

IR Circular Dot Laser Module

VLM-1050-62 Series



FEATURES:

- Circular-dot laser delivering precision of less than 3 mm over a working distance of 0 to 5 meters.
- Durable stainless steel housing ensures high reliability for industrial environments.
- Equipped with a high-precision glass lens for superior beam quality and stability.
- Designed for industrial applications with a typical service life exceeding 10,000 hours.
- Two laser power output level: LPO - Class 1 laser product
LPA - Class 3R laser product
- Dimensions : Ø10 x 40 mm (Ø0.39" x 1.575")
- Wavelength : 1050~1075 nm
- 3~6 VDC operation.
- Connection type : Lead wire

Applications:

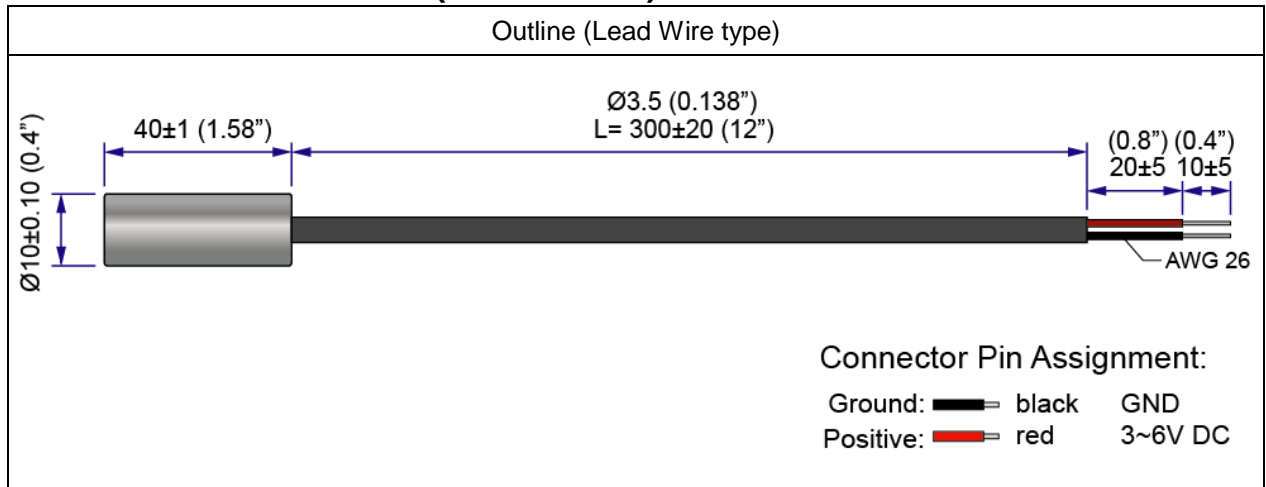
- Precision alignment and positioning in automation or robotic systems.
- Industrial measurement, calibration, and leveling instruments.
- Optical sensing and detection systems for short- to mid-range operation.

1050 nm Laser (SWIR): Fully invisible, operating in the short-wave infrared (SWIR) band. Offers deeper penetration through materials such as silicon wafers, glass, and plastics, with reduced scattering—making it highly suitable for advanced inspection and imaging. Note: Detection requires InGaAs sensors, as standard silicon detectors are not compatible.

Typical Applications: Wafer and material inspection, spectroscopy, industrial sensing, and biomedical imaging.

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OUTLINE DIMENSIONS (UNITS: mm)



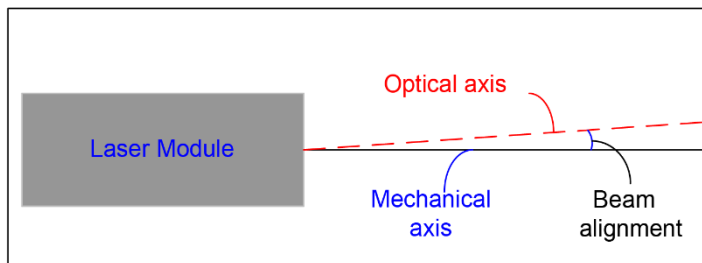
SPECIFICATIONS

Part Number		VLM-1050-62	
		LPO	LPA
1	Dimensions	$\varnothing 10 \times 40$ mm ($\varnothing 0.39" \times 1.575"$)	
2	Weight	15±1g	
3	Operating voltage (Vop)	3~6 VDC	
4	Operating current (Iop)	Less than 80mA	Less than 150mA
5	Laser power output	Less than 1.5mW	Less than 5mW
6	Laser class	Class 1	Class 3R
7	Wavelength (λ_p)	1050~1075nm	
8	Collimating lens	Aspherical glass lens	
9	Output aperture	2mm	
10	Beam shape	Circular	
11	Spot size	Less than $\varnothing 3$ mm @ 0~5M	
12	Divergence (Full Angle)	Less than 0.4 mRad	
13	Beam alignment*	Less than 3°	
14	Operating temp. range	-20°C ~+60°C	
15	Storage temp. range	-20°C ~+85°C	
16	Housing material / Color	Stainless steel / Silver	
17	Potential of housing	Insulated	
18	Electrostatic discharge (ESD)	30KV / Arc protection	
19	Moisture sensitivity level (MSL)	Level 1 - acc to JEDEC J-STD-020E.	
20	Protection circuit	Reversed supply circuit protection, over-current protection, surge protection, Short circuit protection	

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21	Vibration resistance	10 to 55Hz, 1.5mm amplitude for 2 hours each in X, Y and Z direction
22	Standard	IEC60825:2014
23	Wire type	2464 2-WIRE CABLE 26 AWG
24	Cable length	330±30mm
25	Mean time to failure (MTTF) 25°C	10000 hrs.
26	International Protection Marking	IP65
27	Application	Industrial application
28	Suggestion work distance	0~5 meters / 0~16 feet

* Beam alignment:



ORDER CODE

Order Code	Wavelength	Laser Power Output	Laser Class	Connection Type
VLM-1050-62 LPA	1050 nm	Less than 5mW	Class 3R	Lead Wire
VLM-1050-62 LPO	1050 nm	Less than 1.5mW	Class 1	Lead Wire

SAFETY LABEL

LPA:



LPO:

CLASS I LASER PRODUCT

Optional Accessories

Quarton offers mounts, power supply boards, battery pack and USB cable switch to help you running as quickly as possible. For more information, please visit www.quarton.com, www.quarton.com/contact or email contact@quarton.com.

QLM-1125 - Laser Module Mount/Holder for diameter 6mm to 12.5mm, it's an ideal choose for mounted onto optical tables.

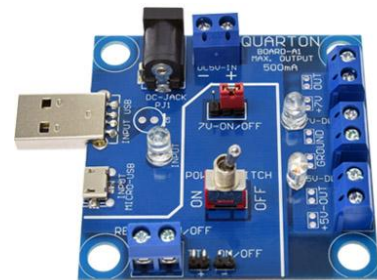
Feature:

- 4 directions adjustable.
- Can be mounted onto the optical table with screws (Screws not included).
- Engraved scale for precision adjustable.



LMPS-MP1 - Multi-function Laser Module Power Supply Board.

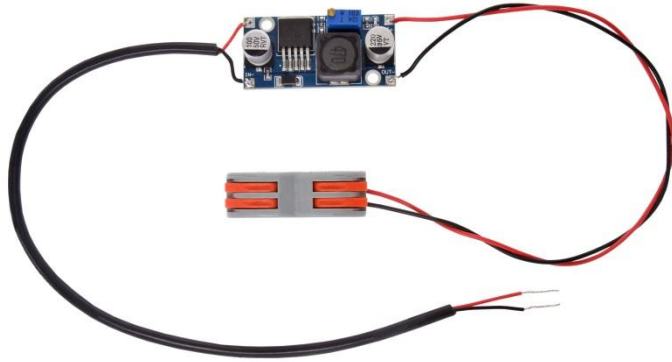
Four input : USB, micro USB, DC Power Jack(5.5 x 2.1), and terminal block. Two channel output : 7 VDC 500mA and 5 VDC 1A. Three switches-toggle switch, remote switch and TTL signal.



Feature:

- Allow four kinds of power input: USB, micro USB, DC Power Jack(5.5x2.1) and terminal block.
- Two Channel output: 7 VDC 500mA and 5 VDC 1A.
- Built-in three switches: toggle switch, terminal block remote switch and TTL signal switch by on-board connect point.
- 7 VDC output work for all Quarton Laser Modules with 7-12 V operation Voltage (Vop).
- 5 VDC output work for all Quarton Laser Modules with 3-6 V operation Voltage (Vop).
- Three LED indicators: Input power indicator, 7V output indicator and 5V output indicator.

Optional Accessories



LMPS-MP2 - DC converter, In: 9-36V, Out: 5V 1A.



LMPS-mUSB1 - Laser Module Power Supply Board, Input: micro USB, Output: 5 VDC 2A.

Feature:

- Micro USB connector power input.
- Output 5 VDC 2A with alligator clips.
- For all Quarton Laser Modules that require 3-6V operation Voltage.



LMPS-DC1 - Laser Module Power Supply Board, Input: DC Power Jack(5.5 x 2.1), Output: 5 VDC 2A.

Feature:

- DC Power Jack(5.5 x 2.1) power input.
- Output 5 VDC 2A with alligator clips.
- For all Quarton Laser Modules that require 3-6V operation voltage.

Optional Accessories



CLM-BP4N3 - Battery pack (4* AA batteries)

*** AA Batteries are **NOT** included in package.

Feature:

- USB Output Voltage: 5 VDC.
- Color: Black.



CLM-UM3M - USB to micro USB Cable.

Feature:

- Length: 3 meters.
- Color: Black.