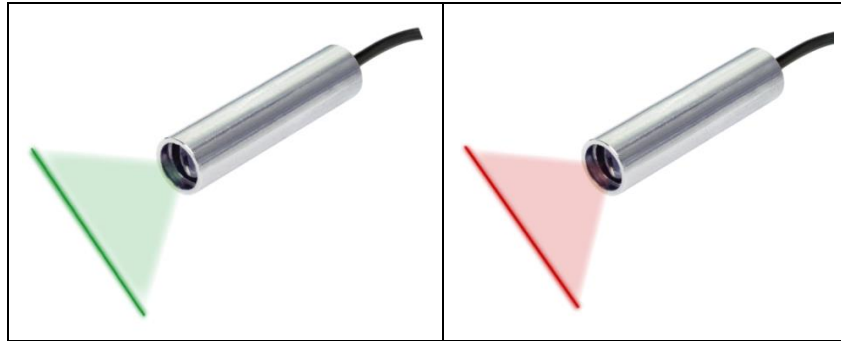


## Uniform Line Laser Module with Various Fan Angles and (56 series) without / (57 series) with TTL-modulation

### VLM-520/635-56/57 Series



The newly developed glass line lens come with various fan angles and they produce high quality uniform laser line in a robust stainless housing, ideal for automation, machine vision, image processing, digital data acquisition, counting, precision 3D scanner and science & medical application. They are available at 10 cm, 20 cm, 40 cm and 90 cm focus length, red & green wavelength, Class I laser class to cover within 1 meter range task. For customized focus length, wavelength and laser power output, please contact us.

#### FEATURES:

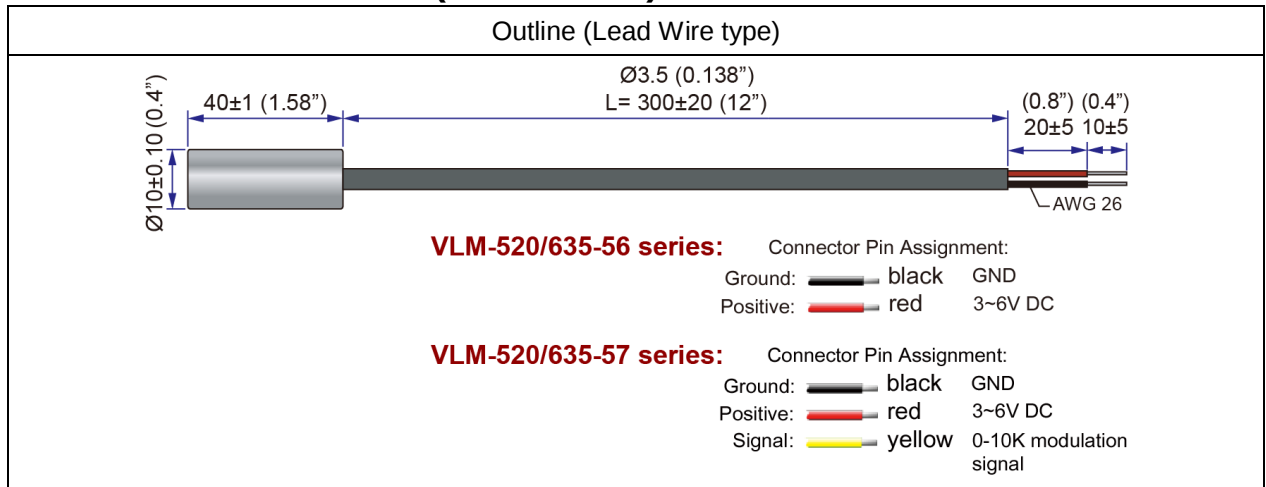
- Built with high precision glass line lens and glass laser collimating lens.
- Available fan angle : 5° / 10° / 15° / 20° / 30° / 45° / 60° / 110° (15% tolerance)
- Focus range: 10cm, 20cm, 40cm, 90cm, customized focus length are available by request.
- Customized focus within 1 meter available please direct contact us.
- Without / With TTL-modulation: 56 series without modulation  
57 series with modulation
- Laser power output level: Class I laser product
- Dimensions : Ø10 x 40 mm (Ø0.39" x 1.575")
- Available wavelength : 520 (515~530 nm) / 635 (630~665 nm)
- 3~6 VDC operation.
- Connection type : Lead wire
- Laser line demonstration : [https://www.youtube.com/watch?v=3\\_gRtxyeP28](https://www.youtube.com/watch?v=3_gRtxyeP28)

#### APPLICATIONS: ideal for

- Machine vision.
- Automation industry.
- Image processing.
- Medical & Science.
- Scanning.
- Precision 3D scanner.
- Counting.
- Measurement.

## VLM-520/635-56/57 Series

### OUTLINE DIMENSIONS (UNITS: mm)



### SPECIFICATIONS

| Part Number |                                            | VLM-520/635-56/57 LPO-                                                                   | VLM-520/635-56/57 LPT-                                       |
|-------------|--------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 1           | Fan angle* (D)                             | 5° / 10° / 15° / 20° / 30° / 45° / 60° / 110° (15% tolerance)                            |                                                              |
| 2           | Focus length (F)                           | 10 cm / 20 cm / 40 cm / 90 cm                                                            |                                                              |
| 3           | Laser line length                          | AS TABLE A                                                                               |                                                              |
| 4           | Laser line width                           | AS TABLE B                                                                               |                                                              |
| 5           | Recommended working range                  | AS TABLE B                                                                               |                                                              |
| 6           | Modulation                                 | 56 series - without TTL modulation<br>57 series - with TTL modulation. High ON, 0-10K Hz |                                                              |
| 7           | Dimensions                                 | $\varnothing 10 \times 40$ mm ( $\varnothing 0.39" \times 1.575"$ )                      |                                                              |
| 8           | Weight                                     | 18±2g                                                                                    |                                                              |
| 9           | Operating voltage (Vop)                    | 3~6 VDC                                                                                  |                                                              |
| 10          | Operating current (Iop)                    | 520 series - less than 80mA<br>635 series - less than 50mA                               | 520 series - less than 180mA<br>635 series - less than 100mA |
| 11          | Optical power**                            | 520 series - 9~10mW<br>635 series - 4~5mW                                                | 520 series - 20~24mW<br>635 series - 8mW                     |
| 12          | Laser class                                | Class I                                                                                  |                                                              |
| 13          | Wavelength (λp)                            | 520 series - 515~530 nm<br>635 series - 630~665 nm                                       |                                                              |
| 14          | Collimating lens /<br>Line generating lens | Aspherical glass lens                                                                    |                                                              |
| 15          | Output aperture                            | 8mm                                                                                      |                                                              |

## VLM-520/635-56/57 Series

|    |                                  |                                                                                                                                                                                                                                                                                                                       |
|----|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16 | Beam shape                       | Line                                                                                                                                                                                                                                                                                                                  |
| 17 | Laser line accuracy              | 40"(±1mm@5M)                                                                                                                                                                                                                                                                                                          |
| 18 | Operating temp. range***         | -20°C ~+60°C                                                                                                                                                                                                                                                                                                          |
| 19 | Storage temp. range              | -20°C ~+85°C                                                                                                                                                                                                                                                                                                          |
| 20 | Housing material                 | Stainless steel                                                                                                                                                                                                                                                                                                       |
| 21 | Potential of housing             | Insulated                                                                                                                                                                                                                                                                                                             |
| 22 | Electrostatic discharge (ESD)    | 30KV                                                                                                                                                                                                                                                                                                                  |
| 23 | Moisture sensitivity level (MSL) | Level 1 - acc to JEDEC J-STD-020E.                                                                                                                                                                                                                                                                                    |
| 24 | Protection circuit               | Reversed supply circuit protection, over-current protection, surge protection, Short circuit protection                                                                                                                                                                                                               |
| 25 | Wire type                        | 2464 2-WIRE CABLE 26 AWG                                                                                                                                                                                                                                                                                              |
| 26 | Cable length                     | 330±30mm                                                                                                                                                                                                                                                                                                              |
| 27 | Mean time to failure (MTTF) 25°C | Above 10000 hrs                                                                                                                                                                                                                                                                                                       |
| 28 | International Protection Marking | IP67                                                                                                                                                                                                                                                                                                                  |
| 29 | Application                      | Precision fine line for Automation, Machine vision and Medical                                                                                                                                                                                                                                                        |
| 30 | Suggestion work distance         | 0~1.2 meters / 0~4 feet                                                                                                                                                                                                                                                                                               |
| 31 | Part No.                         | <p>VLM-520/635-56/57 LPO/LPT-Dxx-Fyy</p> <p>520 = green laser</p> <p>635 = red laser</p> <p>56 = without TTL modulation</p> <p>57 = with TTL modulation</p> <p>D= Fan angle xx=5/10/15/20/30/45/60/110</p> <p>F= Focus length yy=10/20/40/90</p> <p>Example: VLM-520-56 LPO-D60-F40</p> <p>VLM-635-57 LPT-D20-F10</p> |

\* The fan angle has a tolerance of 15%.

\*\* Optical power is total power output measured at the aperture of the laser.

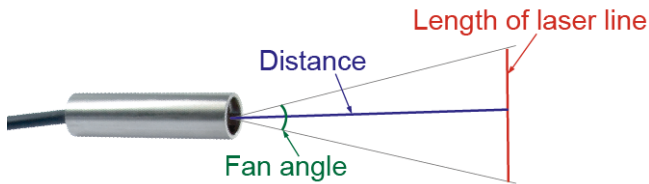
\*\*\* Operation temperature means within this temperature range, the laser spot/line will not be affected to change the spot size/line width. It can still work over this range, but the laser spot size or laser line width will be larger.

**SAFETY LABEL**

**CLASS I LASER PRODUCT**

## VLM-520/635-56/57 Series

**TABLE A: Laser Line Length Table: (15% tolerance)**



**Length of Laser Line:**

| Distance<br>Fan angle | 10 cm<br>(4 inch)  | 20 cm<br>(8 inch)  | 40 cm<br>(16 inch) | 100 cm<br>(40 inch) |
|-----------------------|--------------------|--------------------|--------------------|---------------------|
| 5°                    | 1 cm<br>(0.39")    | 2 cm<br>(0.79")    | 4 cm<br>(1.57")    | 10 cm<br>(3.94")    |
| 10°                   | 1.8 cm<br>(0.71")  | 3.6 cm<br>(1.42")  | 7.2 cm<br>(2.83")  | 18 cm<br>(7.1")     |
| 15°                   | 2.8 cm<br>(1.1")   | 5.6 cm<br>(2.2")   | 11 cm<br>(4.33")   | 26.8 cm<br>(10.55") |
| 20°                   | 3.5 cm<br>(1.38")  | 7.6 cm<br>(2.99")  | 15 cm<br>(5.91")   | 36 cm<br>(14.17")   |
| 30°                   | 5.6 cm<br>(2.2")   | 11.2 cm<br>(4.41") | 22 cm<br>(8.66")   | 55 cm<br>(21.65")   |
| 45°                   | 8.5 cm<br>(3.35")  | 17 cm<br>(6.69")   | 34 cm<br>(13.39")  | 82 cm<br>(32.28")   |
| 60°                   | 11.8 cm<br>(4.65") | 24 cm<br>(9.45")   | 48 cm<br>(18.9")   | 116 cm<br>(45.67")  |
| 110°                  | 30 cm<br>(11.81")  | 60 cm<br>(23.62")  | 115 cm<br>(45.28") | 300 cm<br>(118.11") |

**TABLE B: Recommended working range:**

**Focus at 10 cm:**

Working range: 6.5 - 21cm (2.6"- 8.3")

**Best at: 6.5 - 16cm (2.6"- 6.3")**

■ Laser Line Width <1mm  
■ Laser Line Width <2mm

| Laser Fan Angle | Recommended Working Range(cm) |    |    |    |    |
|-----------------|-------------------------------|----|----|----|----|
|                 | 5                             | 10 | 15 | 20 | 25 |
| 5°              | 6.5 - 16 - 21                 |    |    |    |    |
| 10°             | 8 - 15 - 19                   |    |    |    |    |
| 15°             | 6- 8 - 15 - 19                |    |    |    |    |
| 20°             | 4- 7 - 16 - 21.5              |    |    |    |    |
| 30°             | 4- 6 - 14.5 - 21              |    |    |    |    |
| 45°             | 0- 5.5 - 15 - 19              |    |    |    |    |
| 60°             | 0- 7 - 14.5 - 20              |    |    |    |    |
| 110°            | 0- 7 - 16.5 - 22.5            |    |    |    |    |

**Focus at 20 cm:**

Working range: 12.5 - 26cm (4.9"- 10")

**Best at: 15 - 23cm (5.9"- 9")**

■ Laser Line Width <1mm  
■ Laser Line Width <2mm

| Laser Fan Angle | Recommended Working Range(cm) |    |    |    |    |
|-----------------|-------------------------------|----|----|----|----|
|                 | 10                            | 15 | 20 | 25 | 30 |
| 5°              | 12.5- 15 - 23 - 26            |    |    |    |    |
| 10°             | 10- 14 - 22 - 26              |    |    |    |    |
| 15°             | 10- 14.5 - 22 - 26            |    |    |    |    |
| 20°             | 10- 14.5 - 23 - 27            |    |    |    |    |
| 30°             | 10- 14 - 22 - 26              |    |    |    |    |
| 45°             | 9- 13 - 24 - 34               |    |    |    |    |
| 60°             | 11- 15 - 23.5 - 32            |    |    |    |    |
| 110°            | 8- 12.5 - 23 - 30             |    |    |    |    |

**Focus at 40 cm:**

Working range: 11 - 75cm (4.3"- 29.5")

**Best at: 20.5 - 57cm (8"- 22.5")**

■ Laser Line Width <1mm  
■ Laser Line Width <2mm

| Laser Fan Angle | Recommended Working Range(cm) |    |    |    |    |
|-----------------|-------------------------------|----|----|----|----|
|                 | 15                            | 30 | 45 | 60 | 75 |
| 5°              | 11- 20.5 - 57 - 75            |    |    |    |    |
| 10°             | 11.5- 22 - 47.5 - 61.5        |    |    |    |    |
| 15°             | 7- 21 - 53 - 64               |    |    |    |    |
| 20°             | 6- 21 - 54 - 68               |    |    |    |    |
| 30°             | 5- 21 - 54 - 68               |    |    |    |    |
| 45°             | 4- 22 - 56 - 69               |    |    |    |    |
| 60°             | 3- 20 - 58 - 72               |    |    |    |    |
| 110°            | 3- 21 - 58 - 82               |    |    |    |    |

**Focus at 90 cm:**

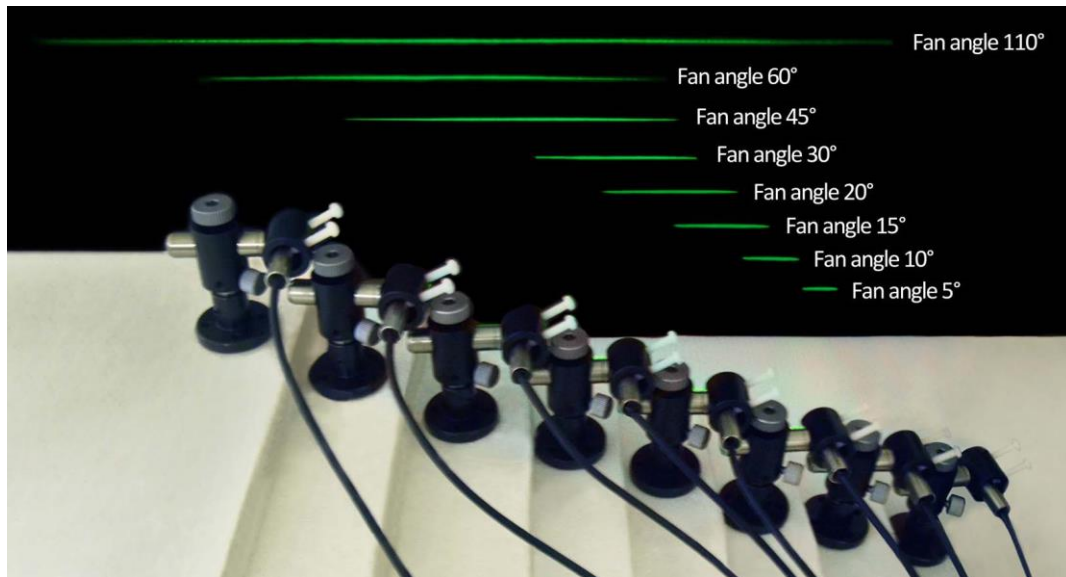
Working range: 29 - 109cm (11.4"- 43")

**Best at: 45 - 91cm (17.7"- 35.8")**

■ Laser Line Width <1mm  
■ Laser Line Width <2mm

| Laser Fan Angle | Recommended Working Range(cm) |    |    |     |     |
|-----------------|-------------------------------|----|----|-----|-----|
|                 | 40                            | 65 | 90 | 115 | 140 |
| 5°              | 29- 45 - 91 - 109             |    |    |     |     |
| 10°             | 35- 57 - 119 - 146            |    |    |     |     |
| 15°             | 31- 57 - 119 - 140            |    |    |     |     |
| 20°             | 31- 59 - 122 - 142            |    |    |     |     |
| 30°             | 42- 60 - 114 - 144            |    |    |     |     |
| 45°             | 40- 55 - 120 - 139            |    |    |     |     |
| 60°             | 35- 56 - 116 - 145            |    |    |     |     |
| 110°            | 38- 60 - 106 - 134            |    |    |     |     |

## VLM-520/635-56/57 Series



## 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](http://www.quarton.com), [www.quarton.com/contact](http://www.quarton.com/contact) or email [contact@quarton.com](mailto: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:

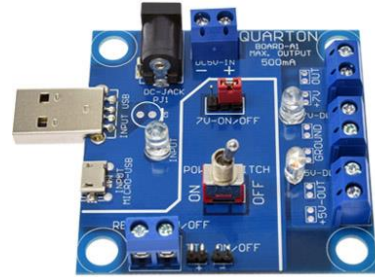
- 4 directions adjustable.
- Can be mounted onto the optical table with screws (Screws not included).
- Engraved scale for precision adjustable.



## Optional Accessories

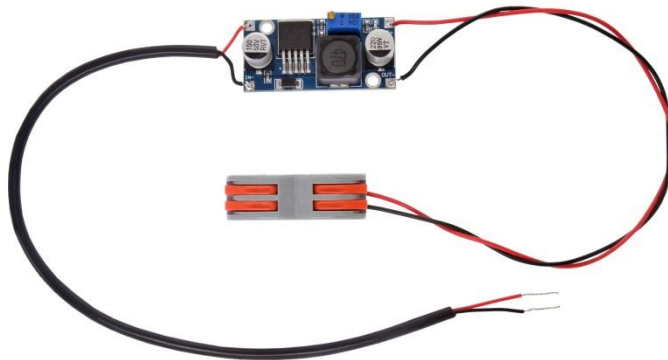
### **LMPS-MP1** - Multi-function Laser Module Power Supply Board.

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

## Optional Accessories



**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.



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

### Feature:

- Length: 48cm.
- Color: Black.



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

### Feature:

- Length: 28cm.
- Color: Black.

## 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.



### **6V Laser Module Power Supply Kit** - 6V laser module power source, fit for all Quarton laser modules that operation voltage is 3~6 volt.

#### **Feature:**

- Included: **CLM-BP4N3** x 1, **CLM-USBSW** x 1, **CLM-ACLIP** x 1