

## LRD-0980 Collimated Diode Laser System



### Series Specifications:

Nominal Wavelength	980 nm
Output Type	CW
Laser Source Type	Diode

### Overview:

The LRD-0980 Series of Collimated Diode (Semiconductor) Lasers are ideal for applications requiring a wavelength of around 980 nm and a wide range of output power levels from 10 mW to 50 W 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 communications research, machine vision, scientific applications involving spectral analysis, biology research, 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 onboard 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:

- TEC 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 D98-I, per your request, and data for the entire series is also displayed for your reference. The specs which are specific to D98-I have been highlighted below in **red + bold**.

Laser Form Factor	RL	R	<b>I</b>	T	V
Output Power (mW)	>10, >50, >100	>100, >500, >1000, >2000	<b>&gt;2000, &gt;30000</b>	>3000, >5000	>8000, >10000
Output Power Stability (%RMS/4h)	<1, <3, <5, <10	<1, <3, <5, <10	<b>&lt;1, &lt;3</b>	<1, <3, <5, <10	<1, <3, <5, <10
FDA Safety Class	IIIb	IIIb, IV	<b>IV</b>	IV	IV
Central Wavelength (nm)	980	978	<b>978</b>	978	978
Wavelength Tolerance (+/- nm)	10	5	<b>3</b>	3	3
Divergence (mrad, full angle)	<1	<3	<b>&lt;120x240</b>	<3	<3
Beam Dimensions (mm, 1/e <sup>2</sup> )	3.5	5x8		5x8	5x8
Transverse Mode	Near TEM00	Multimode	<b>Multimode</b>	Multimode	Multimode
Longitudinal Modes	Multiple	Multiple	<b>Multiple</b>	Multiple	Multiple
Warm-up Time (minutes)	5	5	<b>5</b>	5	5
M <sup>2</sup>		<20		<20	<20
Polarization Ratio	>50	>50			
Beam Pointing Stability (mrad)	<0.05	<0.05	<b>&lt;0.05</b>	<0.05	<0.05
Operating Temperature Range (°C)	10 to 35	10 to 35	<b>10 to 35</b>	10 to 35	10 to 35
Storage Temperature Range (°C)	-10 to	-10 to	<b>-10 to 50</b>	-10 to	-10 to
Max. Analog Modulation Freq. (Hz)	30000	30000	<b>30000</b>	30000	30000
Max. TTL Modulation Freq. (Hz)	10000, 30000	10000, 30000	<b>30000</b>	10000, 30000	10000, 30000
Modulation Input Signal	0-5 VDC	0-5 VDC	<b>0-5 VDC</b>	0-5 VDC	0-5 VDC
Total Power Consumption (W)		16, 22			
Max. Power Input Duty Cycle	100%	100%	<b>100%</b>	100%	100%
Cooling Method	TEC	TEC	<b>TEC/Forced Air</b>	TEC/Forced Air	TEC/Forced Air
Standard Warranty (months)	12	12	<b>12</b>	12	12
MTTF (operational hours)	10000	10000	<b>10000</b>	10000	10000
Weight of Product or Laser Head (kg)	0.6	0.6	<b>5.4</b>	0.9	2.6

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	RL	R	I	T	V
Beam Height from Base Plate (mm)	24.8	24.8		29	68.2
Dimensions of Product or Laser Head (mm)	140.7 (l) x 73 (w) x 46.2 (h)	140.7 (l) x 73 (w) x 46.2 (h)	<b>314 (l) x 290 (w) x 134 (h)</b>	155 (l) x 77 (w) x 60 (h)	235 (l) x 99 (w) x 94 (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>SR</b>	<b>ST</b>	<b>SV</b>
	Input Power	85v to 264v	85v to 264v	85v to 264v
	Power Supply Weight (kg)	1.2	2.3	2.3
	Dimensions (mm)	133 (l) x 130 (w) x 65 (h)	238 (l) x 146 (w) x 102 (h)	238 (l) x 146 (w) x 102 (h)

	Power Supply Type:	<b>FR</b>	<b>FT</b>	<b>FV</b>	<b>FI</b>
	Input Power	85v to 264v	85v to 264v	85v to 264v	<b>v to v</b>
	Power Supply Weight (kg)	1.5	2.6	2.6	
	Dimensions (mm)	154 (l) x 155 (w) x 95 (h)	268 (l) x 145 (w) x 106 (h)	268 (l) x 145 (w) x 106 (h)	<b>(l) x (w) x (h)</b>

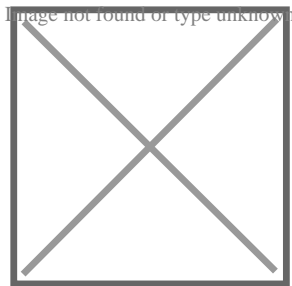
	Power Supply Type:	<b>II</b>
	Input Power	85v to 264v
	Power Supply Weight (kg)	0
	Dimensions (mm)	0 (l) x 0 (w) x 0 (h)

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

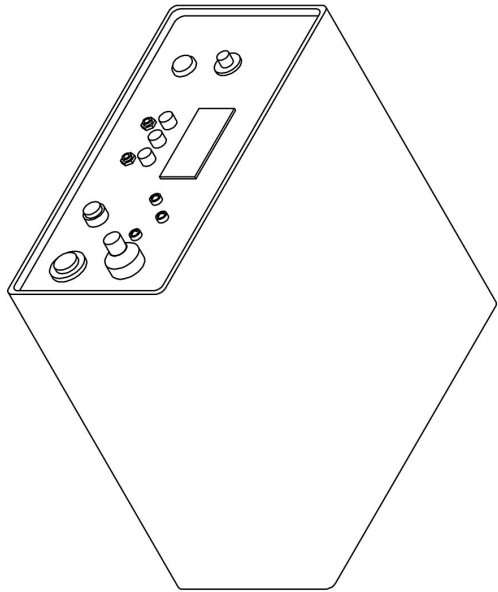
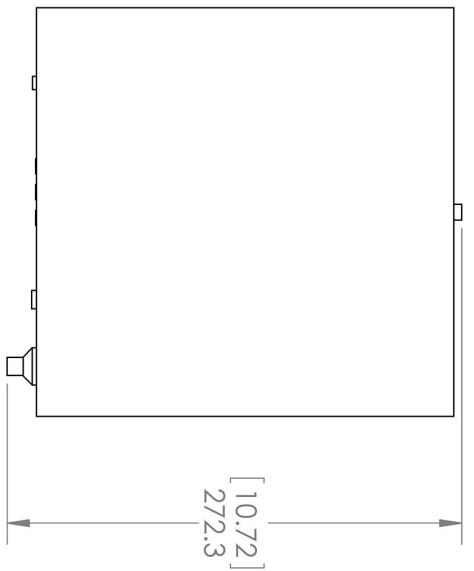
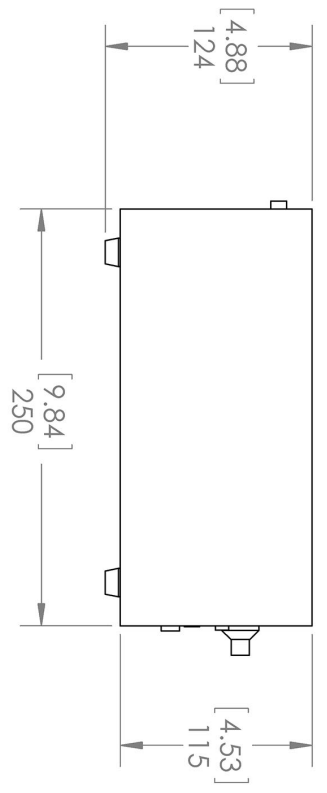
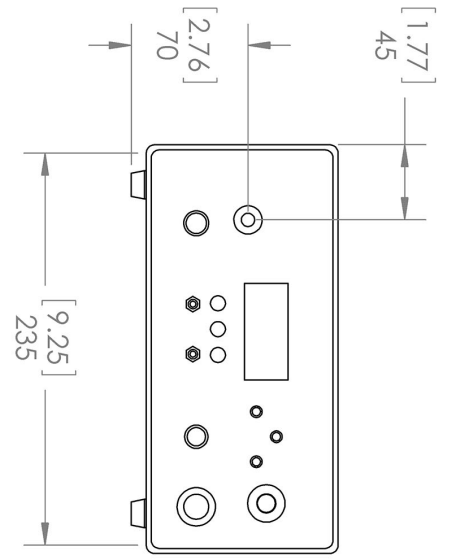
\*Dimensions for fiber-integrated (I\_) include laser head packaged inside.

## Regulatory Classification:

The model you have selected (D98-I) requires the following safety label(s):



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









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

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TITLE: <b>Lab/OEM                  I Housing                  (Fiber-Integrated)</b>	
SCALE: 1:4	SHEET 1 OF 1

## Accessories:

The most popular accessories for model D98-I are shown below. For additional details regarding these or other accessories please see our website or contact us directly.

Part Number	Description	
 AGFA647XX	LSG-1064-NF-7 Fit-Over Safety Goggles 1064nm Output: OD 7+ at 950-1070 nm CE Certified Full Details: <a href="http://www.laserglow.com/AGF">www.laserglow.com/AGF</a>	
 ACFNIRHXA	FC/PC Fiber Coupler/Collimator for IR wavelengths (700 to 1000 nm) (installed and aligned) 11mm diameter input lens Full Details: <a href="http://www.laserglow.com/ACF">www.laserglow.com/ACF</a>	
 ACSNIRHXA	SMA-905 Fiber Coupler/Collimator for IR wavelengths (700 to 1000nm) (installed and aligned) 11mm diameter input lens Full Details: <a href="http://www.laserglow.com/ACS">www.laserglow.com/ACS</a>	
 AFS2002XX	Armored Fiber With SMA 905 Connectors 200um Core Multimode 2 m length Full Details: <a href="http://www.laserglow.com/AFS">www.laserglow.com/AFS</a>	
 AFF2002XX	Armored Fiber With FC/PC Connectors 200um Core Multimode 2m length Full Details: <a href="http://www.laserglow.com/AFF">www.laserglow.com/AFF</a>	
 ACALBMXXX	Carrying Case-102 Holds Lab/OEM M, R and S size, standard or LabSpec laser Full Details: <a href="http://www.laserglow.com/ACA">www.laserglow.com/ACA</a>	Included With Laser

## 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.