



DATA SHEET

OL1S/OL1E-R1010A13

OL1
Displacement Sensors

SICK

Sensor Intelligence



DISPLACEMENT SENSORS

OL1S/OL1E-R1010A13

ORDERING INFORMATION

Type	part no.
OL1S/OL1E-R1010A13	6065943

Further device versions and accessories at www.sick.com/OL1



DETAILED TECHNICAL DATA

FEATURES

Measuring range	10 mm
Installation distance	0 mm ... 300 mm, Sender/receiver
Minimum detectable object	0.2 mm
Repeatability	10 µm
Linearity	± 40 µm
Response time	≥ 0.5 ms
Measuring frequency	≤ 2 kHz
Emitted beam	
Light source	Laser, red
Typ. light spot size (distance)	3 mm x 14 mm
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	1 ¹⁾
Additional function	Measurement modes: Edge detection or diameter/width measurement Adjustable average filter Sensitivity adjustment for measuring transparent objects
Safety-related parameters	
MTTF _D	101 years
DC _{avg}	0%

¹⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

INTERFACES

Serial	✓
Remark	For communication with AOD1 evaluation unit
Digital output	
Number	3 ¹⁾

¹⁾ Optional over evaluation unit AOD1.

	Type	PNP/NPN, selectable
Analog output	Number	1 ¹⁾
	Type	Current output
	Current	4 mA ... 20 mA, ≤ 300 Ω

¹⁾ Optional over evaluation unit AOD1.

ELECTRONICS

Supply voltage U _s	12 V DC ... 24 V DC, ± 10%, including residual ripple
Power consumption	≤ 0.96 W, sender ¹⁾ ≤ 0.24 W, receiver ¹⁾
Warm-up time	≤ 10 min
Display	1 Status LED (sender) 2 status LEDs (receiver)
Enclosure rating	IP50
Protection class	III
Connection type	Cable with M8 male connector, 4-pin, 300 mm

¹⁾ Without load.

MECHANICS

Dimensions (W x H x D)	9,6 mm x 61 mm x 21 mm
Housing material	Metal (Aluminum die cast)
Window material	Glass
Weight	30 g (sender) 30 g (receiver)

AMBIENT DATA

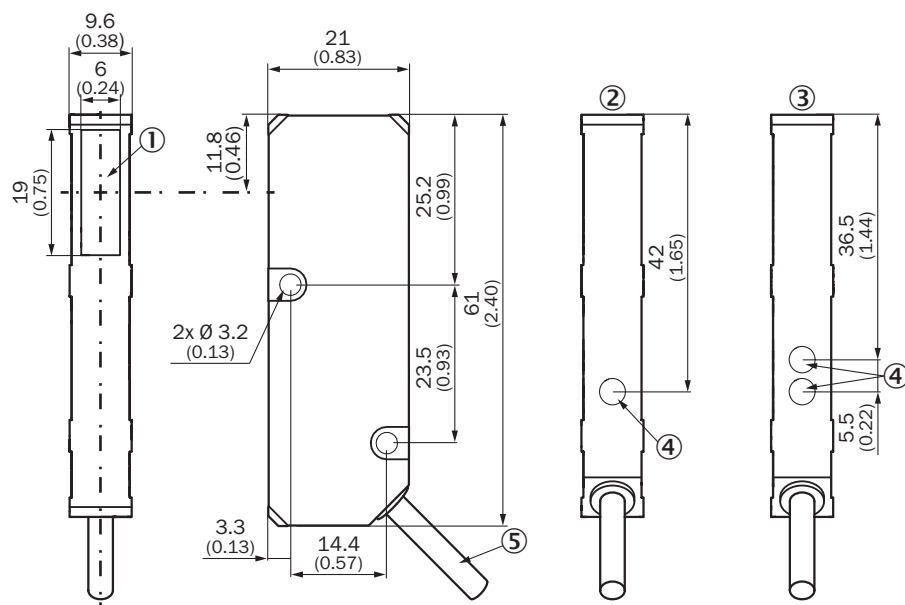
Ambient temperature, operation	-10 °C ... +50 °C ¹⁾
Ambient temperature, storage	-20 °C ... +60 °C
Relative air humidity (non-condensing)	35 % ... 85 %
Temperature drift	± 2 µm/K
Typ. Ambient light immunity	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000 lx
Vibration resistance	EN 60068-2-6
Shock resistance	EN 60068-2-27

¹⁾ Operating temperature at V_s = 24 V.

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

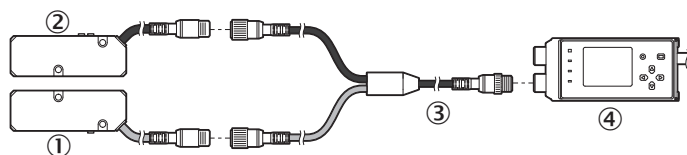
DIMENSIONAL DRAWING OL1



Dimensions in mm (inch)

- ① Window
- ② sender
- ③ receiver
- ④ LED
- ⑤ Connection cable

CONNECTION DIAGRAM OL1



- ① OL1 sender (connected with gray cable)
- ② OL1 receiver (connected with black cable)
- ③ Y-cable
- ④ AOD1 (not included with delivery)

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6065943



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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