

Arktis Laser Product Datasheet

LRS-0473 DPSS Laser System



Series Specifications:

| | |
|--------------------|--------|
| Nominal Wavelength | 473 nm |
| Output Type | CW |
| Laser Source Type | DPSS |

Overview:

The LRS-0473 Series of Diode-Pumped Solid-State (DPSS) Lasers are ideal for applications requiring 1 mW to 1500 mW of 473 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 fluorescence excitation, optogenetics, PIV, Raman Spectroscopy, laser display 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, and in 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*
- Specially-tuned for clean modulation responses from 1-100 Hz (*on selected models*)
- 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 R47-SS, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to R47-SS have been highlighted below in **red + bold**.

| | | | | | | | | |
|-------------------------------------------------|-------------------|--------------------------------|-----------------------------|------------------|------------------------|--------------------------|---------------------|----------|
| Output Power (mW) | <5, >50, >100 | >10, >50, >100 | >50, >100, >200, >300, >500 | >100, >200, >500 | >200, >300, >400, >500 | >600, >800, >1000, >1500 | >2000, >3000, >5000 | >2000 |
| Output Power Stability (%RMS/4h) | <3, <5, <10 | <3, <5 | <1, <3, <5 | <1, <2 | <2, <3, <5, <10 | <1, <2, <3, <5 | <1, <2, <3, <5 | <3, <5 |
| Central Wavelength (nm) | 473 | 472.58 | | 472.58 | 473 | 473 | 472.58 | 472.58 |
| Wavelength Tolerance (+/- nm) | 1 | 1 | | 1 | 1 | 1 | 1 | 1 |
| Divergence (mrad, full angle) | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.2 | <1.2 | <1 |
| Beam Dimensions (mm, 1/e ²) | 1.2, 2 | 0.8 | 1, 2, 3 | 2, 3 | 2, 3 | 2, 3 | 3 | 3 |
| Warm-up Time (minutes) | 10 | 5 | | 10 | 10 | 10 | 10 | 10 |
| Optical Noise Amplitude (%RMS @ 20 Hz - 20 MHz) | <30 | <30 | | <30 | <30 | <30 | <30 | <30 |
| Spectral Linewidth (nm) | <0.15 | <0.15 | | <0.15 | | | | |
| M ² | <1.2 | <1.2 | <1.2, <2 | <1.2, <2 | <2 | <1.5, <3 | <5 | <1.5 |
| Polarization Ratio | >100 | >100 | | >100 | >100 | >100 | >100 | >100 |
| Beam Pointing Stability (mrad) | <0.05 | <0.05 | | <0.05 | <0.05 | <0.05 | | |
| IP rating | | 67 | | | | | | |
| Lateral Shock Tolerance (G's/6ms) | | 7 | | | | | | |
| Vertical Shock Tolerance (G's/6ms) | | 15 | | | | | | |
| Operating Temperature Range (°C) | 10 to 35 | 1 to 60 | | 10 to 35 | 10 to 35 | 20 to 30 | 10 to 35 | 20 to 30 |
| Max. Analog Modulation Freq. (Hz) | 150, 30000 | 30000 | 150, 30000 | 150, 30000 | 150, 30000 | 30000 | 30000 | 30000 |
| Max. TTL Modulation Freq. (Hz) | 150, 10000, 30000 | 30000 | 150, 30000 | 150, 30000 | 150, 10000, 30000 | 30000 | 30000 | 30000 |
| Modulation Input Signal | 0-5 VDC | 0-5 VDC | 0-5 VDC | 0-5 VDC | 0-5 VDC | 0-5 VDC | 0-5 VDC | 0-5 VDC |
| Total Power Consumption (W) | 20, 25 | 30 | 25 | 25, 80 | 80 | | | |
| Max. Power Input Duty Cycle | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Standard Warranty (months) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| MTTF (operational hours) | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| Weight of Product or Laser Head (kg) | 0.6 | | 1 | 2 | 1.6 | 2.6 | 2.6 | 6.1 |
| Beam Height from Base Plate (mm) | 24.8 | 19 | 27.4 | 27.4 | 45 | 68.2 | 68.2 | 93.5 |

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.

Specifications Page 2:


| | | | | | | | | |
|------------------------------------------|-------------------------------|----------------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|---------------------------|-----------------------------|
| Laser Form Factor | | | | | | | | |
| Dimensions of Product or Laser Head (mm) | 140.8 (l) x 73 (w) x 46.2 (h) | 100 (l) x 50 (w) x 38 (h) | 142.5 (l) x 60 (w) x 50 (h) | 197 (l) x 70 (w) x 50 (h) | 211.5 (l) x 88 (w) x 74 (h) | 240 (l) x 99 (w) x 94 (h) | 240 (l) x 99 (w) x 94 (h) | 346 (l) x 140 (w) x 125 (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 | FS | FO | FN | FF |
|------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| FDA-Compliant LabSpec  | Input Power | 85v to 264v | 85v to 264v | 85v to 264v | 85v to 264v | 85v to 264v |
| | Power Supply Weight (kg) | 1.5 | 1.5 | 2.6 | 2.6 | 2.6 |
| | Dimensions (mm) | 154 (l) x 155 (w) x 95 (h) | 154 (l) x 155 (w) x 95 (h) | 268 (l) x 145 (w) x 106 (h) | 268 (l) x 145 (w) x 106 (h) | 268 (l) x 145 (w) x 106 (h) |

| | Power Supply Type: | SM | SF |
|-------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|-----------------------------|
| FDA-Compliant Standard  | Input Power | 85v to 264v | 85v to 264v |
| | Power Supply Weight (kg) | 1.2 | 2.3 |
| | Dimensions (mm) | 133 (l) x 130 (w) x 65 (h) | 238 (l) x 146 (w) x 102 (h) |

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

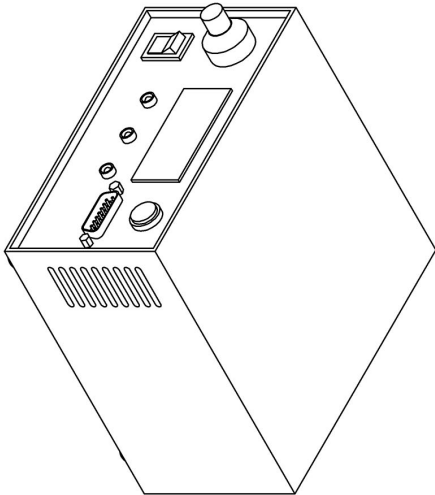
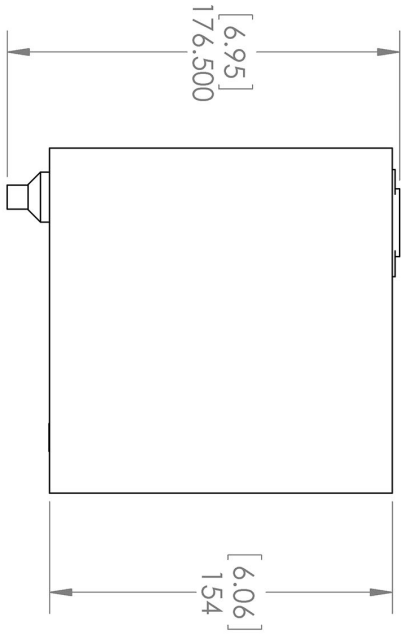
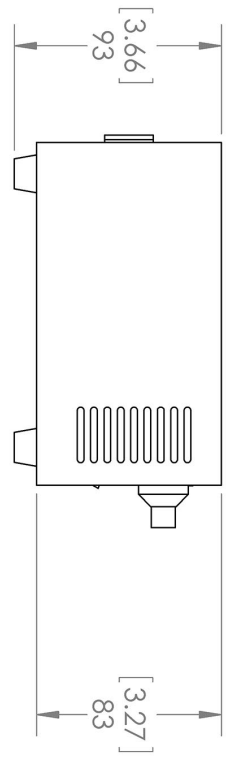
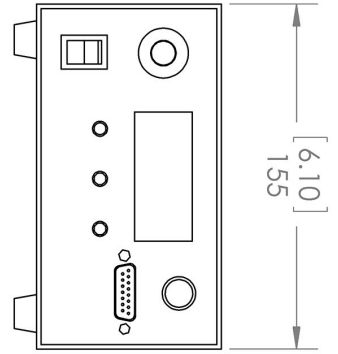
*Dimensions for fiber-integrated (I_) include laser head packaged inside.

Regulatory Classification:

The model you have selected (R47-SS) requires the following safety label(s):



Dimensional Drawing - Power Supply Form Factor: FS:



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

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Laserglow Technologies

TITLE:

**Power Supply
 FM/FR/FS**







REV
1

SCALE: 1:3

SHEET 1 OF 1

Accessories:

The most popular accessories for model R47-SS are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

| Part Number | Description | |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  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 | |
|  AGF5327XX | LSG-532-NF-7 Fit-Over Safety Goggles 532nm Output: OD 7+ at 190-532 nm CE Certified Full Details: www.arktislaser.com/AGF | |
|  ACFVISHXA | FC/PC Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned) 11mm diameter input lens Full Details: www.arktislaser.com/ACF | |
|  ACSVISHXA | SMA-905 Fiber Coupler/Collimator for visible spectrum wavelengths (400 to 700 nm) (installed and aligned) 11mm diameter input lens Full Details: www.arktislaser.com/ACS | |
|  TBK | Complete optics kits with breadboard mounting hardware. External modulators, variable attenuators, free-space fiber launch systems Full Details: www.arktislaser.com/TBK | |

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.