



## Tm-Doped Single-Pass FHG Narrow Linewidth Laser

Based on high-power, low-noise Tm-doped fiber lasers amplification and frequency quadrupling technology, Precilasers can provide high-power, narrow linewidth laser output with a wavelength ranging from 440 to 506 nm.



### Features

- Narrow Linewidth
- Low RIN
- High Power
- Power Stability:  $<0.75\%$ rms, 3hrs
- Excellent Beam Quality ( $M^2 < 1.1$ )
- Never Mode-hop
- High Temperature And Vibration Resistance

### Applications

- Lithium Ion, Calcium Ion, Strontium Atom Cooling
- Quantum Simulation
- Laser Spectroscopy
- Medicine And Biophotonics
- Electromagnetically Induced Transparency

Specification			
Partnumber	FL-SF-XXXX-YY-CW <sup>(1)</sup>		
Wavelength Range	440-460nm	460-475nm	475-506nm
Typical Wavelength	455nm	461nm	480nm
Seed Laser Type	Fiber DFB Seed Laser (1760-2024nm)		
Output Power	> 0.05W	> 0.05W/0.4W	> 0.05W/0.4W
Thermal Tuning Range	> 0.25nm, Never Mode-hop		
Output Mode	Free Space Output		
Beam Diameter <sup>(2)</sup>	0.7-1.0mm		
Power Tuning Range	5-100%		
Beam Pointing Stability	< 10 $\mu$ rad		
Linewidth <sup>(3)</sup> (100us)	< 40kHz		
PER	linear, > 20dB		
Power Stability	< 0.75%@3hours, RMS		
Beam Quality	TEM <sub>00</sub> , M <sup>2</sup> < 1.1		
Fast Frequency Tuning Range	> 3GHz		
Fast Frequency Tuning Bandwidth	> 5kHz		
AOM Tuning Range (Optional)	> $\pm$ 5MHz		
AOM Tuning Bandwidth (Optional)	> 500kHz		
RIN	< 0.16% (RMS,10Hz-100MHz)		
Cooling	Air Cooling/Water Cooling		

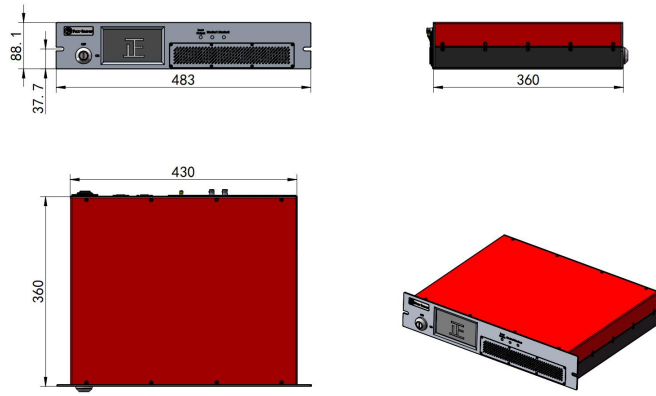
Operation Environment & Power Supply	
Temperature	15-30 °C (Air Cooling) or 15-35 °C (Water Cooling)
Power Supply	100V-240V, AC, 50/60Hz
Communication	RS422

(1)XXXX is the laser center wavelength, YY is the laser power, for a 0.05W 455nm laser,the partnumberis FL-SF-455-0.05-CW

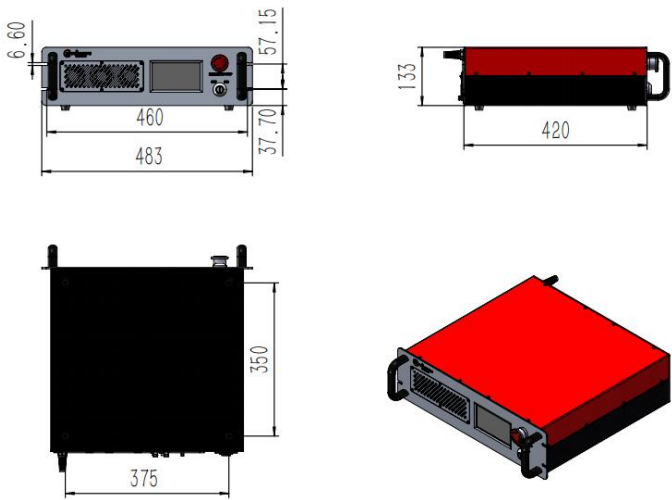
(2)Beam diameter is only applicable to free space output mode

(3)Measured by self-hetrodyne method

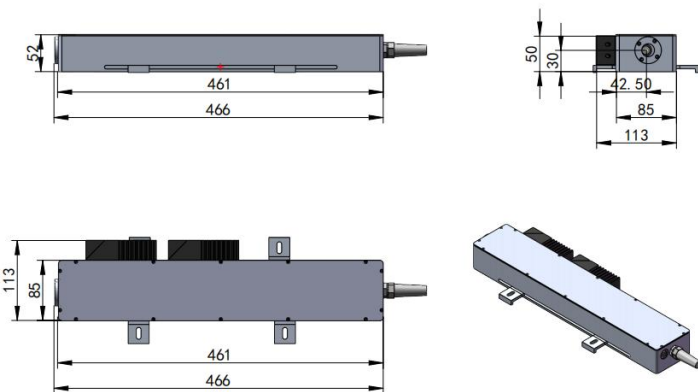
## Tm-Doped Fiber DFB Seed Laser (Air Cooling)



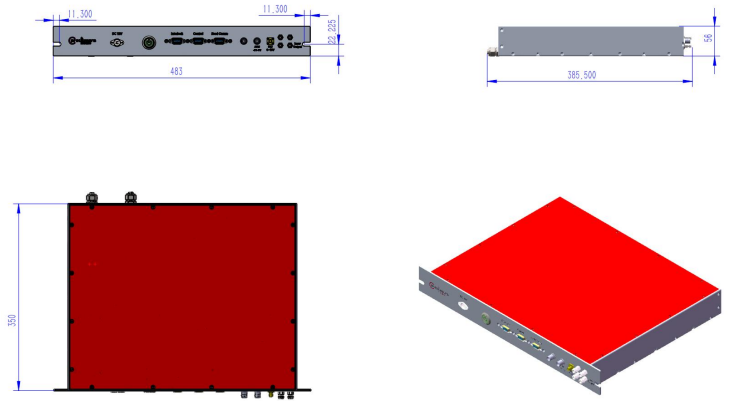
**Air Cooling Control Unit Dimension**



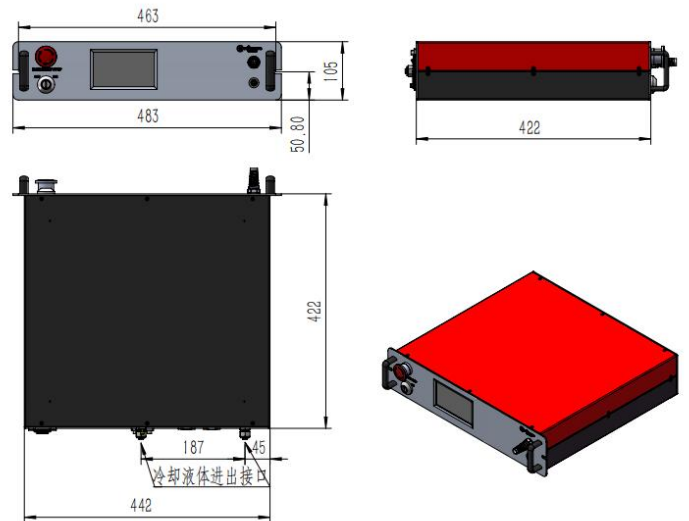
**Laser Head Output Dimension**



## Tm-Doped Fiber DFB Seed Laser (Water Cooling)



**Water Cooling Control Unit Dimension**



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