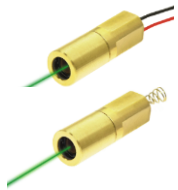
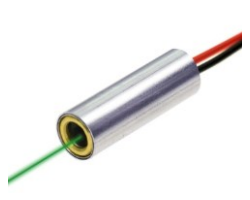
Green Dot Laser Module

Specifications / Model Number	VLM-520-00	VLM-520-01 series	VLM-520-02 series	VLM-520-03 series	VLM-520-04 series	VLM-520-17 series
						
Dimensions	Ø10.52 x 17.2 mm	Ø10.5 x 19 mm	Ø10.5 x 26 mm	Ø7 x 21 mm	Ø6.55 x 28.6 mm	Ø13 x 62 mm
Operating voltage	6.5~7.5 VDC	7~10 VDC	7~10 VDC	7~10 VDC	3~6 VDC	3~6 VDC
Operating current	Less than 105mA	Less than 80mA / 100mA	Less than 80mA / 100mA	Less than 80mA	Less than 150mA	Less than 100mA / 150mA
Laser power output	Optical power less than 10mW	Less than 0.39 / 1mW / 4mW	Less than 1mW / 4mW	Less than 0.39mW / 1mW	Less than 1mW	0.7~0.9mW / 2~3mW / 5~6mW
Laser class		Class 1 / Class 2 / Class 3R	Class 2 / Class 3R	Class 1 / Class 2	Class 2	Class 2 / Class 3R / Class 3B
Wavelength	505~530nm	505~530nm	505~530nm	505~530nm	505~530nm	510~530nm
Collimating lens	Plastic lens	Plastic lens	Plastic lens	Plastic lens	Plastic lens	Glass lens
Output aperture	5mm	5mm	4mm	3mm	3mm	8mm
Beam shape	Ellipse	Ellipse	Ellipse	Ellipse	Ellipse	Circular
Spot size		Less than 4.5mm at 3M	Adjustment focus	Less than 5mm at 5M	Less than 5mm at 5M	Less than 5.3 mm at 40M Less than 15 mm at 100M
Divergence (Full Angle)	0.5 mRad	0.5 mRad	0.5 mRad	0.6 mRad	0.6 mRad	Less than 0.1 mRad
Beam alignment		Less than 3°	Less than 3°	Less than 3°	Less than 3°	Less than 3°
Operating temp. range	+10°C ~+40°C	+10°C ~+40°C	+10°C ~+40°C	+15°C ~+30°C	+10°C ~+40°C	-10°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	-20°C ~+80°C
Housing material	Brass	Brass	Brass	Stainless steel	Zinc alloy	Aluminum
Potential of housing	VDD(+)	VDD(+)	VDD(+)	VDD(+)	VDD(+)	Insulated
Electrostatic discharge (ESD)		30KV	30KV	20KV	20KV	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.	Level 1 - acc to JEDEC J-STD-020E.
Wire type	3*PIN from LD	1007-26AWG	1007-26AWG / Spring	1007-26AWG	1007-26AWG	1007-26AWG
Cable length		115±15mm	115±15mm / 6.5±1mm	115±15mm	115±15mm	115±15mm
Mean time to failure (MTTF) 25°C	10000hrs	10000hrs	10000hrs	5000hrs	5000hrs	10000hrs
Application	Lab, without laser driver	General purpose	Focus adjustable	Economic type	Economic type	Long range application
Suggestion work distance		1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	1~10 meters / 3~40 feet	1~10 meters / 3~40 feet	10~500 meters / 40~2000 feet

VLM-532-42 series	VLM-532-43 series	VLM-520-51 series	VLM-520-52 series	VLM-520-53 series	VLM-520-60 series	VLM-520-61 series (TTL)
						
Ø10.5 x 46.5 mm	Ø13 x 60 mm	Ø8 x 30 mm	Ø8.5 x 30.5 mm	Ø10.5 x 31 mm	Ø10 x 40 mm	Ø10 x 40 mm
2.7~3.3 VDC	2.7~3.3 VDC	3~6 VDC	3~6 VDC	3~6 VDC	3~6 VDC	3~6 VDC
Less than 300mA	Less than 300mA	Less than 150mA	Less than 150mA / 280mA	Less than 150mA	Less than 60mA / 150mA	Less than 60mA / 150mA
Less than 1mW / 5mW	Less than 1mW / 5mW 10mW	Less than 1mW / 4mW	Less than 1mW / 4mW / 15mW	Less than 1mW / 4mW	Less than 0.39mW / 1mW	Less than 0.39mW / 1mW
Class 2 / Class 3R	Class 2 / Class 3R / Class 3B	Class 2 / Class 3R	Class 2 / Class 3R / Class 3B	Class 2 / Class 3R	Class 1 / Class 2	Class 1 / Class 2
532nm	532nm	505~530nm	505~530nm	505~530nm	515~530nm	515~530nm
Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens
		5mm	5mm	5mm	0.6mm	0.6mm
Circular	Circular	Ellipse	Ellipse	Ellipse	Circular	Circular
6±1 mm at 3M	4 ±1mm at 5M 18 ±2mm at 30M	5±1 mm at 10M	5±1 mm at 10M	5±1 mm at 10M	Less than 1mm at 0~50cm Less than 2mm at 50~90cm	Less than 1mm at 0~50cm Less than 2mm at 50~90cm
1 mRad	0.3 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°	Less than 3°
+20°C ~+30°C	+15°C ~+35°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C
-20°C ~+65°C	-40°C ~+70°C	-20°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C
Brass	Brass	Aluminum	Stainless steel	Bronze	Stainless steel	Stainless steel
VDD(+)	VDD(+)	Insulated	Insulated	VDD(+)	Insulated	Insulated
30KV	30KV	30KV	30KV	30KV	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.	Level 1 - acc to JEDEC J-STD-020E.
1007-26AWG / Spring	1007-26AWG / Spring	1007-26AWG	1007-26AWG	1007-26AWG / Spring	2464 2-WIRE CABLE 26 AWG	2464 3-WIRE CABLE 26 AWG
115±15mm / 7±1mm	115±15mm / 6±1mm	115±15mm	115±15mm	115±10mm / 6.5±1mm	330±30mm	330±30mm
3000hrs	3000hrs	10000hrs	10000hrs	10000hrs	10000hrs	10000hrs
DPPS laser	DPPS laser	Industrial application	Industrial application	Industrial application	Industrial alignment	Industrial alignment with TTL modulation function
1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	0~1 meters / 0~3 feet	0~1 meters / 0~3 feet

VLM-520-62 series	VLM-520-62T series (TTL)	VLM-520-70 series	VLM-520-71 series (TTL)	VLM-520-72 series	VLM-520-72T series (TTL)	VLM-520-73 series
						
Ø10 x 40 mm	Ø10 x 40 mm	M12 x 68 mm	M12 x 68 mm	M12 x 68 mm	M12 x 68 mm	Ø7 x 26.1 mm
3~6 VDC	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 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 150mA / 200mA
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	0.2±0.1mW / 0.8±0.1mW / 3.5±0.5mW	Less than 1mW / 4mW
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	Class 1 / Class 2 / Class 3R	Class 2 / Class 3R
515~530nm	515~530nm	515~530nm	515~530nm	515~530nm	515~530nm	505~530nm
Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens
2mm	2mm	0.6mm	0.6mm	2mm	2mm	4.3mm
Circular	Circular	Circular	Circular	Circular	Circular	Ellipse
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 Ø3mm at 0~5M	Less than 7mm at 10M
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 0.6 mRad
Less than 3°	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 ~+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	-40°C ~+85°C
Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Insulated	Insulated	Insulated	Insulated	Insulated	Insulated	VDD(+)
30KV / Arc protection	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.	Level 1 - acc to JEDEC J-STD-020E.
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	2464 3-WIRE CABLE 26 AWG	1007-26AWG
330±30mm	330±30mm	UL2464 D4.2,L=2000±30mm	UL2464 D4.2,L=2000±30mm	UL2464 D4.2,L=2000±30mm	UL2464 D4.2,L=2000±30mm	115±15mm
10000hrs	10000hrs	10000hrs	10000hrs	10000hrs	10000hrs	10000hrs
Industrial alignment	Industrial alignment with TTL modulation function	Industrial alignment	Industrial alignment with TTL modulation function	Industrial alignment	Industrial alignment with TTL modulation function	Economic industrial application
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	0~5 meters / 0~16 feet	1~30 meters / 3~100 feet

VLM-520-74 series	VLM-520-91 LPB	VLM-520-92 LPB	VLM-520-96 LPA	CLM-520-01 LPO	CLM-520-02 LPT	CLM-520-11 LPO
						
Ø6.5 x 26 mm	Ø16 x 25 mm	Ø27.7 x 95.5 mm	Ø16.5 x 72.8 mm	Ø19.9 x 60 mm	Ø19.9 x 60 mm	20 x 20 x 60 mm
3~6 VDC	4~6 VDC	4~6 VDC	3~6 VDC	3~6 VDC	3~6 VDC	3~6 VDC
Less than 150mA / 200mA	Less than 500mA	Less than 1.5A	Less than 120mA	Less than 160mA	Less than 160mA	Less than 160mA
Less than 1mW / 4mW	70mW	400±20mW	0~4.25±0.25mW (adjustable)	Less than 0.39mW	Less than 1mW	Less than 0.39mW
Class 2 / Class 3R	Class 3B	Class 3B	Class 3R	Class 1	Class 2	Class 1
505~530nm	520nm	505~525nm	510~530nm	515~530nm	515~530nm	515~530nm
Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens	Glass lens
4.3mm	2.5mm	12.6mm	5mm	0.8mm	3mm	0.8mm
Ellipse	Ellipse	Ellipse	Ellipse	Circular	Circular	Circular
Less than 7mm at 10M	Less than 15mm at 10M	5±1 cm at 100M	Less than 0.2mm at 10mm Less than 8mm at 10M	Less than 1.2mm at 1M	Less than 9mm at 20M	Less than 1.2mm at 1M
Less than 0.6 mRad		Less than 0.2mRad	Adjustable 0.4 mRad~12°	0.15 mRad	0.15 mRad	0.15 mRad
Less than 3°	Less than 3°	±3°		Less than 1mm	Less than 1mm	Less than 1mm
-20°C ~+60°C	-20°C ~+60°C	-10°C ~+60°C	-10°C ~ +60°C	-20°C ~+60°C	-20°C ~+60°C	-20°C ~+60°C
-40°C ~+85°C	-20°C ~+85°C	-20°C ~+85°C	-20°C ~ +85°C	-40°C ~+85°C	-40°C ~+85°C	-40°C ~+85°C
Bronze	Bronze	Aluminum	Aluminum	Stainless steel	Stainless steel	Hard anodized aluminum
VDD(+)	VDD(+)	Insulated	Insulated	Insulated	Insulated	Insulated
30KV	30KV	30KV	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.	Level 1 - acc to JEDEC J-STD-020E.	Level 1 - acc to JEDEC J-STD-020E.
1007-26AWG	1007-26AWG	2464 2-WIRE CABLE 26 AWG	2464 2-WIRE CABLE 26 AWG	Type C	Type C	Type C
115±15mm	115±15mm	200±10cm	330±30mm			
10000hrs	10000hrs	10000hrs	10000hrs	10000hrs	10000hrs	10000hrs
Economic industrial application	High power	Long-range targeting	Laboratory or medical research, physical-optic experiments	Concentricity Laser	Concentricity Laser	Concentricity Laser
1~30 meters / 3~100 feet	1~30 meters / 3~100 feet	10~1000 meters or above	Above 10mm	0~1 meter / 0~3 feet	1~30 meters / 3~100 feet	0~1 meter / 0~3 feet

CLM-520-12 LPT

20 x 20 x 60 mm
3~6 VDC
Less than 160mA
Less than 1mW
Class 2
515~530nm
Glass lens
3mm
Circular
Less than 9mm at 20M
0.15 mRad
Less than 1mm
-20°C ~+60°C
-40°C ~+85°C
Hard anodized aluminum
Insulated
30KV
Level 1 - acc to JEDEC J-STD-020E.
Type C
10000hrs
Concentricity Laser
1~30 meters / 3~100 feet