



SLM Series

Single Frequency Laser System

Data Sheet



Overview

The SLM Series is a family of visible red and infrared continuous-wave (CW) single frequency laser systems delivering output powers up to 120mW at wavelengths from 633nm to 1064nm. Featuring single longitudinal mode operation with spectral linewidths below 100MHz, these lasers provide excellent coherence, wavelength stability, and beam quality for precision scientific and industrial applications. Their compact design, long operational lifetime, and FDA-compliant driver make the SLM Series an ideal choice for spectroscopy, metrology, sensing, and analytical instrumentation.

Features

- Wavelengths from 633nm to 1064nm
- CW operating mode
- Optical output power up to 120mW
- Single frequency / single longitudinal mode
- Spectral linewidth <100MHz (<50MHz optional)
- FDA compliant

Applications

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

633-785 nm Specifications

Parameter	SLM633	SLM638	SLM660	SLM685	SLM780	SLM783	SLM785
Wavelength	633±0.5 nm	638±0.5 nm	660±0.5 nm	685±0.5 nm	780±0.5 nm	783±0.5 nm	785±0.5 nm
Operating mode	CW						
Output power ⁽¹⁾	1-30 mW	1-40 mW	1-40 mW	1-25 mW	1-80 mW	1-80 mW	1-120 mW
Power stability (rms, over 4 hours ±3°C)	<2%, <1%, <0.5%						
Transverse mode	Near TEM ₀₀						
Longitudinal mode	Single						
Spectral linewidth	<100 MHz (<50MHz optional)						
Coherent length	>2 m						
Noise of amplitude (rms, 20Hz-20MHz)	<1%, <0.5%						
Beam diameter at aperture (1/e ²)	~1.0 mm	<3 mm	<3 mm	<3 mm	~1.0 mm	~1.0 mm	~1.0 mm
Beam divergence, full angle	~2.0 mrad	<1.2 mrad	<1.2 mrad	<1.2 mrad	~2.0 mrad	~2.0 mrad	~2.0 mrad
M ² factor	<1.5						
Polarization ratio	>50:1, Horizontal ±5 degree						
Warm-up time	<5 min						
Operating temperature	10-35°C						
Expected lifetime	>10,000 hours						



808-1064 nm Specifications

Parameter	SLM808	SLM830	SLM852	SLM976	SLM1053	SLM1064
Wavelength	808±0.5 nm	830±0.5 nm	852±0.5 nm	976±0.5 nm	1053±0.5 nm	1064±0.5 nm
Operating mode	CW					
Output power ⁽¹⁾	1-120 mW	1-120 mW	1-120 mW	1-120 mW	1-120 mW	1-120 mW
Power stability (rms, over 4 hours ±3°C)	<2%, <1%, <0.5%					
Transverse mode	Near TEM ₀₀					
Longitudinal mode	Single					
Spectral linewidth	<100 MHz (<50MHz optional)					
Coherent length	>2 m					
Noise of amplitude (rms, 20Hz-20MHz)	<1%, <0.5%					
Beam diameter at aperture (1/e ²)	~1.0 mm					
Beam divergence, full angle	~2.0 mrad					
M ² factor	<1.5					
Polarization ratio	>50:1, Horizontal ±5 degree					
Warm-up time	<5 min					
Operating temperature	10-35°C					
Expected lifetime	>10,000 hours					

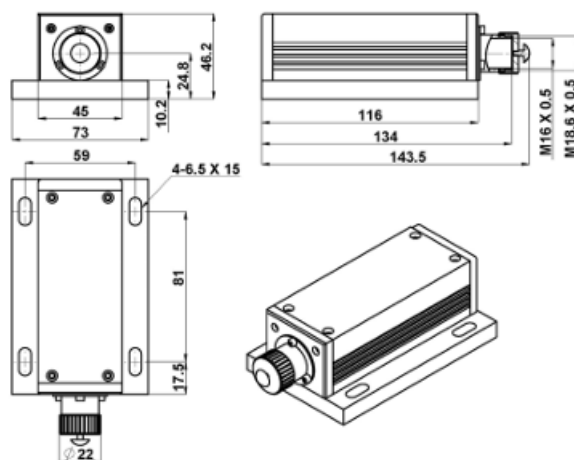
Remarks:

- 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.



SLM Series Laser Head Dimensions

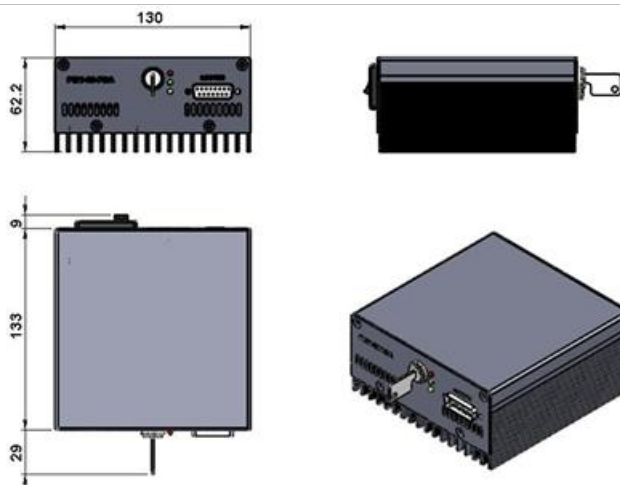
Unit: mm



Parameter	SLM Series
Dimensions	143.5(L)×73(W) ×46.2(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) ×130(W) ×62.2(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][5][6]						
SLM = Laser Model Series	[1] = Wavelength	[2] = Linewidth	[3] = Output Power	[5] = Power Supply	[5] = Power Stability	[6] = Noise of Amplitude
		H= <100MHz N= <50MHz		E= Elite Power Supply	E= <3% 2= <2% D= <1%	L=<0.5% 1=<1%

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

