

## Low bandwidth fixed gain balanced optical detection module

(200MHz/350MHz)

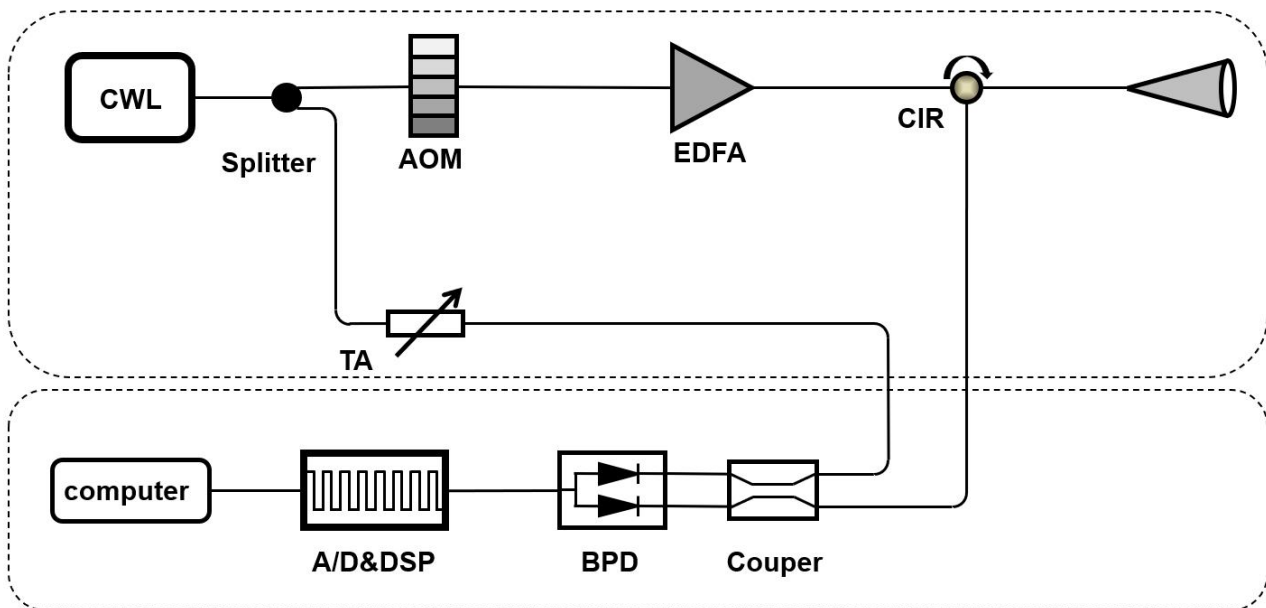
Rof-BPR series 200M and 350M high-gain balanced detection modules, with high gain and low noise characteristics, through two PIN tube response optimization to achieve high common-mode rejection ratio and high output voltage amplitude (~3.5V), this detection module can provide different gain and coupling output modes according to customer requirements. It is very suitable for coherent detection systems such as coherent Doppler wind radar.

### Feature:

- Wavelength range: 900-1700nm (400-1100nm optional)
- 3dB bandwidth: DC-200MHz/350MHz
- High common-mode rejection ratio: 30dB
- High gain:  $38 \times 10^3 \text{V/W}$  (other gains can be customized)



### Coherent Doppler wind radar schematic diagram



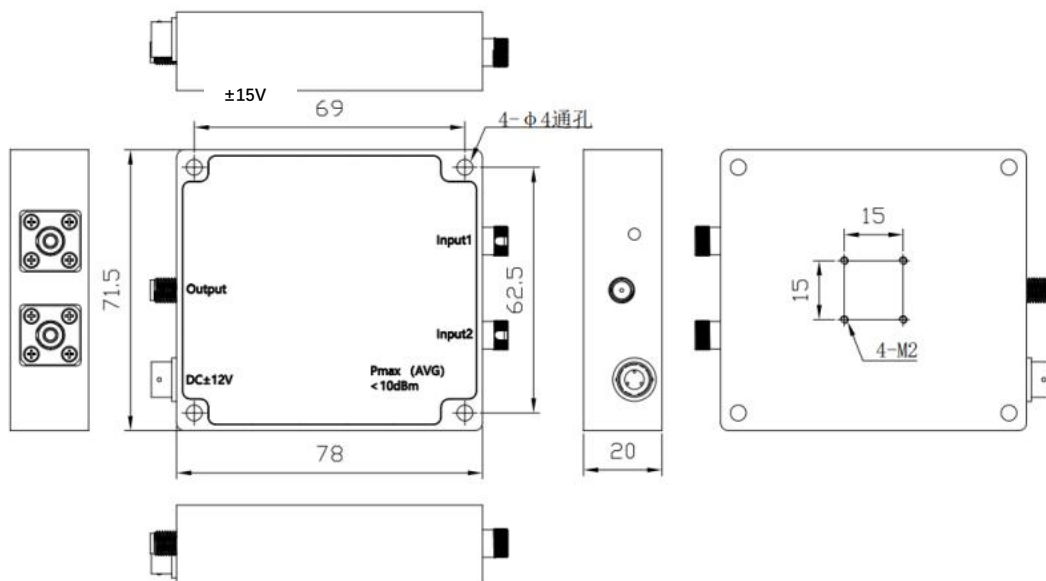
### Parameters

Model number	ROF-BPR-200M-A-FC-H-DC	ROF-BPR-200M-A-FC-DC	ROF-BPR-350M-A-FC-DC
Spectral response range	900-1700nm	900-1700nm	900-1700nm
Typical wavelength *	1310nm/1550nm	1310nm/1550nm	1310nm/1550nm
responsivity	0.95A/W@1550nm	0.95A/W@1550nm	0.95A/W@1550nm

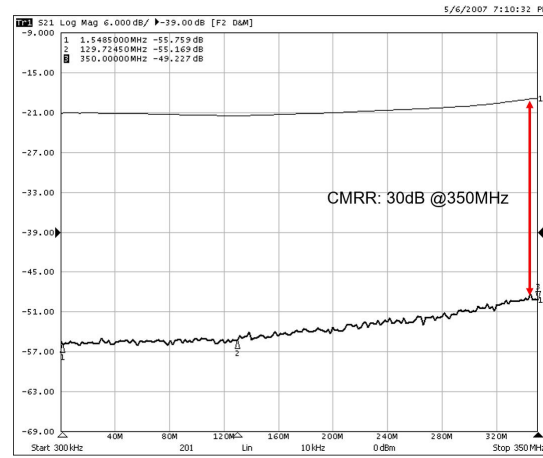
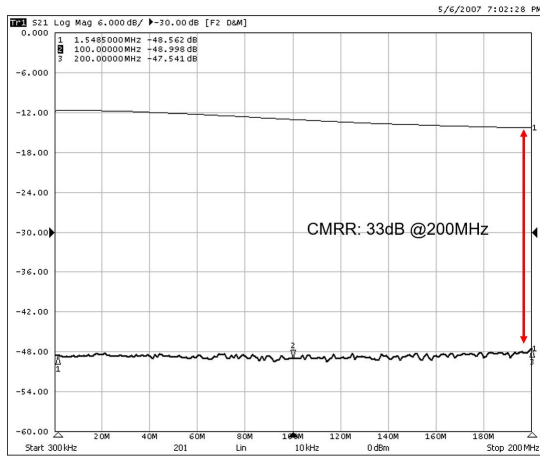


3dB bandwidth	DC-200MHz	DC-200MHz	DC-350MHz
Common-mode rejection ratio CMRR	>25dB (30dB typ.)	>25dB (30dB typ.)	>25dB (30dB typ.)
Gain @ High resistance state	$38 \times 10^3 \text{V/W}$	$20 \times 10^3 \text{V/W}$	$14 \times 10^3 \text{V/W}$
Noise voltage (RMS)	$< 20 \text{mV}_{\text{RMS}}$	$< 10 \text{mV}_{\text{RMS}}$	$< 10 \text{mV}_{\text{RMS}}$
sensitivity	-26dBm	-33dBm	-33dBm
Saturated Optical Power (CW)	-9dBm	-12dBm	-5dBm
Maximum output amplitude	3.5Vpp	3.5Vpp	3.5Vpp
Damaged optical power	10mW		
Operating temperature range	-20~+70 °C		
Operating voltage		DC $\pm 15\text{V}$	
Working current		50mA	
Input connector		FC	
Output connector		SMA	
Output impedance		50 ohms	
Output coupling mode		Default DC coupling (AC optional)	
Overall dimensions (mm)		78.5mm×71.5mm×20mm	

**Dimensions (mm)**



**CMRR Test (S21)**



**Ordering information**

ROF	XXX	XX	X	XX	XX	X
	BPR-- Fixed gain balanced detector	-3dB bandwidth: 10M---10MHz 80M---80MHz 200M---200MHz	Operating wavelength: A---850~1650nm (1550nm test)	Input type: FC---Fiber coupling FS---Free space	Coupling type: DC---DC Coupling AC---AC Coupling	Gain type: Null-- Normal gain H--High gain requirement
	GBPR-- Gain adjustable balance detector	350M---350MHz 400M---400MHz 1G---1GHz 1.6G---1.6GHz	B---320~1000nm (850nm test) A1---900~1400nm (1064nm test) A2---1200~1700nm (1310nm or 1550nm test)			

**Note:**

1, 10 M, 80MHz, 200MHz, 350MHz and 400 MHz bandwidth detectors support operating bands A and B; Coupling Type Both AC and DC coupling are optional.

2, 1GHz, 1.6GHz, support working bands A1 and A2; Coupling type Only AC coupling is supported.

3, the gain is adjustable (150MHz) to support the working band A and B; Coupling Type Both AC and DC coupling are optional.

4, example, ROF-BPR-350M-A-FC-AC: 350MHz fixed gain balanced probe module, operating wavelength 1550nm(850-1650nm), AC coupled output.