# Laserglow Product Datasheet

## LLD-0640 Low-Noise Collimated Diode Laser System

## Laserglow Part Number: J642001FX




### Similar Products:

For information about the other lasers in this product family visit:

http://www.laserglow.com/J64

### Ordering:

Order Online Now or Request Quote:

http://www.laserglow.com/J642001FX

### Series Specifications:

| | |
|---|---|
| Nominal Wavelength | 640 nm |
| Output Type | CW |
| Laser Source Type | Diode |

### Overview:

The LLD-0640 Series of Low Noise Red Collimated Diode (Semiconductor) Lasers are ideal for applications requiring a wavelength of 640 nm and optical noise 1%. Output power levels are from 5 mW to >150 mW with a high level of long-term output power stability and long operating lifetime, all at an aggressively competitive cost.

These lasers have remarkably good beam quality for a diode laser, with a beam profile near TEM00 and divergence as low as 1.0 mrad. They are an excellent choice when the beam quality of traditional red diode lasers is not suitable.

These lasers are commonly used for various scientific applications involving biological research, as well as PIV, spectral analysis, as well as laser display (entertainment) 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 TTL and analog modulation 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:**

- 1% optical noise (20 Hz-20 MHz)
- The best possible beam quality from a red diode laser
- 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
- 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 J642001FX, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to J642001FX have been highlighted below in **red + bold**.

| | |
|---|---|
| Output Power (mW) | <5, >10, >50, >100, >150, **>200** |
| Output Power Stability (%RMS/4h) | **<1**, <3, <5 |
| Central Wavelength (nm) | **640** |
| Wavelength Tolerance (+/- nm) | **5** |
| Divergence (mrad, full angle) | **<1** |
| Beam Dimensions (mm, $1/e^2$) | **3** |
| Warm-up Time (minutes) | **5** |
| Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz) | **<1** |
| $M^2$ | **<1.5** |
| Operating Temperature Range (°C) | **10 to 35** |
| Max. Analog Modulation Freq. (Hz) | **30000** |
| Max. TTL Modulation Freq. (Hz) | **30000** |
| Modulation Input Signal | **0-5 VDC** |
| Max. Power Input Duty Cycle | **100%** |
| Standard Warranty (months) | **12** |
| MTTF (operational hours) | **10000** |
| Weight of Product or Laser Head (kg) | **0.6** |
| Beam Height from Base Plate (mm) | **24.8** |
| Dimensions of Product or Laser Head (mm) | **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.

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

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

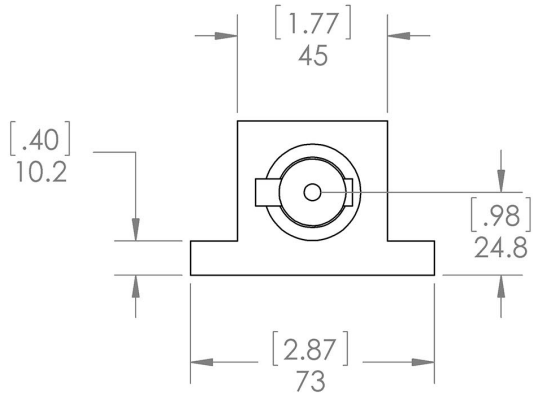
*Dimensions for fiber-integrated (I_) include laser head packaged inside.

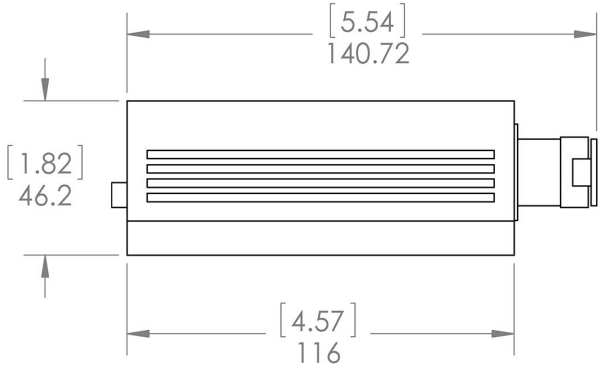
## Regulatory Classification:

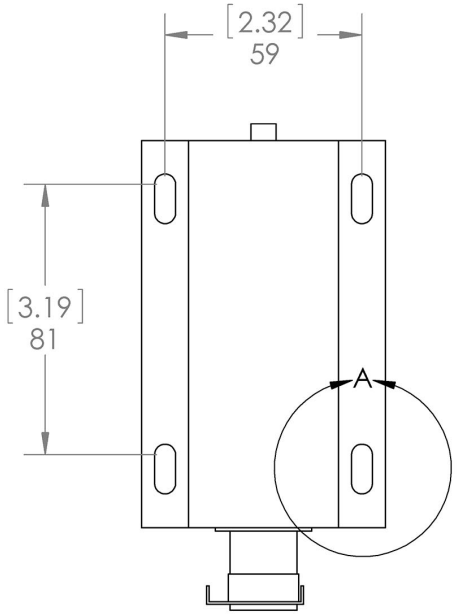
The model you have selected (J642001FX) requires the following safety label(s):

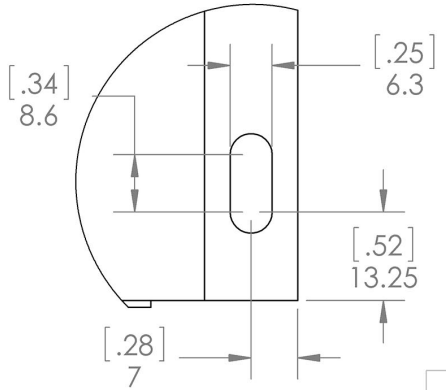


**Dimensional Drawing - Laser Form Factor: R:**

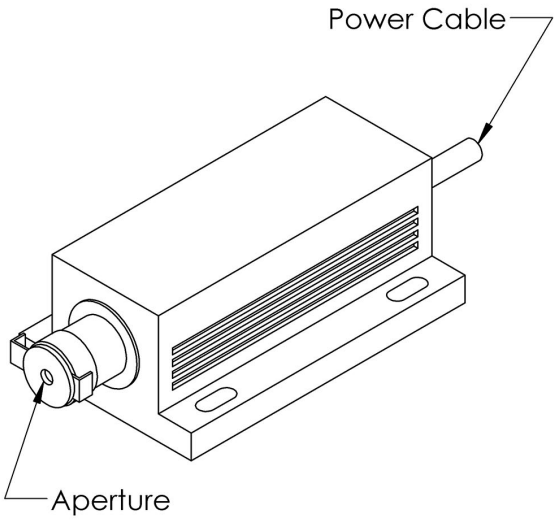



DETAIL A
SCALE 1 : 1




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UNLESS OTHERWISE SPECIFIED:

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

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TITLE:

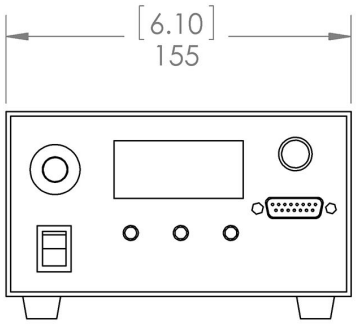
# Lab/OEM M/R Housing

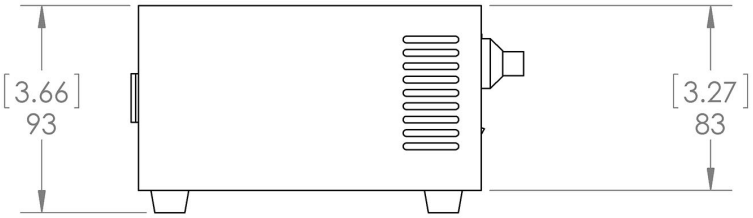
REV 1

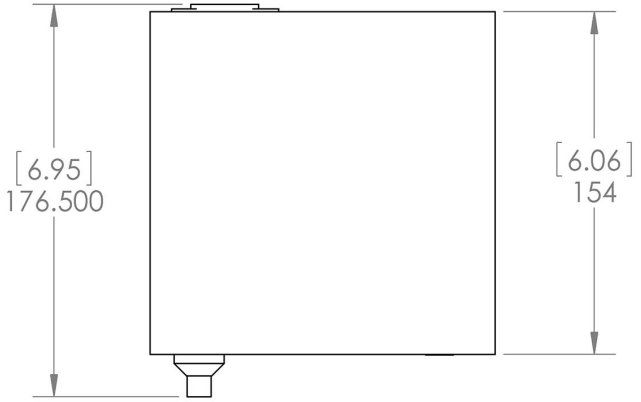
SCALE: 1:2

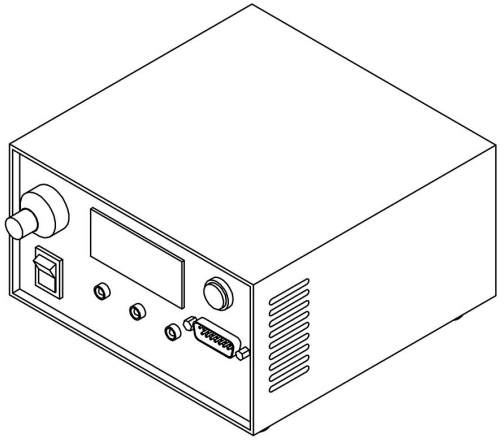
SHEET 1 OF 1

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



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UNLESS OTHERWISE SPECIFIED:

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

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TITLE:

# Power Supply FM/FR

REV 1

SCALE: 1:3

SHEET 1 OF 1

## Accessories:

The most popular accessories for model J642001FX are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

| Part Number | Description | |
|---|---|---|
|  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.laserglow.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.laserglow.com/ACS | |
|  ACALBMXXX | Carrying Case-102<br>Holds Lab/OEM M, R and S size, standard or LabSpec laser<br>Full Details: www.laserglow.com/ACA | Included With Laser |
|  AGF6605XX | LSG-660-NF-5 Fit-Over Safety Goggles 660nm<br>Output: OD 5+ at 600-694 nm<br>CE Certified<br>Full Details: www.laserglow.com/AGF | |
|  AFS2002XX | Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length<br>Full Details: www.laserglow.com/AFS | |
|  AFF2002XX | Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length<br>Full Details: www.laserglow.com/AFF | |

## FOR MORE INFORMATION PLEASE CONTACT:

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