

USER MANUAL VLM-520/635-58/59 Series

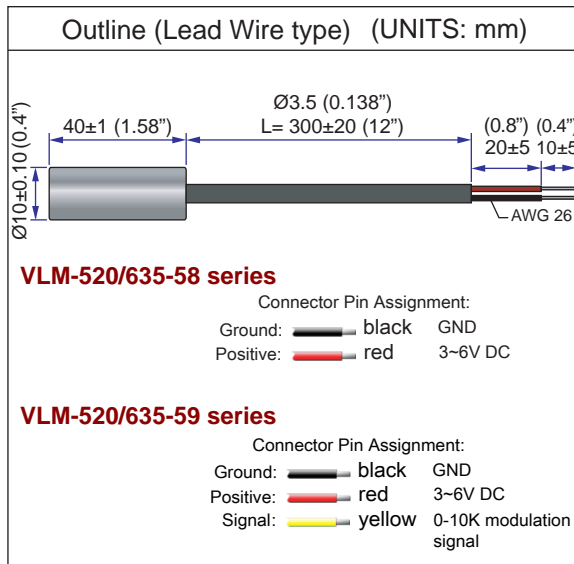


Ideal for:

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

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 1 laser class to cover within 1 meter range marking task. For customized focus length, wavelength and laser power output, please contact us.

Outline dimensions:



Part No.
VLM-520/635-58/59 LPO/LPT-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 LPT-D20-F90 VLM-635-59 LPO-D60-F10

SAFETY LABEL:

CLASS I LASER PRODUCT

Laser products manufactured by Quarton meet the international safety standards:



Specifications:

	VLM-520/635-58/59 LPO-	VLM-520/635-58/59 LPT-
*Fan angle (D)	10° / 15° / 20° / 30° / 60° / 110° (15% tolerance)	
Focus length (F)	10 cm / 20 cm / 40 cm / 90 cm	
Laser line length	As TABLE A (page 2)	
Laser line width	As TABLE B (page 2)	
Recommended working range	As TABLE B (page 2)	
Modulation	58 series - without TTL modulation 59 series - with TTL modulation, High ON, 0-10K Hz	
Dimensions	Ø10 x 40 mm (Ø0.39" x 1.575")	
Weight	18±2g	
Operating voltage (Vop)	3~6 VDC	
Operating current (Iop)	520 - less than 80mA 635 - less than 50mA	520 - less than 180mA 635 - less than 100mA
**Optical power	520 series - 9~10mW 635 series - 4~5mW	520 series - 20~24mW 635 series - 8mW
***Laser power output	Less than 0.39mW	Less than 1mW
Laser class	Class 1	
Wavelength (λp)	520 - 515~530 nm / 635 - 630~665 nm	
Collimating lens / Line generating lens	Aspherical glass lens	
Output aperture	8mm	
Beam shape	Crosshairs	
****Operating temp. range	-20°C ~+60°C	
Storage temp. range	-20°C ~+85°C	
Housing material	Stainless steel	
Potential of housing	Insulated	
Electrostatic discharge (ESD)	30KV	
Moisture sensitivity level (MSL)	Level 1 - acc to JEDEC J-STD-020E.	
Protection circuit	Reversed supply circuit protection, over-current protection, surge protection, Short circuit protection	
Wire type	2464 2-WIRE CABLE 26 AWG	
Cable length	330±30mm	
Mean time to failure (MTTF) 25°C	Above 10000 hrs	
International Protection Marking	IP67	
Application	Precision fine crosshairs for CNC, Machine vision and Medical	
Suggestion work distance	0~1.2 meters / 0~4 feet	

* The fan angle has a tolerance of 15%.

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

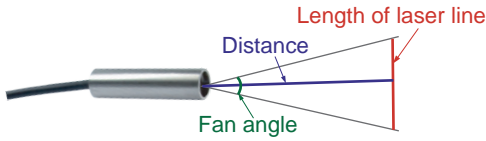
*** According to FDA 1040.10 & IEC 60825-1 regulations, laser power output is measured by 7mm aperture stop from a 10 cm distance of the laser.

**** 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.

USER MANUAL VLM-520/635-58/59 Series

Please refer to tables below and select a model that would have the best performance on your application.

TABLE A: Laser Line Length:



Length of Laser Line: (15% tolerance)

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")

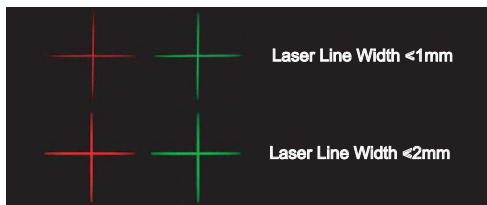


TABLE B: Recommended working range:

Focus at 10 cm:

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:

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:

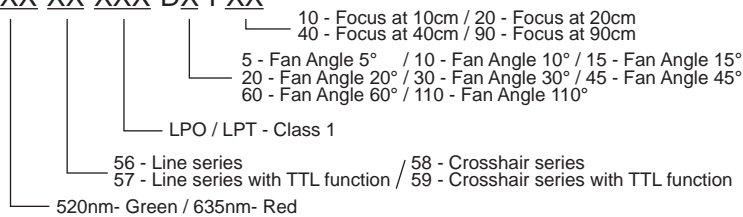
Laser Fan Angle	Recommended Working Range(cm)				
	15	30	45	60	75
10°	6-	21 -	61	-81	
15°	2-	17 -	58	-77	
20°	3-	13 -	53	-71	
30°	3-	18 -	58	-75.5	
60°	2-	17 -	62	-80	
110°	0-	12 -	55	-74	

Focus at 90 cm:

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	

Selection Guide:

VLM-XXX-XX-XXX-DX-FXX



The new series of line and crosshair laser modules are for those applications that need super fine line and super fine crosshair.

Ideal for machine version, patient alignment, CNC milling, chassis alignment, quality control, textile industry, printing industry and precision alignment.

Optional Accessories

QLM-1125

Laser module mount.

<https://www.quarton.com/laser-mount-qlm-1125.html>



CLM-BP4N3

Battery pack (4 x AA batteries are NOT included)

<https://www.quarton.com/battery-pack-clm-bp4n3.html>



LMPS-C

Alligator clip with Type C input connector.

<https://www.quarton.com/alligator-clip-with-type-c-input-connector-lmps-c.html>



CLM-ACLIP

Alligator clip with USB connector.

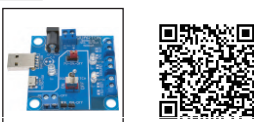
<https://www.quarton.com/alligator-clip-with-usb-connector-clm-aclip.html>



LMPS-MP1

Multi-function laser module power supply board.

<https://www.quarton.com/multi-function-laser-module-power-supply-board-lmps-mp1.html>



LMPS-MP2

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

<https://www.quarton.com/dc-converter-lmps-mp2.html>



CLM-USBSW

USB Cable Switch.

<https://www.quarton.com/usb-cable-switch-clm-usbsw.html>



LMPS-DC1

Alligator clip with DC Power Jack input connector.

<https://www.quarton.com/laser-module-power-supply-board-lmps-dc1.html>



For more product information, please refer to the official website link or QR code in each of the following lists.