

## Arktis Laser Product Datasheet

### LLS-1112 Low-Noise DPSS Laser System



#### Series Specifications:

Nominal Wavelength	1112 nm
Output Type	CW
Laser Source Type	DPSS

#### Overview:

The LLS-1112 Series of Low-Noise Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring less than 1% noise and output power levels from 20 mW to 100 mW. These 1112 nm lasers maintain a high level of long-term output power stability and long operating lifetime at an aggressively competitive cost.

These lasers are commonly used for various scientific purposes such as biological experiments, communications research, and a broad spectrum of other applications. The driver is available as a complete FDA-compliant system or as an O.E.M. component with significantly reduced dimensions.

Laserglow products are currently being used by some of the World's top universities and other prominent research facilities.

#### Key Features:

- 1% optical noise (20 Hz-20 MHz)
- Air cooled - no need for water cooling or external chiller
- Lightweight, compact design
- Efficient DPSS technology runs on standard AC power (85 - 264 V, 47 - 63 Hz)
- >10,000 hours continuous maintenance-free operating life
- FDA CDRH Compliant Class IIIb / Class IV enclosure
- 48-hour replacement coverage available for an additional fee on specific models

#### Package Includes:

- Laser Head
- Driver/Power Supply
- Power Cable
- Keys, Safety Interlock
- Hard-shell Carrying Case

## Specifications:

This spec sheet has been generated specifically for part number LB1-M, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to LB1-M have been highlighted below in **red + bold**.


Output Power (mW)	<b>&gt;20, &gt;50, &gt;100</b>
Output Power Stability (%RMS/4h)	<b>&lt;3, &lt;5</b>
Wavelength Tolerance (+/- nm)	<b>3</b>
Divergence (mrad, full angle)	<b>&lt;1.5</b>
Beam Dimensions (mm, 1/e <sup>2</sup> )	<b>1.5</b>
Warm-up Time (minutes)	<b>10</b>
Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz)	<b>&lt;1</b>
M <sup>2</sup>	<b>&lt;1.5</b>
Beam Pointing Stability (mrad)	<b>&lt;0.05</b>
Operating Temperature Range (°C)	<b>10 to 35</b>
Max. Power Input Duty Cycle	<b>100%</b>
Standard Warranty (months)	<b>12</b>
MTTF (operational hours)	<b>10000</b>
Weight of Product or Laser Head (kg)	<b>0.6</b>
Beam Height from Base Plate (mm)	<b>24.8</b>
Dimensions of Product or Laser Head (mm)	<b>140.8 (l) x 73 (w) x 46.2 (h)</b>

CW: All specifications are based on performance at full output power and after the specified warmup period. Output characteristics may change if the laser is run at a different power level.

Q-Switched: Specifications are based on the laser pulsing at the specified design frequency. Output characteristics may change if the laser is run at a different frequency.

## Power Supply Options:

These lasers are available with several different power supply options. The model that you have selected is highlighted below, and any other options are shown for easy reference.

	Power Supply Type:	<b>SM</b>
 FDA-Compliant Standard	Input Power	<b>85v to 264v</b>
	Power Supply Weight (kg)	<b>1.2</b>
	Dimensions (mm)	<b>133 (l) x 130 (w) x 65 (h)</b>

\*Power supply may not be exactly as shown, see dimensional drawings on next 2 pages.

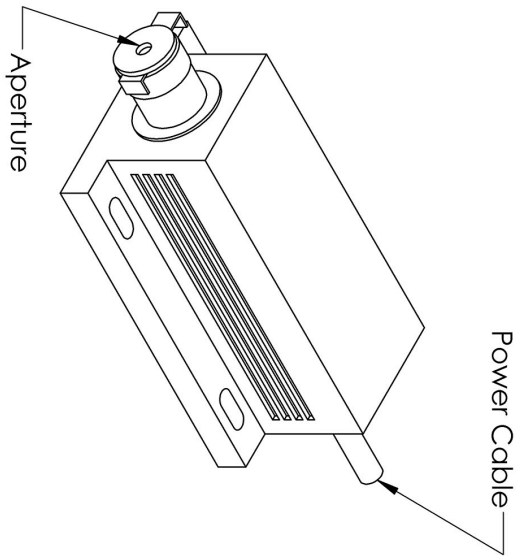
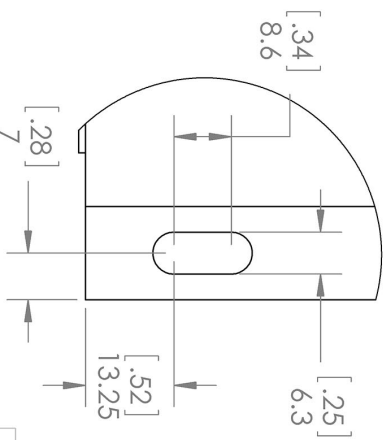
\*Dimensions for fiber-integrated (I\_) include laser head packaged inside.

## Regulatory Classification:

The model you have selected (LB1-M) requires the following safety label(s):



**Dimensional Drawing - Laser Form Factor: M:**



DETAIL A  
SCALE 1 : 1

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN MM(INCH)

TOLERANCES: +/- 0.75 MM

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TITLE:

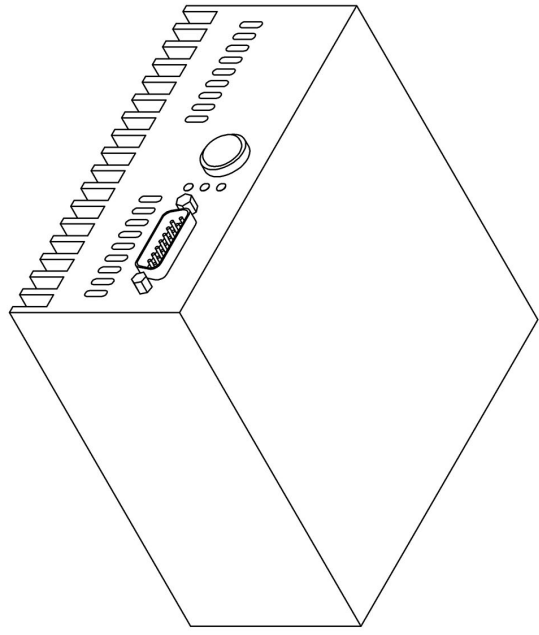
Lab/OEM  
M/R Housing

REV  
1

SCALE: 1:2

SHEET 1 OF 1

**Dimensional Drawing - Power Supply Form Factor: SM:**



UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN MM(INCH)  
 TOLERANCES: +/- 0.75 MM








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TITLE: <b>Power Supply</b> <b>SM/SR</b> REV <b>1</b>	
SCALE: 1:2	SHEET 1 OF 1

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## Accessories:

The most popular accessories for model LB1-M are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

Part Number	Description	
 ACALBMXXX	Carrying Case-102 Holds Lab/OEM M, R and S size, standard or LabSpec laser Full Details: <a href="http://www.arktislaser.com/ACA">www.arktislaser.com/ACA</a>	Included With Laser
 AFS2002XX	Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length Full Details: <a href="http://www.arktislaser.com/AFS">www.arktislaser.com/AFS</a>	
 AFF2002XX	Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length Full Details: <a href="http://www.arktislaser.com/AFF">www.arktislaser.com/AFF</a>	
 ACSMIRHXX	SMA-905 Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) 11mm diameter input lens Full Details: <a href="http://www.arktislaser.com/ACS">www.arktislaser.com/ACS</a>	
 ACFMIRHXX	FC/PC Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) 11mm diameter input lens Full Details: <a href="http://www.arktislaser.com/ACF">www.arktislaser.com/ACF</a>	
 AGFMIR4XX	LSG-MIR-NF-4 Fit-Over Safety Goggles Mid-IR Range Output: OD 4+ at 945-10600 nm CE Certified Full Details: <a href="http://www.arktislaser.com/AGF">www.arktislaser.com/AGF</a>	
 TBK	Complete optics kits with breadboard mounting hardware. External modulators, variable attenuators, free-space fiber launch systems Full Details: <a href="http://www.arktislaser.com/TBK">www.arktislaser.com/TBK</a>	

## FOR MORE INFORMATION PLEASE CONTACT:

Arktis Laser  
112 Elizabeth St, Unit 5-331, Toronto, ON, Canada M5G 1P5  
Tel. 1-416-886-1178 Fax 1-647-874-7129  
[sales@arktislaser.com](mailto:sales@arktislaser.com) [www.arktislaser.com](http://www.arktislaser.com)

E&OE: Data included in this sheet may be subject to change without notice.  
Please confirm critical specifications with our staff prior to ordering.