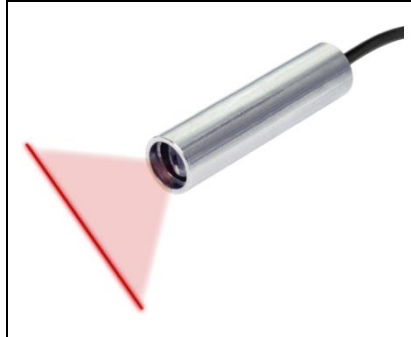


## Red Line Laser Module Fan Angle 110° Uniform Line

### VLM-635-56-110°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 1M and Class 2M laser class to cover within 1 meter range task. For customized focus length, wavelength and laser power output, please contact us.

#### FEATURES:

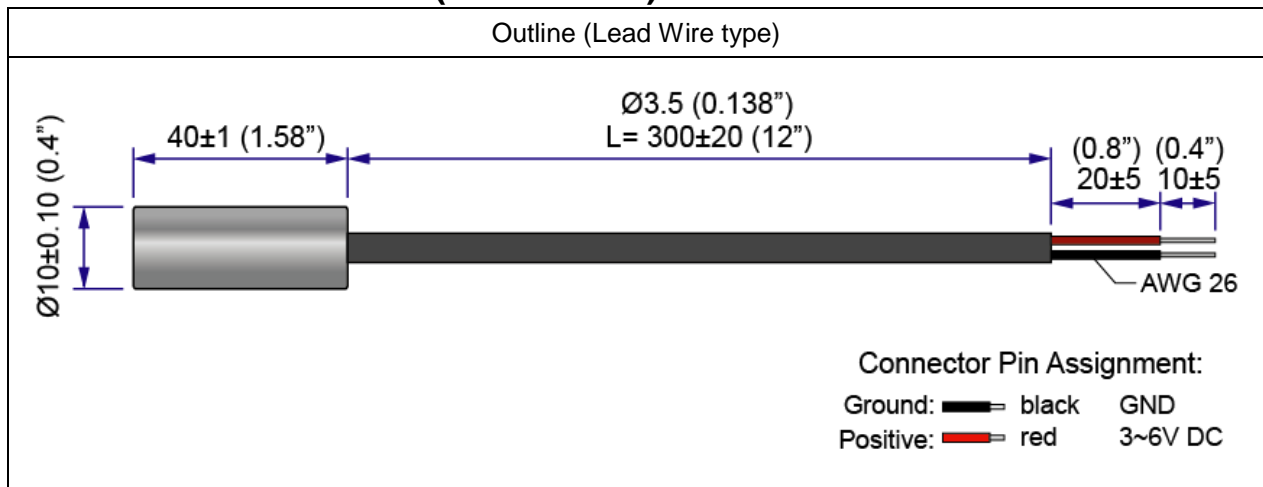
- Built with high precision glass line lens and glass laser collimating lens.
- Fan Angle : 110°
- Focus range: 10cm, 20cm, 40cm, 90cm, customized focus length are available by request.
- Customized focus within 1 meter available please direct contact us.
- Two laser power output level: LPO - Class 1M laser product  
LPT - Class 2M laser product
- Dimensions : Ø10 x 40 mm (Ø0.39" x 1.575")
- Wavelength : 630~645 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-635-56-110°Series

### OUTLINE DIMENSIONS (UNITS: mm)



### SPECIFICATIONS

| Part Number |   | VLM-635-56 LPO-D110-                          |       |       |       | VLM-635-56 LPT-D110- |       |       |       |
|-------------|---|---|-------|-------|-------|----------------------|-------|-------|-------|
|             |   | F10   | F20   | F40   | F90   | F10                  | F20   | F40   | F90   |
| 1           | Focus length                            | 10 cm   | 20 cm | 40 cm | 90 cm | 10 cm                | 20 cm | 40 cm | 90 cm |
| 2           | Fan angle / Laser line length           | 110° / Length of Laser Line as <b>TABLE A</b> |       |       |       |                      |       |       |       |
| 3           | Laser line width                        | <b>AS TABLE B</b>                             |       |       |       |                      |       |       |       |
| 4           | Recommended working range               | <b>AS TABLE B</b>                             |       |       |       |                      |       |       |       |
| 5           | Dimensions                              | Ø10 x 40 mm (Ø0.39" x 1.575")                 |       |       |       |                      |       |       |       |
| 6           | Weight                                  | 16±1g   |       |       |       |                      |       |       |       |
| 7           | Operating voltage (Vop)                 | 3~6 VDC                                       |       |       |       |                      |       |       |       |
| 8           | Operating current (Iop)                 | Less than 50mA                                |       |       |       | Less than 100mA      |       |       |       |
| 9           | Optical power*                          | Less than 5mW                                 |       |       |       | Less than 10mW       |       |       |       |
| 10          | Laser power output**                    | Less than 0.39mW                              |       |       |       | Less than 1mW        |       |       |       |
| 11          | Laser class                             | Class 1M                                      |       |       |       | Class 2M             |       |       |       |
| 12          | Wavelength (λp)                         | 630~645nm                                     |       |       |       |                      |       |       |       |
| 13          | Collimating lens / Line generating lens | Aspherical glass lens                         |       |       |       |                      |       |       |       |
| 14          | Output aperture                         | 8mm   |       |       |       |                      |       |       |       |
| 15          | Beam shape                              | Line  |       |       |       |                      |       |       |       |
| 16          | Laser line accuracy                     | 40"(±1mm@5M)                                  |       |       |       |                      |       |       |       |
| 17          | Operating temp. range***                | -20°C ~+60°C                                  |       |       |       |                      |       |       |       |
| 18          | Storage temp. range                     | -20°C ~+85°C                                  |       |       |       |                      |       |       |       |
| 19          | Housing material                        | Stainless steel                               |       |       |       |                      |       |       |       |
| 20          | Potential of housing                    | Insulated                                     |       |       |       |                      |       |       |       |

## VLM-635-56-110°Series

|    |                                  |  |
|----|----------------------------------|--|
| 21 | Electrostatic discharge (ESD)    | 30KV   |
| 22 | Moisture sensitivity level (MSL) | Level 1 - acc to JEDEC J-STD-020E.                             |
| 23 | Wire type                        | 2464 2-WIRE CABLE 26 AWG                                       |
| 24 | Cable length                     | 330±30mm   |
| 25 | Mean time to failure (MTTF) 25°C | Above 10000 hrs  |
| 26 | International Protection Marking | IP67   |
| 27 | Application                      | Precision fine line for Automation, Machine vision and Medical |
| 28 | Suggestion work distance         | 0~1.2 meters / 0~4 feet  |

- \* Optical power is total power output measured at the aperture of the laser.
- \*\* According to FDA 1040.10 & IEC 60825-1 regulations, laser power output is measured by 7mm aperture stop from a 10 cm distance 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

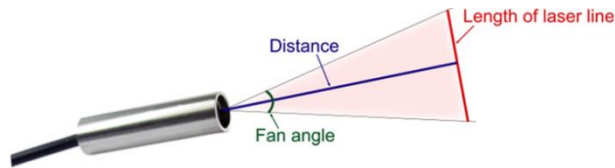
LPO:

**CLASS I LASER PRODUCT**

LPT:



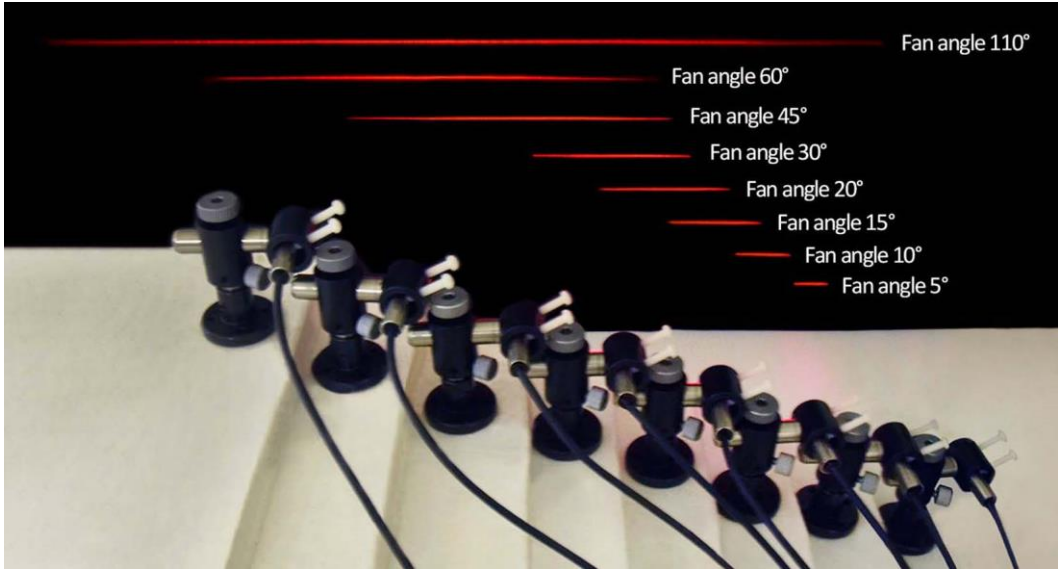
**TABLE A: Laser Line Length Table:**



**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°                    | 0.9 cm<br>(0.35") | 1.75 cm<br>(0.7") | 3.5 cm<br>(1.4")   | 7.85 cm<br>(3")     |
| 10°                   | 1.75cm<br>(0.6")  | 3.5 cm<br>(1.4")  | 7 cm<br>(2.8")     | 17.5 cm<br>(6")     |
| 15°                   | 2.6 cm<br>(1")    | 5.2 cm<br>(2")    | 10.5 cm<br>(4")    | 26.3 cm<br>(10")    |
| 20°                   | 3.5 cm<br>(1.4")  | 7 cm<br>(2.8")    | 14 cm<br>(5.6")    | 35 cm<br>(14")      |
| 30°                   | 5.3 cm<br>(2")    | 10.7 cm<br>(4")   | 21 cm<br>(8")      | 53.5 cm<br>(20")    |
| 45°                   | 8.28 cm<br>(3¼")  | 16.6 cm<br>(6½")  | 33.1 cm<br>(13")   | 82.85 cm<br>(32½")  |
| 60°                   | 11.5 cm<br>(4½")  | 23 cm<br>(9")     | 46 cm<br>(18")     | 115.5 cm<br>(45")   |
| 110°                  | 28.6 cm<br>(11¼") | 57.1 cm<br>(23")  | 114.2 cm<br>(46")  | 285.6 cm<br>(112½") |

## VLM-635-56-110°Series



**TABLE B: Recommended working range:**

**Focus at 10 cm:**

Working range: 0 - 22.5cm(0-8.9")

**Best at: 7 - 16.5cm(2.8"-6.5")**  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: 8 - 30cm(3.1"-11.8")

**Best at: 12.5 - 23cm(4.9"-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: 3 - 82cm(1.2"-32.3")

**Best at: 21 - 58cm(8.3"-22.8")**  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: 38 - 134cm(15"-52.8")

**Best at: 60 - 106cm(23.6"-41.7")**  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             |    |    |     |     |



## 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.

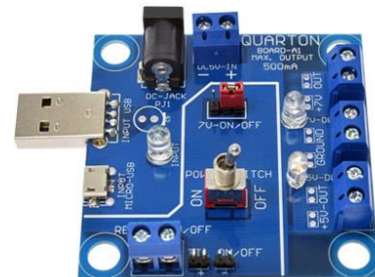
### Feature:

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



**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.

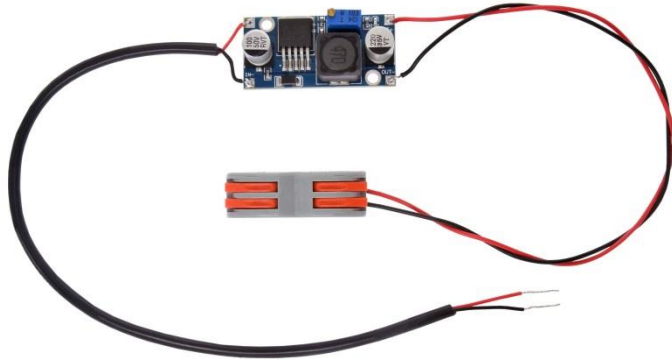


### Feature:

- 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-USBSW** - USB Cable Switch.

#### **Feature:**

- Length: 28cm.
- Color: Black.



### **CLM-UM3M** - USB to micro USB Cable.

#### **Feature:**

- Length: 3 meters.
- Color: Black.