

CoSF-D-ER-B-HP Narrow Linewidth Single Frequency Fiber Laser

Description:



Connet CoSF-D is a low-noise Single Frequency Fiber Laser based on Distributed Feedback Bragg Grating (DFB) technology. It has independent intellectual property rights and achieves a stable single-frequency laser output with single longitudinal mode, linear polarization, and narrow linewidth. CoSF-D has very low phase and frequency noise and low relative intensity noise (RIN). Connet uses unique packaging technology to ensure low-noise DFB single frequency fiber lasers with excellent wavelength stability.

Connet uses extra-cavity technology to significantly suppress the relative intensity noise (RIN) of the DFB single frequency fiber laser, ensuring that the resonant cavity of the single frequency fiber laser is not disturbed. Please refer to CoSF-D-RS series products.

CoSF-D-ER-B-HP works in the 1.5 μ m band, and the output power of the benchtop low noise narrow linewidth single frequency fiber laser is from 20W to 50W. Higher output power products can be provided on request. The standard wavelength is 1550.12nm, and the optional wavelength range is 1535-1605nm, such as the standard wavelength under the ITU framework.

Features:

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

Applications:

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

Specifications:

Parameter	Unit	Specification		
		Min	Typ.	Max
Part no.		CoSF-D-ER-B-HP		
Center wavelength	nm	1530-1572nm fixed, other specify		
Output power	W	20	-	50
Laser output		CW, Single frequency & Single longitudinal mode		
Beam quality	M ²	-	1.2	1.5
Linewidth	kHz	-	-	1
RIN peak frequency	kHz	300	400	500
RIN peak	dBc/Hz	-	-145	-140
RIN @10MHz	dBc/Hz	-	-155	-150
Phase noise (1m OPD)	urad/√Hz	70@100Hz		
	urad/√Hz	7@10kHz		
	urad/√Hz	0.7@100kHz		
SMSR (50pm resolution)	dB	50	60	-
Output polarization		Linear		
Polarization extinction ratio (PER)	dB	18	20	-
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	°C	15	-	40
Storage temperature	°C	-20	-	60
Power supply	V _{AC}	100-240V 50/60Hz		
Communication interface		RS232		
Output fiber type		Panda PM LMA		
Output fiber length	m	> 0.5		
Optical connector		FC/APC		
Dimension	mm	510x480x150		
Weight	kg	<10		

Ordering Information:

CoSF-D-ER-B-HP-<15xx>-<PW>-PMF/SMF-PZT-FA

PW: Output power, in watts.

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