



Narrow Linewidth Ytterbium-Doped Fiber DFB Seed Laser

Precilasers' narrow-linewidth Ytterbium-doped fiber DFB laser is realized by writing fiber gratings on Ytterbium-doped fiber. It can achieve any wavelength in the range of 1014-1162nm with a linewidth of only 3kHz/10kHz.

Features

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

Application

- Quantum Computing
- Quantum Precision Measurement
- Optical Precision Measurement



Specification		
Part Number	FL-SF-XXXX-S ⁽¹⁾	
Wavelength Optional Range	1014-1162nm	
Frequently Used Wavelengths	1018nm, 1064nm, 1112nm	
Output Power	> 10mW	> 50mW
Tuning Range (temperature)	> 0.7nm, Continuous without mode jumping	
Output Mode	Single-mode polarization-maintaining fiber	
Line Width ⁽²⁾ (100us integration time)	< 3kHz ⁽³⁾	< 10kHz
Polarization Extinction Ratio (PER)	> 23dB	
Power Stability (3 hour RMS)	< 0.5%	
Beam Quality	$M^2 < 1.05$	
Intensity Noise (10Hz-10MHz integration)	< 0.03%	
Intensity Noise (10MHz)	< -140dBc/Hz	
Intensity Noise (Peak)	< -130dBc/Hz	
Relaxation Oscillation Peak Frequency ⁽⁴⁾	1-3MHz	
PZT Tuning Range	> 3GHz	
PZT Tuning Bandwidth	> 5kHz	

(1) XXXX represents the integer part of the central wavelength, for example, a seed laser of 1064.00 nm is model FL-SF-1064-S.

(2) Fiber delay self-heterodyne beat frequency measurement

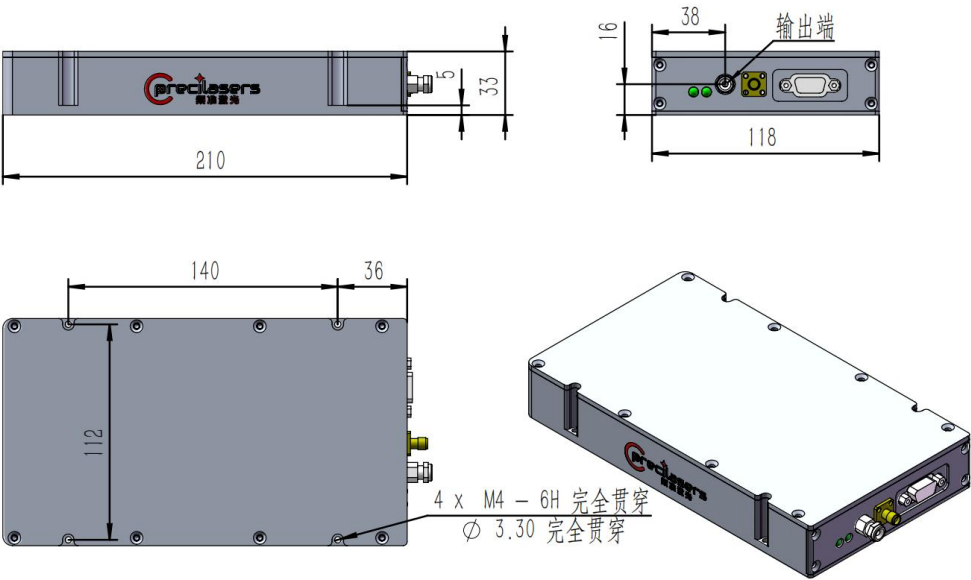
(3) Narrow linewidth option, available for 1016-1156nm

(4) No relaxation oscillation peak can be selected, and the relaxation oscillation peak frequency is less than -140dBc/Hz

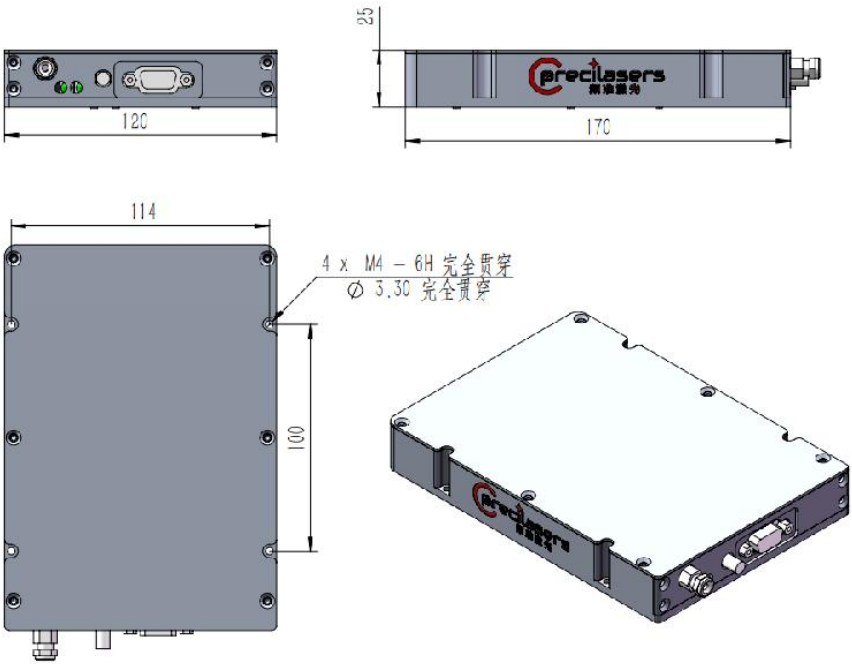
Options	
AOM Options	Adding AOM and VCO driver between seed and amplifier enables 500kHz tuning bandwidth and ± 5 MHz tuning range
EOM-RF Options	Adding EOM between the seed and the amplifier to achieve sideband modulation

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

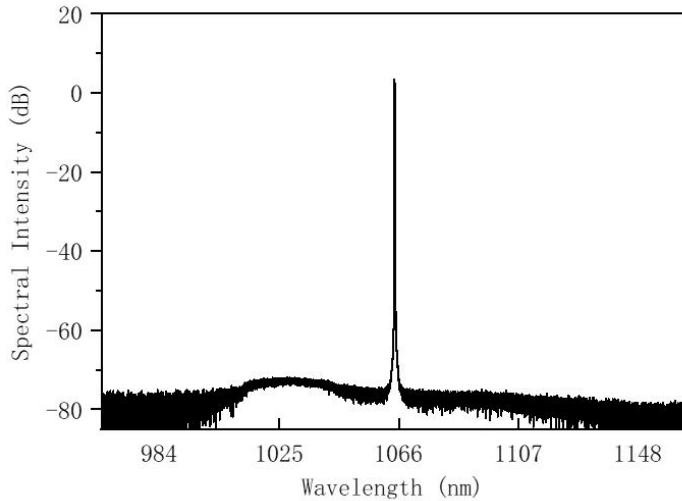


Standard product dimensions (default dimensions)

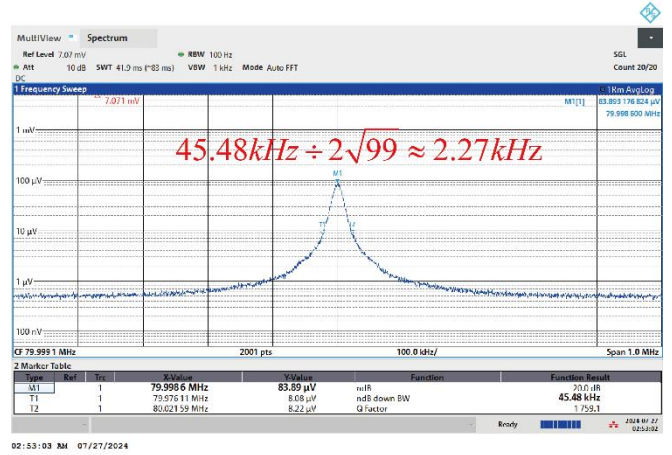


Small product dimensions

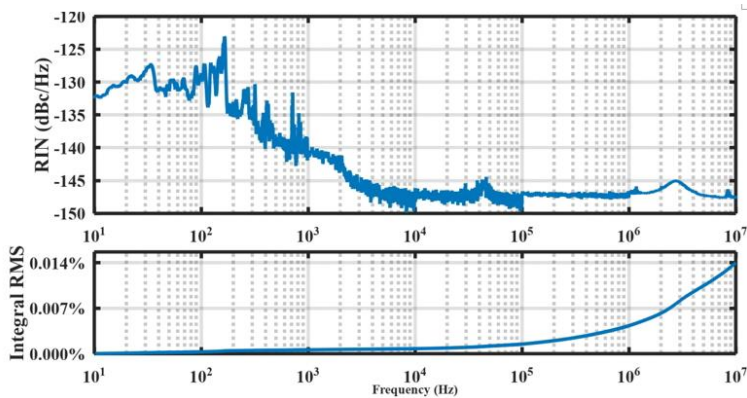
❖ Performance(typical value)



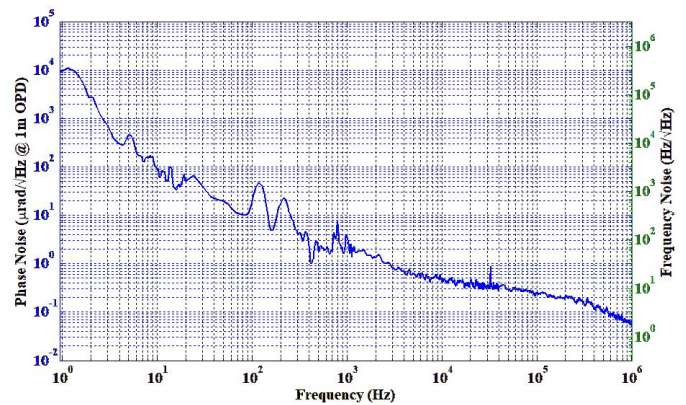
Output spectrum: Signal-to-Noise Ratio 79dB



Line width test chart: 2.27kHz



Relative intensity noise test (RIN) :0.014%[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