

## CoSF-D-YB-B-LP 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-YB-B-LP is based on Ytterbium-doped fiber with narrow linewidth (<20kHz) and low phase noise, low relative intensity noise (RIN). Output power is up to 100mW. The standard wavelength is 1064nm, 1053nm, 1083nm, and the optional wavelength range is 1010-1120nm. Other wavelengths can be customized according to requirements.

### Features:

- Narrow linewidth <20kHz
- 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.		<b>CoSF-D-YB-B-LP</b>		
Center wavelength	nm	1010-1120nm fixed, other specify		
Output power	mW	20	-	100
Laser output		CW, Single frequency & Single longitudinal mode		
Beam quality	M <sup>2</sup>	-	1.05	1.1
Linewidth	kHz	-	10	20
RIN peak frequency	kHz	800	1000	1200
RIN peak	dBc/Hz	-	-110	-100
RIN @10MHz	dBc/Hz	-	-140	-130
SMSR (50pm resolution)	dB	55	60	-
Output polarization		Linear		
Polarization extinction ratio (PER)	dB	20	23	-
Output power stability	%	-	0.5	1
Output isolation	dB	30	35	-
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 <sub>AC</sub>	100-240		
Communication interface		RS232		
Output fiber type		Panda PM980		
Output fiber length	m	> 0.5		
Optical connector		FC/APC		
Dimension	mm	430x450x105		
Weight	kg	<5		

**Ordering Information:****CoSF-D-YB-B-LP-<10xx>-<PW>-PMF/SMF-PZT-FA**

PW: Output power, 20mW is fixed, 50mW and 100mW output power are adjustable

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