

Arktis Laser Product Datasheet

LRS-1047 DPSS Laser System



Series Specifications:

| | |
|--------------------|---------|
| Nominal Wavelength | 1047 nm |
| Output Type | CW |
| Laser Source Type | DPSS |

Overview:

The LRS-1047 Series of Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring 50 mW to >1000 mW of 1047 nm laser light with 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 applications such as measurement, communications research, spectral analysis, 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.

Available with both on-board and remote on/off control as well as a wide array of output power and stability levels, Laserglow products are currently being used by some of the World's top universities and other prominent research facilities.

Key Features:

- 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
- TTL and Analog modulation (input via BNC connector) *lab-spec models only*
- Adjustable output power (via lockable dial) *lab-spec models only*
- LED display showing LD current, laser cavity temperature *lab-spec models only*
- 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
- BNC Connector (LabSpec models only)
- Keys, Safety Interlock
- Hard-shell Carrying Case

Specifications:

This spec sheet has been generated specifically for part number RA4-M, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to RA4-M have been highlighted below in **red + bold**.


| | | | |
|--|--|---------------------------|-----------------------------|
| Output Power (mW) | >50, >100, >300, >500 | >1000 | >3600 |
| Output Power Stability (%RMS/4h) | <1, <3, <5 | <1, <3, <5 | <1 |
| Central Wavelength (nm) | 1047 | 1047 | |
| Wavelength Tolerance (+/- nm) | 1 | 1 | |
| Divergence (mrad, full angle) | <1.5 | <2 | |
| Beam Dimensions (mm, 1/e ²) | 2 | 3 | |
| Warm-up Time (minutes) | 10 | 10 | |
| M ² | <1.5 | <2 | |
| Polarization Ratio | >100 | >100 | |
| Beam Pointing Stability (mrad) | <0.05 | <0.05 | |
| Operating Temperature Range (°C) | 10 to 35 | 10 to 35 | |
| Max. Analog Modulation Freq. (Hz) | 500 | 500 | 30000 |
| Max. TTL Modulation Freq. (Hz) | 500 | 500 | 30000 |
| Modulation Input Signal | 0-5 VDC | 0-5 VDC | 0-5 VDC |
| Total Power Consumption (W) | 25, 28, 35 | | |
| Max. Power Input Duty Cycle | 100% | 100% | 100% |
| Standard Warranty (months) | 12 | 12 | 12 |
| MTTF (operational hours) | 10000 | 10000 | 10000 |
| Weight of Product or Laser Head (kg) | 0.6 | 0.9 | 5.4 |
| Beam Height from Base Plate (mm) | 24.8 | 29 | |
| Dimensions of Product or Laser Head (mm) | 140.8 (l) x 73 (w) x 46.2 (h) | 155 (l) x 77 (w) x 60 (h) | 314 (l) x 290 (w) x 134 (h) |


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: | FM | FH |
|--|--------------------------|-----------------------------------|-----------------------------|
| FDA-Compliant LabSpec  | Input Power | 85v to 264v | 85v to 264v |
| | Power Supply Weight (kg) | 1.5 | 2.6 |
| | Dimensions (mm) | 154 (l) x 155 (w) x 95 (h) | 268 (l) x 145 (w) x 106 (h) |

| | Power Supply Type: | II |
|---|--------------------------|-----------------------|
| Fiber-Integrated LabSpec  | Input Power | 85v to 264v |
| | Power Supply Weight (kg) | 0 |
| | Dimensions (mm) | 0 (l) x 0 (w) x 0 (h) |

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

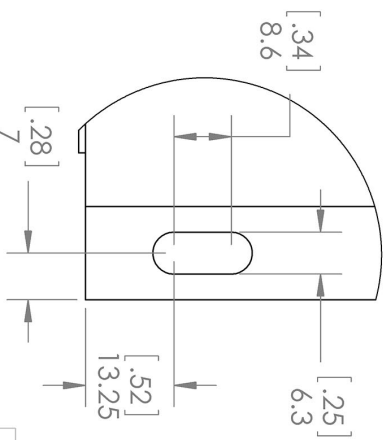
*Dimensions for fiber-integrated (I_) include laser head packaged inside.

Regulatory Classification:

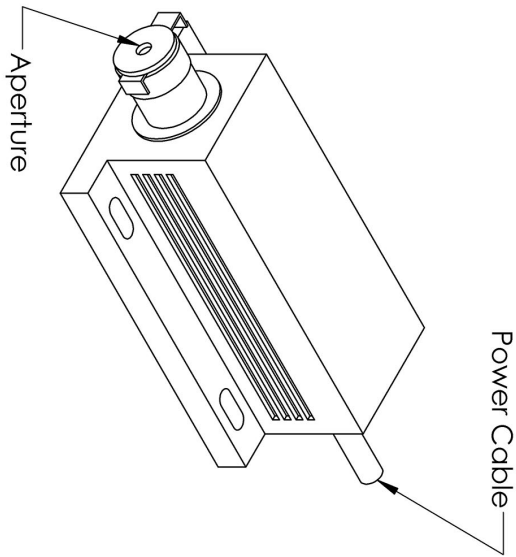
The model you have selected (RA4-M) requires the following safety label(s):



Dimensional Drawing - Laser Form Factor: M:



DETAIL A
SCALE 1 : 1



| | | | |
|---|--|--|---------------------|
| <p>UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MM(INCH) TOLERANCES: +/- 0.75 MM</p> | | <p>TITLE: Lab/OEM M/R Housing REV 1</p> | |
| <p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LASERGLOW TECHNOLOGIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LASERGLOW TECHNOLOGIES IS PROHIBITED. © 2012 LASERGLOW.COM LIMITED. ALL RIGHTS RESERVED</p> | | <p>SCALE: 1:2</p> | <p>SHEET 1 OF 1</p> |

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Dimensional Drawing - Power Supply Form Factor: FM:



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

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Laserglow Technologies

TITLE:

Power Supply
FM/FR






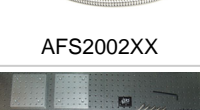

REV
1

SCALE: 1:3

SHEET 1 OF 1

Accessories:

The most popular accessories for model RA4-M are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

| Part Number | Description | |
|---|---|---------------------|
|  AGFA647XX | LSG-1064-NF-7 Fit-Over Safety Goggles 1064nm Output: OD 7+ at 950-1070 nm CE Certified Full Details: www.arktislaser.com/AGF | |
|  ACFMIRHXA | FC/PC Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) (installed and aligned) 11mm diameter input lens Full Details: www.arktislaser.com/ACF | |
|  ACSMIRHXA | SMA-905 Fiber Coupler/Collimator for IR wavelengths (1000 to 1300 nm) (installed and aligned) 11mm diameter input lens Full Details: www.arktislaser.com/ACS | |
|  AFF2002XX | Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length Full Details: www.arktislaser.com/AFF | |
|  AFS2002XX | Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length Full Details: www.arktislaser.com/AFS | |
|  TBK | Complete optics kits with breadboard mounting hardware. External modulators, variable attenuators, free-space fiber launch systems Full Details: www.arktislaser.com/TBK | |
|  ACALBMXXX | Carrying Case-102 Holds Lab/OEM M, R and S size, standard or LabSpec laser Full Details: www.arktislaser.com/ACA | Included With Laser |

FOR MORE INFORMATION PLEASE CONTACT:

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