

## 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-R, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to D48-R have been highlighted below in **red + bold**.


|  |  |                             |                                      |                          |
|--|--|-----------------------------|--------------------------------------|--------------------------|
| Output Power (mW)                        | <b>&lt;5, &gt;200, &gt;300, &gt;500, &gt;800, &gt;1000, &gt;1500, &gt;1800</b> | >10, >20, >30, >50, >70     | >30, >50, >60, >80, >100, >120, >160 | >30                      |
| Output Power Stability (%RMS/4h)         | <b>&lt;1, &lt;3</b>  | <1, <3                      | <1, <3                               | <3                       |
| Central Wavelength (nm)                  | <b>488</b>   | 488                         | 488                                  |                          |
| Wavelength Tolerance (+/- nm)            | <b>5</b>   | 5                           | 5                                    |                          |
| Divergence (mrad, full angle)            | <b>&lt;1, &lt;2.5x1</b>  | <1                          | <1                                   | <1                       |
| Beam Dimensions (mm, 1/e <sup>2</sup> )  | <b>3x3</b>   | 3                           | 3                                    | 3                        |
| Warm-up Time (minutes)                   | <b>5</b>   | 15                          | 5                                    |                          |
| Spectral Linewidth (nm)                  | <b>&lt;1.9</b>   | <0.06                       |                                      |                          |
| M <sup>2</sup>                           | <b>&lt;1.3</b>   | <1.5                        | <1.5, <2                             | <1.5                     |
| Polarization Ratio                       | <b>&gt;50</b>  | >50                         | >50                                  |                          |
| Beam Pointing Stability (mrad)           | <b>&lt;6</b>   | <6                          | <6                                   |                          |
| Operating Temperature Range (°C)         | <b>10 to 45</b>  | 20 to 30                    | 10 to 45                             |                          |
| Max. Analog Modulation Freq. (Hz)        | <b>30000</b>   | 30000                       | 30000                                | 30000                    |
| Max. TTL Modulation Freq. (Hz)           | <b>30000</b>   | 30000                       | 30000                                | 30000                    |
| Modulation Input Signal                  | <b>0-5 VDC</b>   | 0-5 VDC                     | 0-5 VDC                              | 0-5 VDC                  |
| Max. Power Input Duty Cycle              | <b>100%</b>  | 100%                        | 100%                                 | 100%                     |
| Standard Warranty (months)               | <b>12</b>  | 12                          | 12                                   | 12                       |
| MTTF (operational hours)                 | <b>10000</b>   | 10000                       | 10000                                | 10000                    |
| Weight of Product or Laser Head (kg)     | <b>0.6</b>   | 0.8                         | 0.6                                  | 0.2                      |
| Beam Height from Base Plate (mm)         | <b>24.8</b>  | 30                          | 24.8                                 | 15                       |
| Dimensions of Product or Laser Head (mm) | <b>140.7 (l) x 73 (w) x 46.2 (h)</b>   | 122.5 (l) x 65 (w) x 50 (h) | 140.7 (l) x 73 (w) x 46.2 (h)        | 77 (l) x 30 (w) x 30 (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:       | <b>OR</b>                        |
|  | Input Power              | <b>85v to 264v</b>               |
|   | Power Supply Weight (kg) | <b>0.2</b>                       |
|   | Dimensions (mm)          | <b>100 (l) x 60 (w) x 56 (h)</b> |

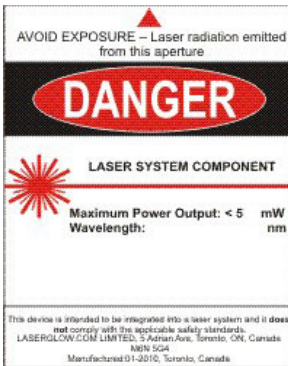
|   |                          |                             |                            |
|---|--------------------------|-----------------------------|----------------------------|
|   | Power Supply Type:       | <b>FE</b>                   | <b>FR</b>                  |
|  | Input Power              | 85v to 264v                 | 85v to 264v                |
|   | Power Supply Weight (kg) | 6.2                         | 1.5                        |
|   | Dimensions (mm)          | 320 (l) x 300 (w) x 123 (h) | 154 (l) x 155 (w) x 95 (h) |

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

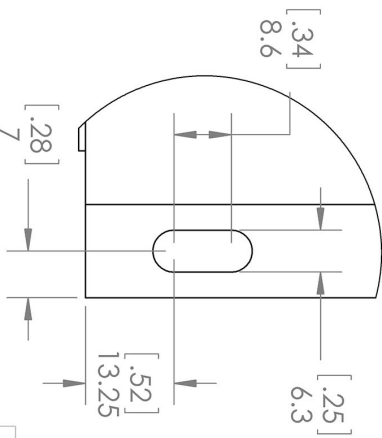
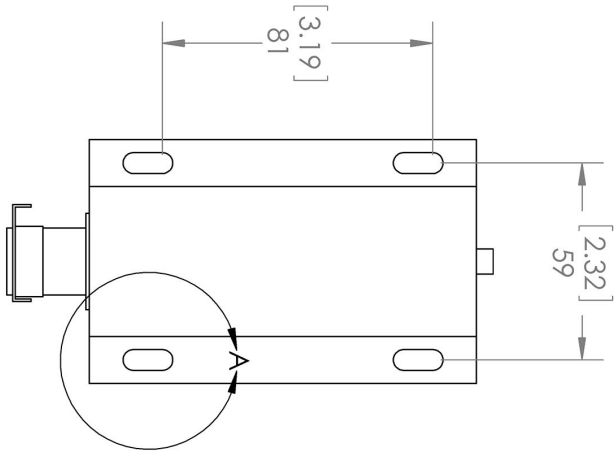
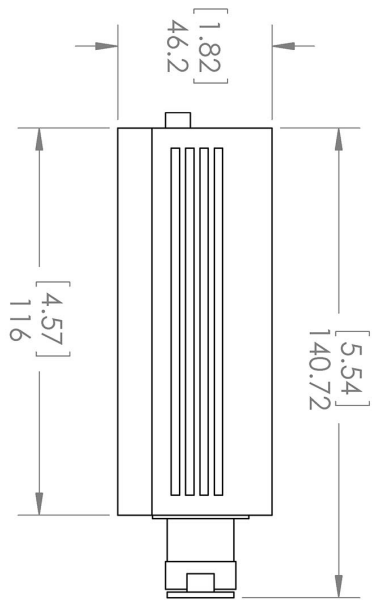
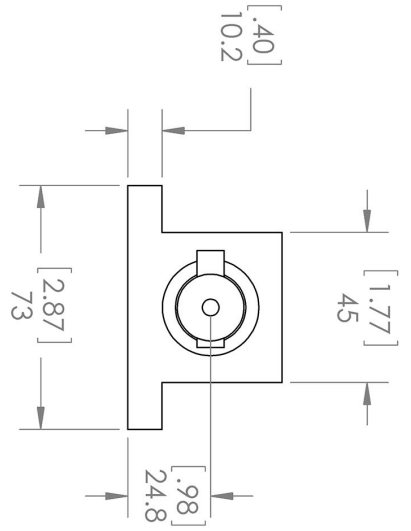
\*Dimensions for fiber-integrated (l\_) include laser head packaged inside.

## Regulatory Classification:

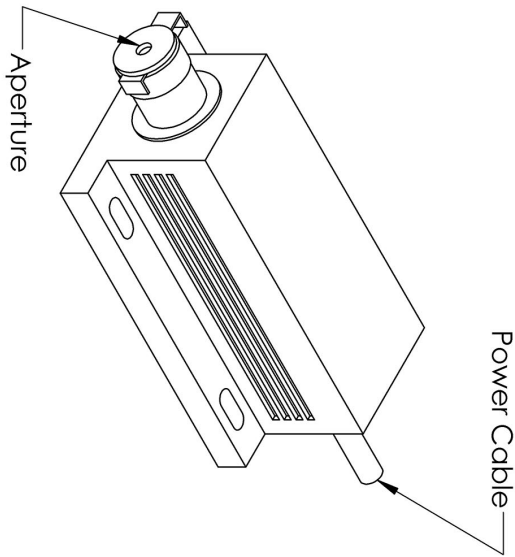
The model you have selected (D48-R) requires the following safety label(s):



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



DETAIL A  
SCALE 1 : 1

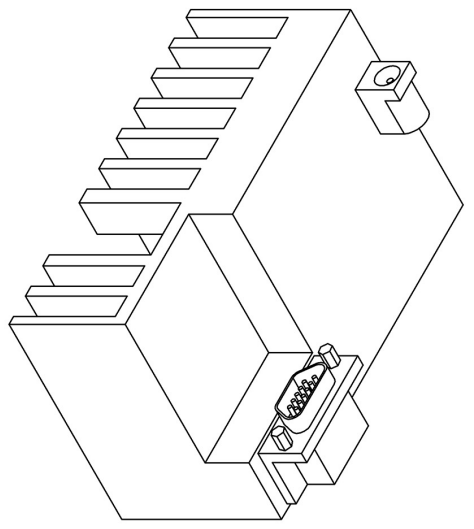
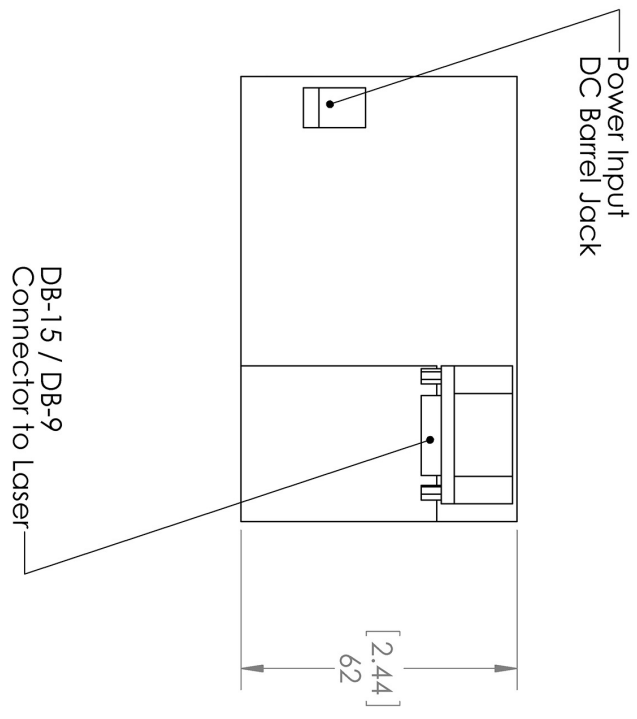
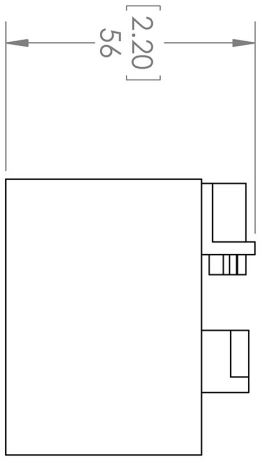
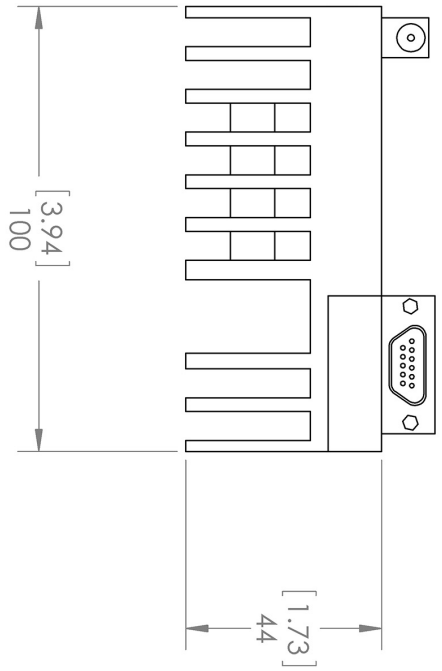


UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN MM(INCH)  
TOLERANCES: +/- 0.75 MM

|  |  |                        |
|--|--|------------------------|
| TITLE:   |  | Laserglow Technologies |
| SCALE: 1:2   |  | SHEET 1 OF 1           |
| <p><b>Lab/OEM</b><br/><b>M/R Housing</b><br/>REV 1</p> |  |                        |

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



|   |              |   |
|---|--------------|---|
| <p>UNLESS OTHERWISE SPECIFIED:<br/>                 DIMENSIONS ARE IN MM(INCH)<br/>                 TOLERANCES: +/- 0.75 MM</p>   |              | <p>TITLE:<br/> <b>Power Supply</b><br/>                 OR<br/>                 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>Laserglow Technologies</p>   |
| SCALE: 2:3  | SHEET 1 OF 1 |   |

## Accessories:

The most popular accessories for model D48-R are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

| Part Number  | Description  |                     |
|--|--|---------------------|
| <br>ACALBMXXX   | Carrying Case-102<br>Holds Lab/OEM M, R and S size, standard or LabSpec laser<br>Full Details: <a href="http://www.arktislaser.com/ACA">www.arktislaser.com/ACA</a>  | Included With Laser |
| <br>ACFVISHXA   | FC/PC Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm)<br>(installed and aligned)<br>11mm diameter input lens<br>Full Details: <a href="http://www.arktislaser.com/ACF">www.arktislaser.com/ACF</a>   |                     |
| <br>ACSVISHXA   | SMA-905 Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm)<br>(installed and aligned)<br>11mm diameter input lens<br>Full Details: <a href="http://www.arktislaser.com/ACS">www.arktislaser.com/ACS</a> |                     |
| <br>AGF5322XX   | LSG-532-NF-2 Fit-Over Safety Goggles 532nm<br>Output: OD 2+ at 400-532 nm<br>CE Certified<br>Full Details: <a href="http://www.arktislaser.com/AGF">www.arktislaser.com/AGF</a>  |                     |
| <br>AFS2002XX | Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length<br>Full Details: <a href="http://www.arktislaser.com/AFS">www.arktislaser.com/AFS</a>  |                     |
| <br>AFF2002XX | Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length<br>Full Details: <a href="http://www.arktislaser.com/AFF">www.arktislaser.com/AFF</a>   |                     |

## 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.