

## SINGLE PASS SFG FIBER LASER

Narrow Linewidth, Low Frequency Drift, Mode-hopping Free, Active Power Stability, Excellent Beam Quality



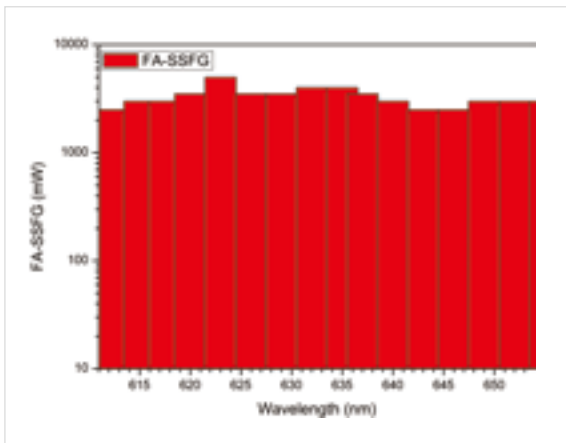
PreciLasers offers a single pass SFG fiber laser (FL-SSFG), which uses ultra-narrow linewidth fiber DFB laser as seeds, all fiber amplifiers to boost the output power and single pass PPLN SFG module to get high power 6xx nm laser output. The SFG fiber laser could cover the output wavelengths from 611 to 655 nm, with narrower linewidth (less than 10 kHz in 100 us integration time) and excellent beam quality ( $M^2 < 1.1$ ). It remains mode-hopping-free and stable under wide temperature variation and high mechanical vibration, which is great for frequency locking.

### Key Features:

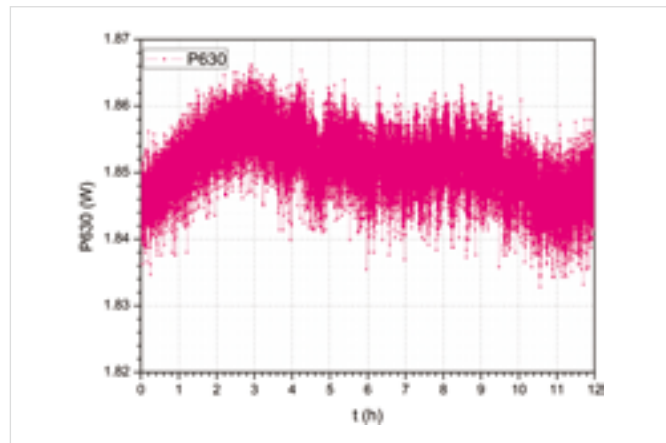
- Narrow Linewidth, tunable
- Active Power Stability
- Stable and maintenance-free
- Good Beam Quality ( $M^2 < 1.1$ )
- High power

### Applications:

- Quantum simulation
- Quantum degenerate gas
- Laser Spectroscopy
- Gases detection



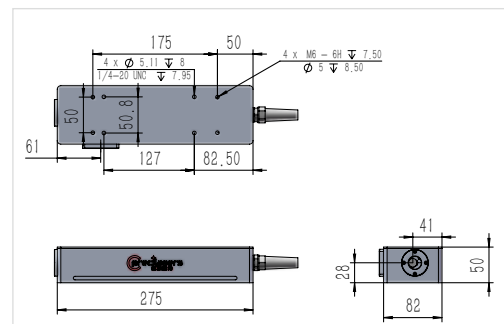
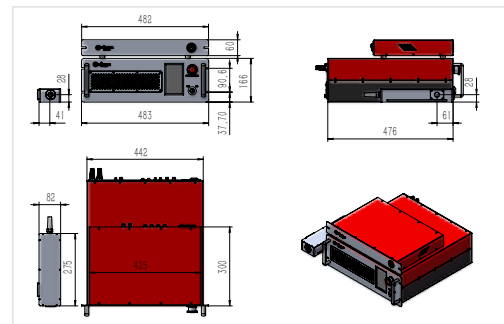
Wavelength-Power



Beam Profile and Power Stability

Model	FL-SSFG-XX-YY-ZZ <sup>1</sup>		
Wavelength <sup>2</sup> , nm	611-656	650-711	806-877
Output Power <sup>3</sup> , W	1-5	5	1-4
Seed Laser	PreciLasers' Fiber DFB Laser or ECDL		
Fast Tuning Range, GHz	>3		
SFG tunable range, nm	>0.2		
Feedback bandwidth, MHz	>1		
Linewidth, kHz	<15		
RMS Power Stability, %	<0.5% @ 3hrs		
Beam Quality	TEM <sub>00</sub> , M <sup>2</sup> < 1.1		
PER, dB	>20		
Beam Diameter, mm	0.7-1.0		
Cooling	Water Cooling/Air Cooling		
Power Supply	50-60Hz, 100-240VAC		

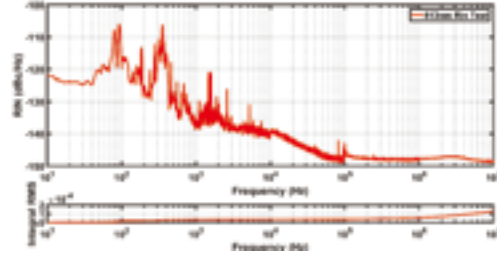
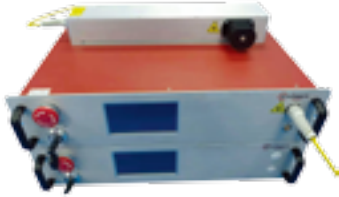
1: XX: Central Wavelength, YY: Maximum Output Power, ZZ: Operation Mode  
 2: Central wavelength can be customized  
 3: High power can be customized



# 759/813NM ULTRA-NOISE SINGLE FREQUENCY LASER

FL-SF-759-XX-CW FL-SF-813-XX-CW

PreciLasers offers a high-power, low intensity noise, narrow linewidth highly reliable 759/813nm fiber laser solution (FL-SF-759-2-CW, FL-SF-813-4-CW) for the magic-wavelength optical for Yb/Sr atomic clock.

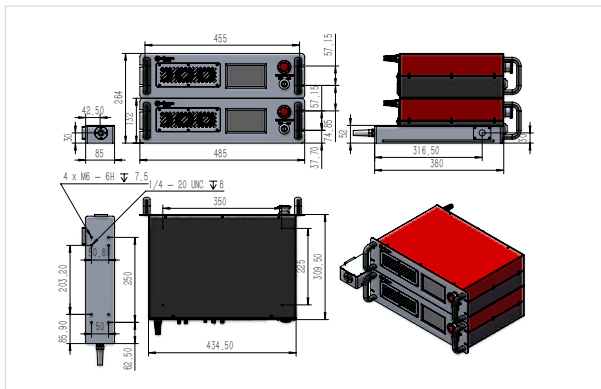


Typical 4 W 813nm laser RIN spectrum

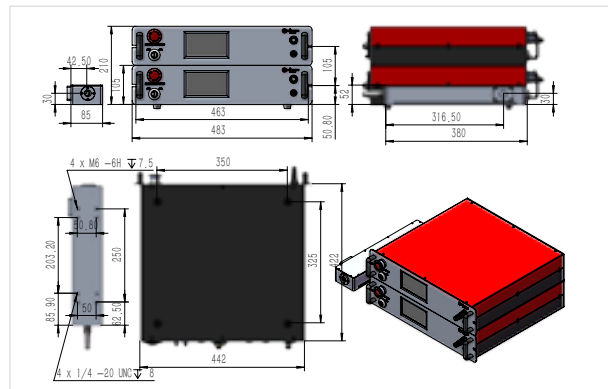
- Narrow Linewidth < 20 kHz
- Low intensity Noise (RIN -140 dBc/Hz @ 100 kHz)
- High output power (2W@759nm 4W@ 813nm)
- Excellent beam quality ( $M^2 < 1.1$ )
- Wavelength Tunable and high feedback bandwidth

Model	FL-SF-759-XX-CW FL-SF-813-XX-CW	
Central Wavelength <sup>1</sup> , nm	759	813
Linewidth(100us integration), kHz	< 50	< 20
Output Power, W	>2	>4
Feedback Bandwidth, MHz	>1MHz	
Tuning Range, GHz	>80GHz	
RIN	RMS Integration: <0.05% (10Hz-10 MHz)	
Beam Quality	TEM <sub>00</sub> , $M^2 < 1.1$	
Polarization	Linearly Polarized , > 300: 1	
RMS Power Stability	<0.2%@8h	
Cooling	Air Cooling/Water Cooling	

1:Wavelength could be selected from 614-1000nm



Size for Air-cooling Version



Size for Water-Cooling Version