OWLL Series - Laser Distance Sensor

- Measuring distances from 30 mm to 1500 mm
- Linearity error from 0.048 mm to 8.6 mm
- Repeat accuracy 0.1 µm to 63 µm
- Measuring frequency up to 2.5 kHz
- Laser point and laser line variants
- Rugged housing IP67
- Extended temperature range -10°C to +50 °C
- Current / voltage output
- RS-485 interface

The OWLL series comprises high-performance laser distance sensors with measuring accuracies in the submicrometer range. The sensors are available in laser-point versions for smallest objects and exact positioning and laser-line versions with very fine lines for rough or color-structured surfaces.

GENERAL DATA	
Series	OWLL
Measurement method	Triangulation
Light source	Laser
Wavelength	660 nm
Connection type	M12 plug, 8-pin
Interface	Serial
Analog output current	Yes
Analog output voltage	Yes
Teach-in	Button / external
Interference suppression	0.8 ms
Power on indication	LED green
Switching status indicator	2 x LED yellow, red
Display	Touch Display
Electronic	Integrated
MEASUREMENT DATA	
Measuring frequency (max.)	2500 Hz

CAT-OWLL-V1 EN ed. 01/2020 Welotec GmbH

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OWLL Series - Laser Distance Sensor

OUTPUTS	
Interfaces	RS-485
Output circuit	Analog
Baud rate	115200 bps, adjustable
Voltage output	0 - 10 V
Current output	4 - 20 mA
Output current	< 100 mA
Alarm output	Push-pull
POWER SUPPLY	
Power supply V DC	15 - 28 V DC
Power consumption max.	75 mA
Short circuit protection	Yes
Reverse polarity protection	Yes
PHYSICAL CHARACTERISTICS	
Housing material	Aluminium
Front (optics)	Glass
Ingress protection	IP67
Dimensions (W x H x D)	26 x 74 x 55 mm
Weight	130 g
Construction type	Rectangular
ENVIRONMENTAL	
Operating temperature range	-10 - +50 °C

	OWLL 8007 AD S1	OWLL 8014 AD S1	OWLL 8025 AD S1	OWLL 8060 AD S1	OWLL 8150 AD S1
Laser class	1	1	1	2	2
Beam type	Point	Point	Point	Point	Point
Measuring range	30 - 70 mm	40 - 140 mm	50 - 250 mm	100 - 600 mm	150 - 1500 mm
Resolution	0.7 - 1 µm	1.2 - 2.7 µm	1.4 - 6.3 µm	3 - 24 µm	13 - 125 µm
Linearity error	± 0.06 % Mr	± 0.07 % Mr	± 0.09 % Mr	± 0.12 % Mr	± 0.32 % Mr
Repeat accuracy	0.1 - 0.3 µm	0.3 - 0.7 µm	0.3 - 2 µm	1 - 9 µm	3 - 63 µm
Temperature drift	0.01 %	0.015 %	0.025 %	0.04 %	0.1 %
Ambient light immunity	< 28 klx	< 35 klx	< 175 klx	< 300 klx	< 35 klx

	OWLL 8007 AD S1 L	OWLL 8014 AD S1 L	OWLL 8025 AD S1 L	OWLL 8060 AD S1 L	OWLL 8150 AD S1 L
Laser class	1	1	1	2	2
Beam type	Line	Line	Line	Line	Line
Measuring range	30 - 70 mm	40 - 140 mm	50 - 250 mm	100 - 600 mm	150 - 1500 mm
Resolution	0.7 - 1 µm	1.2 - 2.5 µm	1.4 - 6.3 µm	3 - 24 µm	13 - 125 µm
Linearity error	± 0.06 % Mr	± 0.07 % Mr	± 0.09 % Mr	± 0.12 % Mr	± 0.32 % Mr
Repeat accuracy	0.1 - 0.3 µm	0.3 - 0.7 µm	0.3 - 2 µm	1 - 9 µm	3 - 63 µm
Temperature drift	0.01 %	0.015 %	0.025 %	0.04 %	0.1 %
Ambient light immunity	< 28 klx	< 35 klx	< 170 klx	< 170 klx	< 35 klx

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