# Arktis Laser Product Datasheet

## LRD-0488 Collimated Diode Laser System


### Series Specifications:

| | |
|---|---|
| Nominal Wavelength | 488 nm |
| Output Type | CW |
| Laser Source Type | Diode |

### Overview:

The LRD-0488 Series of Collimated Diode (Semiconductor) Lasers are ideal for applications requiring a short wavelength of 488 nm and output power levels of 5 mW to 150 mW with a high level of long-term output power stability and long operating lifetime at a very competitive cost.

These lasers are commonly used for various scientific applications involving fluorescence excitation, as well as PIV, 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 Diode Laser 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
- BNC Connector (LabSpec models only)
- Keys, Safety Interlock
- Hard-shell Carrying Case

## Specifications:

This spec sheet has been generated specifically for part number D48-RL, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to D48-RL have been highlighted below in **red + bold**.

| | | | | |
|---|---|---|---|---|
| Output Power (mW) | **<5**, **>30**, **>50**, **>60**, **>80**, **>100**, **>120**, **>160** | >10, >20, >30, >50, >70 | >30 | >200, >300, >500, >800, >1000, >1500, >1800 |
| Output Power Stability (%RMS/4h) | **<1**, **<3** | <1, <3 | <3 | <1, <3 |
| Central Wavelength (nm) | **488** | 488 | | 488 |
| Wavelength Tolerance (+/- nm) | **5** | 5 | | 5 |
| Divergence (mrad, full angle) | **<1** | <1 | <1 | <2.5x1 |
| Beam Dimensions (mm, 1/e²) | **3** | 3 | 3 | 3x3 |
| Warm-up Time (minutes) | **5** | 15 | | 5 |
| Spectral Linewidth (nm) | | <0.06 | | <1.9 |
| $M^2$ | **<1.5**, **<2** | <1.5 | <1.5 | |
| Polarization Ratio | **>50** | >50 | | >50 |
| Beam Pointing Stability (mrad) | **<6** | <6 | | <6 |
| Operating Temperature Range (°C) | **10 to 45** | 20 to 30 | | 10 to 45 |
| Max. Analog Modulation Freq. (Hz) | **30000** | 30000 | 30000 | 30000 |
| Max. TTL Modulation Freq. (Hz) | **30000** | 30000 | 30000 | 30000 |
| Modulation Input Signal | **0-5 VDC** | 0-5 VDC | 0-5 VDC | 0-5 VDC |
| Max. Power Input Duty Cycle | **100%** | 100% | 100% | 100% |
| Standard Warranty (months) | **12** | 12 | 12 | 12 |
| MTTF (operational hours) | **10000** | 10000 | 10000 | 10000 |
| Weight of Product or Laser Head (kg) | **0.6** | 0.8 | 0.2 | 0.6 |
| Beam Height from Base Plate (mm) | **24.8** | 30 | 15 | 24.8 |
| Dimensions of Product or Laser Head (mm) | **140.7 (l) x 73 (w) x 46.2 (h)** | 122.5 (l) x 65 (w) x 50 (h) | 77 (l) x 30 (w) x 30 (h) | 140.7 (l) x 73 (w) x 46.2 (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.

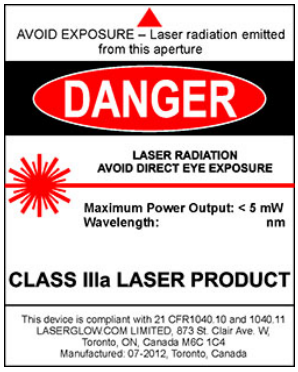
| | Power Supply Type: | **FR** | **FE** |
|---|---|---|---|
| FDA-Compliant LabSpec  | Input Power | **85v to 264v** | 85v to 264v |
| | Power Supply Weight (kg) | **1.5** | 6.2 |
| | Dimensions (mm) | **154 (l) x 155 (w) x 95 (h)** | 320 (l) x 300 (w) x 123 (h) |

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

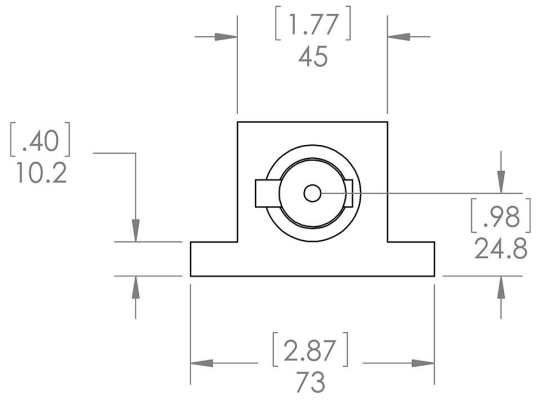
*Dimensions for fiber-integrated (I_) include laser head packaged inside.

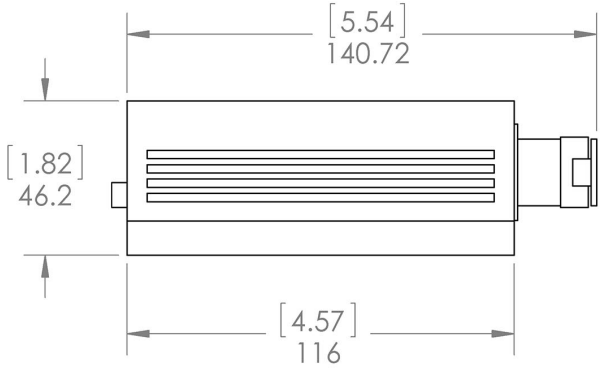
## Regulatory Classification:

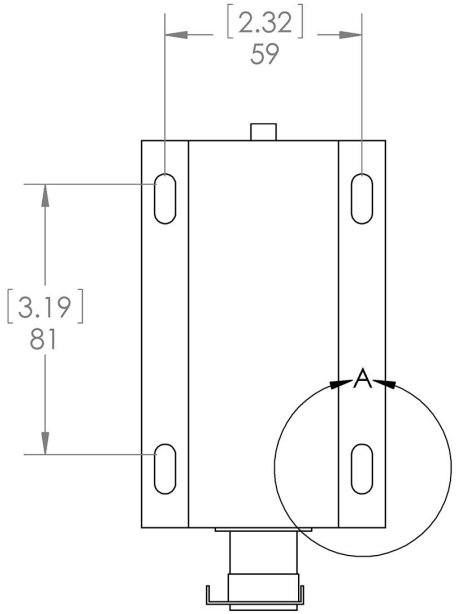
The model you have selected (D48-RL) requires the following safety label(s):

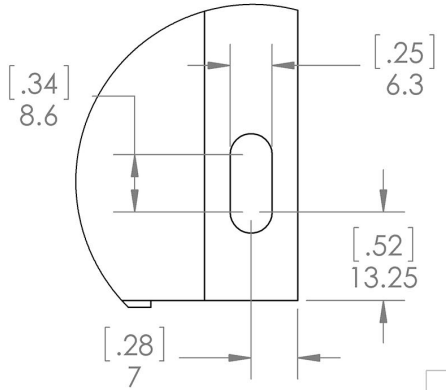


Dimensional Drawing - Laser Form Factor: RL:

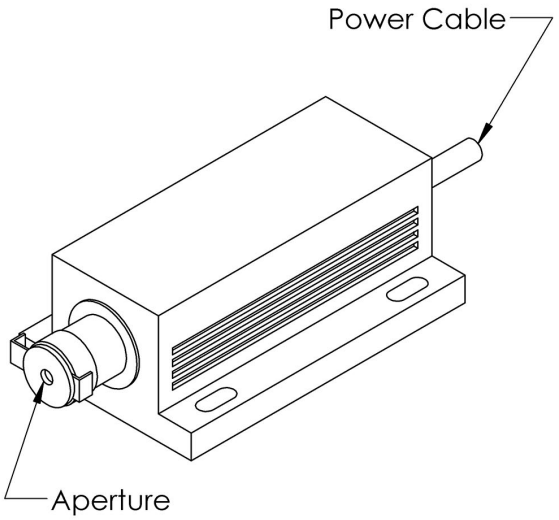



DETAIL A
SCALE 1 : 1

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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN MM[INCH]
TOLERANCES: +/- 0.75 MM



TITLE:

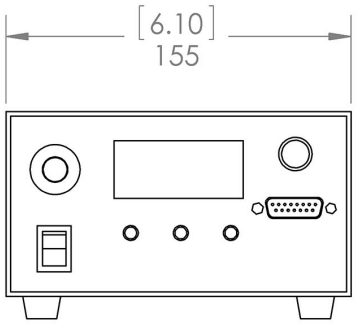
# Lab/OEM M/R Housing

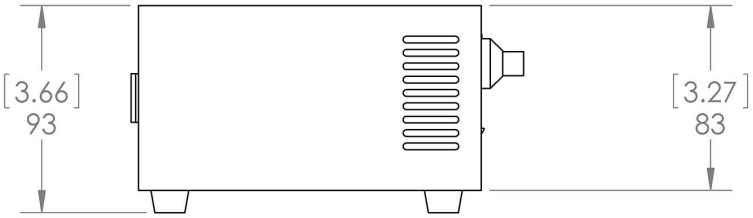
REV 1

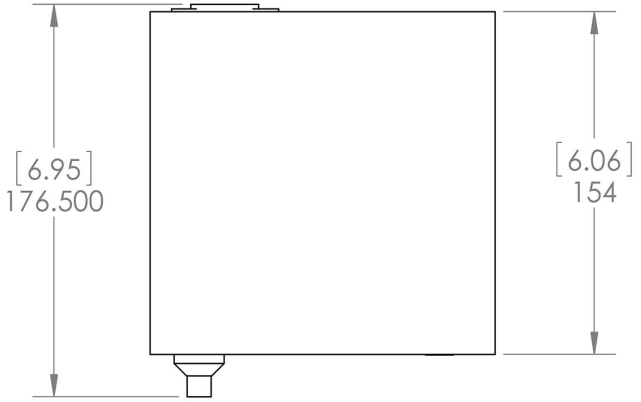
SCALE: 1:2

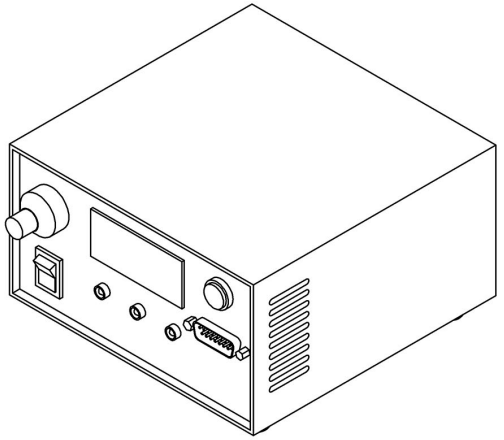
SHEET 1 OF 1

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



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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN MM[INCH]
TOLERANCES: +/- 0.75 MM



TITLE:

# Power Supply FM/FR

REV 1

SCALE: 1:3

SHEET 1 OF 1

## Accessories:

The most popular accessories for model D48-RL 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<br>Holds Lab/OEM M, R and S size, standard or LabSpec laser<br>Full Details: www.arktislaser.com/ACA | Included With Laser |
|  ACFVISHXA | FC/PC Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned)<br>11mm diameter input lens<br>Full Details: www.arktislaser.com/ACF | |
|  ACSVISHXA | SMA-905 Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned)<br>11mm diameter input lens<br>Full Details: www.arktislaser.com/ACS | |
|  AGF5322XX | LSG-532-NF-2 Fit-Over Safety Goggles 532nm<br>Output: OD 2+ at 400-532 nm<br>CE Certified<br>Full Details: www.arktislaser.com/AGF | |
|  AFS2002XX | Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length<br>Full Details: www.arktislaser.com/AFS | |
|  AFF2002XX | Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length<br>Full Details: www.arktislaser.com/AFF | |

## FOR MORE INFORMATION PLEASE CONTACT:

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