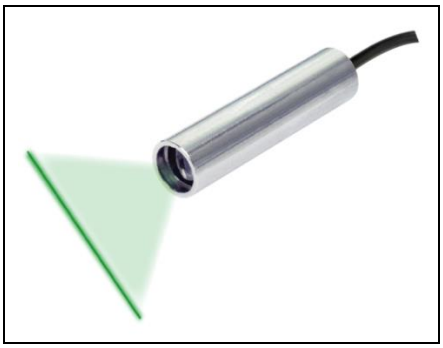
Green Line Laser Module Fan Angle 5° Uniform Line

VLM-520-56-5°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 : 5°
- 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 : 515~530 nm
- 3~6 VDC operation.
- Connection type : Lead wire
- Laser line demonstration : 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.

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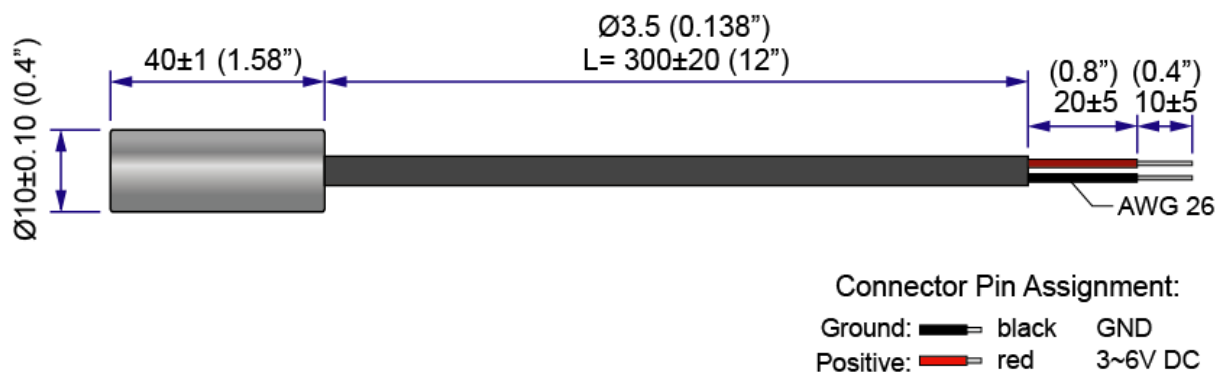
OUTLINE DIMENSIONS (UNITS: mm)

Outline (Lead Wire type)



SPECIFICATIONS

Part Number		VLM-520-56 LPO-D5-				VLM-520-56 LPT-D5-			
		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	5° / Length of Laser Line as **TABLE A**							
3	Laser line width	AS **TABLE B**							
4	Recommended working range	AS **TABLE B**							
5	Dimensions	Ø10 x 40 mm (Ø0.39" x 1.575")							
6	Weight	17±1g							
7	Operating voltage (Vop)	3~6 VDC							
8	Operating current (Iop)	Less than 80mA				Less than 180mA			
9	Optical power*	Less than 10mW				Less than 30mW			
10	Laser power output**	Less than 0.39mW				Less than 1mW			
11	Laser class	Class 1M				Class 2M			
12	Wavelength (λp)	515~530nm							
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							

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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.**

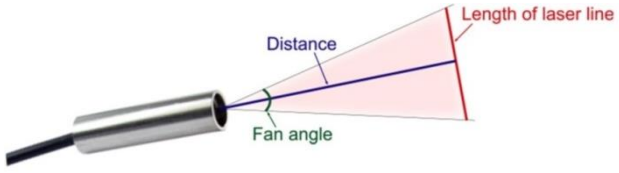
SAFETY LABEL

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 (112½")

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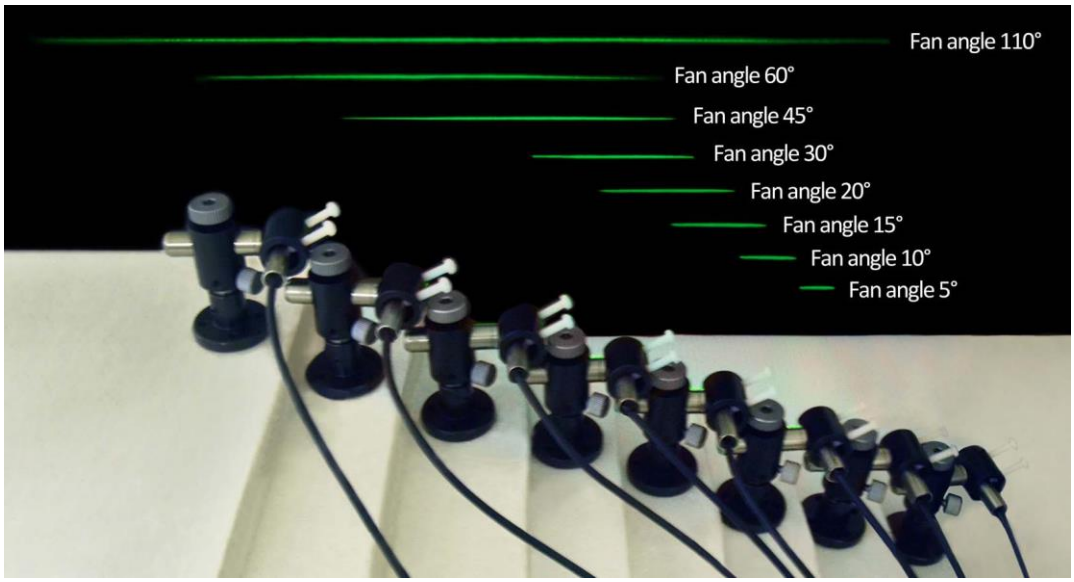

TABLE B: Recommended working range:

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

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Optional Accessories

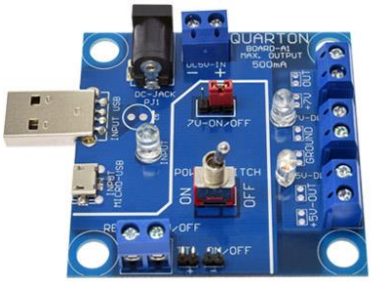
Quarton offers mounts, power supply boards, battery pack and USB cable switch to help you running as quickly as possible. For more information, please visit www.quarton.com, www.quarton.com/contact or email contact@quarton.com.

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.

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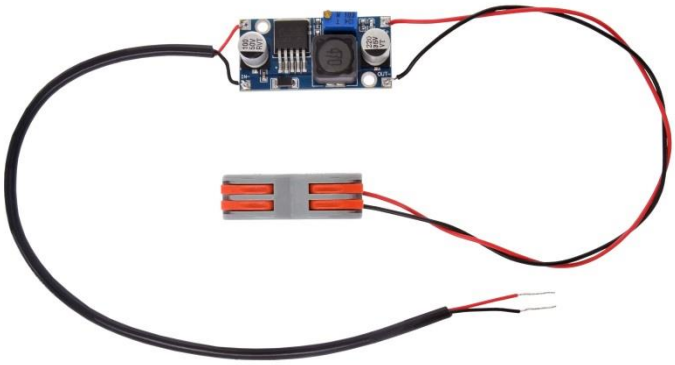

LMPS-MP2 - DC converter, In: 9-36V, Out: 5V 1A.

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.

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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.

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