



Narrow Linewidth Erbium-Doped Fiber DFB Seed Laser

Precilasers' narrow-linewidth Erbium-doped fiber DFB laser is realized by writing fiber gratings on erbium-doped optical fibers. It can cover any wavelength between 1525-1610nm with a linewidth of 1kHz/2kHz.

Features

- Narrow Line Width
- Tunable
- Never Mode-hop
- Linear Polarization
- Continuous Laser

Application

- Quantum Computing
- Quantum Precision Measurement
- Sensing



Specification		
Part Number	FL-SF-XXXX-S ⁽¹⁾	
Wavelength Optional Range	1525-1580nm	1580-1610nm
Common Wavelengths	1542nm, 1550.12nm, 1560.48nm, 1590nm	
Output Power	> 10mW	
Tuning Range (Temperature)	> 1nm, Never Mode-hop	
Output Mode	Single-mode polarization-maintaining fiber	
Line Width ⁽²⁾ (100us integration time)	< 1kHz ⁽³⁾	< 2kHz
Frequency Noise[Hz/rtHz]	65@100Hz, 26@1kHz, 13@10kHz	
Phase Noise[urad/rtHz]@1m	2.0@100Hz, 0.8@1kHz, 0.4@10kHz	
Polarization Extinction Ratio (PER)	> 23dB	
Power Stability (3 hour RMS)	< 0.75%	
Beam Quality	$M^2 < 1.05$	
Intensity Noise (10Hz-10MHz integration)	< 0.1%	
Intensity Noise (10MHz)	< -140dBc/Hz	
Intensity Noise (Peak)	< -110dBc/Hz	
Relaxation Oscillation Peak Frequency	0.8-3MHz	
PZT Tuning Range	> 3GHz	
PZT Tuning Bandwidth	> 5kHz	

(1) XXXX represents the integer part of the central wavelength, for example, a seed laser of 1550.12 nm is model FL-SF-1550-S.

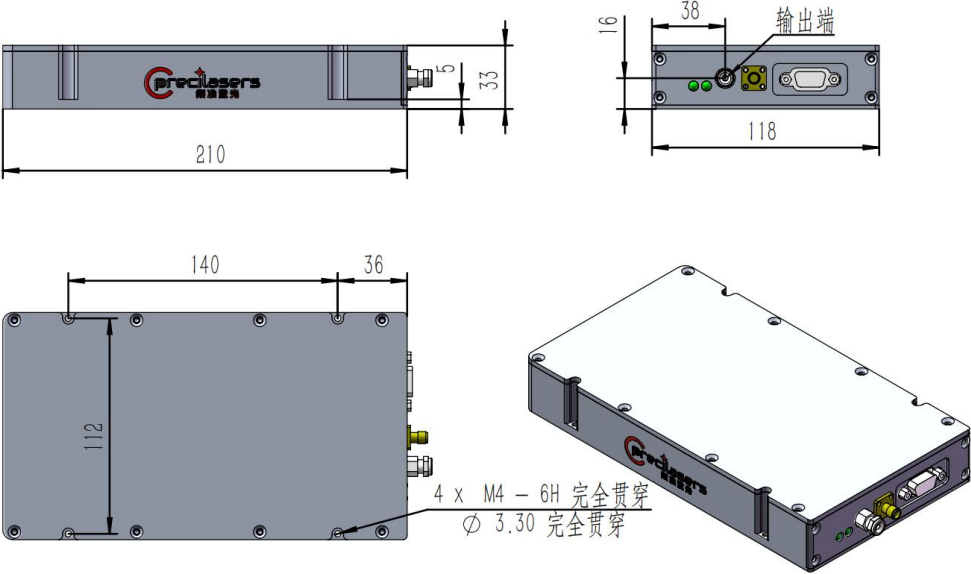
(2) Fiber delay self-heterodyne beat frequency measurement

(3) Narrow linewidth option, available for 1525-1610nm

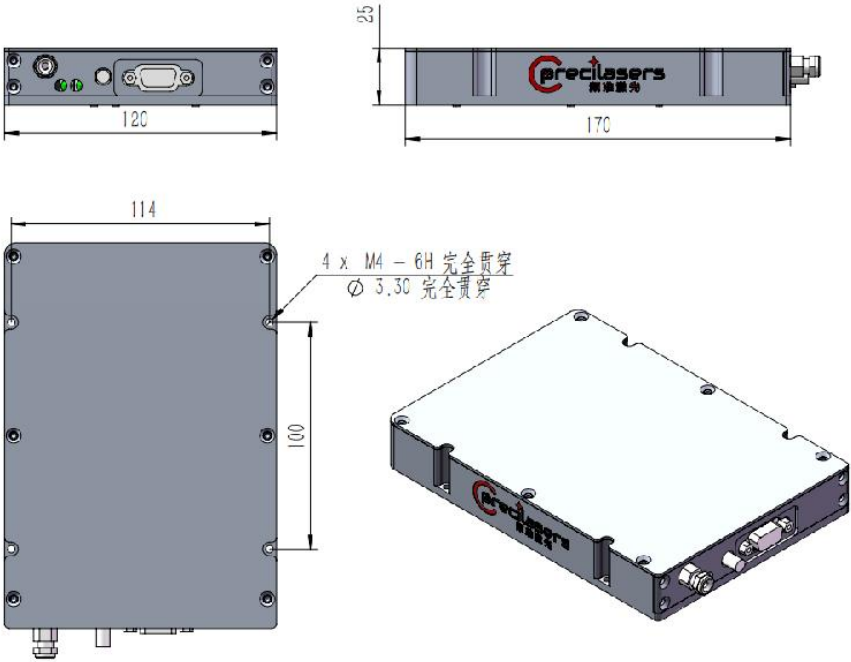
Options	
AOM Options	Adding AOM and VCO driver between seed and amplifier enables 500kHz tuning bandwidth and > ±5MHz tuning range
EOM-RF Options	Adding EOM between the seed and the amplifier to achieve sideband modulation

Other Parameters	
Weight	< 1.1kg
Operating Temperature	10°C-60°C
Power Consumption	< 15W
powered By	12V, 1A, DC
Power Adapter	Enter: 100-240V AC, 50-60Hz, 1.4A; Output: 12V 5A DC

❖ Product Dimensions

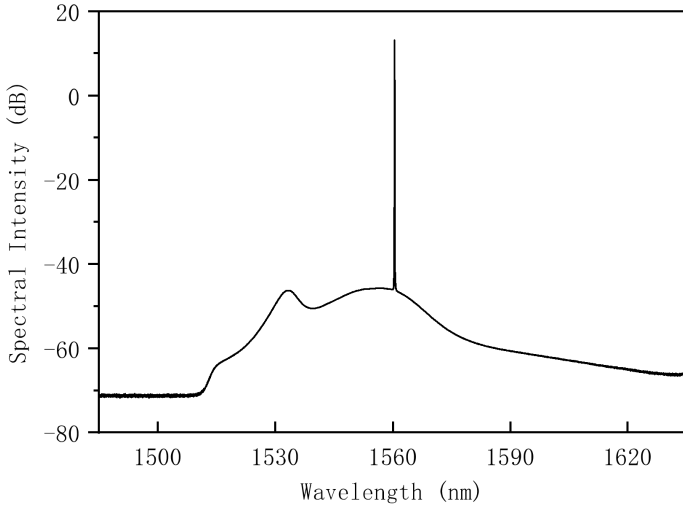


Standard product dimensions (default dimensions)

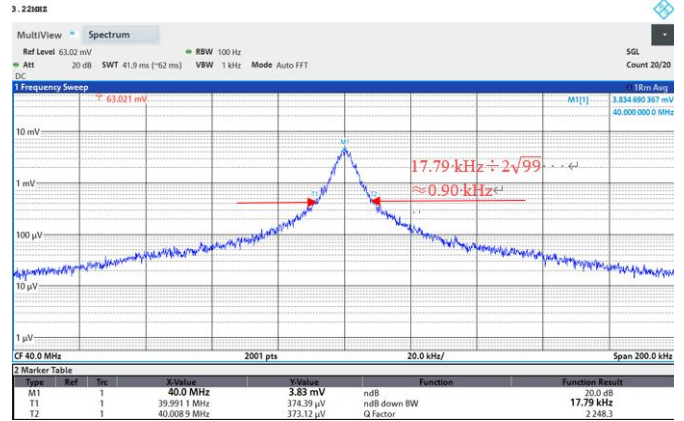


Small product dimensions

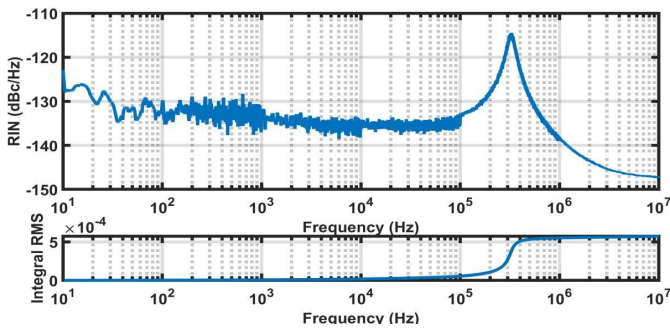
❖ Performance index test (typical value)



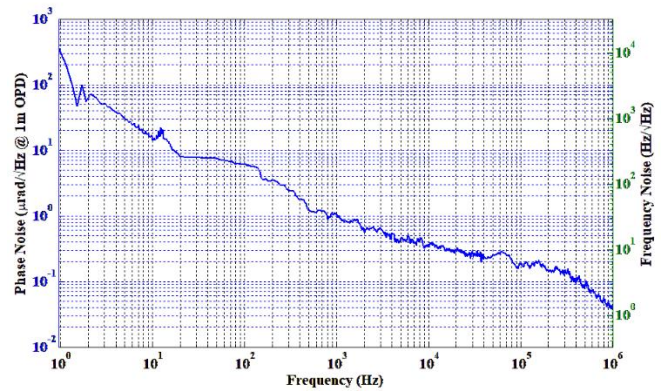
Output spectrum: Signal-to-Noise Ratio 58.75dB



Line width test chart: 0.90kHz



Relative intensity noise test (RIN) : 0.06% [10Hz-10MHz]



Phase noise, frequency noise test chart



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⚠ Laser Hazard

Visible or invisible laser radiation, avoid eye or skin exposure to direct, reflected or filtered radiation.

CLASS 4 Laser Products