

Red Dot Laser Module

Specifications	Model Number	VLM-635-11 series VLM-650-11 series	VLM-635-12 series VLM-650-12 series	VLM-635-17 series	VLM-635-18 series VLM-650-18 series	VLM-635-60 series
						
Dimensions		Ø10.5 x 30 mm	Ø10.5 x 39 mm	Ø13 x 50 mm	Ø13 x 43.5 mm	Ø10 x 40 mm
Operating voltage		2.6~6 VDC	2.6~6 VDC	3~6 VDC	2.6~6 VDC	3~6 VDC
Operating current		Less than 35mA / 50mA	Less than 35mA / 50mA	Less than 60mA / 70mA / 85mA	Less than 35mA / 50mA	Less than 40mA / 80mA
Laser power output		Less than 1mW / 2.5mW	Less than 1mW / 2.5mW	0.7~0.9mW / 2~3mW / 5~6mW	2.5±1mW	Less than 0.39mW / 1mW
Laser class		Class 2 / Class 3R	Class 2 / Class 3R	Class 2 / Class 3R / Class 3B	Class 3R	Class 1 / Class 2
Wavelength		630~645nm / 645~665nm	630~645nm / 645~665nm	630~645nm	630~645nm / 645~665nm	630~645nm
Collimating lens		Glass lens	Plastic lens	Glass lens	Glass lens	Glass lens
Output aperture		5mm	5mm	8mm	6mm	0.6mm
Beam shape		Circular	Circular	Circular	Circular	Circular
Spot size		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 16mm at 40M	Less than 1mm at 0~50cm Less than 2mm at 50~90cm
Divergence (Full Angle)		0.2 mRad	0.25 mRad	Less than 0.1 mRad	0.2 mRad	Less than 0.4 mRad
Beam alignment		Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 3°
Operating temp. range		-20°C ~+50°C	+10°C ~+40°C	-10°C ~+50°C	-20°C ~+50°C	-20°C ~+60°C
Storage temp. range		-20°C ~+70°C	-20°C ~+65°C	-20°C ~+80°C	-40°C ~+70°C	-20°C ~+85°C
Housing material		Bronze	Bronze	Aluminum	Brass	Stainless steel
Potential of housing		VDD(+)	VDD(+)	Insulated	VDD(+)	Insulated
Electrostatic discharge (ESD)		30KV	30KV	30KV	30KV	30KV / Arc protection
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.	Level 1 - acc to JEDEC J-STD-020E.
Wire type		1007-26AWG / Spring	1007-26AWG / Spring	1007-26AWG	1007-26AWG	2464 2-WIRE CABLE 26 AWG
Cable length		115±15mm / 8±1mm	115±15mm / 4.2±1mm	115±15mm	115±15mm	330±30mm
Mean time to failure (MTTF) 25°C		10000hrs	5000hrs / 10000hrs	10000hrs	5000hrs / 10000hrs	10000hrs
Application		Long range application	Long range application	Long range application	Long range application	Industrial alignment
Suggestion work distance		10~100 meters / 30~300 feet	10~100 meters / 30~300 feet	10~500 meters / 40~2000 feet	10~200 meters / 30~600 feet	0~1.2 meters / 0~4 feet

VLM-635-61 series (TTL)	VLM-650-62 series	VLM-650-62T series (TTL)	VLM-650-70 series	VLM-650-71 series (TTL)	VLM-650-72 series
					
Ø10 x 40 mm	Ø10 x 40 mm	Ø10 x 40 mm	M12 x 68 mm	M12 x 68 mm	M12 x 68 mm
3~6 VDC	3~6 VDC	3~6 VDC	10~36 VDC	10~36 VDC	10~36 VDC
Less than 40mA / 80mA	Less than 80mA / 100mA / 150mA	Less than 80mA / 100mA / 150mA	Less than 20mA at 24V	Less than 20mA at 24V	Less than 30mA at 24V
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 / 1mW	Less than 0.39mW / 1mW	0.2±0.1mW / 0.8±0.1mW / 3.5±0.5mW
Class 1 / Class 2	Class 1 / Class 2 / Class 3R	Class 1 / Class 2 / Class 3R	Class 1 / Class 2	Class 1 / Class 2	Class 1 / Class 2 / Class 3R
630~645nm	645~665nm	645~665nm	645~665nm	645~665nm	645~665nm
Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens
0.6mm	2mm	2mm	0.6mm	0.6mm	2mm
Circular	Circular	Circular	Circular	Circular	Circular
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 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 0.4 mRad	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
Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 3°
-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	-20°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 / 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.
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	2464 2-WIRE CABLE 26 AWG
330±30mm	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	Industrial alignment
0~1.2 meters / 0~4 feet	0~5 meters / 0~16 feet	0~5 meters / 0~16 feet	0~1 meters / 0~3 feet	0~1 meters / 0~3 feet	0~5 meters / 0~16 feet

VLM-650-72T series (TTL)	CLM-635-01 LPO	CLM-635-02 LPT	CLM-635-11 LPO	CLM-635-12 LPT
				
M12 x 68 mm	Ø20 x 60 mm	Ø20 x 60 mm	20 x 20 x 60 mm	20 x 20 x 60 mm
10~36 VDC	3~6 VDC	3~6 VDC	3~6 VDC	3~6 VDC
Less than 30mA at 24V	Less than 50mA	Less than 50mA	Less than 50mA	Less than 50mA
0.2±0.1mW / 0.8±0.1mW / 3.5±0.5mW	Less than 0.39mW	Less than 1mW	Less than 0.39mW	Less than 1mW
Class 1 / Class 2 / Class 3R	Class 1	Class 2	Class 1	Class 2
645~665nm	630~645nm	630~645nm	630~645nm	630~645nm
Glass lens	Glass lens	Glass lens	Glass lens	Glass lens
2mm	0.8mm	3mm	0.8mm	3mm
Circular	Circular	Circular	Circular	Circular
Less than Ø3mm at 0~5M	Less than 1.2mm at 1M	Less than 9mm at 20M	Less than 1.2mm at 1M	Less than 9mm at 20M
Less than 0.4 mRad	0.15 mRad	0.15 mRad	0.15 mRad	0.15 mRad
Less than 3°	Less than 1mm	Less than 1mm	Less than 1mm	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 ~+85°C	-40°C ~+85°C	-40°C ~+85°C	-40°C ~+85°C	-40°C ~+85°C
Stainless steel	Stainless steel	Stainless steel	Hard anodized aluminum	Hard anodized aluminum
Insulated	Insulated	Insulated	Insulated	Insulated
30KV / Arc protection	30KV	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.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.
2464 3-WIRE CABLE 26 AWG	Micro USB (5V)	Micro USB (5V)	Micro USB (5V)	Micro USB (5V)
330±30mm				
10000hrs	10000hrs	10000hrs	10000hrs	10000hrs
Industrial alignment with TTL modulation function	Concentricity Laser	Concentricity Laser	Concentricity Laser	Concentricity Laser
0~5 meters / 0~16 feet	0~1 meter / 0~3 feet	1~30 meters / 3~100 feet	0~1 meter / 0~3 feet	1~30 meters / 3~100 feet