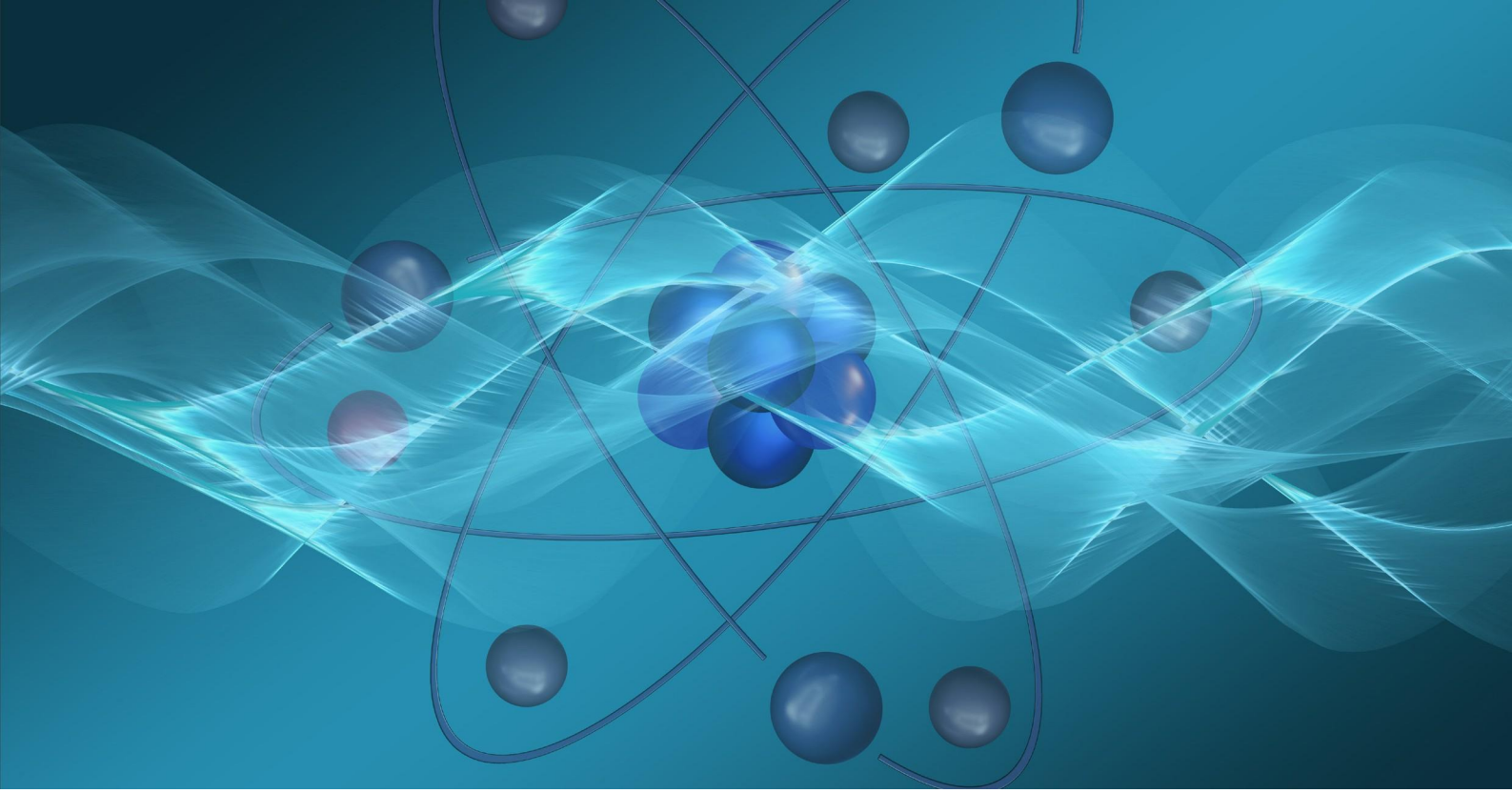


780nm Narrow Linewidth Laser (FECL)

Based on fixed external cavity semiconductor seed laser, low noise erbium doped fiber amplifier and high efficiency frequency doubling module, Precilasers can provide high power 780nm laser, which is widely used in quantum precision measurement and optical precision measurement.

Features

- Narrow Linewidth
- Tunable
- Continuous Laser

- **Applications**
- Rubidium Atom Quantum Computing
- Rubidium Atomic Gravimeter
- Precision Distance Measurement

precilasers 频准激光

Specification							
Partnumber	FECL-SF-780-X(1)-CW						
Center Wavelength	780.24nm						
Output Power	>0.2W	>0.5W	>1W	>2W	>5W	>8W	>20W
Operation Mode	Continuous						
Tuning Range (temperature)	> 15GHz, Continuous without mode hop						
Output Mode	Single-mode polarization-maintaining fiber output (2)			Spatial collimation output, diameter 0.6-1mm			
Linewidth (3) (100us integration)	< 10kHz			< 20kHz			
Polarization Extinction Ratio	> 20dB						
Power Stability (3 Hours RMS)	< 0.75%						
Beam Quality	M^2 < 1.1						
Current Tuning Range	> 1GHz						
Current Tuning Bandwidth	> 1MHz						
Cooling	Air Cooling						

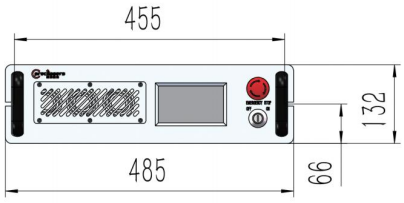
(1)X represents power, for example, if the power is 2W, the model is FL-SF-780-2-CW
(2) You can also choose spatial collimation output at low power, with a diameter of 0.7-1mm. The single-mode polarization-maintaining fiber has a default FC/APC connector. Please pay attention to the cleanliness of the fiber end face when using it.
(3)Fiber Delay Self-Heterodyne Beat Frequency Measurement

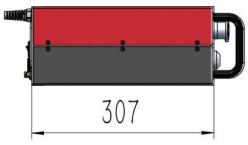
Other Parameters	
Temperature	15-30℃ (1)
Power Supply	100-240V AC, 50/60Hz

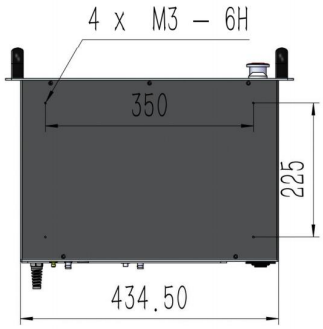
(1) High temperature environment option: can be used in 0-50℃ environment

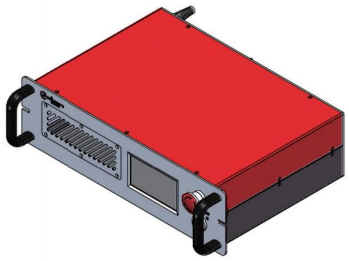
precilasers 频准激光

❖ Dimension

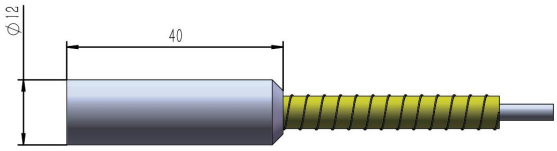




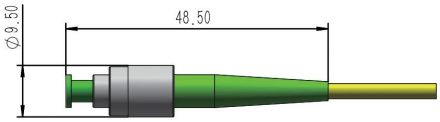




Laser Controller Size

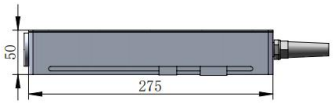


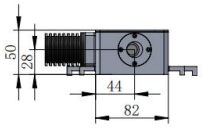
780波导输出准直头

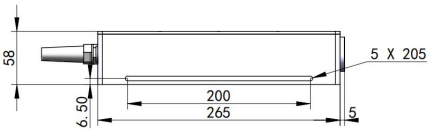


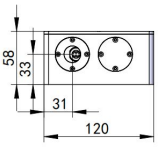
780波导输出跳线头

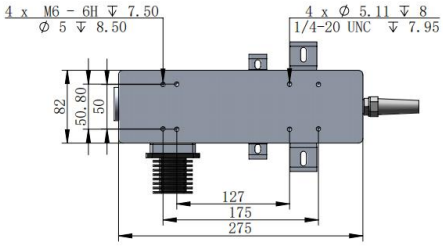
PM fiber output, Power ≤2W

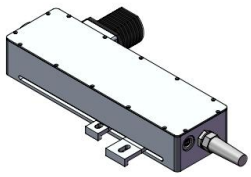




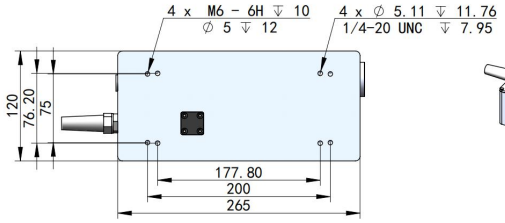


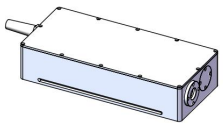




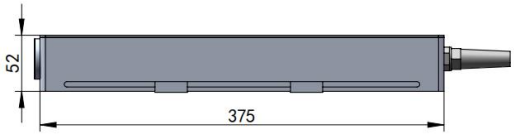


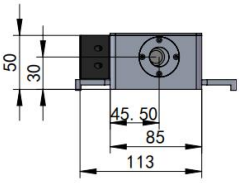
Free space output laser head size
（Power ≤1.5W）

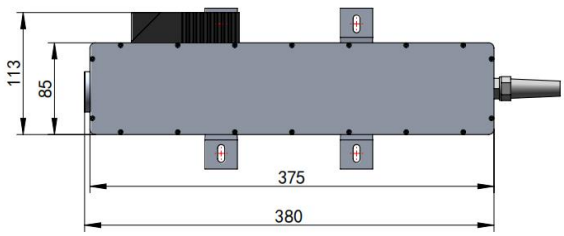


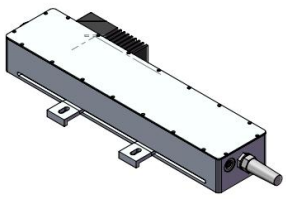


Free space output laser head size
（1.5W＜Power ≤7W, no 1560nm laser output）



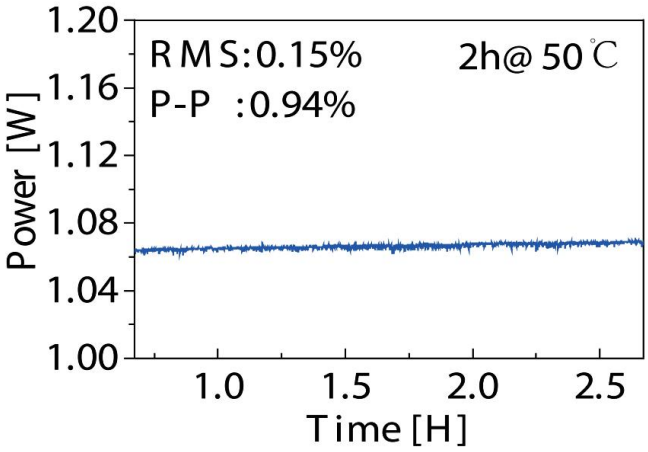


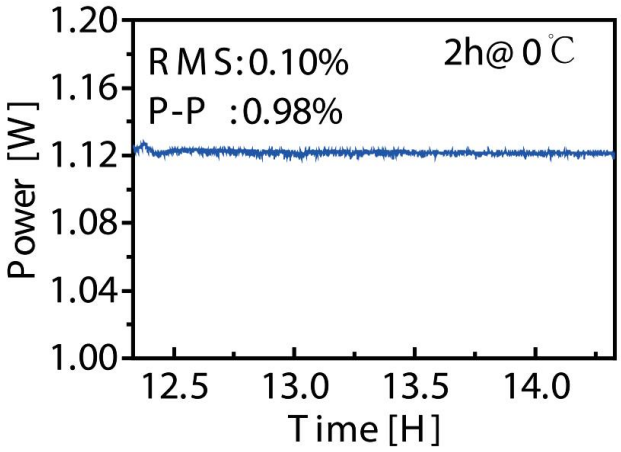




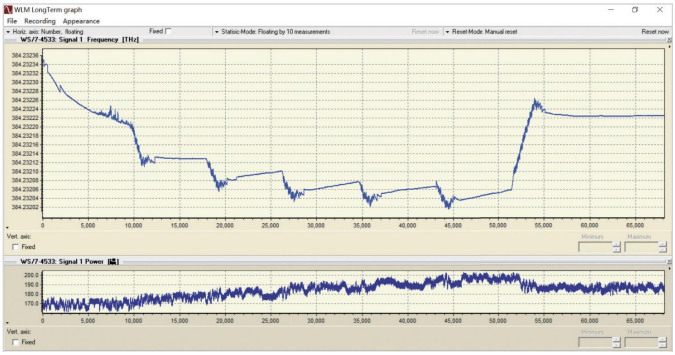
Free space output laser head（Power＞7W）

❖ Performance(typical value)

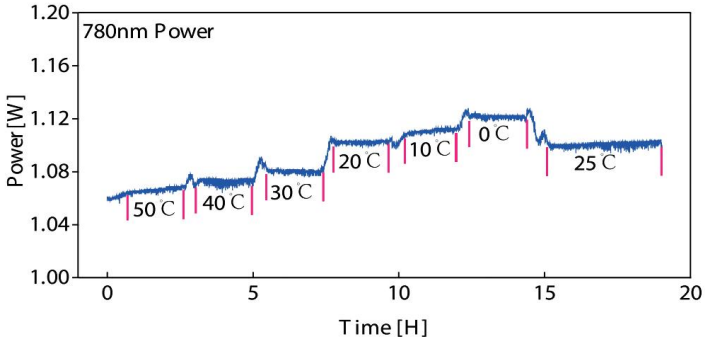




780nm power stability @ 0℃ and 50℃

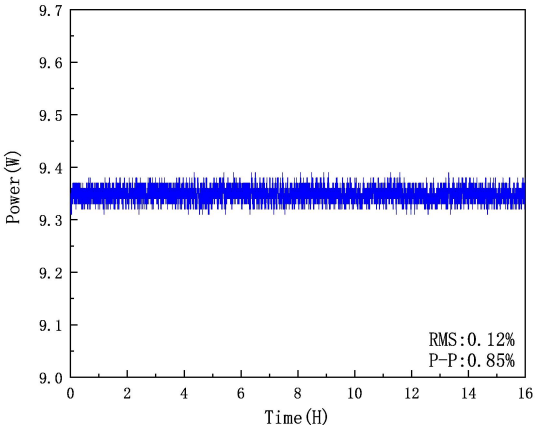


The influence of high and low temperature on frequency stability: the frequency change is 340MHz at 0-50℃, and the free-running drift at 25℃ is about 40MHz



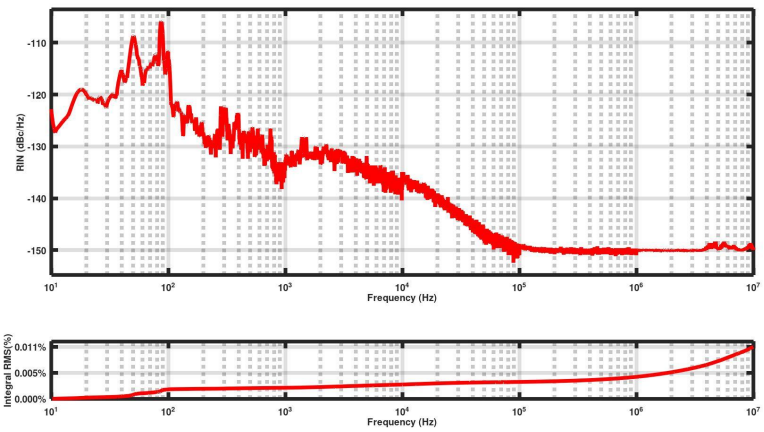
Effect of high and low temperature on power stability

High and low temperature storage test, -30℃~70℃, can work normally after the test

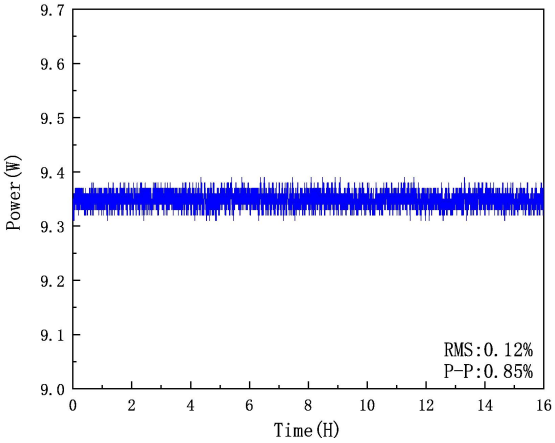


9W 780nm Power stability

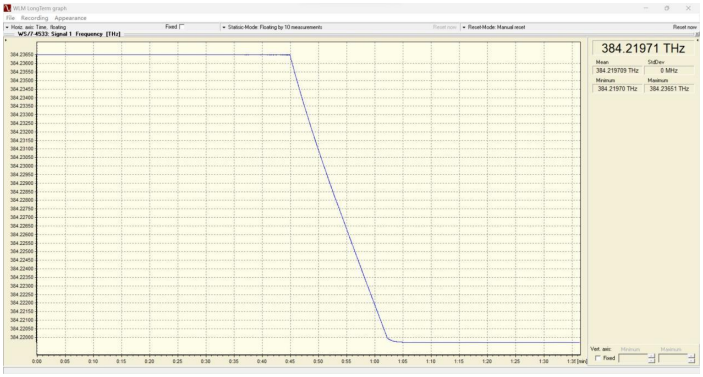
❖ Performance(typical value)



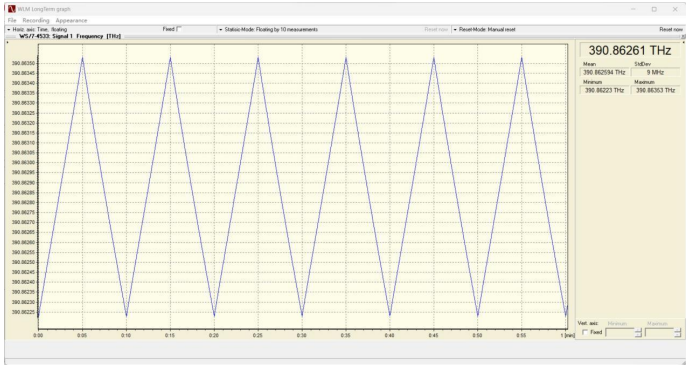
9W 780nm Intensity noise test



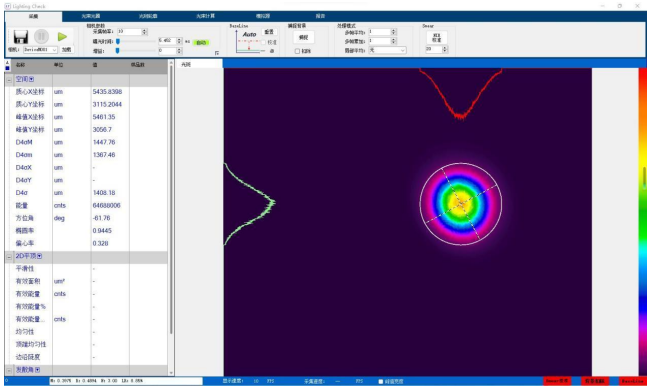
9W 780nm Power stability test



Continuous temperature tuning 16.8GHz@780nm



Continuous current tuning 1.2GHz@780nm



780nm Beam quality，M^2<1.1

Shanghai Precilasers Technology Co., Ltd.
Floor 2, Building 2, No. 1918, Xupan Road, Jiading District, Shanghai
021-59160265

www.precilasers.com info@precilasers.com

⚠ Laser Hazard

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

CLASS 4 Laser Products