LAZ-LAB-NL-1560

Narrow Linewidth Single Frequency Fiber Laser

iXblue'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-1560 is tunable over 1 nm with an output power up to 40 mW and provides a single longitudinal linear polarization.

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

APPLICATIONS

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

LAZ-LAB-NL-1560 Performance Highlights

Parameter	
Wavelength	1560 nm Other wavelengths available in C-Band
Wavelength tuning range	1 nm
Laser output power tunability	1 mW to 40 mW
Output power stability (1)	< 1 %
Linewidth (2)	< 0.1 kHz
Frequency noise @ 100 Hz	750 Hz^2 / Hz
Frequency noise @ 1 kHz	130 Hz^2 / Hz
Frequency noise @ 10 kHz	30 Hz^2 / Hz
Relaxation peak	~ 75 kHz
RIN @ peak frequency	< -80 dBc / Hz
RIN @ 10 MHz	< -130 dBc / Hz
Output fiber	Polarization maintaining fiber, Panda type
Polarization Extinction Ratio (PER)	> 23 dB
Operating temperature range	18 - 35 °C
Optical connector	FC/APC
Power supply	110 - 220 V_{AC}
Communication interface	RS232 over USB
Dimensions	270 mm x 270 mm x 59 mm
Weight	5 kg

(1) Over 12h, 40 mW output power, 23 °C room temperature
(2) Intrinsic linewidth

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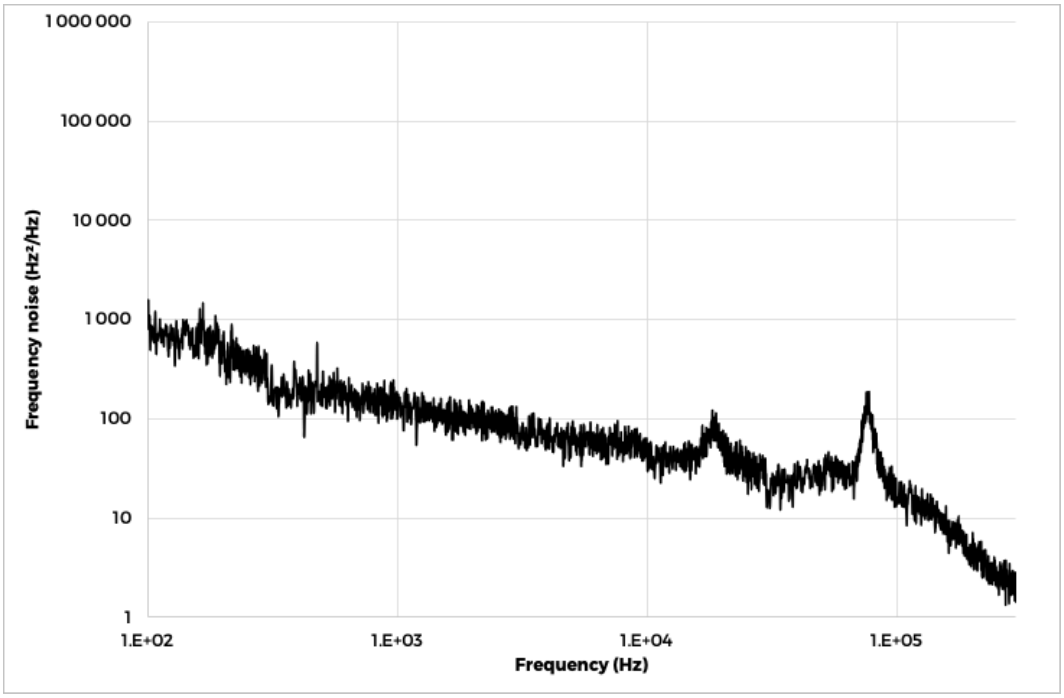
Frequency Noise Curve



Ordering information

LAZ-LAB-LN-1560-FA: 1560 nm, Narrow Linewidth Laser Module, FC/APC

About us

iXblue Photonics produces specialty optical fibers and Bragg gratings based fiber optics components and provides optical modulation solutions based on the company lithium niobate ($LiNbO_3$) modulators and RF electronic modules.
iXblue Photonics serves a wide range of industries: sensing and instruments, defense, telecommunications, space and fiber lasers as well as research laboratories all over the world.

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