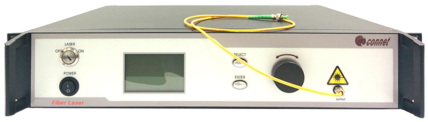
CoSF-R-YB-B-MP Ultra-narrow Linewidth Single Frequency Fiber Laser



Description:

Connet CoSF-R optimized traveling wave cavity ultra-narrow linewidth single-frequency fiber laser is a low-noise ultra-narrow linewidth fiber laser independently developed by patented technology. CoSF-R single-frequency fiber laser uses a unique "optimized traveling wave cavity" The design eliminates the standing wave space hole burning phenomenon which is easy to occur in the linear cavity fiber laser. In conjunction with the ultra-narrow bandwidth fiber filter designed by Connet, the single longitudinal mode output is selected and the single frequency operation of the fiber laser is guaranteed. The polarization control technology eliminates the polarization hole burning effect based on the all-fiber design, thereby achieving stable linear polarization, single longitudinal mode, and ultra-narrow linewidth single-frequency laser output.

CoSF-R ultra-narrow linewidth single-frequency fiber laser has excellent performance, the linewidth is less than 1kHz, and has ultra-low phase noise and frequency noise. The ultra-long laser cavity design makes the overall noise level of CoSF-R significantly lower than other commercial short-cavity single frequency lasers.

CoSF-R-YB-B-MP works in the 1.0um band, and the output power of the basic module is optional from 200mW to 10W. Higher output power products can be provided on request. The standard wavelength includes 1053nm, 1064nm, 1083nm, and the optional wavelength range is 1010-1120nm.

Features:

- Ultra-narrow linewidth <<1kHz
- Ultra-low phase noise and frequency noise
- Ultra-low relative intensity noise (RIN)
- Stable single frequency, single polarization output
- No mode-hopping
- Benchtop all-in-one package
- PZT option

Applications:

- Distributed optical fiber sensing
- Coherent LiDAR
- Fiber optic hydrophone
- Laser spectroscopy
- Coherent communication
- Gas absorption measurement
- Cold atomic physics
- Other scientific research

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Specifications:

Parameter	Unit	Specification		
		Min	Typ.	Max
Part no.		**CoSF-R-YB-B-MP**		
Center wavelength	nm	1010-1120nm fixed, other specify		
Output power	W	0.2	-	10
Laser output		CW, Single frequency & Single longitudinal mode		
Beam quality	M^2	-	1.05	1.1
Linewidth	kHz	-	-	<<1
RIN peak frequency	kHz	40	70	100
RIN peak	dBc/Hz	-	-145	-140
RIN @10MHz	dBc/Hz	-	-155	-150
SMSR (50pm resolution)	dB	60	>70	-
Output polarization		Linear		
Polarization extinction ratio (PER)	dB	20	23	-
Output power stability	%	-	0.5	1
Output isolation	dB	50	-	-
Wavelength thermal tuning	nm	0.6	0.8	1.0
PZT wavelength modulation		Optional		
Modulation frequency (linear)	kHz	DC	10	20
Modulation wavelength range	GHz	-	>8	>10
Operating temperature	℃	15	-	40
Storage temperature	℃	-20	-	60
Power supply	V_{AC}	110-240V 50-60Hz		
Communication interface		RS232		
Output fiber type		Panda PM980		
Output fiber length	m	> 0.5		
Optical connector		FC/APC		
Dimension	mm	430x480x105		
Weight	kg	<5		

Ordering Information:

CoSF-R-YB-B-MP-<10xx>-<PW>-PMF/SMF-PZT-FA

PW: Output power, in watt.

Options: 1. SMF output 2. Monitoring output 3. PZT fast modulation