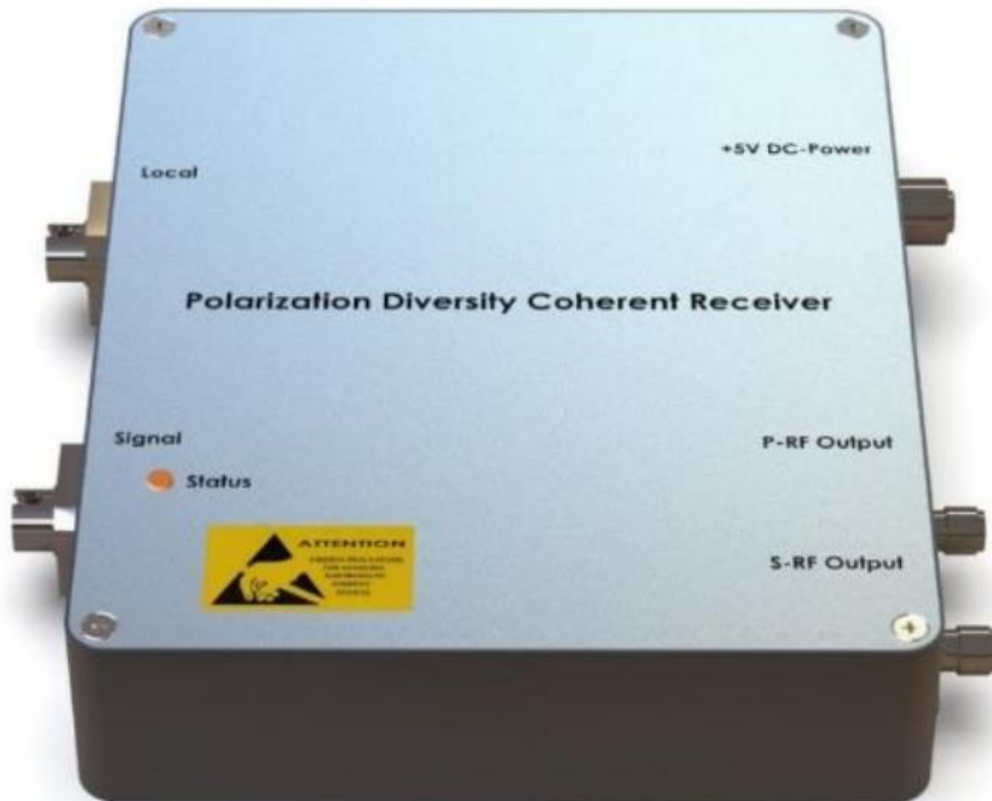


Ultra-low noise polarization diversity coherent receiver module

UPDR-300M-A



● Product Description

The ultra-low noise polarization diversity receiver module is designed for polarization-sensitive optical fiber sensing applications. This polarization diversity receiver module coherently detects the two polarization states of the local oscillator and signal light separately, using two high-speed low-noise balanced detectors for individual reception. It effectively solves the issue of coherent polarization states. This series is an upgrade based on the original PDR series, significantly reducing the background noise, thereby achieving higher signal-to-noise ratio for detection.

● Part Number

UPDR-300M-A

● Product features

High bandwidth、 High gain、 Ultra-low noise、 Built-in low-noise isolation power supply

● Application area

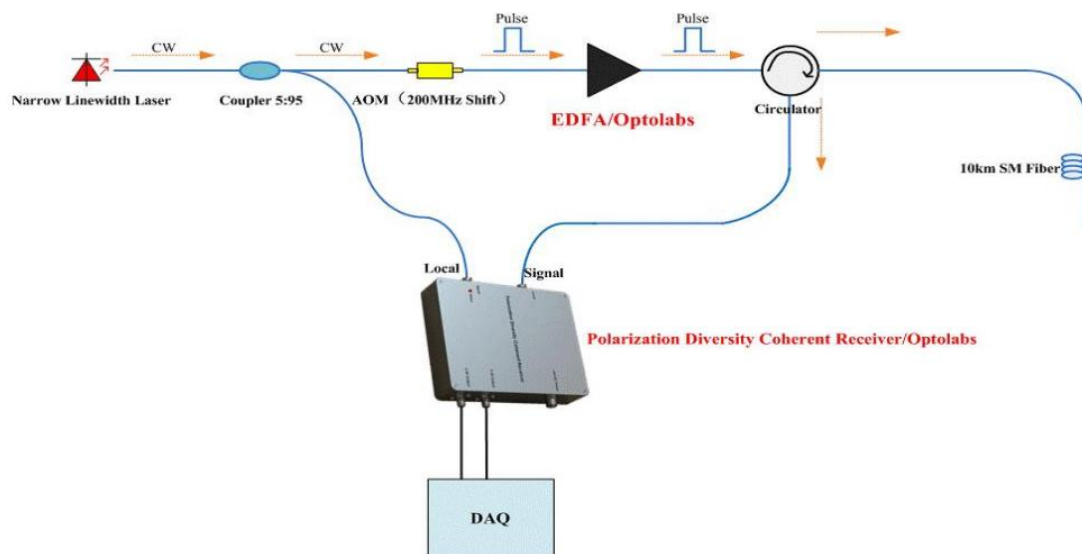
Fiber optic sensing、 Laser wind radar、 Optical coherence tomography、 Spectral measurement

General Parameters

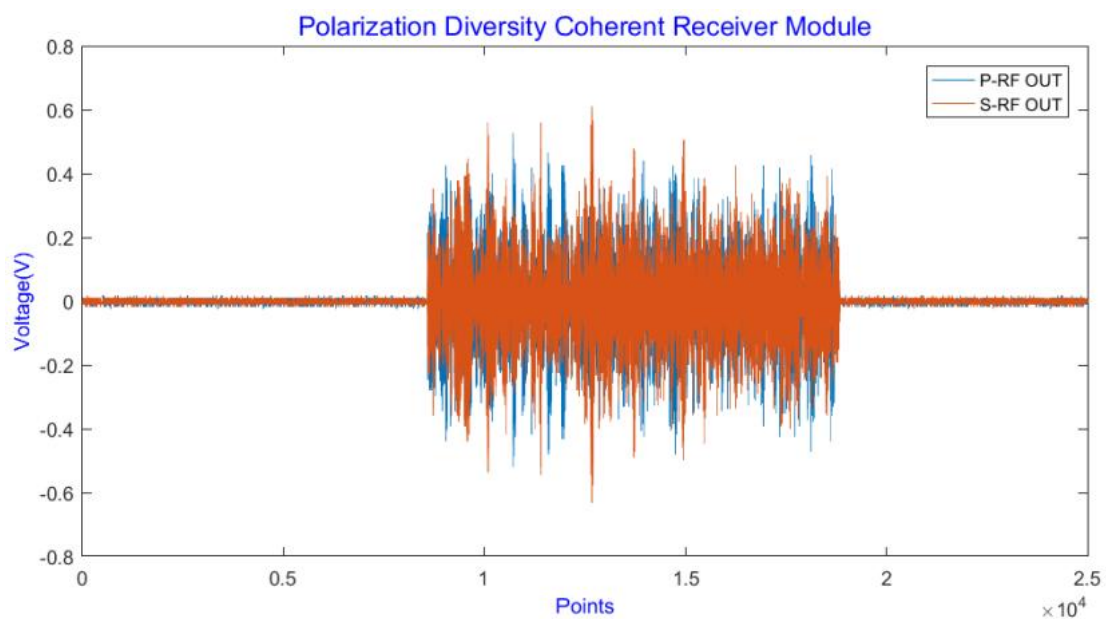
PN#	UPDR-100M-A	UPDR-200M-A	UPDR-300M-A	UPDR-400M-A	UPDR-500M-A	UPDR-800M-A	UPDR-1G-A	UPDR-1.2G-A	UPDR-1.5G-A	UPDR-2G-A	UPDR-2.5G-A	Unit
Wave length	1510~1590 (1300±50nm; 1060±50nm optional)											nm
Bandwidth	100M	200M	300M	400M	500M	800M	1G	1.2G	1.5G	2G	2.5G	Hz
Detection or Responsivity	0.95	0.95	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	20K	10K	30K	30K	30K	30K	30K	30K	V/A
Input Local	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	mW
Light 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)
Supply Voltage	5	5	5	12	12	12	12	12	12	12	12	V
Supply Current	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	0.5(ma)	A
Coupling Method	DC/AC	DC/AC	DC/AC	DC/AC	DC	AC	AC	AC	AC	AC	AC	
Interface Type	Electrical Interface: SMA, Optical Interface: FC/APC											
Fiber Type	Local:PM; Signal:SM											
RF Output	SMA											
Dimensions	120*100*25mm											

Polarization Diversity Coherent Reception Optical Circuit Diagram



Coherent signal of P-polarized and S-polarized states



Comparison of the background noise between ultra-low noise polarization diversity and conventional polarization diversity.

