

# 4.5 mW 632.8nm (RED) HELIUM NEON LASER

## MODEL: 05-LHR-092-610

### OUTPUT SPECIFICATIONS

Minimum CW Power Output (mW)	4.5
Wavelength (nm)	632.8
Transverse Mode	> 90% TEM <sub>00</sub>
Polarization	Random, Non-Mode-Flip
Beam Diameter at 1/e <sup>2</sup> Points	0.63 ± 5%
Beam Divergence (mrad)	1.40 ± 5%
Longitudinal Mode Spacing (MHz)	641
Mode Sweeping	< 5%
Long Term Power Drift (8 hrs)	< 2.5%
Amplitude Noise, 30 Hz to 30 MHz (peak-to-peak)	< 2.8%
Warmup to > 95% of Maximum Power (minutes)	15

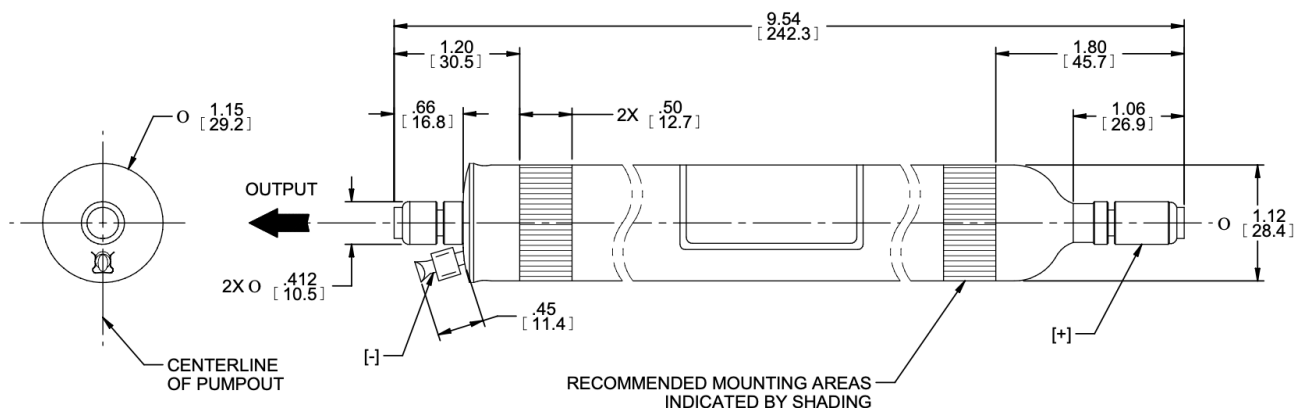
### ELECTRICAL SPECIFICATIONS

Start Voltage (kVdc)	< 8		
Recommended Operating Current (mA)	4.5 ± 0.2		
Operating Voltage with 68K Ohm Ballast Resistor* (VDC)	1820 ± 100		
Recommended Power Supply	Laboratory	OEM (AC)	OEM (12 VDC)
	06-LPL-901-045	06-LPM-901-045	06-LPM-804-045

### ENVIRONMENTAL SPECIFICATIONS

	OPERATING	NON-OPERATING
Temperature (°C)	-20 to +40	-40 to +80
Altitude (meters)	0 to 3000	0 to ∞
Relative Humidity (% , non-condensing)	0 to 99%	0 to 99%
Mechanical Shock (g)	< 1 for < 11 msec	< 25 for < 11 msec < 100 for < 1 msec

\* Contact factory regarding Ballast Resistor requirements



Dimensions in Inches (mm)

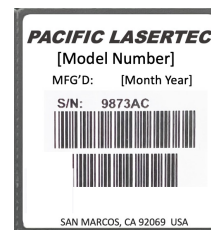
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<b>LASER CLASSIFICATION</b>		
US 21 CFR 1040.10	Non-Compliant [See Conditions of Acceptability Below]	Class IIIa
IEC 60825-1:2014	Non-Compliant [See Conditions of Acceptability Below]	Class 3R
US FDA Accession Number		8010237
<b>REGULATORY COMPLIANCE</b>		
RoHS 3		EU 2015/863
<b>EXPORT INFORMATION</b>	<b>LASER</b>	<b>POWER SUPPLY*</b>
ECCN	EAR99	EAR99
HTTS	9013.20.0000	8504.40.9510
Country of Origin	United States	Contact Factory

*THESE PRODUCTS ARE SOLD IN ACCORDANCE WITH UNITED STATES EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAWS IS PROHIBITED.*

\* Power Supply is Sold Separately



Product Label

<b>CONDITIONS OF ACCEPTABILITY :</b>
1. For component type devices, the following requirements shall be followed at end use.
2. The laser power supply at end use shall have negative output terminal reliably connected to earth. The maximum output current of the power supply shall not exceed 2.5A under normal and fault conditions.
3. Safety interlock switch, key switch, controls, laser housing and laser beam attenuator, as appropriate for each laser Class, must be present in accordance with Laser safety standards, IEC/EN 60825-1:2014.
4. A visual or audio indicator, in accordance to Laser safety standards, shall be provided in the end product.
5. The unit's thermal circuitry shall be evaluated in the end product.
6. The end user must provide their own safety monitoring mechanism to shut down a power supply if it fails to start the laser after several seconds.
7. IEC/EN 60825-12 shall be considered if the end system is a free space optical communication system used for transmission of information.

Information contained herein is for reference only and subject to change without notice.