

# VLM

## Miniature Diode Laser Modules

Circular, Elliptical and Line Generating beam miniature diode laser modules provide the smallest package size and best value. Included inside every module are complete electronics to manage the constant power laser drive with a closed-light loop based on an internal photodiode. Also included in the electronics are protection circuits to provide a robust system in even the smallest of packages.

Miniature diode laser modules use the patented AlignLock technology to guarantee beam-pointing alignment of  $<4.3$  mrad. This allows for simpler and easier integration, as you can trust the unit-to-unit consistency of each beam.

### FEATURES & BENEFITS

- VLM2 and VLM3-style packages
- High visibility 635 nm, 650 nm, and 670 nm
- Circular or elliptical beams
- Line Generator with 30, 40, 60, and 85° fan angles

### APPLICATIONS

- Industrial
- Alignment
- Scanning
- Machine Vision
- Inspection
- Medical
- Life Sciences

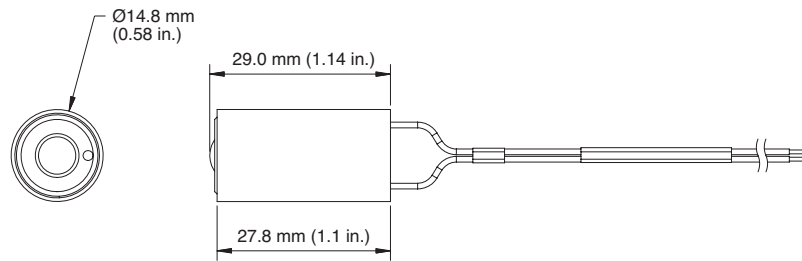


SPECIFICATIONS	VLM2-3RL, 2mW, 670nm	VMB2.3-4L, 4mW, 635nm	VHK2.3-1L, 1mW, 635nm	VHK2-1L, 1mW, 670nm	VLM2-8L, 7.5mW, 670nm
Module Type	VLM2	VLM2	VLM2	VLM2	VLM2
Wavelength (nm)	670 ±5	635 +7/-2	635 +7/-2	670 ±5	670 ±5
Power (mW)	2.3	4.2	0.95	0.95	7.5
CDRH Class	IIIa	IIIa	II	II, Non-Conforming	IIIb, Non-Conforming
Spot Size (mm)	3	1.3	1.1	1.3	3.4 x 1.3
Beam Type	Circular	Circular	Circular	Circular	Elliptical
Divergence (mrad)	0.4	0.7	0.7	0.7	0.3 x 0.8
Laser Drive	Continuous Wave (CW)	Continuous Wave (CW)	Continuous Wave (CW)	Continuous Wave (CW)	Continuous Wave (CW)
Power Supply (VDC)	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10
Recommended Power Supply Voltage (V)	5	5	5	5	5
Body Diameter (mm)	14.8	14.8	14.8	14.8	14.8
Body Length (mm)	45	34	34	34	28
Lead Length (mm)	914	914	914	914	305
Connector	none	none	none	none	none
Part Number	0221-005-00	0222-200-00	0221-698-01	0222-152-01	0223-038-00

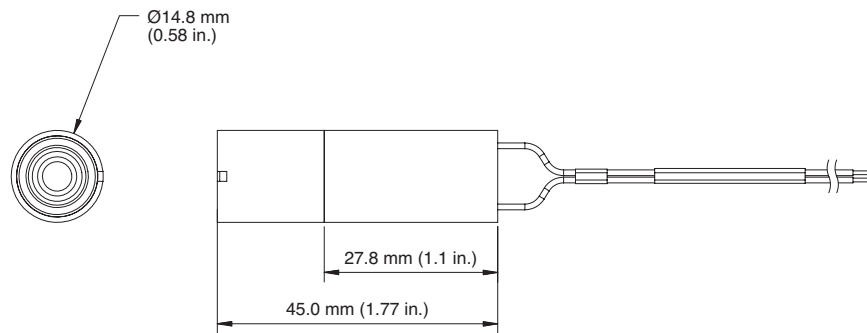
SPECIFICATIONS	VLM3.5-2, 1.6mW, 650nm	VLM3-1L, 1mW, 670nm	VLM3-5L, 5mW, 670nm
Module Type	VLM3	VLM3	VLM3
Wavelength (nm)	650 ±5	670 ±5	670 ±5
Power (mW)	1.6	0.95	4.2
CDRH Class	IIIa, Non-Conforming	II	IIIa
Spot Size (mm)	1.3	1.3 x 4.6	4.6 x 1.3
Beam Type	Circular	Elliptical	Elliptical
Divergence (mrad)	0.8	0.7 x 0.2	0.2 x 0.7
Laser Drive	Continuous Wave (CW)	Continuous Wave (CW)	Continuous Wave (CW)
Power Supply (VDC)	3 to 6	3 to 6	3 to 6
Recommended Power Supply Voltage (V)	3.3	3.3	3.3
Body Diameter (mm)	9.5	9.5	9.5
Body Length (mm)	26	19	19
Lead Length (mm)	914	914	914
Connector	none	none	none
Part Number	0222-002-01	0220-970-00	0220-968-00

## MECHANICAL SPECIFICATIONS

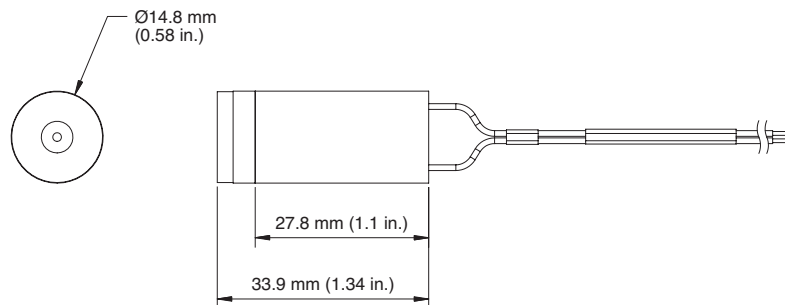
### VLM2-8L



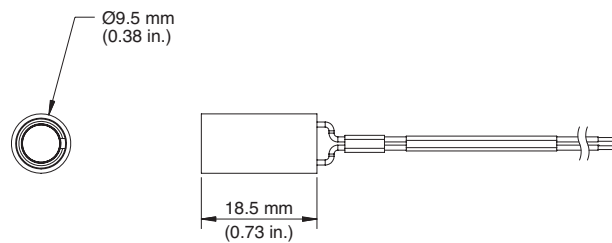
### VLM2-3RL



### VLM2.3-4L VHK2-1L VHK2.3-1L



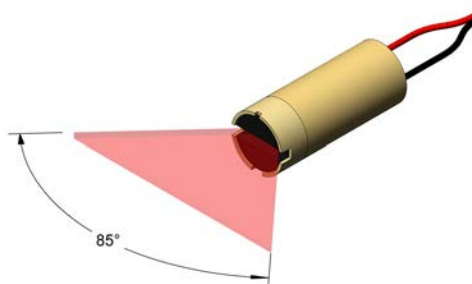
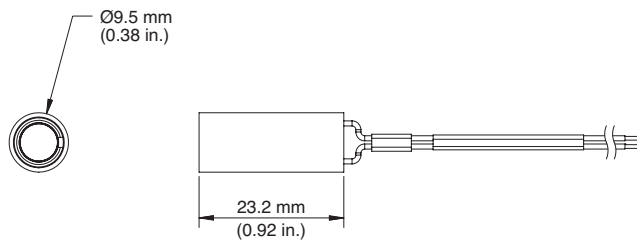
### VLM3-5L VLM3-1L VLM3.5-2L



SPECIFICATIONS	LG3-85D, 4mW, 670nm	LG3-60D, 3.5mW, 670nm	LG3-30D, 2.5mW, 670nm	LG3.3-60D, 1mW, 635nm	LG3.3-40D, 1.5mW, 635nm
Module Type	VLM3	VLM3	VLM3	VLM3	VLM3
Line Fan Angle	85°	60°	30°	60°	40°
Line Width (mm)	1	1	1	1	1
Wavelength (nm)	670 ±5	670 ±5	670 ±5	635 +7/-2	635 +7/-2
Power (mW)	3.8	3.5	2.5	0.8	1.5
CDRH Class	II	II	II	II	II
Laser Drive	Continuous Wave (CW)	Continuous Wave (CW)	Continuous Wave (CW)	Continuous Wave (CW)	Continuous Wave (CW)
Power Supply	3 to 6 VDC	3 to 6 VDC	3 to 6 VDC	3 to 6 VDC	3 to 6 VDC
Recommended Power Supply Voltage (V)	3.3	3.3	3.3	3.3	3.3
Body Diameter (mm)	9.52	9.52	9.52	9.52	9.52
Body Length (mm)	23.2	23.2	23.2	23.2	23.2
Lead Length (mm)	914	914	914	914	914
Connector	none	none	none	AMP 87175-6	none
Part Number	0221-153-00	0221-154-00	0221-155-00	0222-603-00	0222-037-00

## MECHANICAL SPECIFICATIONS

LG3-85D  
 LG3-60D  
 LG3-30D  
 LG3.3-60D  
 LG3.3-40D



Diode LabLaser Universal Power Supply		
31-1001-000	VLM Power Supply	Power Supply, 90-264VAC In, 5VDC Out, 3.5mm Jack
1057734	Plug, 3.5 mm Stereo	Phono Plug to take Laser Diode Module with leads and add a Power Supply Plug

### VLM Power Supply

**Part Number: 31-1001-000**

**FEATURES**

- Well-regulated 5VDC output
- Autoranging 90 to 260 VAC IEC input
- Output cable with easy connect/disconnect jack

The Universal Diode Laser Module Power Supply uses the latest switchmode technology to provide a 5 VDC output suitable for driving any of the Coherent laser diode modules. The supply is CE-marked and meets appropriate UL, CSA, TUV, GS, and FCC requirements.

This compact (75 x 50 x 41 mm) autoranging power module can be connected to any 90-260 VAC 50/60 Hz supply. There is an IEC 320 input socket and a 1.8 m detachable line cord with plug provided. The 1.8 m output cable is terminated with an easy connect/disconnect jack socket.

Purchase separately the 3.5 mm Plug to then add to your laser power leads to be compatible with the power supply jack.



### 3.5 mm Jack Plug for VLM

**Part Number: 1057734**

Add a plug to the flying leads of any VLM series laser to then have it connect easily to the power supply. Instructions included.



**Variable Angle Diode Laser Mount**

0221-437-00	Mount for VLM2 or LG2	Variable Angle, 1/4-20 inch Base, 14.8 mm Bore
0221-448-00	Mount for VLM3 or LG3	Variable Angle, 1/4-20 inch Base, 9.5 mm Bore

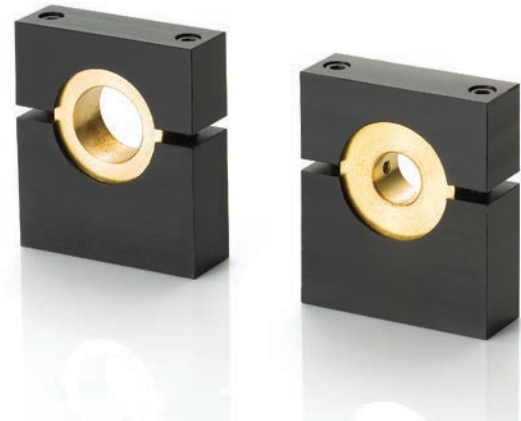
**Variable Angle Diode Laser Mount**

**FEATURES**

- Simple tip/tilt and lock in place mechanism
- Adjustable angle through about  $\pm 15$  degrees

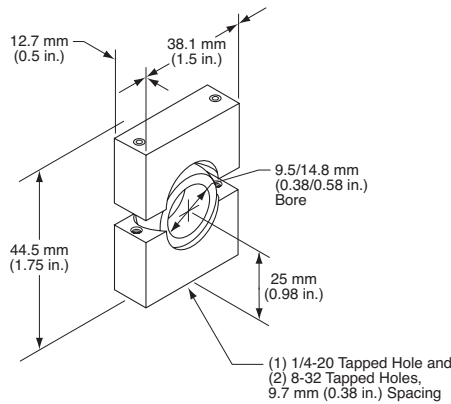
Coherent’s variable angle laser diode module mounts are designed to accept two different sizes of diode laser module namely VLM3, VLM2 (9.5 mm and 14.8 mm diameter).

This simple mount acts as combined heat sink, electrical insulator and variable angle mount for 9.5 or 14.8 mm diameter diode modules. The lasers are held firmly in a spherical-surface brass ring by two small set screws. This ring is clamped between two insulating blocks forming a “ball and socket” arrangement. Two socket-head screws can be loosened to allow easy angular adjustment of the module ( $\pm 15^\circ$  range) and quick, rigid locking in position.



**MECHANICAL SPECIFICATIONS**

**VLM Mount**



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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 VLM Miniature Diode Laser Modules. 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. MC-021-21-0M0721 Copyright ©2021 Coherent, Inc.

