CoSF-D-EY-M Single Frequency Fiber Laser Module

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 extremely 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 narrow linewidth single frequency fiber laser module has a small size, a sturdy package, strong resistance to environmental interference, and an output power of more than 100mW. CoSF-D-EY-M is based on Erbium & Yetterbium co-doped fiber with narrow linewidth (<10kHz) and low phase noise, low relative intensity noise (RIN). The standard wavelength is 1550.12nm, and the optional wavelength range is 1530-1570nm, such as the standard wavelength under the ITU framework. Other wavelengths can be customized according to requirements.

Features:

- Narrow linewidth <10kHz
- Low phase noise and frequency noise
- Low relative intensity noise (RIN)
- Stable single frequency, single polarization output
- No mode-hopping
- Small sized package 145x100x25mm
- 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

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Specifications:

Parameter	Unit	Specification		
		Min	Typ.	Max
Part no.		CoSF-D-EY-M		
Center wavelength	nm	1530-1572nm fixed, other specify		
Output power	mW	5	50	100
Laser output		CW, Single frequency & Single longitudinal mode		
Beam quality	M^2	-	1.05	1.1
Linewidth	kHz	-	8	10
RIN peak frequency	kHz	500	600	700
RIN peak	dBc/Hz	-	-115	-100
RIN @10MHz	dBc/Hz	-	-140	-135
Phase noise (1m OPD)	urad/√Hz	80@100Hz		
	urad/√Hz	7@1kHz		
	urad/√Hz	0.3@100kHz		
SMSR (50pm resolution)	dB	60	70	-
Output polarization		Linear		
Polarization extinction ratio (PER)	dB	20	23	-
Output power stability	%	-	-	±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	℃	0	-	60
Storage temperature	℃	-40	-	85
Power supply	V_{DC}	12		
Communication interface		RS485		
Output fiber type		Panda PM1550		
Output fiber length	m	> 0.5		
Optical connector		FC/APC		
Dimension	mm	145x100x25		
Weight	kg	<0.5		

Ordering Information:

CoSF-D-EY-M-<-15xx-<PW>-PMF/SMF-PZT-FA

PW: Output power, 5mW is fixed, 50mW and 100mW output power are adjustable

SMF output is upon request, PZT fast modulation is on option. Monitoring output is upon request.