

Red Dot Laser Module

Specifications	Model Number	VLM-635-00 VLM-650-00	VLM-635-01 series VLM-650-01 series	VLM-635-01G series VLM-650-01G series	VLM-635-02 series VLM-650-02 series	VLM-635-02G series VLM-650-02G series
						
Dimensions		Ø10.52 x 17.2 mm	Ø10.5 x 19 mm	Ø10.5 x 19 mm	Ø10.5 x 26 mm	Ø10.5 x 26 mm
Operating voltage		2.2~2.7 VDC / 2.15~2.6 VDC	2.6~6 VDC	2.6~6 VDC	2.6~6 VDC	2.6~6 VDC
Operating current		Less than 45mA / 35mA	Less than 35mA / 50mA	Less than 35mA / 50mA	Less than 35mA / 50mA	Less than 35mA / 50mA
Laser power output		Less than 2.5mW	Less than 0.39mW / 1mW / 3mW	Less than 0.39 / 1mW / 2.5mW	Less than 1mW / 3mW	Less than 1mW / 2.5mW
Laser class			Class 1 / Class 2 / Class 3R	Class 1 / Class 2 / Class 3R	Class 2 / Class 3R	Class 2 / Class 3R
Wavelength		630~645nm / 650~660nm	630~645nm / 645~665nm	630~645nm / 645~665nm	630~645nm / 645~665nm	630~645nm / 645~665nm
Collimating lens		Plastic lens	Plastic lens	Glass lens	Plastic lens	Glass lens
Output aperture		5mm	5mm	5mm	4mm	4mm
Beam shape		Ellipse	Ellipse	Ellipse	Ellipse	Ellipse
Spot size			5±1mm at 5M	4±1mm at 5M	5±1 mm at 5M Adjustment focus	4±1 mm at 5M Adjustment focus
Divergence (Full Angle)		0.5 mRad	0.5 mRad	0.4 mRad	0.5 mRad	0.4 mRad
Beam alignment			Less than 3°	Less than 3°	Less than 3°	Less than 3°
Operating temp. range		+10°C ~+40°C	+10°C ~+40°C	-20°C ~+50°C	+10°C ~+40°C	-20°C ~+50°C
Storage temp. range		-20°C ~+65°C	-20°C ~+65°C	-20°C ~+65°C	-20°C ~+65°C	-20°C ~+65°C
Housing material		Brass	Brass	Brass	Brass	Brass
Potential of housing		VDD(+)	VDD(+)	VDD(+)	VDD(+)	VDD(+)
Electrostatic discharge (ESD)			30KV	30KV	30KV	30KV
Moisture sensitivity level (MSL)			Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.
Wire type		3*PIN from LD	1007-26AWG / Spring	1007-26AWG / Spring	1007-26AWG / Spring	1007-26AWG / Spring
Cable length			115±15mm / 8±1mm	115±15mm / 8±1mm	115±15mm / 6.5±1mm	115±15mm / 6.5±1mm
Mean time to failure (MTTF) 25°C		10000hrs	10000hrs	10000hrs	10000hrs	10000hrs
Application		Lab, without laser driver	General purpose	General purpose	Focus adjustable	Focus adjustable
Suggestion work distance			1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	1~30 meters / 3~100 feet

VLM-635-11 series VLM-650-11 series	VLM-635-12 series VLM-650-12 series	VLM-635-17 series	VLM-635-60 series	VLM-635-61 series (TTL)	VLM-650-62 series
					
Ø10.5 x 30 mm	Ø10.5 x 39 mm	Ø13 x 50 mm	Ø10 x 40 mm	Ø10 x 40 mm	Ø10 x 40 mm
2.6~6 VDC	2.6~6 VDC	3~6 VDC	3~6 VDC	3~6 VDC	3~6 VDC
Less than 35mA / 50mA	Less than 35mA / 50mA	Less than 60mA / 70mA / 85mA	Less than 40mA / 80mA	Less than 40mA / 80mA	Less than 80mA / 100mA / 150mA
Less than 1mW / 2.5mW	Less than 1mW / 2.5mW	0.7~0.9mW / 2~3mW / 5~6mW	Less than 0.39mW / 1mW	Less than 0.39mW / 1mW	0.2±0.1mW / 0.8±0.1mW / 3.5±0.5mW
Class 2 / Class 3R	Class 2 / Class 3R	Class 2 / Class 3R / Class 3B	Class 1 / Class 2	Class 1 / Class 2	Class 1 / Class 2 / Class 3R
630~645nm / 645~665nm	630~645nm / 645~665nm	630~645nm	630~645nm	630~645nm	645~665nm
Glass lens	Plastic lens	Glass lens	Glass lens	Glass lens	Glass lens
5mm	5mm	8mm	0.6mm	0.6mm	2mm
Circular	Circular	Circular	Circular	Circular	Circular
Less than 16mm at 40M	2.5±0.5 mm at 5M 10±1 mm at 20M	Less than 9 mm at 40M Less than 22 mm at 100M	Less than 1mm at 0~50cm Less than 2mm at 50~90cm	Less than 1mm at 0~50cm Less than 2mm at 50~90cm	Less than Ø3mm at 0~5M
0.2 mRad	0.25 mRad	Less than 0.1 mRad	Less than 0.4 mRad	Less than 0.4 mRad	Less than 0.4 mRad
Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 3°
-20°C ~+50°C	+10°C ~+40°C	-10°C ~+50°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C
-20°C ~+70°C	-20°C ~+65°C	-20°C ~+80°C	-20°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C
Bronze	Bronze	Aluminum	Stainless steel	Stainless steel	Stainless steel
VDD(+)	VDD(+)	Insulated	Insulated	Insulated	Insulated
30KV	30KV	30KV	30KV / Arc protection	30KV / Arc protection	30KV / Arc protection
Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.
1007-26AWG / Spring	1007-26AWG / Spring	1007-26AWG	2464 2-WIRE CABLE 26 AWG	2464 3-WIRE CABLE 26 AWG	2464 2-WIRE CABLE 26 AWG
115±15mm / 8±1mm	115±15mm / 4.2±1mm	115±15mm	330±30mm	330±30mm	330±30mm
10000hrs	5000hrs / 10000hrs	10000hrs	10000hrs	10000hrs	10000hrs
Long range application	Long range application	Long range application	Industrial alignment	Industrial alignment with TTL modulation function	Industrial alignment
10~100 meters / 30~300 feet	10~100 meters / 30~300 feet	10~500 meters / 40~2000 feet	0~1.2 meters / 0~4 feet	0~1.2 meters / 0~4 feet	0~5 meters / 0~16 feet

VLM-650-62T series (TTL)	VLM-650-70 series	VLM-650-71 series (TTL)	VLM-650-72 series	VLM-650-72T series (TTL)	CLM-635-01 LPO
					
Ø10 x 40 mm	M12 x 68 mm	M12 x 68 mm	M12 x 68 mm	M12 x 68 mm	Ø20 x 60 mm
3~6 VDC	10~36 VDC	10~36 VDC	10~36 VDC	10~36 VDC	3~6 VDC
Less than 80mA / 100mA / 150mA	Less than 20mA at 24V	Less than 20mA at 24V	Less than 30mA at 24V	Less than 30mA at 24V	Less than 50mA
0.2±0.1mW / 0.8±0.1mW / 3.5±0.5mW	Less than 0.39mW / 1mW	Less than 0.39mW / 1mW	0.2±0.1mW / 0.8±0.1mW / 3.5±0.5mW	0.2±0.1mW / 0.8±0.1mW / 3.5±0.5mW	Less than 0.39mW
Class 1 / Class 2 / Class 3R	Class 1 / Class 2	Class 1 / Class 2	Class 1 / Class 2 / Class 3R	Class 1 / Class 2 / Class 3R	Class 1
645~665nm	645~665nm	645~665nm	645~665nm	645~665nm	630~645nm
Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens
2mm	0.6mm	0.6mm	2mm	2mm	0.8mm
Circular	Circular	Circular	Circular	Circular	Circular
Less than Ø3mm at 0~5M	Less than 1mm at 0~50cm Less than 2mm at 50~90cm	Less than 1mm at 0~50cm Less than 2mm at 50~90cm	Less than Ø3mm at 0~5M	Less than Ø3mm at 0~5M	Less than 1.2mm at 1M
Less than 0.4 mRad	Less than 0.4 mRad	Less than 0.4 mRad	Less than 0.4 mRad	Less than 0.4 mRad	0.15 mRad
Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 1mm
-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C
-20°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C	-40°C ~+85°C
Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Insulated	Insulated	Insulated	Insulated	Insulated	Insulated
30KV / Arc protection	30KV / Arc protection	30KV / Arc protection	30KV / Arc protection	30KV / Arc protection	30KV
Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.
2464 3-WIRE CABLE 26 AWG	2464 2-WIRE CABLE 26 AWG	2464 3-WIRE CABLE 26 AWG	2464 2-WIRE CABLE 26 AWG	2464 3-WIRE CABLE 26 AWG	Micro USB (5V)
330±30mm	330±30mm	330±30mm	330±30mm	330±30mm	
10000hrs	10000hrs	10000hrs	10000hrs	10000hrs	10000hrs
Industrial alignment with TTL modulation function	Industrial alignment	Industrial alignment with TTL modulation function	Industrial alignment	Industrial alignment with TTL modulation function	Concentricity Laser
0~5 meters / 0~16 feet	0~1 meters / 0~3 feet	0~1 meters / 0~3 feet	0~5 meters / 0~16 feet	0~5 meters / 0~16 feet	0~1 meter / 0~3 feet

CLM-635-02 LPT	CLM-635-11 LPO	CLM-635-12 LPT
		
Ø20 x 60 mm	20 x 20 x 60 mm	20 x 20 x 60 mm
3~6 VDC	3~6 VDC	3~6 VDC
Less than 50mA	Less than 50mA	Less than 50mA
Less than 1mW	Less than 0.39mW	Less than 1mW
Class 2	Class 1	Class 2
630~645nm	630~645nm	630~645nm
Glass lens	Glass lens	Glass lens
3mm	0.8mm	3mm
Circular	Circular	Circular
Less than 9mm at 20M	Less than 1.2mm at 1M	Less than 9mm at 20M
0.15 mRad	0.15 mRad	0.15 mRad
Less than 1mm	Less than 1mm	Less than 1mm
-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C
-40°C ~+85°C	-40°C ~+85°C	-40°C ~+85°C
Stainless steel	Hard anodized aluminum	Hard anodized aluminum
Insulated	Insulated	Insulated
30KV	30KV	30KV
Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.
Micro USB (5V)	Micro USB (5V)	Micro USB (5V)
10000hrs	10000hrs	10000hrs
Concentricity Laser	Concentricity Laser	Concentricity Laser
1~30 meters / 3~100 feet	0~1 meter / 0~3 feet	1~30 meters / 3~100 feet