

Green Dot Laser Module

VLM-520-60 Series



FEATURES:

- Extremely small circular laser dot optimized for short-distance applications. (within 1 meter).
- Durable stainless steel housing for enhanced mechanical protection.
- Equipped with a high-precision glass lens for superior beam quality.
- Two laser power output level: LPO - Class 1 laser product
LPT - Class 2 laser product
- Dimensions : Ø10 x 40 mm (Ø0.39" x 1.575")
- Wavelength : 515~530 nm
- 3~6 VDC operation.
- Connection type : Lead wire
- Designed for general-purpose short-range applications; customized focusing options are available for achieving the smallest possible laser dot.

520 nm Laser (Green): The most visible wavelength to the human eye, appearing much brighter than red or blue at the same power. Provides a sharp, round dot with excellent beam quality, ideal for outdoor and long-distance visibility.

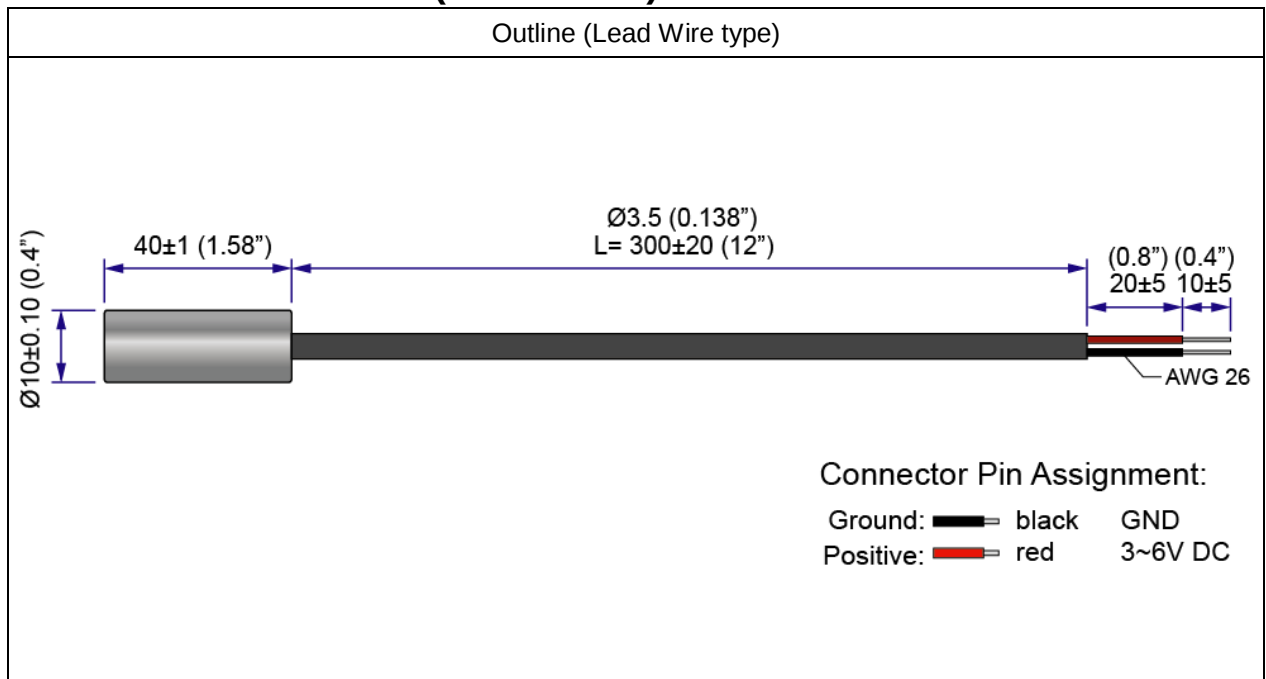
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Typical Applications:

- **Precision Alignment and Positioning**
Used in compact assembly lines, inspection stations, and robotics for short-distance alignment.
Ideal for setting or verifying positions of components or fixtures.
- **Optical Sensing and Detection**
As a visible aiming beam for sensors or cameras in proximity or vision systems.
Used in photoelectric or triangulation sensors for distance detection within short range.
- **Medical and Dental Equipment**
For patient positioning, targeting, or marking in devices such as scanners or treatment equipment (non-therapeutic).
Class 1 / Class 2 ensures eye-safe operation.
- **Machine Vision & Inspection**
Provides a precise reference spot for calibration or image registration at close working distances.
- **Industrial Tooling**
As a reference indicator for cutting, engraving, or drilling machines where the operator needs to see the exact target point.
- **3D Printing / CNC / Robotics**
Serves as an accurate visible marker to indicate tool path or nozzle alignment.

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OUTLINE DIMENSIONS (UNITS: mm)



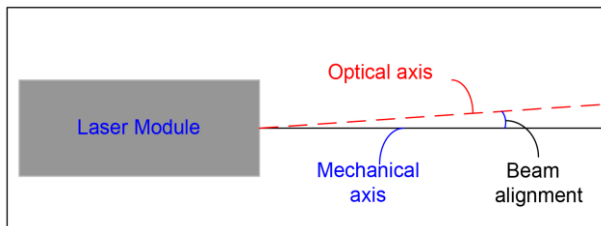
SPECIFICATIONS

Part Number		VLM-520-60 LPO	VLM-520-60 LPT
1	Spot Size	$< 1\text{mm}$, From 0 to 50cm $< 2\text{mm}$, From 50cm to 90cm	
2	Dimensions	$\varnothing 10 \times 40 \text{ mm}$ ($\varnothing 0.39" \times 1.575"$)	
3	Weight	$15 \pm 1\text{g}$	
4	Operating voltage (Vop)	3~6 VDC	
5	Operating current (Iop)	Less than 60mA	Less than 150mA
6	Laser power output	Less than 0.39mW	Less than 1mW
7	Laser class	Class 1	Class 2
8	Wavelength (λ_p)	515~530nm	
9	Collimating lens	Aspherical glass lens	
10	Output aperture	0.6mm	
11	Beam shape	Circular	
12	Divergence (Half Angle)	Less than 0.4 mRad	
13	Beam alignment*	Less than 3°	
14	Operating temp. range	$-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$	
15	Storage temp. range	$-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$	
16	Housing material	Stainless steel	

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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
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 alignment
28	Suggestion work distance	0~0.9 meters / 0~3 feet

* Beam alignment:



ORDER CODE

Order Code	Wavelength	Laser Power Output	Laser Class	Connection Type
VLM-520-60 LPT	520 nm	Less than 1mW	Class 2	Lead Wire
VLM-520-60 LPO	520 nm	Less than 0.39mW	Class 1	Lead Wire

SAFETY LABEL

LPO:

CLASS I LASER PRODUCT

LPT:



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.

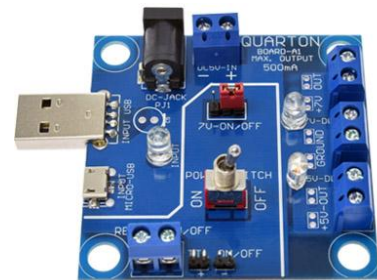
Feature:

- 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.

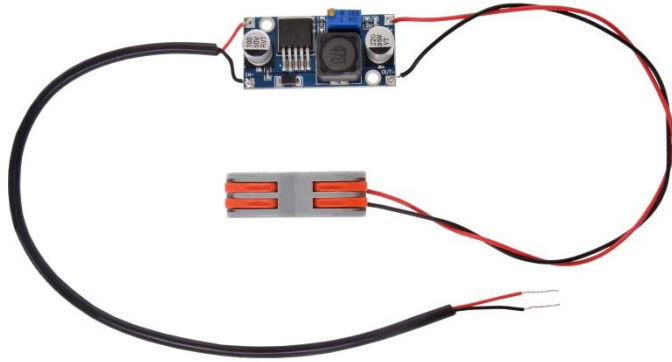
Four input : USB, micro USB, DC Power Jack(5.5 x 2.1), and terminal block. Two channel output : 7 VDC 500mA and 5 VDC 1A. Three switches-toggle switch, remote switch and TTL signal.



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 500mA.

Feature:

- Micro USB connector power input.
- Output 5 VDC 500mA 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 500mA.

Feature:

- DC Power Jack(5.5 x 2.1) power input.
- Output 5 VDC 500mA 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.