



FLSA Series

Single Longitudinal Mode Fiber Laser

Data Sheet



Overview

The FLSA Series Single Longitudinal Mode Fiber Lasers provide stable, high-power continuous-wave (CW) output with a narrow spectral linewidth and excellent beam quality. Available in wavelength ranges from 1014nm to 1908nm, these fiber lasers are designed for scientific research, spectroscopy, LiDAR, and precision optical applications.

Features

- Wavelength ranges from 1014nm to 1908nm
- Continuous-wave (CW) operation
- Single-frequency output
- Narrow spectral linewidth
- Polarization-maintaining (PM) fiber output
- Excellent beam quality
- High power stability
- Compact, conduction-cooled design
- FC/APC fiber connector
- Long operating lifetime

Applications

- Fiber amplifier seeding
- Precision spectroscopy
- Interferometry
- Optical trapping
- Quantum optics
- LiDAR
- Optical communications
- Scientific research

1014-1050 nm Specifications

Parameter	FLSA1014	FLSA1018	FLSA1027	FLSA1030	FLSA1040	FLSA1050
Wavelength	1014±1 nm	1018±1 nm	1027±1 nm	1030±1 nm	1040±1 nm	1050±1 nm
Operating mode	CW					
Output power ⁽¹⁾	1-5 W	1-10 W	1-10 W	1-10 W	1-10 W	1-10 W
Power stability (rms, over 4 hours ±3°C)	<2%, <1%, <0.5%					
Transverse mode	TEM ₀₀					
Longitudinal mode	Single					
Current adjustment range	1-100%					
Spectral linewidth	<10 kHz					
Temperature turning range	>0.4 nm					
PZT Turning range	>3 GHz					
PZT Turning bandwidth	>5 kHz					
Relative intensity noise (rms, 10Hz-3MHz)	<0.3%, <0.1%					
Frequency shift over ±2°C and 8 hours	<±200 MHz					
M ² factor	<1.1					
Fiber connector	FC/APC, Collimator optional					
Fiber length	1 m					
Beam diameter	4±1 mm (Collimator output)					
Polarization ratio	>15dB, after PM fiber					
M ² factor	<1.05					
Pointing stability over temperature	<50 urad/°C					
Warm-up time	<30 mins					
Cooled method	Air cooled					
Operating temperature	15-30°C					
Operating voltage	110/220 VAC					
Expected lifetime	>10,000 hours					

1053-1120 nm Specifications

Parameter	FLSA1053	FLSA1064	FLSA1080	FLSA1100	FLSA1120
Wavelength	1053±1 nm	1064±1 nm	1080±1 nm	1100±1 nm	1120±1 nm
Operating mode	CW				
Output power ⁽¹⁾	1-10 W	1-10 W	1-10 W	1-5 W	1-2 W
Power stability (rms, over 4 hours ±3°C)	<2%, <1%, <0.5%				
Transverse mode	TEM ₀₀				
Longitudinal mode	Single				
Current adjustment range	1-100%				
Spectral linewidth	<10 kHz	<10 kHz	<10 kHz	<20 kHz	<100 kHz
Temperature turning range	>0.4 nm				
PZT Turning range	>3 GHz				
PZT Turning bandwidth	>5 kHz				
Relative intensity noise (rms, 10Hz-3MHz)	<0.3%, <0.1%				
Frequency shift over ±2°C and 8 hours	<±200 MHz				
M ² factor	<1.1				
Fiber connector	FC/APC, Collimator optional				
Fiber length	1 m				
Beam diameter	4±1 mm (Collimator output)				
Polarization ratio	>15dB, after PM fiber				
M ² factor	<1.05				
Pointing stability over temperature	<50 urad/°C				
Warm-up time	<30 mins				
Cooled method	Air cooled				
Operating temperature	15-30°C				
Operating voltage	110/220 VAC				
Expected lifetime	>10,000 hours				



1525-1596 nm Specifications

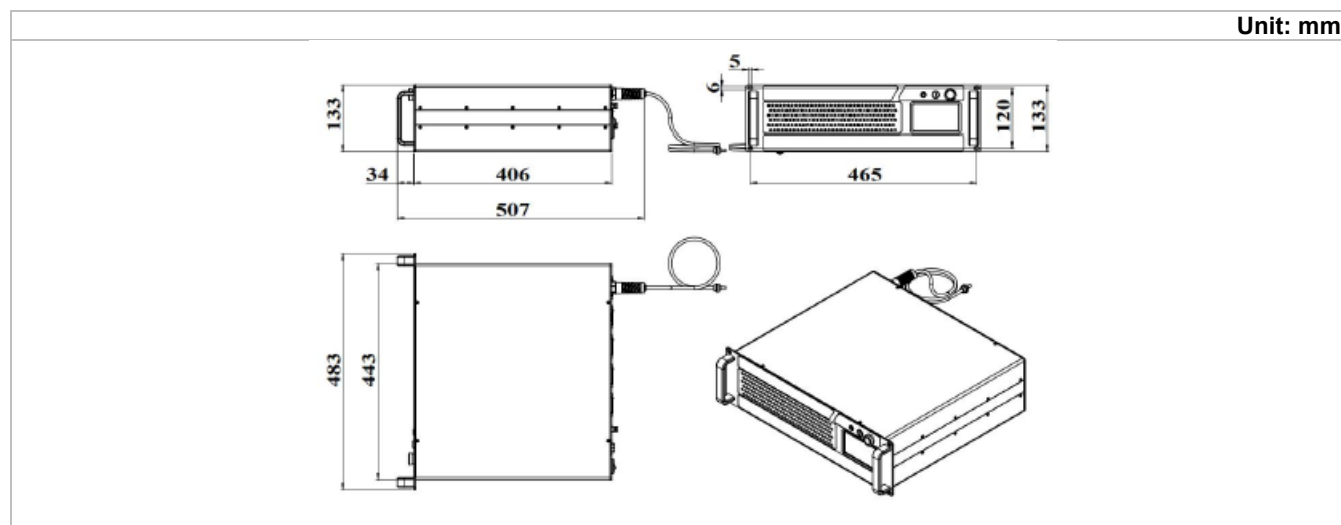
Parameter	FLSA1525-1530	FLSA1530-1570	FLSA1570-1596	FLSA1908
Selectable wavelength range	1525-1530 nm	1530-1570 nm	1570-1596 nm	-
Typical wavelength	1530 nm	1540, 1550, 1560 nm	1570 nm	1908±1 nm
Operating mode	CW			
Output power ⁽¹⁾	1 mW-1 W	1-10 W	1 mW-1 W	1-5 W
Power stability (rms, over 4 hours ±3°C)	<2%, <1%, <0.5%			
Transverse mode	TEM ₀₀			
Longitudinal mode	Single			
Current adjustment range	1-100%			
Spectral linewidth	<10 kHz, <5kHz	<10 kHz, <5kHz	<10 kHz, <5kHz	<50 kHz
Temperature turning range	>0.4 nm	>0.4 nm	>0.4 nm	-
PZT Turning range	>3 GHz	>3 GHz	>3 GHz	-
PZT Turning bandwidth	>5 kHz	>5 kHz	>5 kHz	-
Relative intensity noise (rms, 10Hz-3MHz)	<0.3%, <0.1%			
Frequency shift over ±2°C and 8 hours	<±200 MHz			
M ² factor	<1.1			
Fiber connector	FC/APC, Collimator optional			
Fiber length	1 m			
Beam diameter	4±1 mm (Collimator output)			
Polarization ratio	>15dB, after PM fiber			
M ² factor	<1.05	<1.05	<1.05	<1.1
Pointing stability over temperature	<50 urad/°C			
Warm-up time	<30 mins			
Cooled method	Air cooled			
Operating temperature	15-30°C			
Operating voltage	110/220 VAC			
Expected lifetime	>10,000 hours			

Remarks:

- Any output power level can be selected within this range.
- Specifications of the CW laser is based on the laser performance at full power output after the specified warmup period. The stability of output power may change when output power is adjusted at a different power level.
- Specifications are subject to change without notice.



FLSA Series Laser Head Dimensions



Parameter	FLSF Series
Dimensions	483(L)×507(W) ×133(H) mm ³
Weight	16 kg

Ordering Information

For more information, please contact Lasermate directly at sales@lasermate.com.

Part Number Configuration FLSA[1][2][3][4]				
FLSA = Laser Model Series	[1] = Wavelength	[2] = Output Power	[3] = Power Stability	[4] = Collimator
			2= <2% D= <1% S= <0.5%	Blank= Not included C= With collimator

Note: The above specifications are subject to change without notice.