

Polarization diversity coherent reception module (InGaAs balanced photodetector 1510-1590nm, bandwidth 1.2GHz)



● Product Description

The IdealPhotonics' PDR series polarization diversity reception module is designed for polarization-sensitive fiber optic sensing applications. This polarization diversity reception module coherently detects the two polarization states of the local oscillator and signal light separately, using two high-speed, low-noise balanced detectors for independent reception. It effectively solves the issue of coherent polarization states and is suitable for



applications in distributed fiber optic sensing, laser wind radar, optical coherence tomography, and other related fields.

● Product features

High bandwidth、High Gain、Low Noise、Built-in low-noise isolation power supply

● Part Number

MP-PDR-M-I-1200-F-A

● Application area

Optical fiber sensing、Laser wind radar、Optical coherence tomography、Spectral measurement

● Core parameters

| Wavelength | Bandwidth | Responsivity |
|-------------|-----------|----------------|
| 1510-1590nm | 1.2GHz | 0.95A/W@1550nm |

● General Parameters

| | | |
|------------|---|----|
| Wavelength | 1510~1590 (1300±40nm; 1060±40nm Optional) | nm |
|------------|---|----|

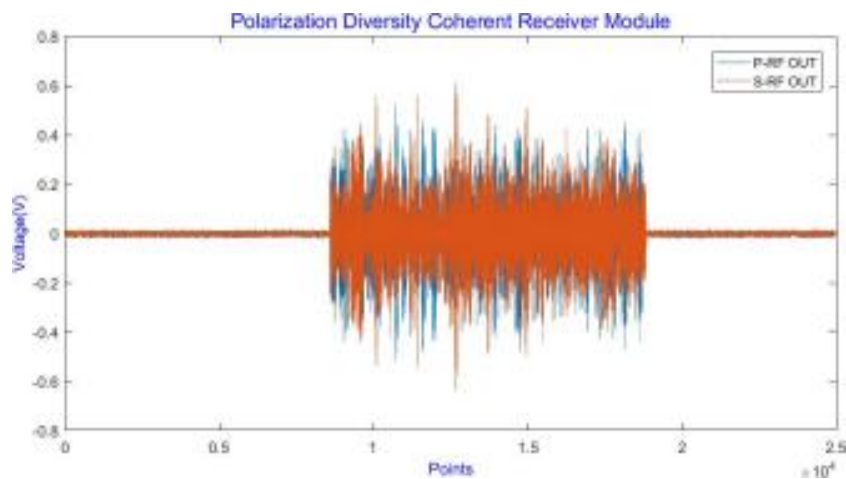


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|--------------------------------------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------|
| Bandwidth | 100M | 200M | 350M | 400M | 500M | 800M | 1G | 1.2G | 1.5G | 2G | 2.5G | Hz |
| Detector Responsivity | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | A/W@ 1550nm |
| Transimpedance Gain | 30K | 30K | 30K | 10K | 5K | 30K | 30K | 30K | 30K | 15K | 15K | V/A |
| Input | Local | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | mW |
| Light | Signal | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | μW |
| Polarization Extinction Ratio | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | dB |
| NEP | 5 | 5 | 5 | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9 | pW/Sqrt(Hz) |
| Supply Voltage | 5 | 5 | 5 | 5 | 5 | 12 | 12 | 12 | 12 | 12 | 12 | V |
| Supply Current | 0.4(max) | 0.4(max) | 0.4(max) | 0.4(max) | 0.4(max) | 0.3(max) | 0.3(max) | 0.3(max) | 0.3(max) | 0.3(max) | 0.3(max) | A |
| Output Coupling | AC | AC | AC | AC | AC | AC | AC | AC | AC | AC | AC | |

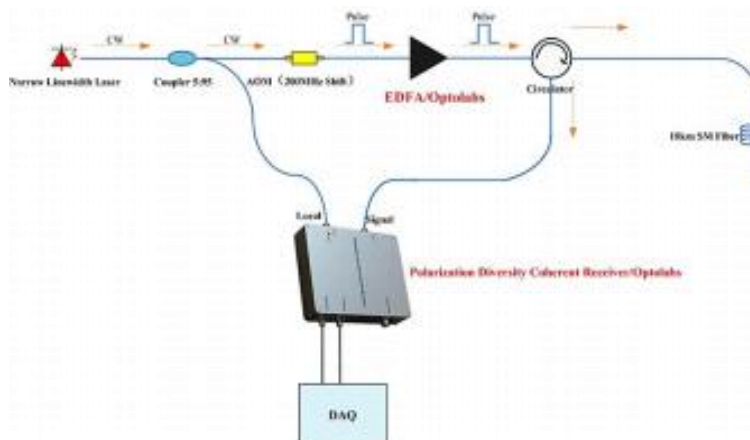


| | | | | | | | | | | | | |
|----------------|------------------------------------|--|--|--|--|--|-------------------------|--|--|--|--|--|
| Method | | | | | | | | | | | | |
| Interface Type | Electrical Interface: SMA | | | | | | Fiber Interface: FC/APC | | | | | |
| Fiber Type | Local: PM ; Signal: SM | | | | | | | | | | | |
| RF Output | SMA | | | | | | | | | | | |
| Dimensions | 120*100*25mm (Optional 90*80*20mm) | | | | | | | | | | | |

Testing:



Coherent signals of P polarization state and S polarization state.



Polarization diversity coherent reception optical circuit diagram.