InGaAs weak light coherent reception module

800-1700nm AC-1.6G

Product Description

IdealPhotonics has developed a high-speed, low-noise analog coherent receiving module for optical coherent detection applications. This SVDC power coherent receiver module integrates a high-speed, low-noise analog optoelectronic balanced detector and a high-quality fiber coupler. During the manufacturing process, the splitter ratio and length of the coupler are

strictly controlled to further enhance the common-mode rejection ratio. Building on the coherent reception, to further improve the optical signal-to-noise ratio (SNR), the high SNR coherent receiving module integrates a low-noise small-signal fiber amplifier to amplify weak backscattered light signals. This module is suitable for fiber optic sensing, lidar, wind measurement radar, and other fields.

Product features

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

Part Number

MP-CRM-M-I-1600-F-A

Application area

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

Core parameters

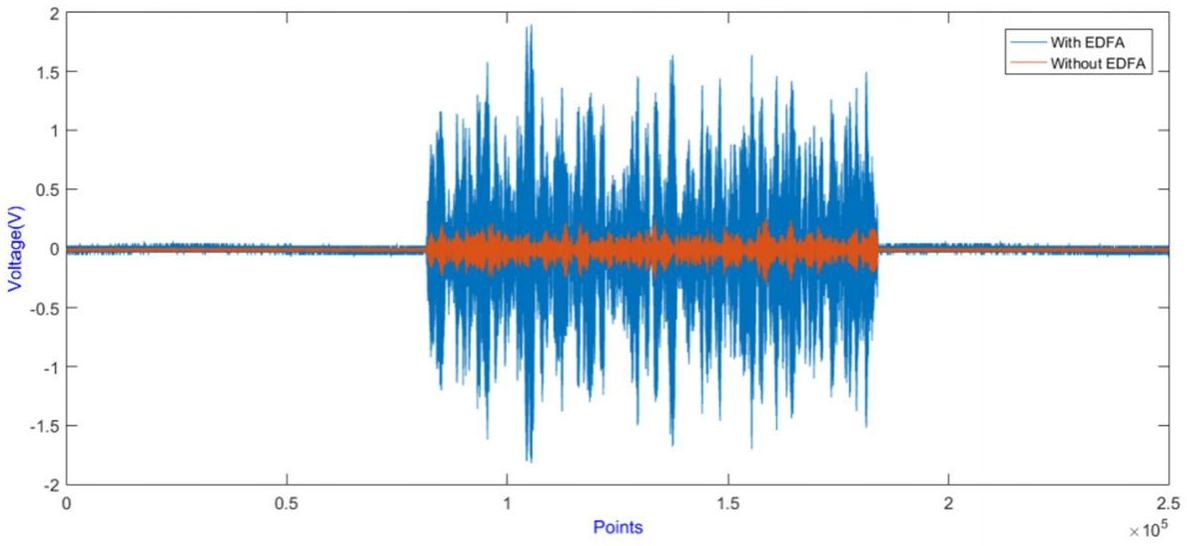
Wavelength	Bandwidth	Resopnsivity
800-1700nm	1.6GHz	0.95A/W@1550nm

General Parameters

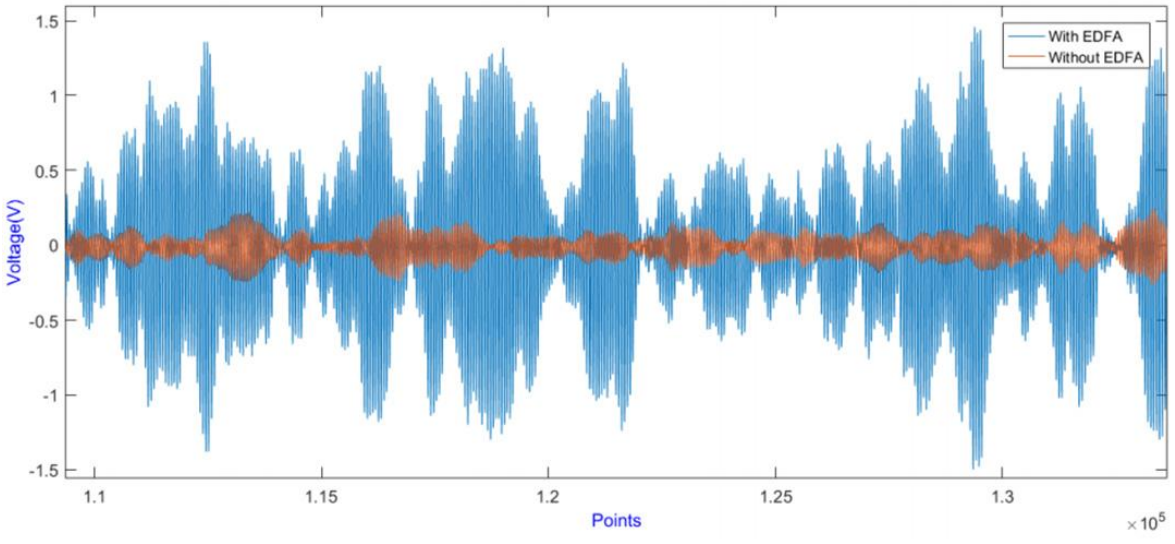
Technical Parameters

Wavelength		800~1700	800~1700	800~1700	800~1700	800~1700	nm
Bandwidth		DC-100M	DC-200M	DC-350M	AC-800M	AC-1.6G	HZ
Detector Responsivity		0.95@1550nm	0.95@1550nm	0.95@1550nm	0.95@1550nm	0.95@1550nm	A/W
Transimpedance Gain		30k(60k)	30k(60k)	30k	30k	30k	V/A
Optical Input	Local	<5	<5	<5	<5	<5	mW
	Signal	200	300	300	300	300	uW
Power Supply Voltage		5	5	5	12	12	V
Power Supply Current		0.5(max)	0.5(max)	0.5(max)	0.5(max)	0.5(max)	A
Fiber Type		SMF-28(PM optional)					
Optical Input		FC/APC					
RF Output		SMA					
Dimensions		80*80*30mm					

Related test data



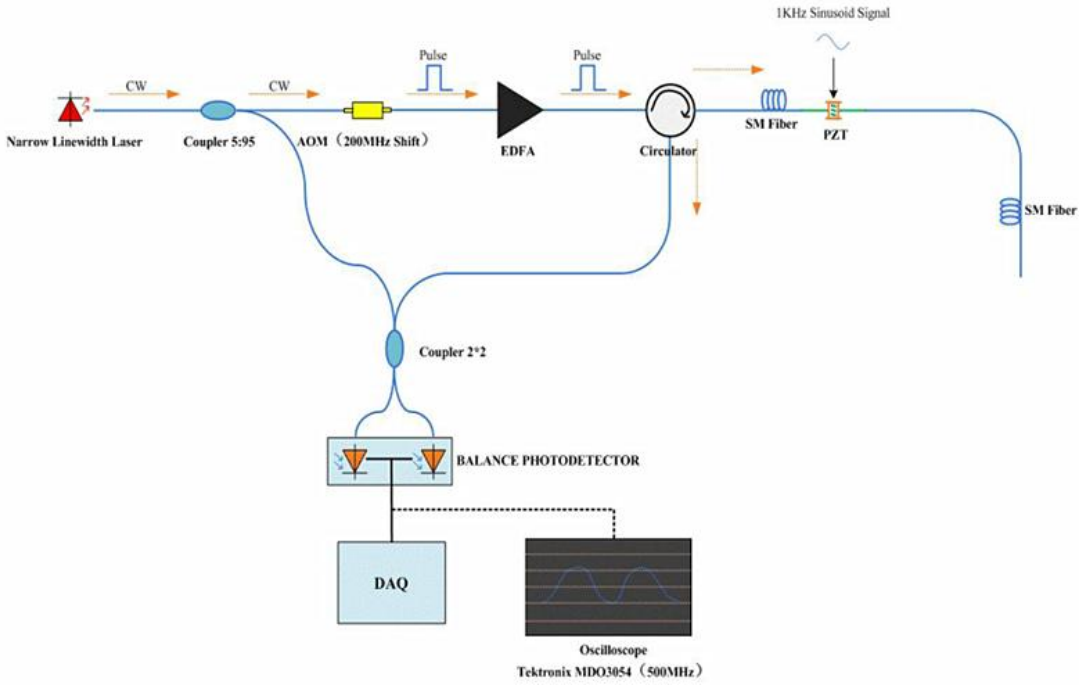
Comparison of interferometric beat frequency signals



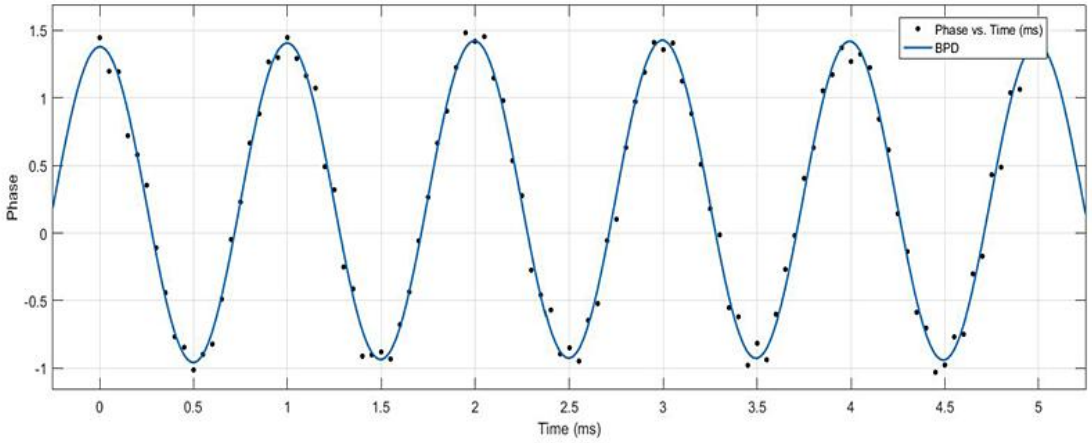
Local details of the signal

200MHz beat frequency signal (oscilloscope data)

Typical application areas



Coherent detection distributed optical fiber sensing



PZT vibration point phase demodulation on optical fiber (1KHz)