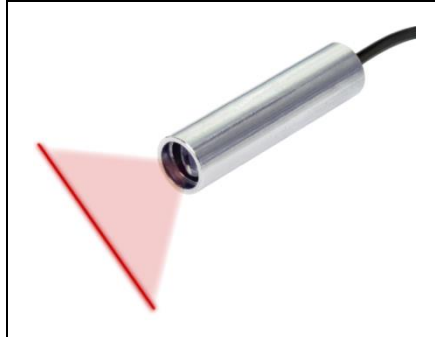


## Red Line Laser Module Fan Angle 45° Uniform Line

### VLM-635-56-45°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:

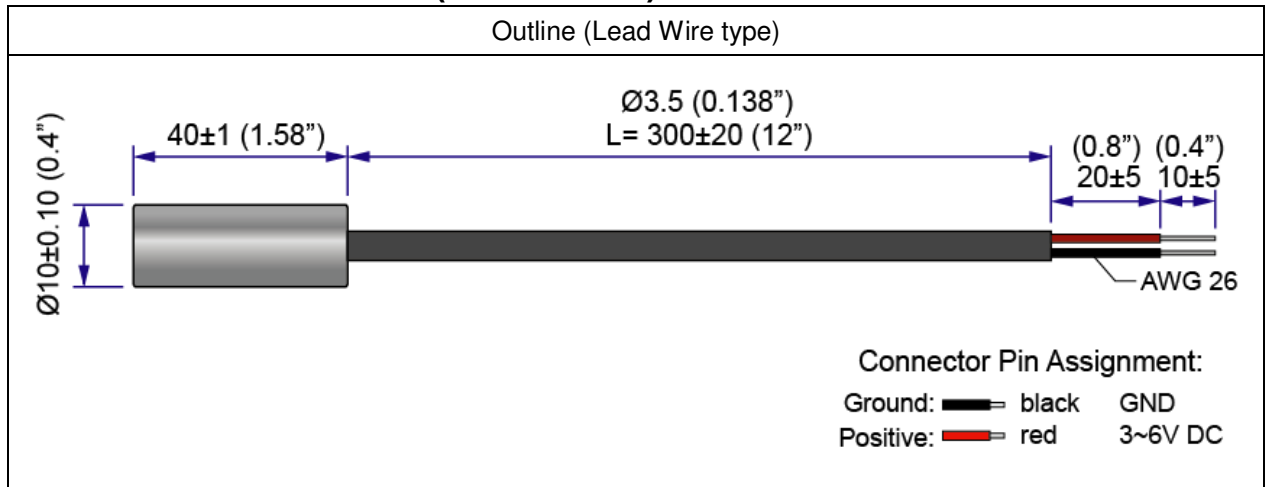
- Built with high precision glass line lens and glass laser collimating lens.
- Fan Angle : 45°
- Focus range: 10cm, 20cm, 40cm, 90cm, customized focus length are available by request.
- Customized focus within 1 meter available please direct contact us.
- Two laser power output level: LPO - Class 1M 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-635-56-45°Series

### OUTLINE DIMENSIONS (UNITS: mm)



### SPECIFICATIONS

Part Number		VLM-635-56 LPO-D45-				VLM-635-56 LPT-D45-			
		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	45° / 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-635-56-45°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

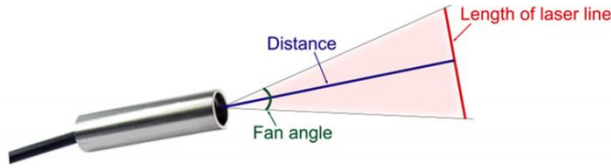
LPO:

**CLASS I LASER PRODUCT**

LPT:



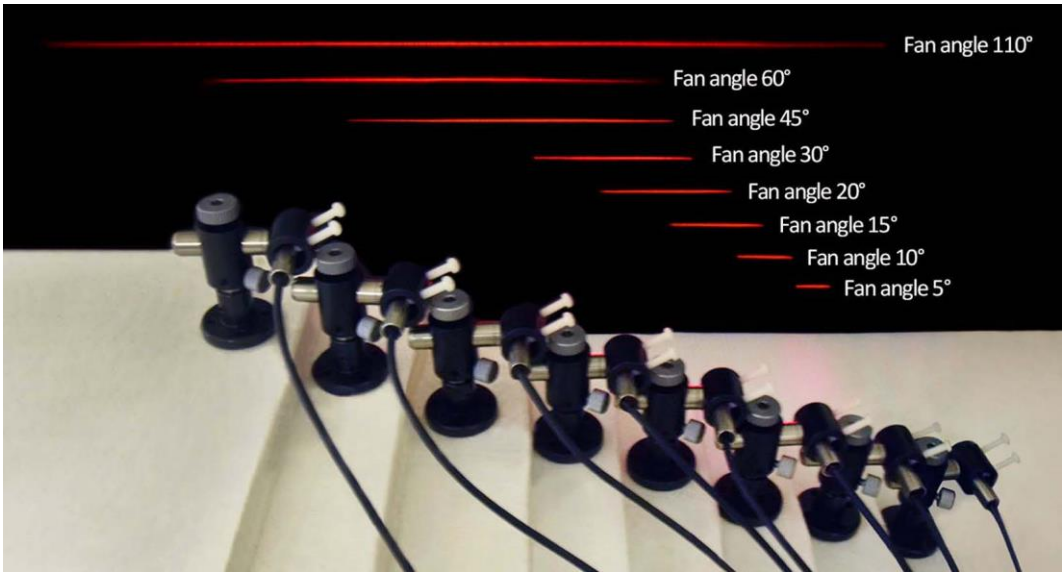
**TABLE A: Laser Line Length Table:**



**Length of laser line:**

Distance Fan angle	10 cm (4 inch)	20 cm (8 inch)	40 cm (16 inch)	100 cm (40 inch)
5°	0.9 cm (0.35")	1.75 cm (0.7")	3.5 cm (1.4")	7.85 cm (3")
10°	1.75cm (0.6")	3.5 cm (1.4")	7 cm (2.8")	17.5 cm (6")
15°	2.6 cm (1")	5.2 cm (2")	10.5 cm (4")	26.3 cm (10")
20°	3.5 cm (1.4")	7 cm (2.8")	14 cm (5.6")	35 cm (14")
30°	5.3 cm (2")	10.7 cm (4")	21 cm (8")	53.5 cm (20")
45°	8.28 cm (3¼")	16.6 cm (6½")	33.1 cm (13")	82.85 cm (32½")
60°	11.5 cm (4½")	23 cm (9")	46 cm (18")	115.5 cm (45")
110°	28.6 cm (11¼")	57.1 cm (23")	114.2 cm (46")	285.6 cm (112¼")

## VLM-635-56-45°Series



**TABLE B: Recommended working range:**

**Focus at 10 cm:**

Working range: 0 - 19cm(0-7.5")

**Best at: 5.5 - 15cm(2.2"-5.9")**  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: 9 - 34cm(3.5"-13.4")

**Best at: 13 - 24cm(5.1"-9.5")**  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: 4 - 69cm(1.6"-27.2")

**Best at: 22 - 56cm(8.7"-22")**  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: 40 - 139cm(15.7"-54.7")

**Best at: 55 - 120cm(21.7"-47.2")**  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.

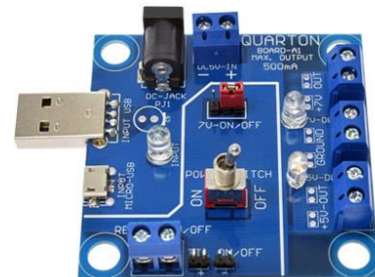
### Feature:

- 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.

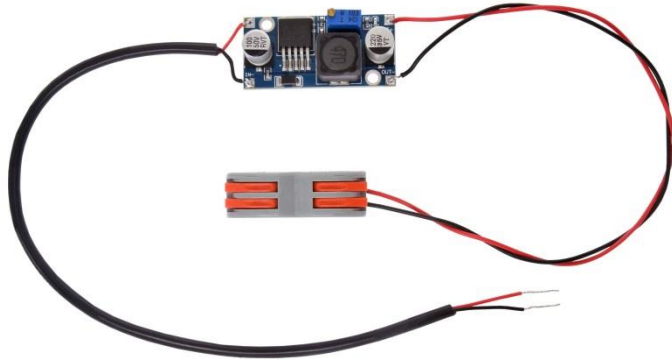


### Feature:

- 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.