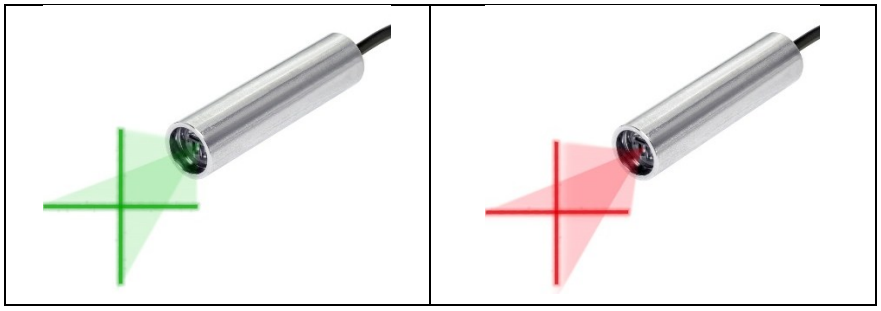
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Uniform Crosshairs Laser Module with Various Fan Angles and (58 series) without / (59 series) with TTL-modulation

VLM-520/635-58/59 Series



The newly developed crosshairs lens come with various fan angles and they produce high quality uniform crosshairs laser lines in a robust stainless housing. These crosshairs laser modules provide target aid in alignment and position task. Ideal for machine vision, patient alignment, CNC milling, chassis alignment, quality control, textile industry and printing industry. They are available at 10cm, 20cm, 40cm and 90 cm focus length, red & green wavelength and Class I laser class to cover within 1 meter range marking task.
For customized focus length, wavelength and laser power output, please contact us.

FEATURES:

- Built with high precision glass crosshair lens and glass laser collimating lens.
- Fan Angle : 10° / 15° / 20° / 30° / 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: 58 series without modulation
- 59 series with modulation
- Laser power output level: Class I laser product
- Dimensions : Ø10 x 40 mm (Ø0.39" x 1.575")
- Wavelength : 520 (515~530 nm) / 635 (630~665 nm)
- 3~6 VDC operation.
- Connection type : Lead wire
- Laser crosshairs demonstration : https://www.youtube.com/watch?v=eSyVa9-9kYM

APPLICATIONS: ideal for

- Machine vision.
- Patient alignment.
- CNC milling.
- Chassis alignment.
- Quality control.
- Textile industry.
- Printing industry.

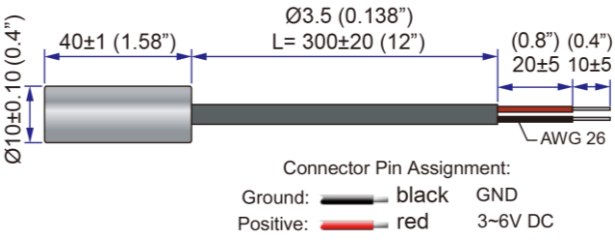
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VLM-520/635-58/59 Series

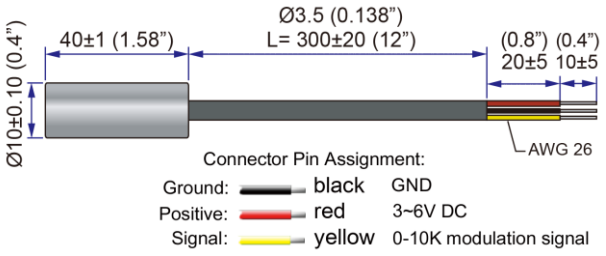
OUTLINE DIMENSIONS (UNITS: mm)

Outline (Lead Wire type)

VLM-520/635-58 series:



VLM-520/635-59 series:



SPECIFICATIONS

Part Number		**VLM-520/635-58/59 LPO-**
1	Fan angle* (D)	10° / 15° / 20° / 30° / 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	58 series - without TTL modulation 59 series - with TTL modulation. High ON, 0-10K Hz
7	Dimensions	Ø10 x 40 mm (Ø0.39" x 1.575")
8	Weight	18±2g
9	Operating voltage (Vop)	3~6 VDC
10	Operating current (Iop)	520 series - less than 80mA 635 series - less than 50mA
11	Optical power**	520 series - 9~10mW 635 series - 4~5mW
12	Laser class	Class I
13	Wavelength (λp)	520 series - 515~530 nm 635 series - 630~665 nm
14	Collimating lens / Line generating lens	Aspherical glass lens
15	Output aperture	8mm

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VLM-520/635-58/59 Series

16	Beam shape	Crosshairs
17	Laser line accuracy	±4mm@1M
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 crosshairs for Machine vision, CNC, Medical
30	Suggestion work distance	0~1.2 meters / 0~4 feet
	Part No.	VLM-520/635-58/59 LPO-Dxx-Fyy 520 = green laser 635 = red laser 58 = without TTL modulation 59 = with TTL modulation D= Fan angle xx=10/15/20/30/60/110 F= Focus length yy=10/20/40/90 Example: VLM-520-58 LPO-D20-F90

* **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

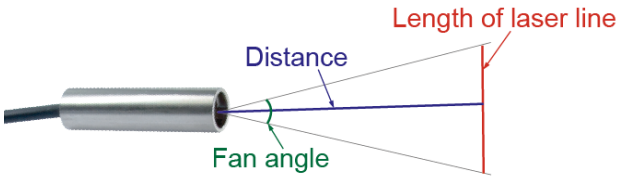
CLASS I LASER PRODUCT

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VLM-520/635-58/59 Series

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)
10°	1.8cm (0.71")	3.6 cm (1.42")	7.2 cm (2.83")	18 cm (7.1")
15°	2.8 cm (1.1")	5.6 cm (2.2")	11 cm (4.33")	26.8 cm (10.55")
20°	3.5 cm (1.38")	7.6 cm (2.99")	15 cm (5.91")	36 cm (14.17")
30°	5.6 cm (2.2")	11.2 cm (4.41")	22 cm (8.66")	55 cm (21.65")
60°	11.8 cm (4.65")	24 cm (9.45")	48 cm (18.9")	116 cm (45.67")
110°	30 cm (11.81")	60 cm (23.62")	115 cm (45.28")	300 cm (118.11")

TABLE B: Recommended working range:

Focus at 10 cm:

Working range: 5 - 19cm(2"- 7.5")

Best at: 9 - 15cm(3.5"- 5.9")

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

Laser Fan Angle	Recommended Working Range(cm) 5 10 15 20 25
10°	5- 9 - 15 -19
15°	0- 4 - 15 -21.5
20°	0- 6 - 17 -21
30°	0- 4 - 15 -21
60°	0- 5.5 - 15 -19
110°	0- 4 - 16.5 -25

Focus at 20 cm:

Working range: 5 - 33cm(2"- 13")

Best at: 8 - 24cm(3.2"- 9.5")

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

Laser Fan Angle	Recommended Working Range(cm) 10 20 30 40 50
10°	5- 8 - 24 -33
15°	5- 14 - 24 -33
20°	5- 9 - 23 -33
30°	0- 12 - 25 -32
60°	0- 11 - 26 -33.5
110°	6.5- 12 - 22 -28

Focus at 40 cm:

Working range: 6 - 81cm(2.4"- 32")

Best at: 21 - 61cm(8.3"- 24")

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

Laser Fan Angle	Recommended Working Range(cm) 15 30 45 60 75
10°	6- 21 - 61 -81
15°	2- 17 - 58 -77
20°	3- 13 - 53 -71
30°	3- 18 - 58 -75.5
60°	2- 17 - 62 -80
110°	0- 12 - 55 -74

Focus at 90 cm:

Working range: 36 - 125cm(14.2"- 49.2")

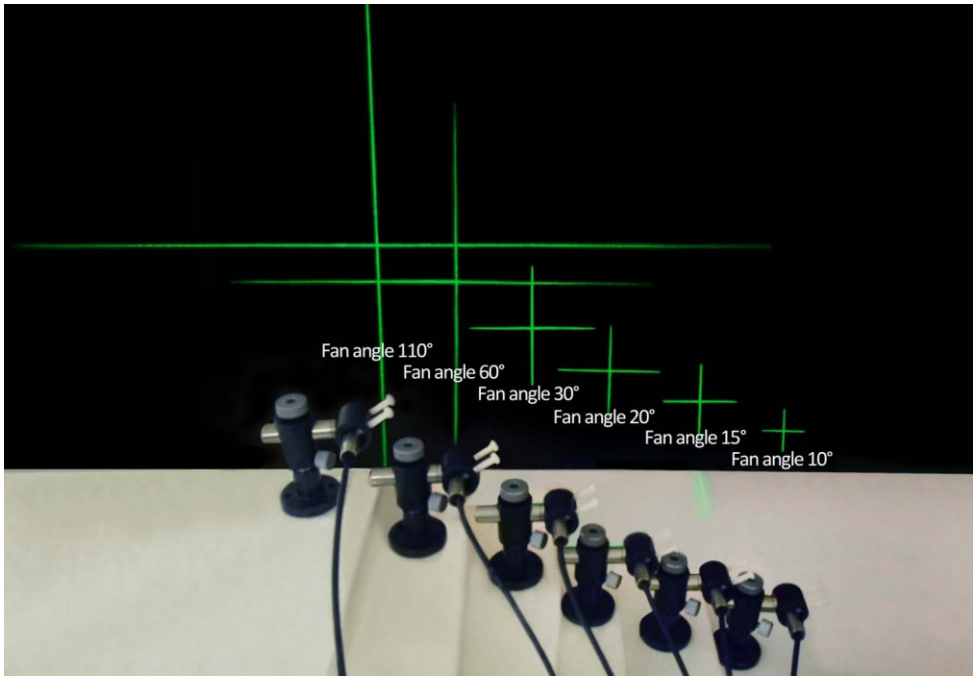
Best at: 55 - 119cm(21.7"- 46.9")

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

Laser Fan Angle	Recommended Working Range(cm) 40 60 80 100 120
10°	36- 55 - 119 -125
15°	34- 63 - 94 -124
20°	32- 55 - 92 -120
30°	25- 66 - 108 -126.5
60°	22.5- 61 - 98 -120
110°	26- 55 - 104 -130

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VLM-520/635-58/59 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, 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:

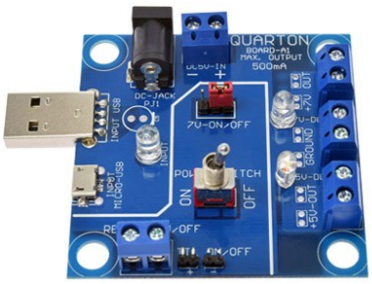
- 4 directions adjustable.
- Can be mounted onto the optical table with screws (Screws not included).
- Engraved scale for precision adjustable.

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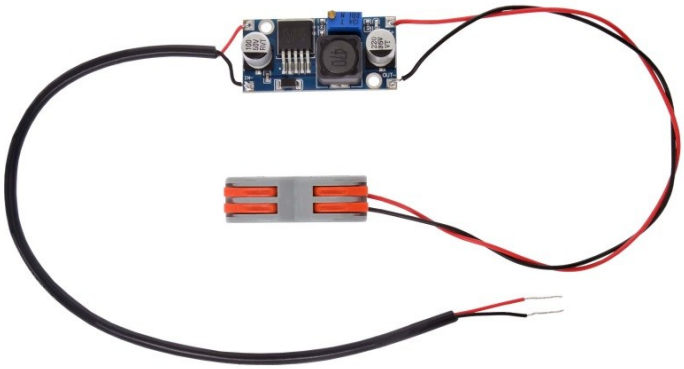
Optional Accessories

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-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.

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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-BP4N3 - Battery pack (4* AA batteries)

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

Feature:

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



CLM-TCSW – Type-C Cable Switch.

Feature:

- Length: 32cm. Color: Black.
-



CLM-ACLIP - Alligator clip with USB connector.

Feature:

- Length: 48cm. Color: Black.

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Optional Accessories



CLM-UM3M - USB to micro USB Cable.

Feature:

- Length: 3 meters.
- Color: Black.



LMPS-C - Alligator clip with Type-C connector.

Feature:

- Length: 50cm. 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-TCSW** x 1, **LMPS-C** x 1

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