

USER MANUAL VLM-520/635-56/57 Series

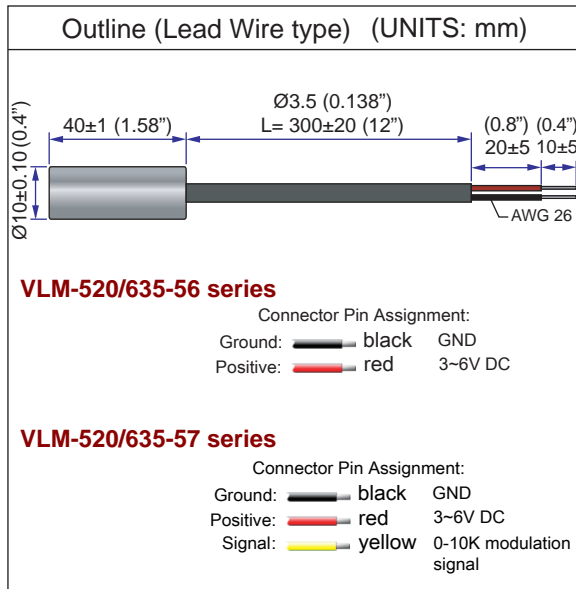


Ideal for:

- Machine vision.
- Automation industry.
- Image processing.
- Medical & Science.
- Scanning & Counting.
- Precision 3D scanner.
- Measurement.

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

Outline dimensions:



Part No.
VLM-520/635-56/57 LPO/LPT-Dxx-Fyy 520 = green laser 635 = red laser 56 = without TTL modulation 57 = with TTL modulation D= Fan angle xx=5/10/15/20/30/45/60/110 F= Focus length yy=10/20/40/90 Example: VLM-520-56 LPO-D60-F40 VLM-635-57 LPT-D20-F90

SAFETY LABEL:

CLASS I LASER PRODUCT

Laser products manufactured by Quarton meet the international safety standards:



Specifications:

	VLM-520/635-56/57 LPO-	VLM-520/635-56/57 LPT-
*Fan angle (D)	5° / 10° / 15° / 20° / 30° / 45° / 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	56 series - without TTL modulation 57 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	Line	
****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 line for Automation, 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.

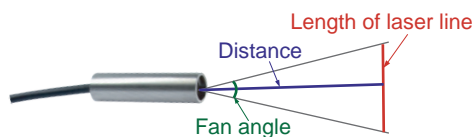
*** According to FDA 1040.10 & IEC 60825-1 regulations, laser power output is measured by 7mm aperture stop from a 10 cm distance of the laser.

**** 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.

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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)
5°	1 cm (0.39")	2 cm (0.79")	4 cm (1.57")	10 cm (3.94")
10°	1.8 cm (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")
45°	8.5 cm (3.35")	17 cm (6.69")	34 cm (13.39")	82 cm (32.28")
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")

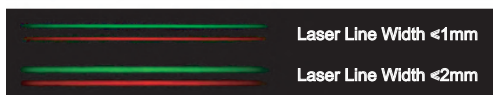


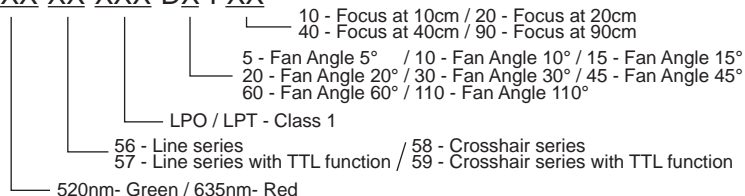
TABLE B: Recommended working range:

Laser Fan Angle	Focus at 10 cm:					Focus at 20 cm:				
	Recommended Working Range(cm)					Recommended Working Range(cm)				
5°	6.5 - 16 -21					12.5 - 15 - 23 -26				
10°	8 - 15 -19					10 - 14 - 22 -26				
15°	6 - 8 - 15 -19					10 - 14.5 - 22 -26				
20°	4 - 7 - 16 -21.5					10 - 14.5 - 23 -27				
30°	4 - 6 - 14.5 -21					10 - 14 - 22 -26				
45°	0 - 5.5 - 15 -19					9 - 13 - 24 -34				
60°	0 - 7 - 14.5 -20					11 - 15 - 23.5 -32				
110°	0 - 7 - 16.5 -22.5					8 - 12.5 - 23 -30				

Laser Fan Angle	Focus at 40 cm:					Focus at 90 cm:				
	Recommended Working Range(cm)					Recommended Working Range(cm)				
5°	11 - 20.5 - 57 -75					29 - 45 - 91 -109				
10°	11.5 - 22 - 47.5 -61.5					35 - 57 - 119 -146				
15°	7 - 21 - 53 -64					31 - 57 - 119 -140				
20°	6 - 21 - 54 -68					31 - 59 - 122 -142				
30°	5 - 21 - 54 -68					42 - 60 - 114 -144				
45°	4 - 22 - 56 -69					40 - 55 - 120 -139				
60°	3 - 20 - 58 -72					35 - 56 - 116 -145				
110°	3 - 21 - 58 -82					38 - 60 - 106 -134				

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, automation, imagine processing, medical, science, precision 3D scanning, measurement, counting 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.

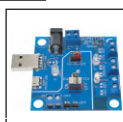
<https://www.quarton.com/alligator-clip-with-usb-connector-clm-aclip.html>



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.