

LASER

LAZ-LAB-NL-1550.12

Narrow Linewidth Single Frequency Fiber Laser

Exail's single frequency fiber lasers are based on UV Bragg grating technology applied to active rare- earth photosensitive fibers. Ultra short cavity length and phase-shifted design permit ultra-narrow linewidth and robust mode-hop-free laser source properties, ideal for various sensor applications (acoustic, interferometry and spectroscopy).



Combined with in-house ultra-stable pump driver and integrated into tailored-made benchtop, it delivers stable single frequency laser line with ultra-low intrinsic noise and linewidth lower than 0.1 kHz.

Available in C-band, LAZ-LAB-NL-1550.12 is tunable over 1 nm with an output power up to 40 mW and provides a single longitudinal linear polarization.

Benefits & Features

- Narrow linewidth < 0.1 kHz
- Low intrinsic phase noise
- Single longitudinal mode
- Output power up to 40 mW
- Linear polarization
- Mode-hop-free
- 1 nm range tunability

LAZ-LAB-NL Performance Highlight

Parameter	Specification	Unit
Wavelength	1550.12, other available in C-Band	nm
Laser output power tunability	10 to 40	mW
Linewidth	< 0.1	kHz
Connection	User friendly Graphical User Interface -	
Dimensions	270 x 270 x 59	mm ³

Applications

- Sensing
- Coherent LIDAR
- Hydrophone
- Cold atoms
- Laser seeder
- Interferometry
- Spectroscopy

Exail reserves the right to change, at any time and without notice, the specifications, design, function or form of its products described herein.

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Optical Characteristics

Parameter	Symbol	Condition	Specification	Unit
Wavelength	λ	-	1550.12, other available in C-Band	nm
Wavelength tuning range	$\Delta\lambda$	Thermally	1	nm
Laser output power tunability	ΔP_{out}		10 to 40	mW
Output power stability	-	Over 12hours, 40 mW at 23°C room temperature	< 1	%
Linewidth	$\Delta\nu$	Intrinsic linewidth	< 0.1	kHz
Frequency noise @ 100 Hz	FN	-	750	Hz ² /Hz
Frequency noise @ 1 kHz	FN	-	130	Hz ² /Hz
Frequency noise @ 10 kHz	FN	-	30	Hz ² /Hz
Relaxation oscillation frequency	ROF		> 75	kHz
Relative intensity noise @ peak frequency	RIN	-	< -80	dBc/Hz
Relative intensity noise @ 10MHz	RIN	-	< -130	dBc/Hz
Polarization Extinction Ratio	PER	-	> 30	dB
Communication interface	-	-	RS232 over USB	-

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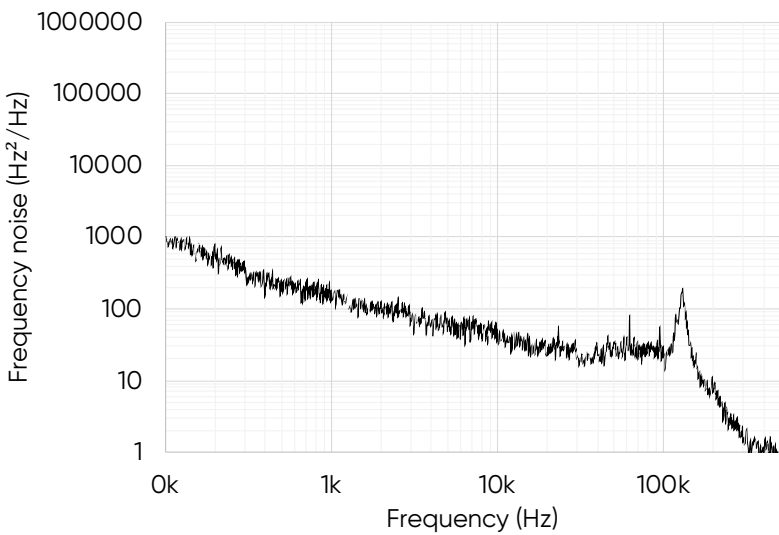
Interfaces, Dimensions and Compliance

Parameter	Symbol	Condition	Specification	Unit
Optical output connector	-	Front panel	Panda FC/APC	-
Power supply	-	Rear panel	DC POWER JACK 2.1 mm - 5 V - 6 A	-
Operating temperature	-	Environnemental	+ 18 to + 35	°C
Storage temperature	-	Environnemental	-20 to +50	°C
Width x Depth x Height	-	Dimensions	270 x 270 x 59	mm ³
Weight	-	-	5	kg
Optical standard	-	-	EN 60825-1 (2014)	-
			EN 60825-14 (2004)	
Laser class	-	-	Class 1M	-

Maximum ratings

Parameter	Symbol	Condition	Specification	Unit
Power supply	V _{AC}	-	110-220	V

Frequency Noise Curve



Ordering information

LAZ-LAB-NL-□-FA

Operating wavelength:
1550.12 (1550.12 nm) standard
15xx.xx (15xx.xx nm), in C-band

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