



SLMU Series

Compact Single Frequency Laser System

Data Sheet



Overview

The SLMU series is a line of visible blue, green, red and infrared CW lasers with single longitudinal mode / single frequency in ultra-compact design. The SLMU series delivers output power levels up to 1000mW and features narrow spectral linewidth, long coherent length, long lifetime, easy operating, and FDA-compliant system with driver. The laser is widely used in DNA sequencing, flow cytometry, cell sorting, optical instrument, spectrum analysis, interference, measurement, holography, physics experiment and many other applications.

Features

- Wavelengths from 473nm to 1342 nm
- Other wavelengths may be customized upon request.
- CW operating mode
- Optical output power up to 1000mW
- Single frequency / single longitudinal mode
- Narrow spectral linewidth <1MHz
- Long coherent length >50m
- Frequency stabilized option
- FDA compliant

Applications

- DNA sequencing
- Flow cytometry
- Cell sorting
- Optical instrument
- Spectrum analysis
- Interference
- Measurement
- Holography
- Physics experiment

473-1030 nm Specifications

Parameter	SLMU473	SLMU532	SLMU914	SLM946	SLM1030
Wavelength	473±1 nm	532±1 nm	914±1 nm	946±1 nm	1030±2 nm
Operating mode	CW				
Output power ⁽¹⁾	1-100 mW	1-1000 mW	1-100 mW	1-200 mW	1-50 mW
Power stability (rms, over 4 hours)	<2%, <1%	<2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%
Transverse mode	TEM ₀₀				
Longitudinal mode	Single				
Spectral linewidth	<1MHz				
Coherent length	>50 m				
Noise of amplitude (rms, 20Hz~20MHz)	<1%, <0.5%	<1%, <0.5%, <0.25%	<1%,	<2%	<1%
Beam diameter at aperture (1/e ²)	<1.2 mm	<1.2 mm	<1.0 mm	<1.0 mm	<1.0 mm
Beam divergence, full angle	<1.5 mrad				
M ² factor	<1.2				
Polarization ratio	>100:1, Vertical	>100:1, Vertical	>100:1, Horizontal	>100:1, Horizontal	>100:1, Horizontal
Warm-up time	<5 min				
Pointing stability over 2 hours after warm-up and ±3°C	<50 urad				
Pointing stability over temperature	<8 urad/°C				
Frequency shift over ±2°C and 8 hrs (optional)	<±200 MHz				
Frequency shift with temp (optional)	<200 MHz/°C				
Laser head consumption	15 W (typical), <25 W (40°C)				
Operating temperature	10-35°C				
Expected lifetime	>10,000 hours				



1047-1122 nm Specifications

Parameter	SLMU1047	SLMU1053	SLMU1064	SLMU1112	SLMU1122
Wavelength	1047±1 nm	1053±1 nm	1064±1 nm	1112±1 nm	1122±1 nm
Operating mode	CW				
Output power ⁽¹⁾	1-500 mW	1-200 mW	700-1000 mW	1-200 mW	1-250 mW
Power stability (rms, over 4 hours)	<3%, <2%	<3%, <2%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%
Transverse mode	TEM ₀₀				
Longitudinal mode	Single				
Spectral linewidth	<1MHz				
Coherent length	>50 m				
Noise of amplitude (rms, 20Hz~20MHz)	<2%	<2%	<1%	<1%	<1%
Beam diameter at aperture (1/e ²)	<1.0 mm				
Beam divergence, full angle	<1.5 mrad				
M ² factor	<1.2				
Polarization ratio	>100:1, Horizontal				
Warm-up time	<5 min				
Pointing stability over 2 hours after warm-up and ±3°C	<50 urad				
Pointing stability over temperature	<8 urad/°C				
Frequency shift over ±2°C and 8 hrs (optional)	<±200 MHz				
Frequency shift with temp (optional)	<200 MHz/°C				
Laser head consumption	15 W (typical), <25 W (40°C)				
Operating temperature	10-35°C				
Expected lifetime	>10,000 hours				

1313-1342 nm Specifications

Parameter	SLMU1313	SLMU1319	SLMU1342
Wavelength	1313±1 nm	1319±2 nm	1342±1 nm
Operating mode	CW		
Output power ⁽¹⁾	1-500 mW	1-100 mW	1-500 mW
Power stability (rms, over 4 hours)	<3%, <2%	<3%, <2%, <1%	<3%, <2%, <1%
Transverse mode	TEM ₀₀		
Longitudinal mode	Single		
Spectral linewidth	<1MHz		
Coherent length	>50 m		
Noise of amplitude (rms, 20Hz~20MHz)	<1%		
Beam diameter at aperture (1/e ²)	<1.0 mm		
Beam divergence, full angle	<1.5 mrad		
M ² factor	<1.2		
Polarization ratio	>100:1, Horizontal		
Warm-up time	<5 min		
Pointing stability over 2 hours after warm-up and ±3°C	<50 urad		
Pointing stability over temperature	<8 urad/°C		
Frequency shift over ±2°C and 8 hrs (optional)	<±200 MHz		
Frequency shift with temp (optional)	<200 MHz/°C		
Laser head consumption	15 W (typical), <25 W (40°C)		
Operating temperature	10-35°C		
Expected lifetime	>10,000 hours		

Remarks:

- Any output power level can be selected within this range.
- The laser head needs to be used on a heat sink with good heat dissipation.
- 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.



SLMU Series Laser Head Dimensions

		Unit: mm
SLMU473/532	SLMU	

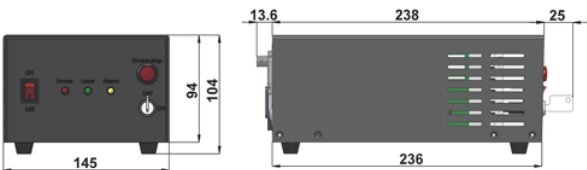
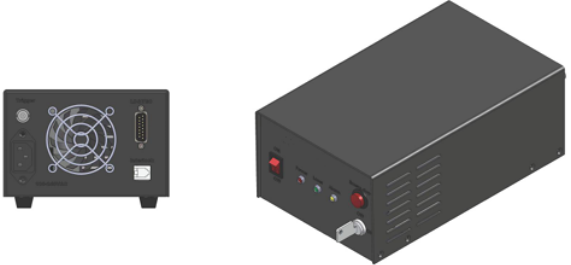
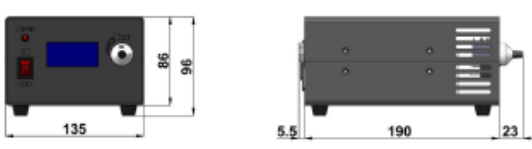
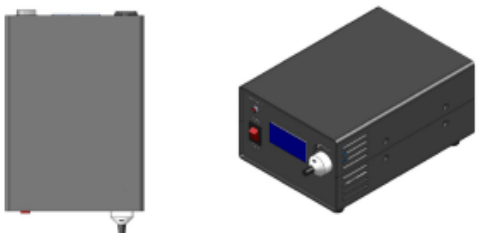
Parameter	SLMU473/532	SLMU
Dimensions	142.5(L)×60(W) ×50(H) mm ³	160(L)×60(W) ×50(H) mm ³
Weight	1.0 kg	0.9 kg
Beam height from base plate	27.4 mm	27.4 mm
Beam exit (from side)	23 mm	30 mm

SLMU Series Heat Sink Dimensions

		Unit: mm
H1		

Parameter	H1
Dimensions	197(L)×117.5(W) ×57.3(H) mm ³
Weight	1.6 kg
Features	

SLMU Series Power Supply Dimensions

High Power Elite Power Supply		H1 Heat Sink Power Supply		Unit: mm
 		 		

Parameter	High Power Elite Power Supply	H1 Power Supply
Dimensions	276.6(L) × 145(W) × 103.6(H) mm ³	218.5(L) × 135(W) × 96(H) mm ³
Weight	2.3 kg	2.6 kg
Input voltage	100-240 VAC	
Feature	Fixed output power	

Ordering Information

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

Part Number Configuration SLMU[1]-[2][3][4][5][6]						
SLMU = Laser Model Series	[1] = Wavelength	[2] = Output Power	[3] = Power Supply	[4] = Power Stability	[5] = Noise of Amplitude	[6] = Frequency Stabilized Option
			H= High Power Elite Power Supply	A= <5% E= <3% 2= <2% D= <1% S= <0.5%	1= <1% L= <0.5% S= <0.25%	Blank = No FS= Yes

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