

## Focus & Output Power Adjustable Laser Module

### VLM-520-96 LPA / VLM-635-96 LPA



The laser module is designed for individuals who require precision control testing. It features an adjustable function for both focus and output power, allowing for optimal customization. The fast and precise focus adjustment mechanism can easily adjust the focus distance from 10 mm to infinite in just two turns, ensuring accuracy and efficiency. The laser output power can be adjusted using a built-in precision trimmer, which ranges from 0 to  $4.25 \pm 0.25$  mW, and remains compliant with class 3R safety regulations. This versatile tool is a must-have for medical and laboratory research, as well as physical-optic experiments, providing exceptional control and reliability.

#### FEATURES:

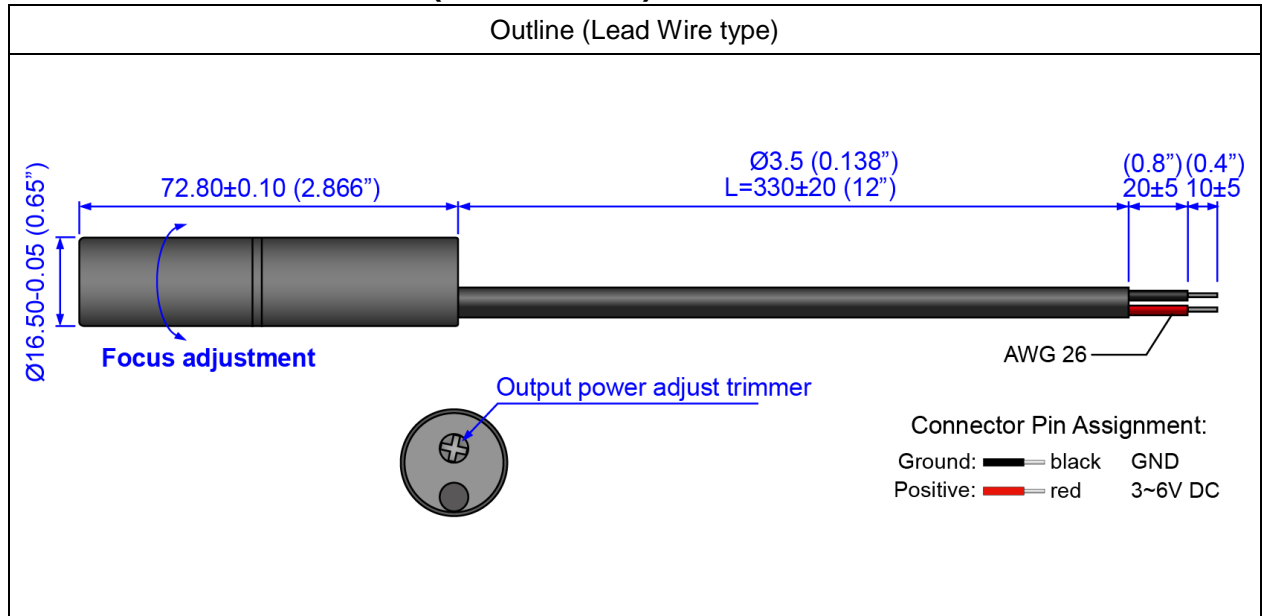
- The fast and precise focus adjustment mechanism can easily adjust the focus distance from 10 mm to infinite in just two turns.
- The laser output power can be adjusted using a built-in precision trimmer, which ranges from 0 to  $4.25 \pm 0.25$  mW, and remains compliant with class 3R safety regulations.
- Dimensions :  $\varnothing 16.5 \times 72.8$  mm ( $\varnothing 0.649" \times 2.866"$ )
- Wavelength : 510~530 nm / 630nm~645nm
- 3~6 VDC operation.
- Connection type : Lead wire

#### APPLICATIONS:

- Laboratory research.
- Medical research.
- Physical-optic experiments.

## VLM-520-96 LPA / VLM-635-96 LPA

### OUTLINE DIMENSIONS (UNITS: mm)



### SPECIFICATIONS

SPECIFICATIONS		VLM-520-96 LPA	VLM-635-96 LPA
1	Dimensions	$\varnothing 16.5 \times 72.8$ mm ( $\varnothing 0.649" \times 2.866"$ )	
2	Weight	<30g	
3	Operating voltage (Vop)	3~6 VDC	
4	Operating current (Iop)	Less than 120mA	Less than 80mA
5	Continuous wave output power (Po)	0~ $4.25 \pm 0.25$ mW (adjustable)	
6	Wavelength at peak emission ( $\lambda_p$ )	510~530nm	630~645nm
7	Collimating Lens	Aspherical Glass lens	
8	Output Aperture	5mm	
9	Beam Shape	Ellipse	
10	Focusable Distance	10mm to Infinite (adjustable)	
11	Beam Divergence	Adjustable 0.4 mrad~12°	
12	Smallest Spot Size	< $\varnothing 0.2$ mm at 10mm / < $\varnothing 8$ mm@10M	
13	Axial Divergence	$\pm 3^\circ$	
14	Operating temp. range	-10°C ~ +60°C	
15	Storage temp. range	-20°C ~ +85°C	
16	Housing Material	Aluminum	
17	Housing Color	Anodized Black	

## VLM-520-96 LPA / VLM-635-96 LPA

18	Potential of Housing	Isolated
19	Electrostatic discharge (ESD)	30KV
20	Moisture sensitivity level (MSL)	Level 1 - acc to JEDEC J-STD-020E.
21	Protection circuit	Reversed supply circuit protection, over-current protection, surge protection, Short circuit protection
22	Vibration resistance	10 to 55Hz, 1.5mm amplitude for 2 hours each in X, Y and Z direction
23	Wire Type	2464 2-WIRE CABLE 26 AWG
24	Cable length	330±30mm (12 inches)
25	Mean time to failure(MTTF) 25°C	10000hrs
26	International Protection Marking	IP54
27	Application	Laboratory research, physical-optic experiments and Medical research.
28	Suggestion work distance	Above 10mm

### ORDER CODE

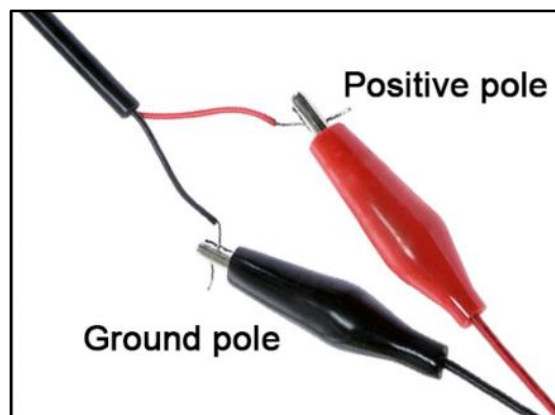
Order Code	Wavelength	Laser Power Output	Laser Class	Connection Type
VLM-520-96 LPA	520 nm	0~4.25±0.25mW (adjustable)	Class IIIa	Lead Wire
VLM-635-96 LPA	635 nm	0~4.25±0.25mW (adjustable)	Class IIIa	Lead Wire

### SAFETY LABEL



## Operation Procedure

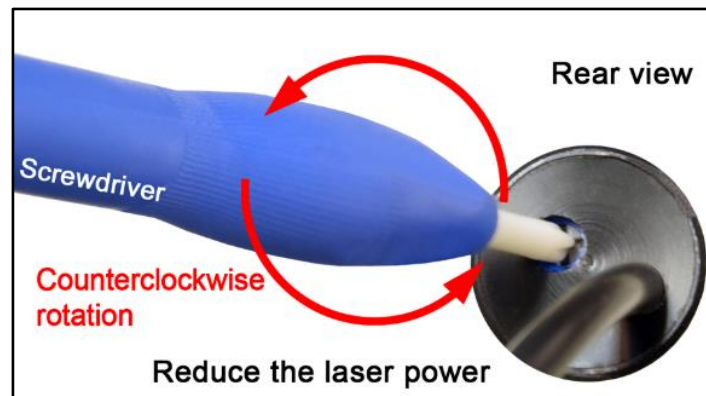
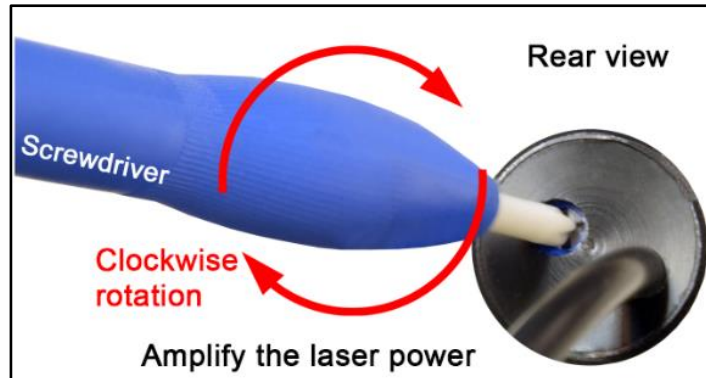
1. Apply 3-6 Volts to the Laser module.
  - a. When using a Battery Pack as a power source:
    - a-1. Please use 2, 3, or 4 pieces of 1.5 Volt AA or AAA battery pack. Connect the red wire to the positive pole and the black wire to the ground pole.
  - b. When using a Power Supplier as a power source:
    - b-1. Connect the positive pole with the red wire and the negative pole with the black wire.
    - b-2. Set the voltage between 3-6 volts.
    - b-3. Set the output current to 0.5 A (500mA).



2. Adjust Laser module output power:
  - 2-1. Please use the screwdriver provided in the box.
  - 2-2. Apply the screwdriver to the trimmer located at the back of the laser module.
  - 2-3. Rotating the trimmer in a clockwise direction will amplify the laser power, while rotating it counterclockwise will reduce the laser power.



## Operation Procedure



### 3. Adjust the focus distance:

- To adjust the laser spot and focus distance, rotate the front part of the laser module until the desired spot size or focus distance is achieved.



## Mounting

The presentation picture of the entire operation set:



1. Insert the laser module into the holder and tighten the screws to securely fix the laser module onto the mount.



2. Connect the alligator clip cable to the battery pack.



3. Clip the red alligator clip to the red lead of the laser module and the black alligator clip to the black lead to power on the laser module.



## Accessory - QLM-1165

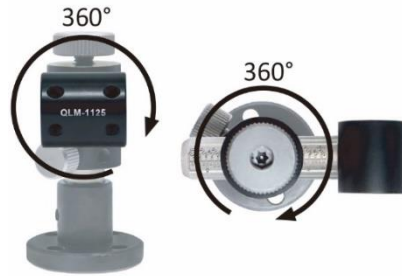
**QLM-1165 Laser Mounts** is included with VLM-520/635-96 series. It compatible with laser module / laser pointer / flashlight , it's an ideal choose for mounted onto optical tables.



### Features:



Can be mounted onto the optical table with screws. (Screws not included)

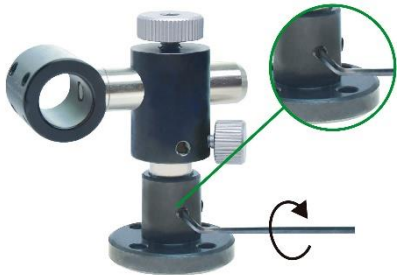


4 directions adjustable.

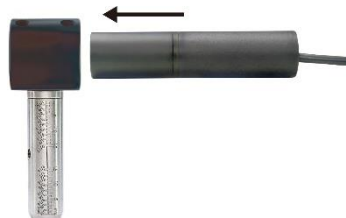


Engraved scale for precision adjustable.

### Mounting:



1. Move to desired height and rotate to desired direction, then use wrench tight screws to fix pole firm.



2. Place your laser module to suitable position.



3. Tight screws to fix laser module sturdy.



4. Loose the fixing ring. Rotate the adjustable laser holder to find the angle you want.



5. Tighten the fixing ring to fix the laser holder.

## Accessory – CLM-BP4N3



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

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

**Feature:**

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

## Accessory – CLM-ACLIP



**CLM-ACLIP** - Alligator clip with USB connector.

**Feature:**

- Length: 48cm.

## Accessory – Screwdriver



Ceramic adjustment screwdriver with cross profiles. Anti-static handle. Fine ceramic non-conductive and anti-magnetic.

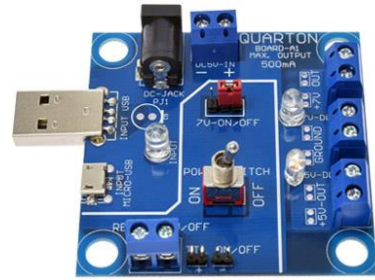
- Length: 10.5cm.



## Optional Accessories

### **LMPS-MP1** - Multi-function Laser Module Power Supply

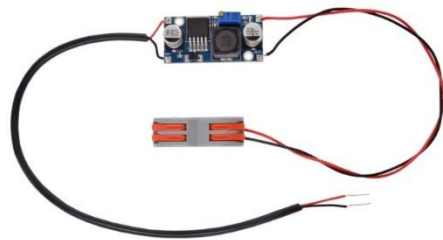
Board. Four input : USB, micro USB, DC Power Jack(5.5 x 2.1), and terminal block. Two channel output : 7 VDC 500mA and 5 VDC 1A. Three switches-toggle switch, remote switch and TTL signal.



#### **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.

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



### **LMPS-C** - Laser Module Power Supply Board, Input: Type C, Output: 5 VDC 2A.

#### **Feature:**

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



### **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.

## Optional Accessories



**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.



**CLM-USBSW** - USB Cable Switch.

### Feature:

- Length: 28cm.
- Color: Black.



**CLM-UC3M** - USB to Type C Cable.

### Feature:

- Length: 3 meters.
- Color: Black.