



Single Frequency Laser System SLM Series



Overview

The SLM series is a line of visible red and infrared CW lasers with single longitudinal mode / single frequency and linewidth <math><50\text{MHz}</math>, delivering power levels up to 80mW. The SLM series laser features narrow spectral linewidth, long coherent length, ultra-compact design, long lifetime, easy operating, and FDA-compliant system with driver. The laser is widely used in Raman spectroscopy, speckle interferometry, bioinstrumentation, metrology, sensing, analytical instrumentation, and many other applications.

Features

- Available wavelengths: 633nm, 638nm, 660nm, 785nm, and 830nm
- CW operating mode
- Optical output power 10mW to 80mW
- Single frequency / single longitudinal mode
- Spectral linewidth <math><50\text{MHz}</math>
- FDA compliant

Applications

- Raman spectroscopy
- Speckle interferometry
- Bioinstrumentation
- Metrology
- Sensing
- Analytical instrumentation

633-830 nm Specifications

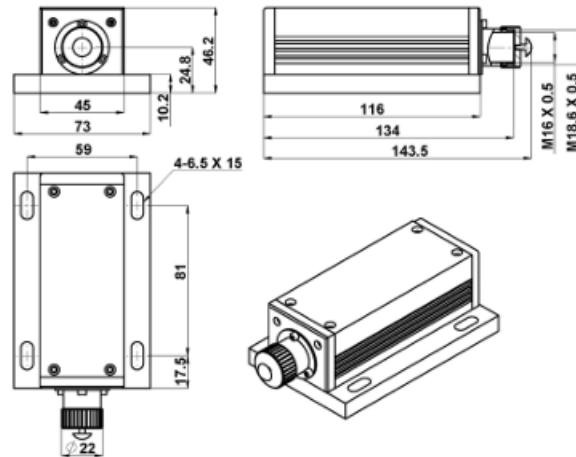
Parameter	SLM633	SLM638	SLM660	SLM785	SLM830
Wavelength	633±1 nm	638±1 nm	660±1 nm	785±1 nm	830±1 nm
Operating mode	CW	CW	CW	CW	CW
Output power	>10 mW, >20 mW, >30 mW	>10 mW, >20 mW, >30 mW	>10 mW, >20 mW, >30 mW	>10 mW, >20 mW, >30 mW, >50 mW, >80 mW	>10 mW, >20 mW, >30 mW, >50 mW, >80 mW
Power stability (rms, over 4 hours)	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%	<3%, <2%, <1%
Transverse mode	Near TEM ₀₀	Near TEM ₀₀	Near TEM ₀₀	Near TEM ₀₀	Near TEM ₀₀
Longitudinal mode	Single	Single	Single	Single	Single
Spectral linewidth	<50 nm	<50 nm	<50 nm	<50 nm	<50 nm
Coherent length	>2 m	>2 m	>2 m	>2 m	>2 m
Beam diameter at aperture (1/e ²)	~1.0 mm	<3 mm	<3 mm	~1.0 mm	~1.0 mm
Beam divergence, full angle	~2.0 mrad	<1.2 mrad	<1.2 mrad	~2.0 mrad	~2.0 mrad
M ² factor	<1.5	<1.5	<1.5	<1.5	<1.5
Polarization ratio	>50:1, Horizontal ±5 degree	>50:1, Horizontal ±5 degree	>50:1, Horizontal ±5 degree	>50:1, Horizontal ±5 degree	>50:1, Horizontal ±5 degree
Warm-up time	<5min	<5min	<5min	<5min	<5min
Operating temperature	10-35°C	10-35°C	10-35°C	10-35°C	10-35°C
Expected lifetime	10,000 hours	10,000 hours	10,000 hours	10,000 hours	10,000 hours
Warranty period	10 months	10 months	10 months	10 months	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.

SLM Series Laser Head Dimensions

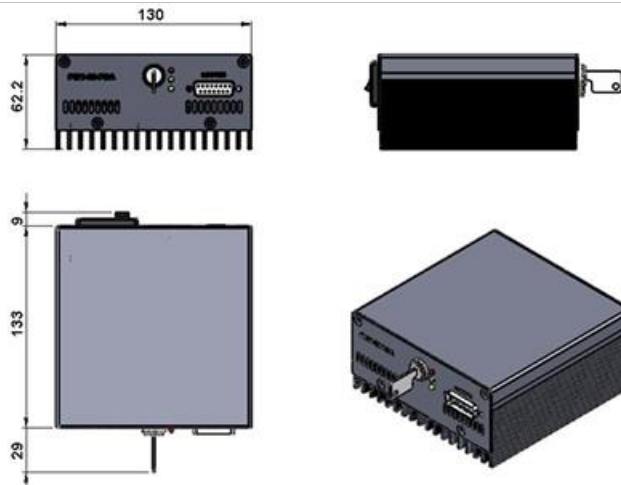
Unit: mm



Parameter	SLM Series
Dimensions	143.5(L)x73(W) x46.2(H) mm ³
Weight	0.7 kg
Beam height from base plate	24.8 mm
Beam exit (from side)	36.5 mm

SLM Series Power Supply Dimensions

Unit: mm



Parameter	Elite Power Supply
Dimensions	171 (L) x130(W) x62.2(H) mm ³
Weight	1.2 kg
Input voltage	85-264VAC

Ordering Information

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

Part Number Configuration SLM[1][2][3][4]				
SLM = Laser Model Series	[1] = Wavelength	[2] = Output Power	[3] = Power Supply	[4] = Power Stability
	633= 633nm 638= 638nm 660= 660nm 785= 785nm 830= 830nm	10= >10mW 20= >20mW 30= >30mW 50= >50mW 80= >80mW	E= Elite Power Supply	E= <3% 2= <2% D= <1%

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