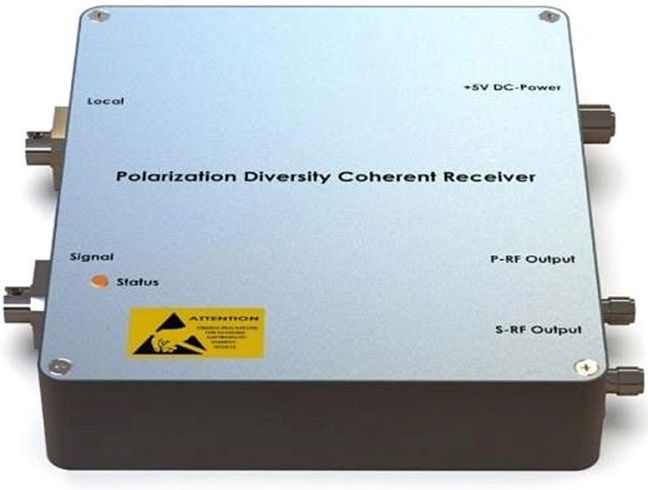
Ultra-Low Noise Polarization Diversity Coherent Receiver



Description:

The polarization diversity receiving module covers the two polarization states of local oscillator and signal light separately, and receives them separately by two high-speed low-noise balance detectors. It can solve the problem of coherent polarization well. It is suitable for distributed optical fiber sensing, laser wind radar, optical coherence tomography and other applications.

UPDR is upgraded on the basis of the original PDR series, greatly reducing the background noise, so that the signal to noise ratio of the detection signal is higher.

Features:

- Low Noise
- High Bandwidth
- High Transimpedance Gain
- Compact Structure
- Customizable Products

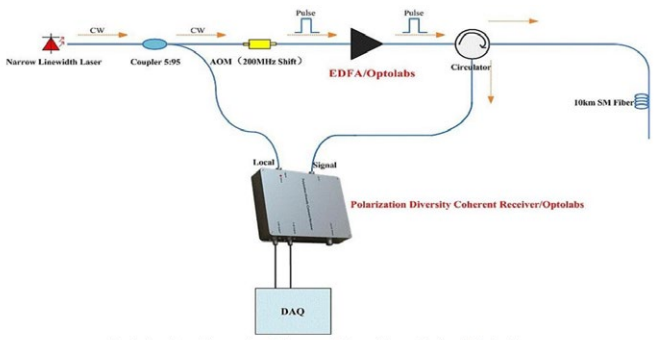
Application:

- Optical Fiber Sensing
- Doppler Wind Lidar
- OCT
- Laser Ranging
- Spectrometry

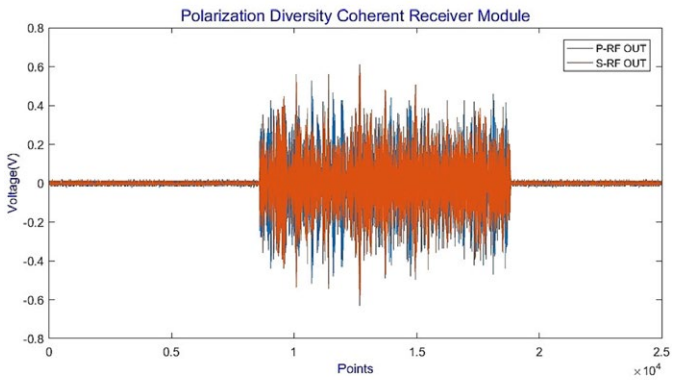
Specifications:

Product Model		UPDR-100M-A	UPDR-200M-A	UPDR-300M-A	UPDR-400M-A	UPDR-500M-A	UPDR-800M-A	UPDR-1G-A	UPDR-1.2G-A	UPDR-1.5G-A	UPDR-2G-A	UPDR-2.5G-A	Unit
Wavelength		1510~1590 (1300±50nm; 1060±50nm choose)											nm
Detector Responsivity		0.95@1550nm											A/W
Bandwidth		100M	200M	300M	400M	500M	800M	1G	1.2G	1.5G	2G	2.5G	Hz
Transimpedance Gain		30K	30K	30K	20K	10K	30K	30K	30K	30K	30K	30K	V/A
Input	Local	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	mW
	Signal	300	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		2.5	2.5	2.5	2.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	pW/Sqrt(Hz)
Output Coupling Mode		AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	
Supply Voltage		5	5	5	12	12	12	12	12	12	12	12	V
Supply Current		0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	A
Interface Type		Electrical Interface: SMA; Optical Fiber Interface: FC/APC											
Optical Fiber Type		Local:PM; Signal:SM											
Radio Frequency Output		SMA											
Shape Size		120*100*25mm											

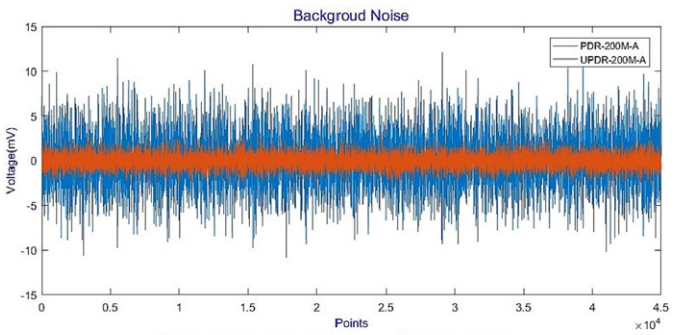
Test Result:



Polarization Diversity Coherent Receiving Optical Path Map



P and S polarization coherent signals



Bottom noise contrast between UPDR and PDR