

Continuous Wave 532 nm Diode-Pumped Solid State Laser

CDPS532M



The Lumentum CDPS532M is a continuous wave 10 to 50 mW 532 nm diode-pumped solid state laser in a very compact package. Its head contains the laser cavity together with a beam-shaping telescope to provide a low divergence laser with excellent mode quality. The laser controller allows full control and diagnostics of the laser system.

The controller provides analog and RS232 interfaces. The laser system is powered by an external 5 V direct current (DC) power supply connected to the controller. Diagnostic features include laser parameters like output power, pump diode current, operating hours, and more. Control functions feature interlock and system status, as well as external output power control.

The CDPS532M laser offers an improved cavity design for longer lifetime and reliability. Its simple yet elegant optical layout is especially designed for volume manufacturing. Changes in mechanical design are further enhanced by new control software for optimized operating parameters.

The CDPS532M laser provides excellent performance for the price, and low operating costs while maintaining consistency and quality.

Key Features

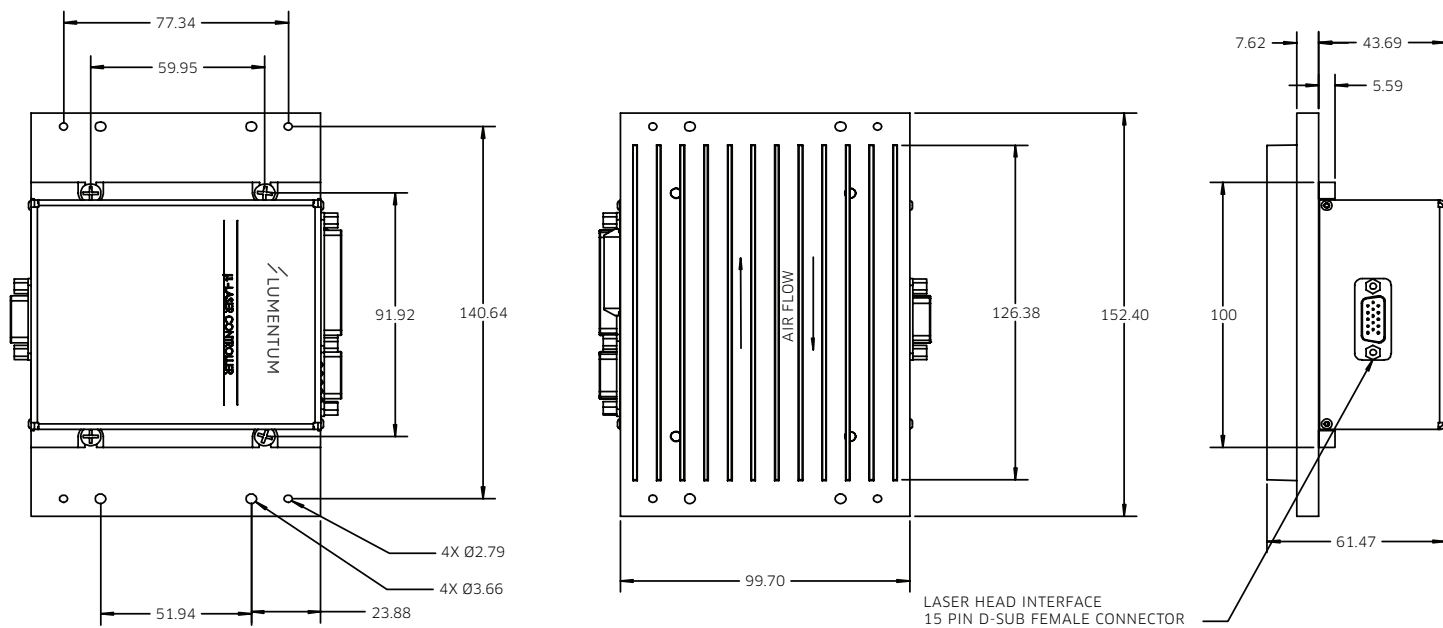
- Compact
- Excellent performance-to-price ratio
- Low noise
- Excellent beam quality
- High reliability

Applications

- Biotechnology
- Semiconductor instrumentation
- Reprographics
- General instrumentation

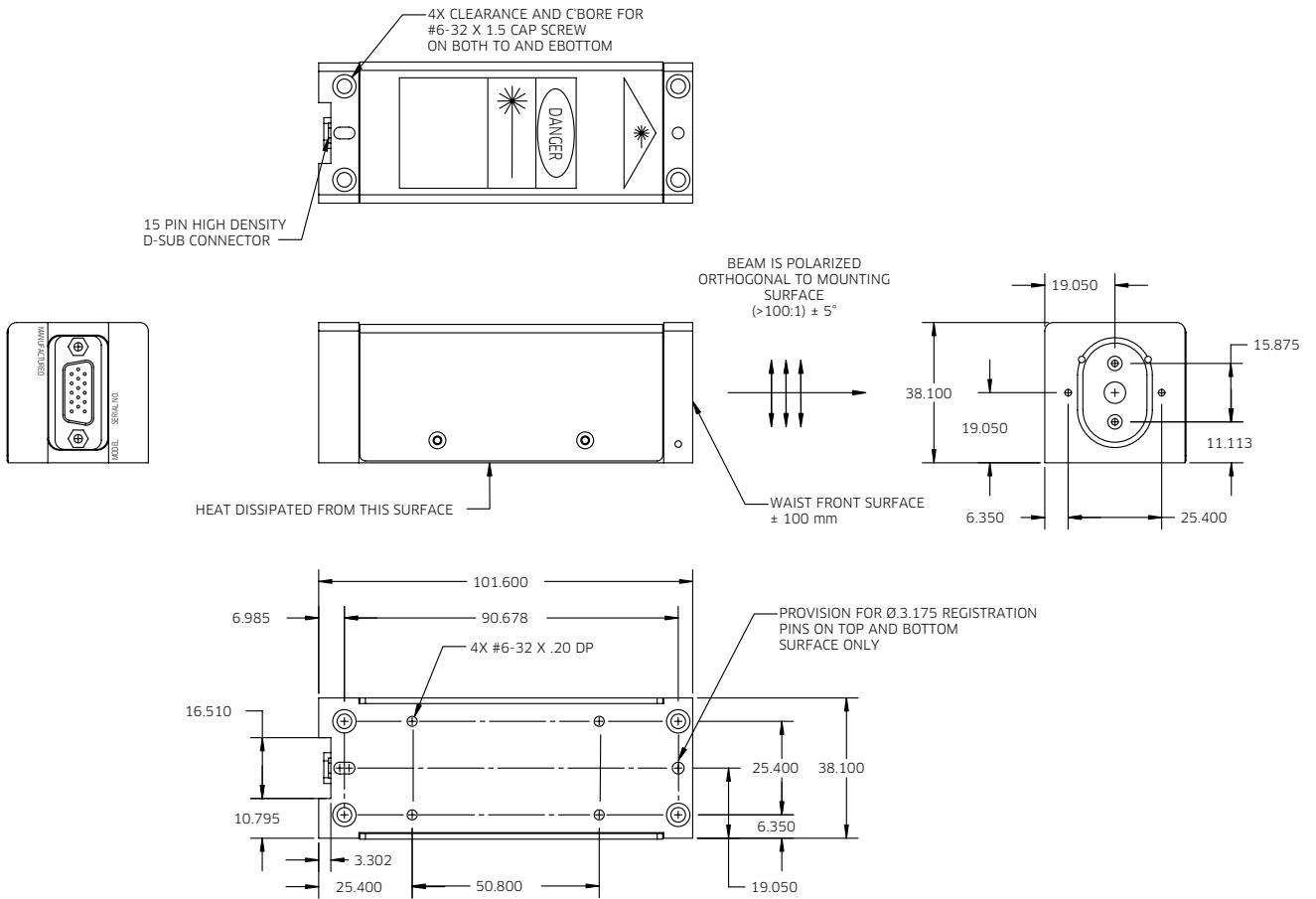
Dimensions Diagram: Controller

(Specifications in mm unless otherwise noted.)



Dimensions Diagram: Laser Head

(Specifications in mm unless otherwise noted.)



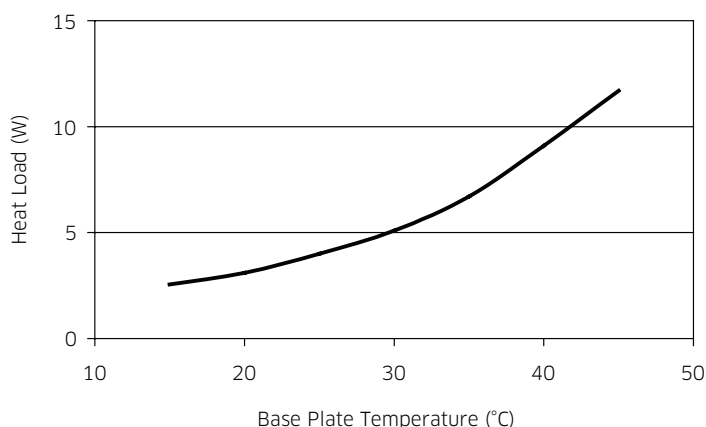
Specifications

Parameter	Specification
Optical	
Wavelength	532 ± 1 nm
Output power	
CDPS532M-010	10 mW
CDPS532M-020	20 mW
CDPS532M-050	50 mW
Power stability (2 hour, 25±3°C) ¹	<1.0%
Mode quality M ²	<1.2
Beam diameter (1/e ² point)	0.6 mm ±10%
Beam divergence (full angle)	<1.2 mrad
Polarization ratio (E-vector is vertical)	>100:1
Noise (rms, 20 Hz to 2 MHz)	<0.5%
Ellipticity	<10%
Pointing stability (2 h, 25 ± 3°C) ¹	± 30 µrad
Static alignment ²	
Beam position	± 0.25 mm
Beam angle	± 1.0 mrad
Environmental	
Base plate temperature	
Operating	10 to 45°C
Non-operating	0 to 60°C
Shock (11 ms duration)	
Operating	1 g
Non-operating	25 g
Vibration (sinusoidal, 5 to 500 Hz)	
Operating	0.3 g
Non-operating	2 g
Heat sink requirements	
Surface flatness	25 µm
Torque specification	0.5 Nm

1. After warm-up.
2. Specified for bottom-down mounting; same specifications can be applied to upside-down mounting upon request.

Cooling Requirements

Follow these cooling recommendations when integrating the laser into an original equipment manufacturer (OEM) system or application. The laser head is mounted to a heat sink for proper operation. The maximum base plate temperature is maintained below 45°C. The recommended heat sink capacity at a temperature of 45°C is 12 W. The required heat sink properties are estimated with this chart (below).



Ordering Information

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at customer.service@lumentum.com.

Sample: CDPS532M-010



Code	Output Power
010	10 mW
020	20 mW
050	50 mW

Compliance with Regulatory Requirements

The CDPS532M laser system is an OEM version of a Lumentum diode-pumped solid state laser. As such, it is intended only for integration into other equipment. The CDPS532M laser does not comply with Center for Devices and Radiological Health (CDRH) standards. The customer is responsible for CDRH certification of any system that incorporates the CDPS532M laser.

This unit is designed and tested to comply with the following standards:

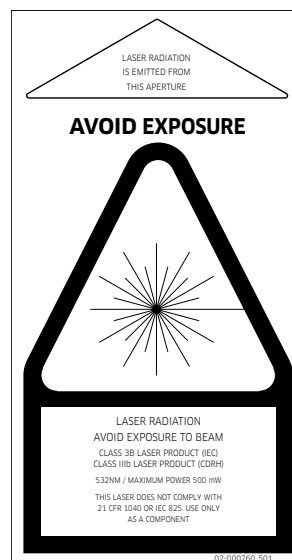
Electromagnetic Emissions (EN 50081-1) tested to standard EN CISPR 11:1999 + A1

Electromagnetic Immunity (EN 61000-6-2) tested to standard EN 61000-4-2 and EN 61000-4-3

Safety evaluation tested to standard UL 3101 and EN61010-1.

Warranty

Lumentum diode-pumped solid state lasers are warranted to be free of defects in materials and workmanship for 12 months from the date of shipment, or 5,000 hours, whichever comes first.



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