

Verdi G SLM-Series

High Performance Single-Frequency 532 nm Laser

Applications such as holography, interferometry, and spectroscopy require single longitudinal mode (SLM) lasers with narrow linewidths and long coherence lengths. The Verdi G SLM-Series provides up to 5 W of SLM 532 nm laser light in a simple, CDRH-compliant turnkey system.

Based on Coherent's unique Optically Pumped Semiconductor Laser (OPSL) technology, the Verdi G SLM-Series features SLM operation for the most demanding of applications. This, combined with stable beam parameters across output power, a diffraction-limited beam, low-noise, and high stability, provides unparalleled laser performance in a convenient package.

The Verdi G SLM-Series is the perfect match for customers in need of the highest performing 532 nm CW laser technology for commercial and scientific applications.



FEATURES

- Single longitudinal mode (<5 MHz linewidth)
- Extremely low noise
- Superior mode quality
- Power-invariant beam properties
- PermAlign™ solder-bonded optics technology
- AAA™ ultra-long life pump diodes

APPLICATIONS

- Holography
- Interferometry
- Spectroscopy

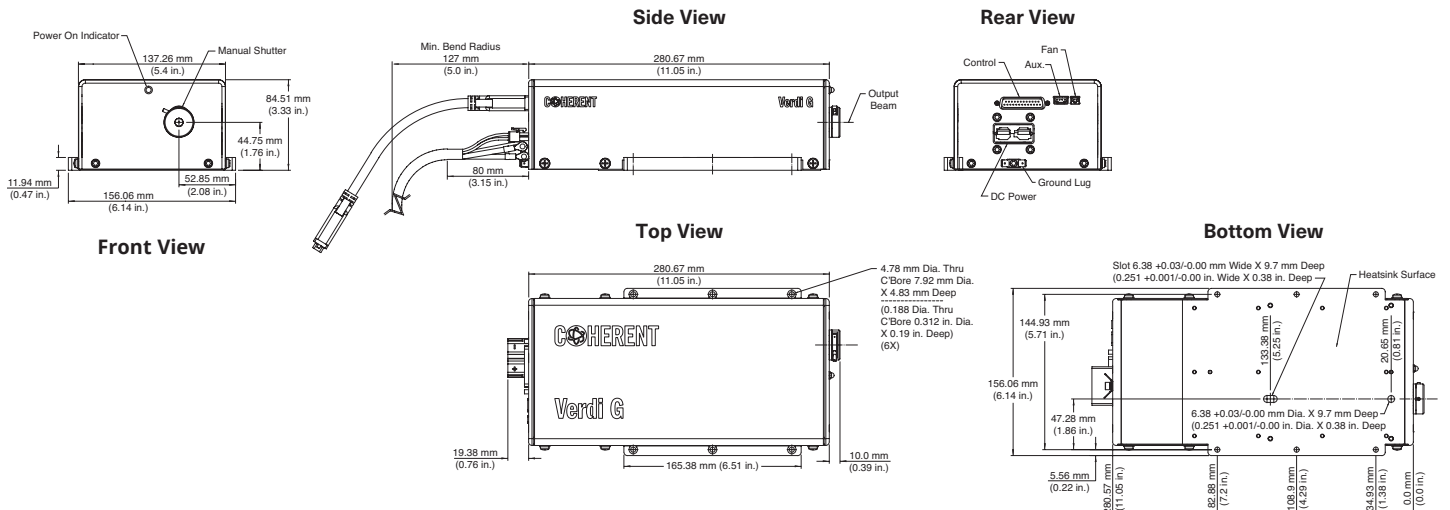
Optical Output A	Verdi G2	Verdi G5
Wavelength (nm)	532 ±2	
Pulse Format	CW	
Linewidth (FWHM) (MHz)	<5	
Spectral Purity (%)	>99	
Output Power (W)	2	5
Power Tunability ²	10% to 100% full rated power	
Spatial Mode	TEM00	
Beam Quality	<1.1	
Beam Circularity ³	1.0 ±0.1	
Beam Waist Diameter (mm) (FW, 1/e ²)	2.3 ±0.3	
Beam Divergence (mrad) (FW, 1/e ²)	<0.5	
Beam Waist Location ⁴ (m)	±0.5	
Beam Pointing Stability ⁵ (μrad/°C)	<5	
Horizontal Beam Position Tolerance ⁶ (mm)	±<1.0	
Vertical Beam Position Tolerance ⁶ (mm)	±<1.0	
Polarization Ratio	Linear, >100:1	
Polarization Direction	Vertical, ±5°	
Noise ⁷ (% rms) (10 Hz to 100 MHz)	<0.03	<0.02
Power Stability ⁸ (%) (pk-pk)	±<1	
Warm-up Time (minutes)	<30	
CDRH Compliant	Yes	
Utility Requirements		
Operating Voltage (VAC)	100 to 240	
Frequency (Hz)	50 to 60	
Power Consumption (W)	500	
Cooling Requirements	Laser head must be mounted on a suitable heatsink, e.g., Genesis CX Water-Cooled Riser ⁹	
Environmental Conditions		
Ambient Temperature (°C)	10 to 40, non-condensing	
Operating	10 to 40, non-condensing	
Non-Operating	-10 to 60	
Relative Humidity ¹⁰ (%)	5 to 95	
Mechanical Conditions		
CE Marking	IEC 61010-1/EN 61010-1	
Dimensions (L x W x H)		
Laser Head ¹¹	281 x 156 x 85 mm (11.06 x 6.14 x 3.35 in.)	
Benchtop Controller	361 x 229 x 160 mm (14.22 x 9.01 x 6.29 in.)	
Cables (laser head to controller)	3 m (10 ft.)	

Notes:

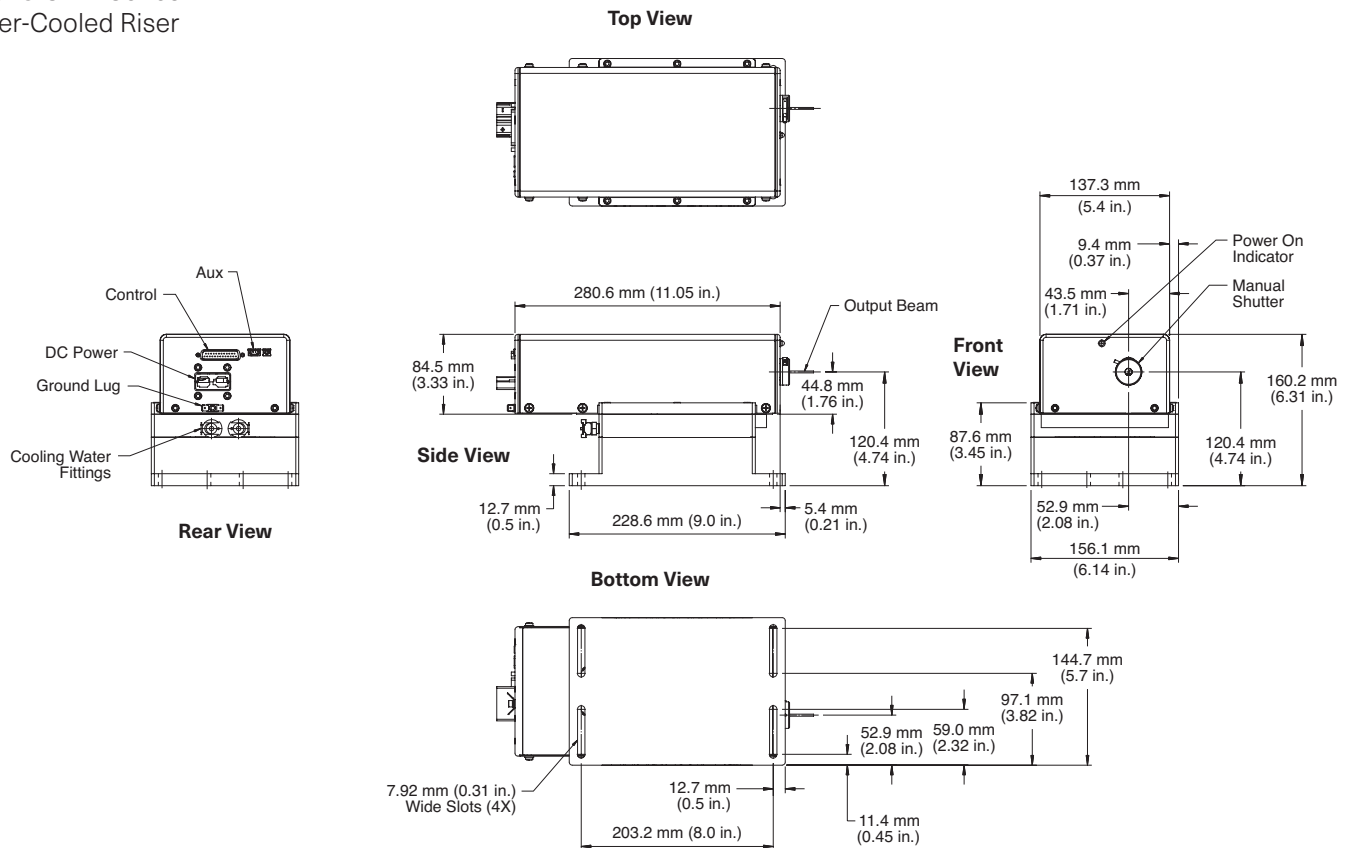
- Optical parameters measured at the output plane of the laser head, unless noted all parameters valid at the nominal output power and for the lifetime of the unit.
- Allow 20 minutes for laser to stabilize between power changes.
- Circularity defined as vertical diameter divided by horizontal diameter.
- Negative value corresponds to a location inside head.
- After 2-hour warm-up.
- Measured at the output window.
- Noise specification applies at full rated power. Noise varies roughly inversely proportionally to the output power
- Measured over 8 hrs.
- Refer to Operator's Manual for detailed requirements if supplying own heatsink
- Non-condensing.
- Back connector not included in laser head length dimension.

Mechanical Specifications

Laser Head



Verdi G SLM-Series Water-Cooled Riser



Mechanical Specifications

Power Supply

