Weak Signal Coherent Receiver Module

Description:

The module integrates a high-speed low-noise analog photoelectric balance detector and a preamplifier small-signal fiber amplifier. In the fabrication process, the splitting ratio and length of the coupler are strictly controlled to further improve the common mode rejection ratio. The preamplifier fiber amplifier uses a special amplifier structure to amplify weak backscattered light. It has the characteristics of low ASE and small NF, and can improve the optical signal-to-noise ratio. The module is suitable for optical fiber sensing, laser wind radar and other fields.

Features:

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

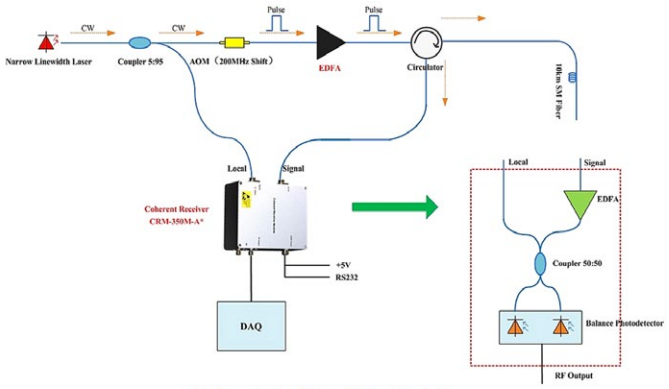
Application:

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

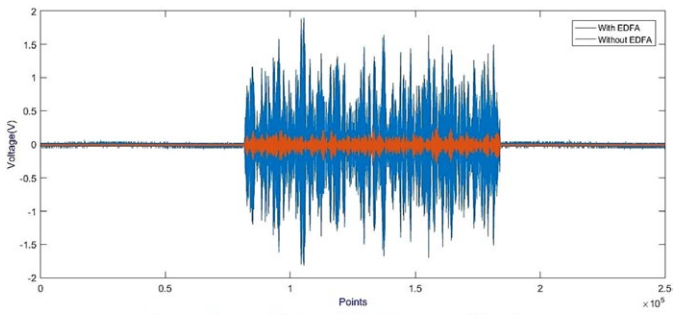
Specifications:

Product Model		CRM-100M-A	CRM-200M-A	CRM-300M-A	CRM-800M-A	CRM-1.6G-A	Unit
Wavelength		C-band	C-band	C-band	C-band	C-band	nm
Bandwidth		100M	200M	300M	800M	1.6G	MHz
Detector Responsivity		0.95@1550nm	0.95@1550nm	0.95@1550nm	0.95@1550nm	0.95@1550nm	A/W
Transimpedance Gain		10k	10k	10k	10k	10k	V/A
Optical Input	Local	<7	<7	<7	<7	<7	dBm
	Signal	-50(Typical)	-50(Typical)	-50(Typical)	-50(Typical)	-50(Typical)	dBm
Output Coupling Mode		DC/AC	DC/AC	DC/AC	AC		AC
Supply Voltage		5	5	5	12	12	V
Supply Current		3(max)	3(max)	3(max)	3(max)	3(max)	A
Optical Fiber Type		SMF-28(or PM)					
Optical Input		FC/APC					
Radio Frequency Output		SMA		Communication Interface		RS232	
Shape Size		120*100*25mm					

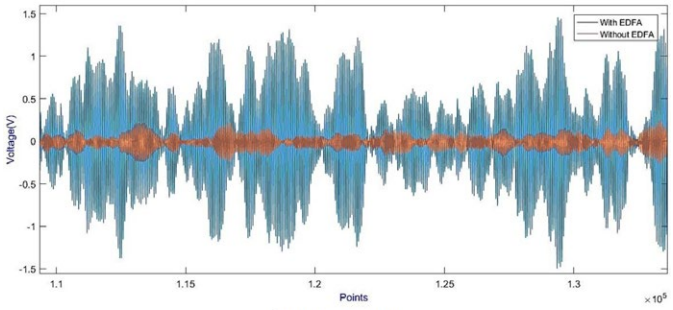
Test Result:



Coherent Receiving Optical Path Map



Comparisons of Coherent Beat Frequency Signals



Signal local details