

Arktis Laser Product Datasheet

LLD-0442 Low-Noise Collimated Diode Laser System



Series Specifications:

Nominal Wavelength	442 nm
Output Type	CW
Laser Source Type	Diode

Overview:

The LLD-0442 Series of Low-Noise Collimated Diode Lasers are ideal for applications requiring less than 1% noise and output power levels from 5 mW to 50 mW. These 442 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 fluorescence excitation, PIV, Raman Spectroscopy, 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
- BNC Connector (LabSpec models only)
- Keys, Safety Interlock
- Hard-shell Carrying Case

Specifications:

This spec sheet has been generated specifically for part number J4E-R, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to J4E-R have been highlighted below in **red + bold**.

Output Power (mW)	<5, >10, >30, >50
Output Power Stability (%RMS/4h)	<1, <3, <5
Central Wavelength (nm)	442
Wavelength Tolerance (+/- nm)	5
Divergence (mrad, full angle)	<1
Beam Dimensions (mm, 1/e ²)	2.5
Warm-up Time (minutes)	5
Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz)	<1
M ²	<1.5
Polarization Ratio	>50
Beam Pointing Stability (mrad)	<0.05
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
Total Power Consumption (W)	8
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.

<div>FDA-Compliant LabSpec</div> 	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 (J4E-R) requires the following safety label(s):



Dimensional Drawing - Laser Form Factor: R:



Dimensional Drawing - Power Supply Form Factor: FR:



Accessories:

The most popular accessories for model J4E-R are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

Part Number	Description	
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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.