



# Verdi G-Series Family

High-Power Optically Pumped Semiconductor Lasers (OPSL)

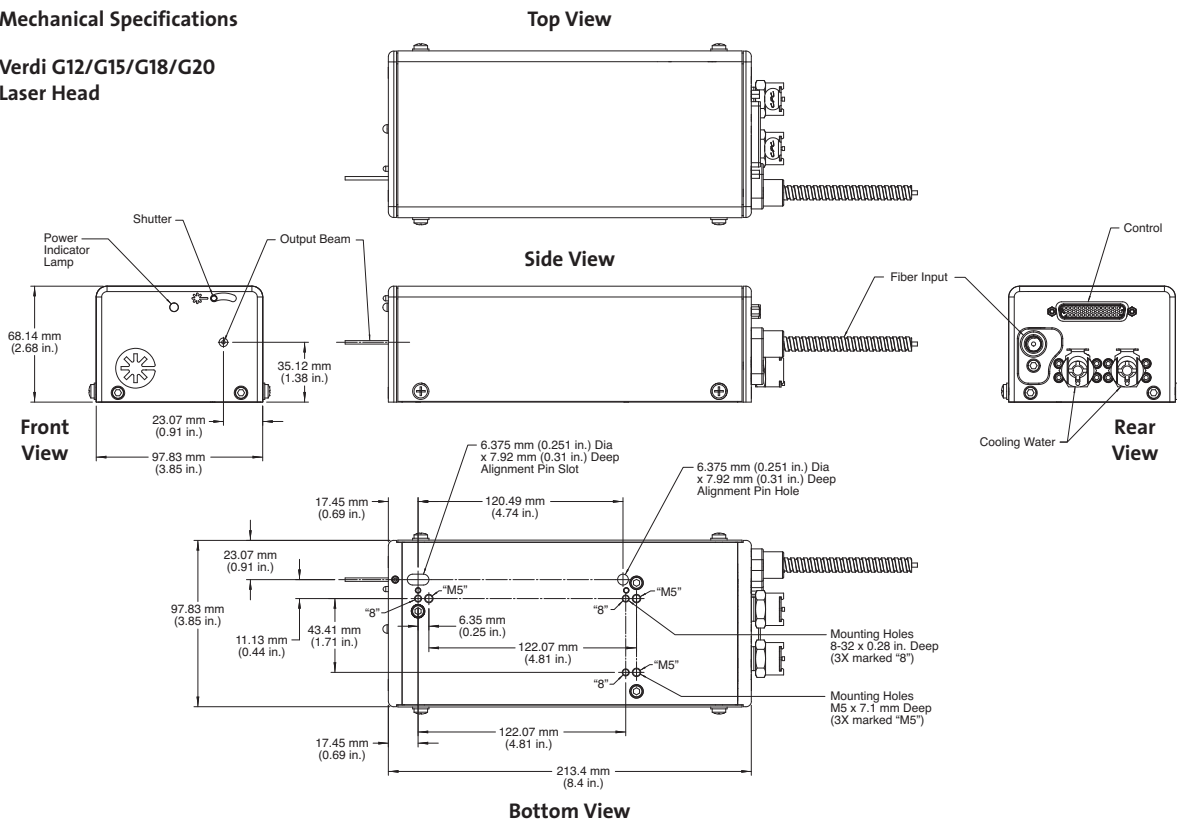


## Features

- Up to 20W output power at 532 nm
- Constant beam parameters vs. power
- Extremely low noise performance (<0.02%)
- Superior mode quality
- OPSL reliability
- Lowest cost of ownership

## Mechanical Specifications

Verdi G12/G15/G18/G20  
Laser Head



Superior Reliability & Performance

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Optical Specifications <sup>1</sup>	Verdi	G2/G5/G7/G8	G10	G12/G15/G18/G20
Wavelength (nm)			532 ±2	
Pulse Format			CW	
Spectral Purity (%)			>99	
Output Power (W)		2, 5, 7, 8 <sup>2</sup>	10 <sup>2</sup>	12, 15, 18, 20 <sup>2</sup>
Spatial Mode			TEM <sub>00</sub>	
Beam Quality			<1.1	
Beam Circularity <sup>3</sup>			1.0 ±0.1	
Beam Waist Diameter (mm)(FW, 1/e <sup>2</sup> )			2.25 ±10%	
Beam Divergence (mrad)(FW, 1/e <sup>2</sup> )			<0.5	
Beam Waist Location <sup>4</sup> (m)			±0.5	
Beam Pointing Stability <sup>5</sup> (μrad/°C)			<2	
Horizontal Beam Position Tolerance <sup>6</sup> (mm)			±1.0	
Vertical Beam Position Tolerance <sup>6</sup> (mm)			±1.0	
Polarization Ratio			Linear, >100:1	
Polarization Direction			Vertical, ±5°	
Noise (% rms)(10 Hz to 100 MHz)			<0.02	
Power Stability <sup>7</sup> (%)(pk-pk)			±1	
Warm-Up Time (minutes)			<10	
CDRH Compliant			Yes	
<b>Electrical Specifications</b>				
Operating Voltage (VAC)			100 to 240	
Frequency (Hz)			50 to 60	
Power Consumption (W)		500 (2W, 5W), 600 (7W, 8W)	700	1000 (12W), 1250 (15W), 1500 (18W, 20W)
<b>Environmental Conditions</b>				
Ambient Temperature (°C)				
Operating			10 to 40	
Non-Operating			-10 to 60	
Relative Humidity (%)			5 to 95 <sup>8</sup>	
CE Marking			IEC 61010-1/EN 61010-1	
Dimensions (L x W x H)				
Laser Head <sup>9</sup>		281 x 156 x 85 mm (11.06 x 6.14 x 3.35 in.)		214 x 98 x 68 mm (8.43 x 3.86 x 2.68 in.)
Benchtop Power Supply		361 x 229 x 160 mm (14.22 x 9.01 x 6.29 in.)		406 x 236 x 171 mm (16.0 x 9.3 x 6.75 in.)
Cables (laser head to controller)			3m (10 ft.)	

<sup>1</sup> 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.

<sup>2</sup> This product is offered in several output power versions. The output power can be adjusted down to 250 mW (G2-G10) and 750 mW (G12-G20).

<sup>3</sup> Circularity defined as vertical diameter divided by horizontal diameter.

<sup>4</sup> Negative value corresponds to a location inside head.

<sup>5</sup> After 2-hour warm-up.

<sup>6</sup> Measured at the output window.

<sup>7</sup> Measured over 8 hrs.

<sup>8</sup> Non-condensing.

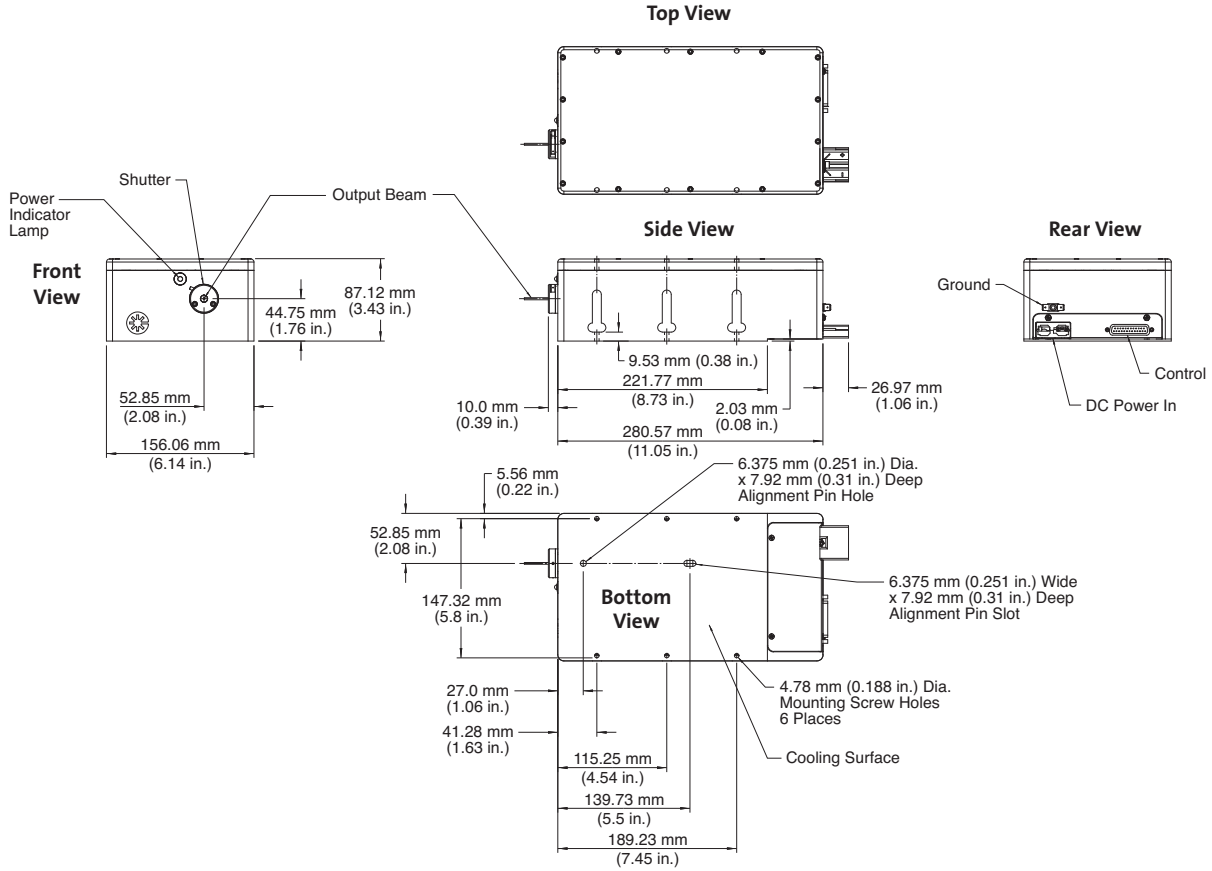
<sup>9</sup> Back connector not included in laser head length dimension..

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## High-Power Optically Pumped Semiconductor Lasers (OPSL)

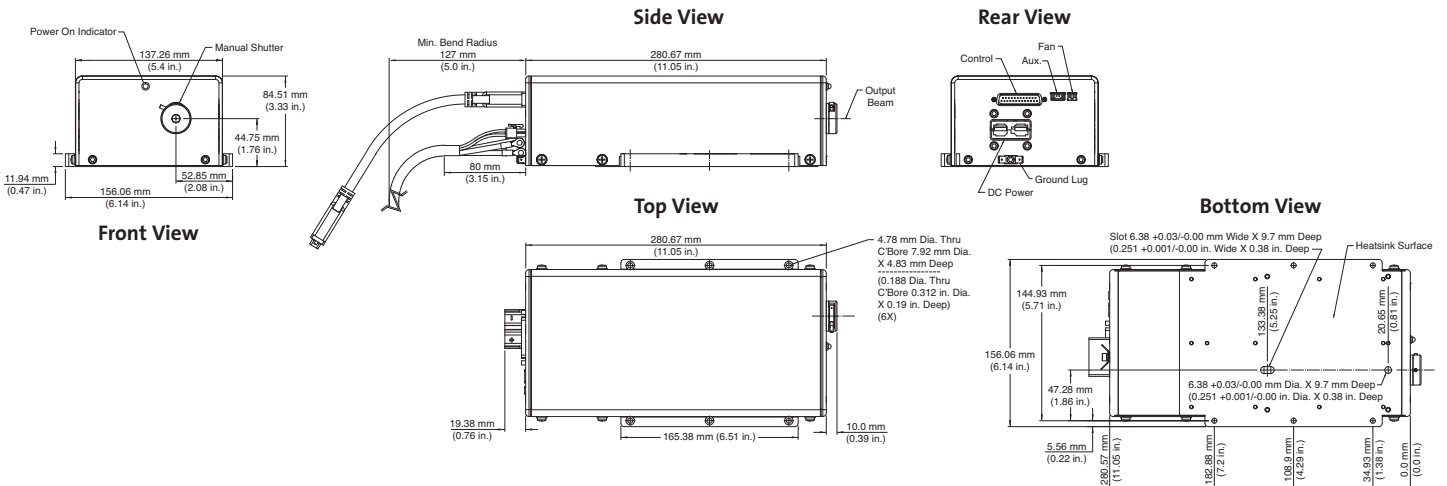
### Mechanical Specifications

#### Verdi G10 Laser Head



### Mechanical Specifications

#### Verdi G2/G5/G7/G8 Laser Head

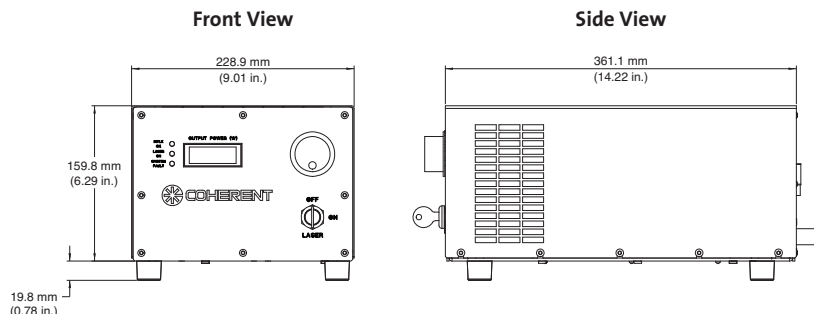


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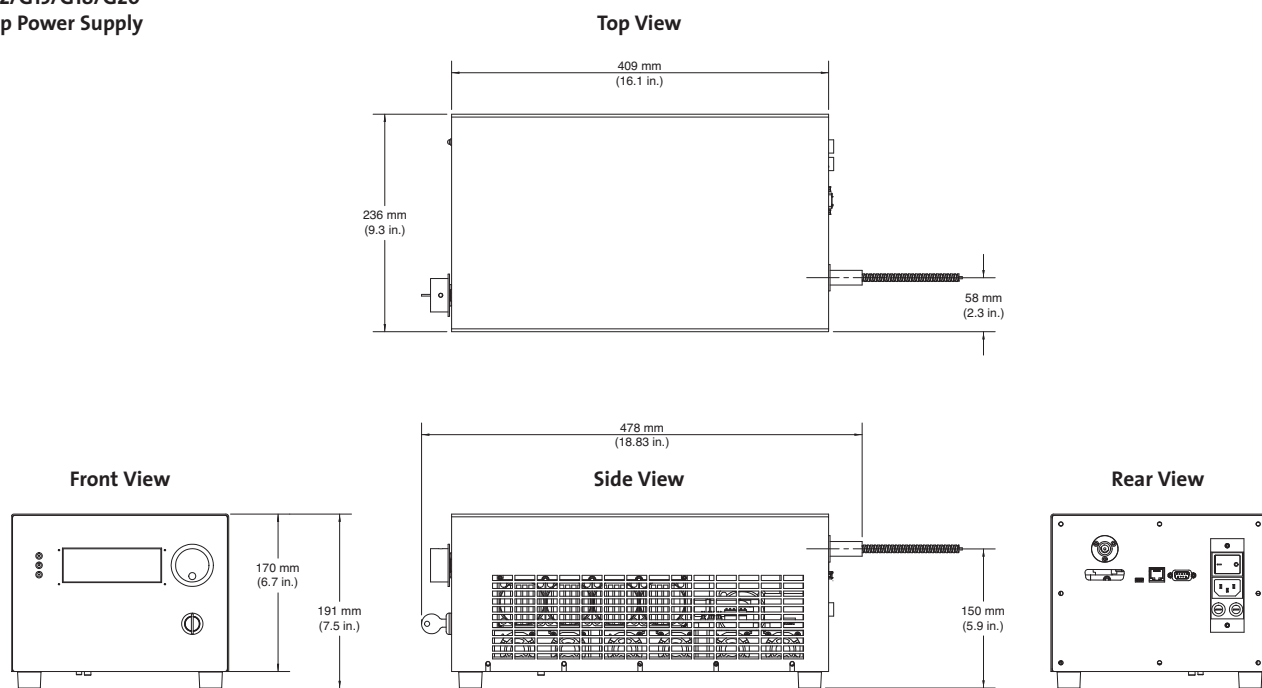
## High-Power Optically Pumped Semiconductor Lasers (OPSL)

### Mechanical Specifications

#### Verdi G2/G5/G7/G8/G10 Benchtop Power Supply



#### Verdi G12/G15/G18/G20 Benchtop Power Supply



Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Verdi G Family Lasers. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative.

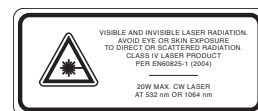


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 U.S. Patent No. 6,167,068  
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