization Diversity Receiver, 1550 nm
PDR-13	Polarization Diversity Receiver, 1310 nm

SPECIFICATIONS**POLARIZATION DIVERSITY RECEIVER**

Wavelength	1550 or 1310 nm [C band]
Split Method	3 x 3 coupler [SMF-28e]
PDR Method	Polarized detectors
Polarizer Alignment Error	± 2 degrees
Loss [each port]	6.5 dB typical, assuming light is aligned with polarizer
Interface	FC/APC pigtail, 1.5 m length, SMF-28e
Operating Temperature Range	0 to 55° C
Storage Temperature Range	-20 to + 65° C
Humidity	0 – 95% non-condensing
Dimensions	See drawing on back
Weight	0.1 lbs [45 grams]

PHOTODIODE DEVICE

Active area / Type	100 µm / InGaAs PIN
Dark Current -5V	Typical 2 nA
Capacitance -5V	1.25 pF maximum
Responsivity 1500 nm	0.90 – A/W
Rise / Fall	0.5 ns
Absolute Maximum Ratings	
Reverse Voltage	25 Volts [max]
Forward Current	10 mA [max]
Reverse Current [under bias]	10 mA [max]
Soldering Temperature	260° C; 10 seconds [max]

