

514nm Narrow Linewidth Laser

Based on single frequency seed laser, fiber laser amplification and high efficiency frequency conversion technology, Precilasers can provide narrow linewidth 514nm laser with high frequency stability, long lifetime and excellent beam quality.

Features

- High Power
- Narrow Linewidth
- Excellent Beam Quality
- Long Life

Applications

- OPO Pump Source
- Interference Exposure
- Optical Lattice
- Optical Tweezers



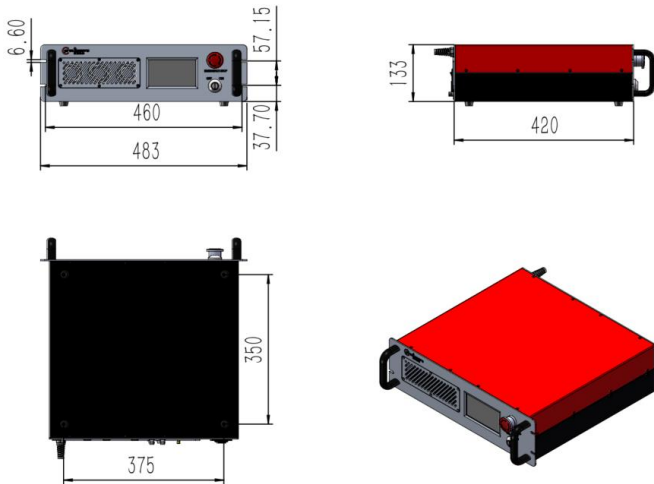
Specification				
Partnumber	FL-SF-514-X ⁽¹⁾ -CW			
Center Wavelength	514.00nm			
Linewidth ⁽²⁾ (100 us integration)	<20kHz			
Operation Mode	Continuous			
Output Power	>1W	>6W	>10W	>30W
Beam Waist Diameter	1±0.15 mm			
Beam Waist Location Relative to Output Window (m)	Output window within ±0.5m			
Beam Divergence (Full Angle)	<1mrad			
Beam Ellipticity	0.9-1.1			
Pointing Stability (μrad)	<15μrad		<50μrad	
Beam Quality	TEM ₀₀ , M²<1.1			
Polarization	Linear, >20dB			
Power Stability	<0.75% @3hours, RMS			
Relative Intensity Noise	<0.2%(RMS, 10Hz-10MHz integration)			
Cooling	Air Cooling	Water Cooling		
Warm-up Time				
Cold Start	<2 hours			
From Standby	<30 minutes			
Dimensions & Weights				
Laser Controller Dimensions	≤483mm x 420mm x 133mm		≤483mm x 420mm x 105mm	
Laser Head Dimensions	≤358mm x 90mm x 70mm (1W)		≤405mm x 260mm x 82mm (6W, 10W, 30W)	
Chiller Dimensions	NA		≤58cm x 29cm x 52cm	
Chiller Weight	≤25kg			
Cable Length between Controller and Head	Fiber length>1.5m			
Operating Environment & Power Supply				
Temperature (No condensation conditions)	15-30 °C (Air Cooling)		15-35 °C (Water Cooling)	
Power Supply	100V-240V, AC, 50/60Hz			
Communication	RS422			

(1) X laser power, in W, for example, output power 10W: FL-SF-514-10-CW.

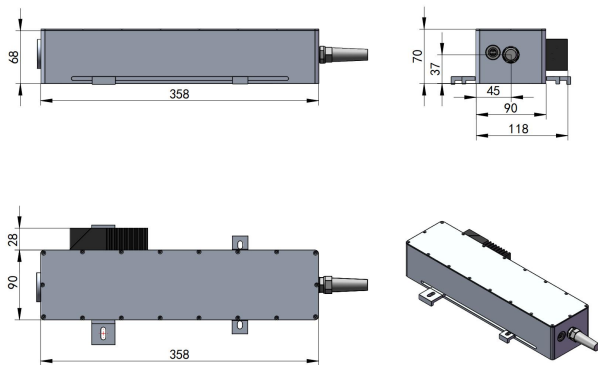
(2) Fiber delay self-heterodyne beat frequency measurement

Air Cooling Version Dimensions (Power: 1W,6W,10W)

Laser Controller



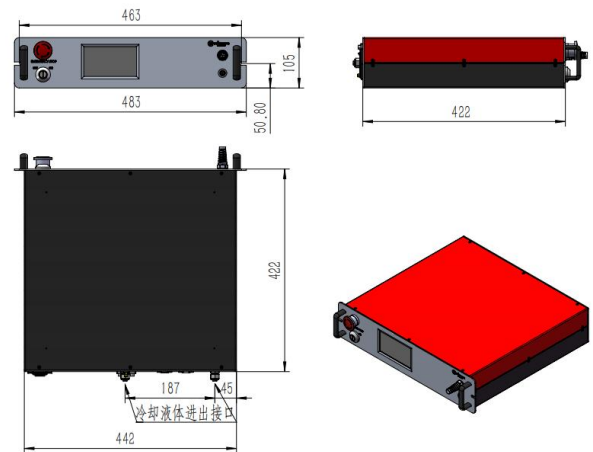
Laser Head(Power 1W)



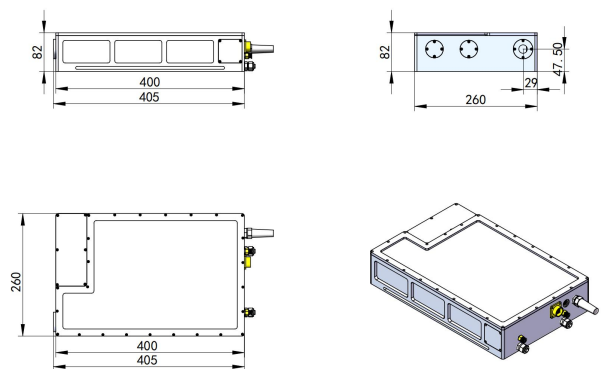
The controller and the output head are connected by a non-detachable optical fiber, the length of the optical fiber is > 1.5 meters

Water Cooling Version Dimensions (Power: 30W)

Laser Controller



Laser Head(Power 6W, 10W, 30W)



The controller and output head are connected by a detachable cable, the cable length is > 1.5 meters



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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

