



# Single Frequency Laser System SLMU Series (IR)

Data Sheet



## Overview

The SLMU IR series is a line of infrared CW lasers with single longitudinal mode / single frequency in ultra-compact design. The SLMU IR series is available in eleven different wavelengths and delivers output power levels up to 1000mW. The laser series 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

- Available wavelengths: 914nm, 946nm, 1030nm, 1047nm, 1053nm, 1064nm, 1112nm, 1122nm, 1313nm, 1319nm, and 1342nm
- Other wavelengths may be customized upon request.
- CW operating mode
- Optical output power 5mW to 1000mW
- Single frequency / single longitudinal mode
- Frequency stabilized option
- FDA compliant

## Applications

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

## 914-1064 nm Specifications

Parameter	SLMU914	SLMU946	SLMU1030	SLMU1047	SLMU1053	SLMU1064	
Wavelength	914±1 nm	946±1 nm	1030±1 nm	1047±1 nm	1053±1 nm	1064±1 nm	
Operating mode	CW						
Output power	>30 mW, >50 mW, >80 mW, >100 mW	>50 mW, >100 mW, >150 mW	>5 mW, >10 mW, >20 mW	>100 mW, >200 mW, >300 mW	>500 mW, >800 mW	>50 mW, >100 mW, >150 mW, >200 mW	>800 mW, >1000 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%	<3%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<5%, <3%	<5%, <3%, <3%	<3%, <2%
Transverse mode	TEM <sub>00</sub>						
Longitudinal mode	Single						
Spectral linewidth	<0.00001 nm						
Coherent length	>50 m						
Noise of amplitude (rms, 1Hz~20MHz)	<1%	<1%	<1%	<1%, <0.5%	<1%, <0.5%	<1%, <0.5%	
Beam diameter at aperture (1/e <sup>2</sup> )	<1.0 mm						
Beam divergence, full angle	<1.5 mrad						
M <sup>2</sup> factor	<1.2						
Polarization ratio	>100:1						
Warm-up time	<5 min						
Pointing stability after warm-up	<0.05 mrad						
Frequency shift over 8 hours (optional)	<+/-200 MHz						
Frequency shift with temp (optional)	<200 MHz/°C						
Laser head consumption	15 W (typical), <25 W (40°C)						
Max. laser head base plate temp	50°C						
Operating temperature	10-40°C						
Expected lifetime	10,000 hours						
Warranty period	10 months						

## Remarks:

- 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.

## 1112-1342 nm Specifications

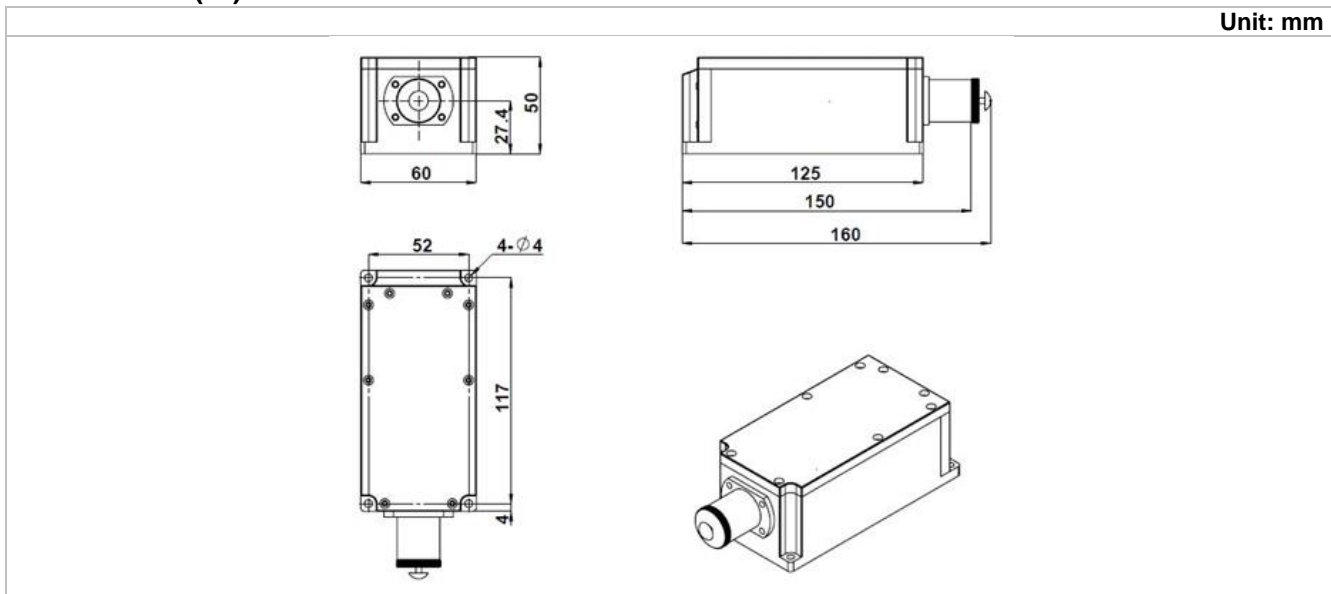
Parameter	SLMU1112	SLMU1122	SLMU1313		SLMU1319	SLMU1342
Wavelength	1112±1 nm	1122±1 nm	1313±1 nm		1319±1 nm	1342±1 nm
Operating mode	CW					
Output power	>5 mW, >10 mW, >20 mW	>5 mW, >10 mW, >20 mW, >30 mW, >50 mW, >60 mW, >80 mW	>100 mW, >200 mW	>300 mW, >500 mW	>10 mW, >30 mW, >50 mW, >80 mW	>50 mW, >80 mW, >100 mW, >200 mW, >300 mW, >500 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%	<3%, <1%	<3%, <2%, <1%
Transverse mode	TEM <sub>00</sub>					
Longitudinal mode	Single					
Spectral linewidth	<0.00001 nm					
Coherent length	>50 m					
Noise of amplitude (rms, 1Hz~20MHz)	<1%, <0.5%	<1%, <0.5%	<1%, <0.5%		<1%, <0.5%	<1%, <0.5%
Beam diameter at aperture (1/e <sup>2</sup> )	<1.0 mm					
Beam divergence, full angle	<1.5 mrad					
M <sup>2</sup> factor	<1.2					
Polarization ratio	>100:1					
Warm-up time	<5 min					
Pointing stability after warm-up	<0.05 mrad					
Frequency shift over 8 hours (optional)	<±200 MHz					
Frequency shift with temp (optional)	<200 MHz/°C					
Laser head consumption	15 W (typical), <25 W (40°C)					
Max. laser head base plate temp	50°C					
Operating temperature	10-40°C					
Expected lifetime	10,000 hours					
Warranty period	10 months					

## Remarks:

- 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 (IR) Laser Head Dimensions

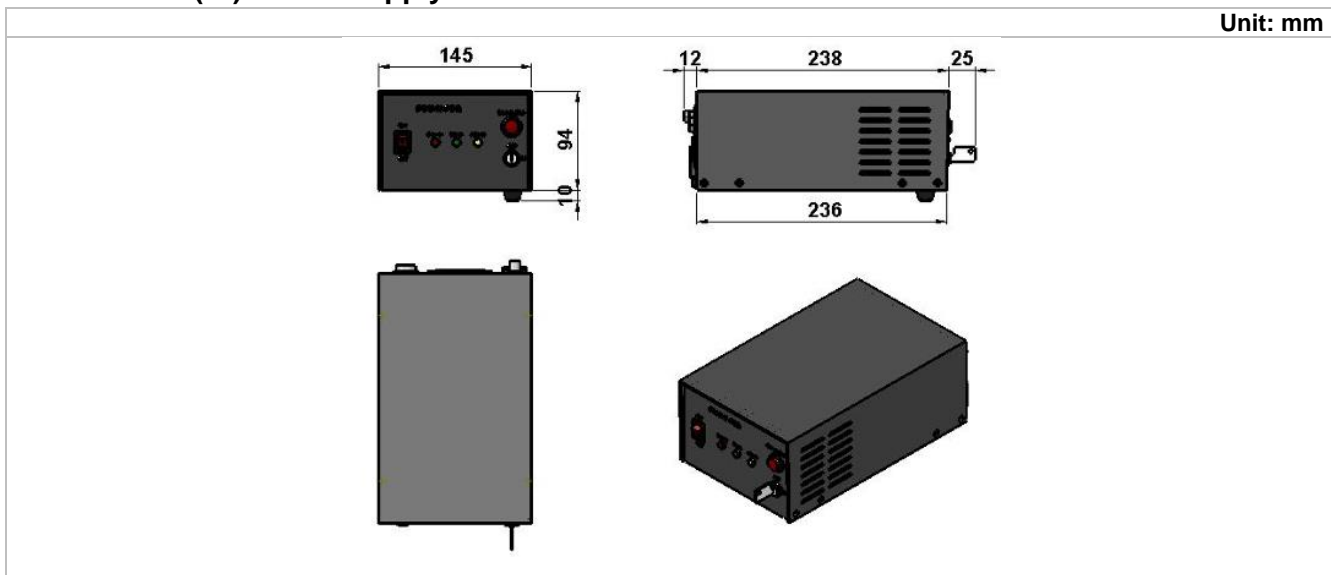
Unit: mm



Parameter	SLMU Series (IR)
Dimensions	160(L)x60(W) x50(H) mm <sup>3</sup>
Weight	0.9 kg
Beam height from base plate	27.4 mm
Beam exit (from side)	30 mm

SLMU Series (IR) Power Supply Dimensions

Unit: mm



Parameter	High Power Elite Power Supply
Dimensions	275(L) x145(W) x104(H) mm <sup>3</sup>
Weight	2.3 kg
Input voltage	90-264VAC

**Ordering Information**

For more information, please contact Lasermate directly at [sales@lasermate.com](mailto:sales@lasermate.com).

<b>Part Number Configuration</b> SLMU[1][2][3][4][5][6]						
<b>SLMU = Laser Model Series</b>	<b>[1] = Wavelength</b>	<b>[2] = Output Power</b>	<b>[3] = Power Supply</b>	<b>[4] = Power Stability</b>	<b>[5] = Noise of Amplitude</b>	<b>[6] = Frequency Stabilized Option</b>
	914= 914nm 946= 946nm 1030= 1030nm 1047= 1047nm 1053= 1053nm 1064= 1064nm 1112= 1112nm 1122= 1122nm 1313= 1313nm 1319= 1319nm 1342= 1342nm	5= >5mW 10= >10mW 20= >20mW 30= >30mW ... 1W= >1000mW	H= High Power Elite Power Supply	A= <5% E= <3% 2= <2% D= <1%	1= <1% L= <0.5%	Blank = No FS= Yes

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