



Narrow Linewidth Thulium-Doped Fiber DFB Seed Laser

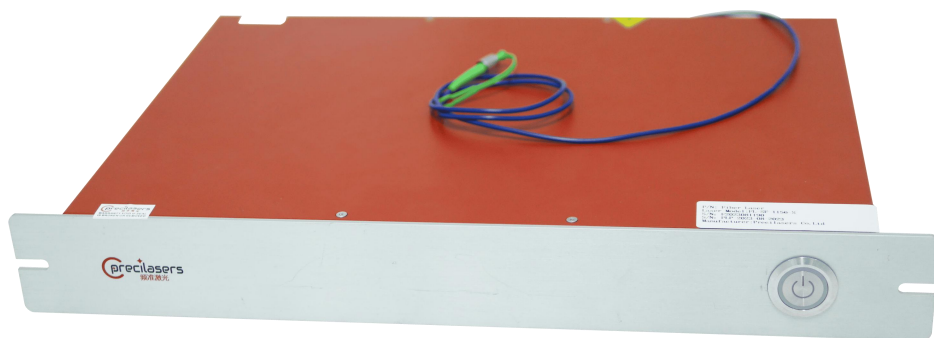
Precilasers' narrow linewidth thulium-doped fiber DFB laser is realized by writing fiber gratings on thulium-doped fiber, which can achieve the full range of 1695-2140nm. It is widely used in quantum computing, for example, 1762nm can be used in quantum computing systems based on Ba^+ .

Features

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

Application

- Ba^+ Quantum Computing
- Quantum Computing
- Quantum Precision Measurement



Specification		
Part Number	FL-SF-XXXX-S ⁽¹⁾	
Wavelength Optional Range	1695-2140nm	
Frequently Used Wavelengths	1762nm	
Output Power	> 10mW@>1695nm	> 5mW@>2050nm
Tuning Range (Temperature)	> 1nm, Never Mode-hop	
Output Mode	Single-mode polarization-maintaining fiber, FC/APC connector	
Line Width ⁽²⁾ (100us integration time)	< 5kHz ⁽³⁾	< 10kHz
Polarization Extinction Ratio (PER)	> 23dB	
Power Stability (3 Hour RMS)	< 0.75%	
Beam Quality	$M^2 < 1.05$	
Intensity Noise (10Hz-10MHz integration)	< 0.05%	
Intensity Noise (10MHz)	< -140dBc/Hz	
Intensity Noise (Peak)	< -130dBc/Hz	
Relaxation Oscillation Peak Frequency	< 1MHz	
PZT Tuning Range	> 3GHz	
PZT Tuning Bandwidth	> 5kHz	
Cooling	Air Cooling	Water Cooling

(1) XXXX represents the integer part of the central wavelength, for example, a seed laser of 1762.00 nm is model FL-SF-1762-S.

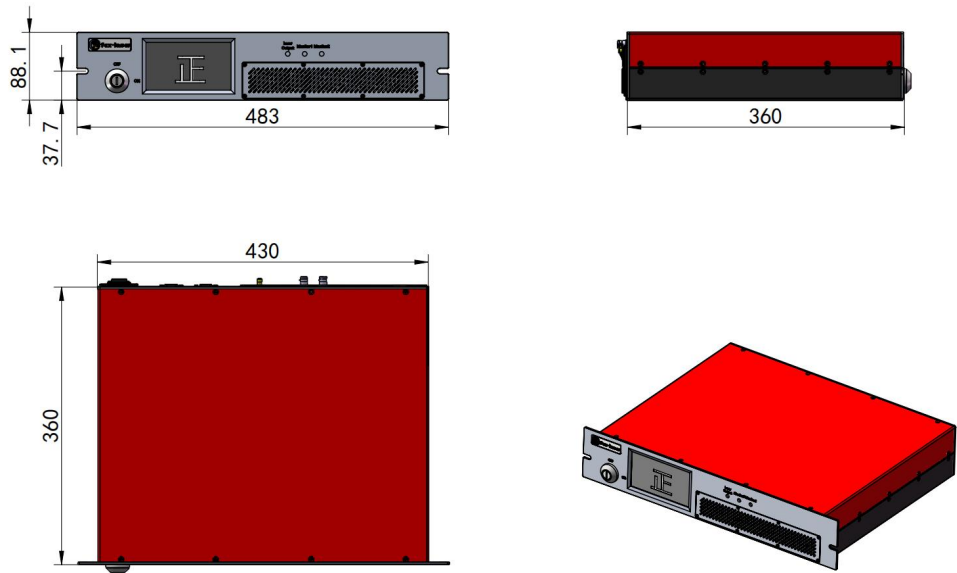
(2) Fiber delay self-heterodyne beat frequency measurement

(3) Narrow line width options, 1730-2100nm has such options

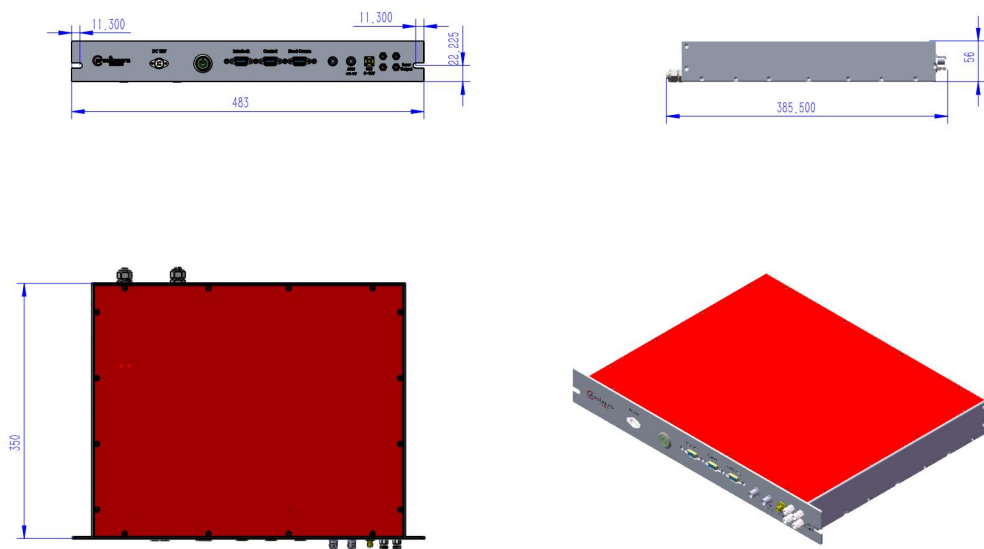
Options	
AOM Options	Adding AOM and VCO driver between seed and amplifier enables 500kHz tuning bandwidth and >±5MHz tuning range

Other Parameters		
Cooling	Air Cooling	Water Cooling
Weight	< 9kg	< 15kg
Operating Temperature	15°C-30°C	
Power Consumption	< 70W	
Powered By	100V-220V, AC, 50Hz	

❖ Product Dimensions

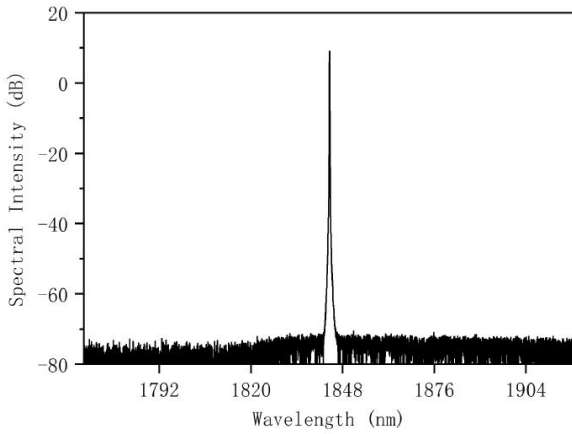


Dimensions - Air Cooling

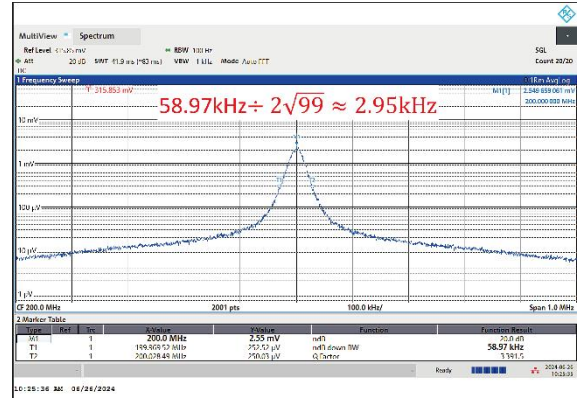


Dimensions-Water Cooling

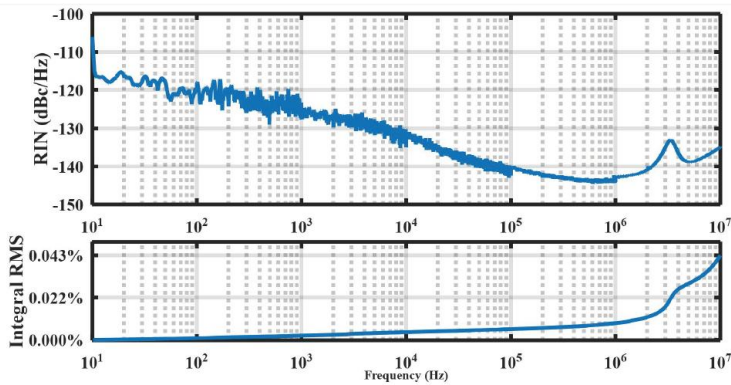
❖ Performance(typical value)



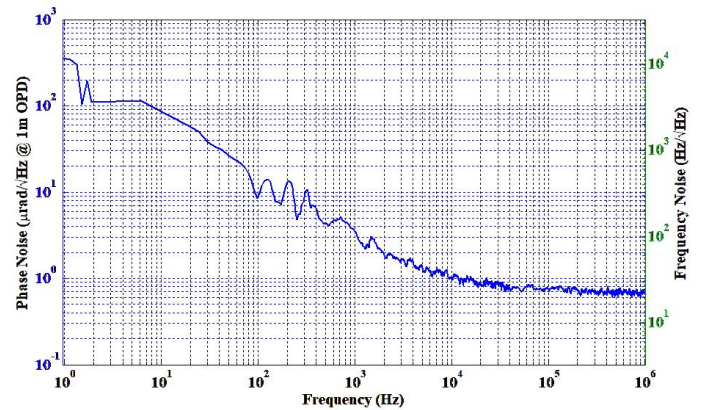
Output spectrum: Signal-to-Noise Ratio 80.25dB



Line width test chart: 2.95kHz



Relative intensity noise test (RIN) :0.043%[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