



OL1S/OL1E-R1010A13 OL1

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
OL1S/OL1E-R1010A13	6065943

Other models and accessories → 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
Light source	Laser, redvisible red light
Type of light	Visible red light
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014)
Typ. light spot size (distance)	3 mm x 14 mm
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%

Interfaces

Serial	✓
Remark	For communication with AOD1 evaluation unit
Digital output	
Number	3 ¹⁾
Type	PNP/NPN, selectable
Analog output	

¹⁾ Optional over evaluation unit AOD1.

Number	1 ¹⁾
Type	Current output
Current	4 mA ... 20 mA, $\leq 300 \Omega$

¹⁾ Optional over evaluation unit AOD1.

Electronics

Supply voltage U_B	12 V DC ... 24 V DC, $\pm 10\%$, including residual ripple
Power consumption	$\leq 0.96 \text{ W}$, sender ¹⁾ $\leq 0.24 \text{ W}$, receiver ¹⁾
Warm-up time	$\leq 10 \text{ min}$
Indication	1 Status LED (sender) 2 status LEDs (receiver)
Enclosure rating	IP50
Protection class	III

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)
Connection type	Cable with M8 male connector, 4-pin, Y cable for connection to AOD1 evaluation unit

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	$\pm 2 \mu\text{m}/\text{K}$
Typ. Ambient light immunity	Artificial light: $\leq 3,000 \text{ lx}$ Sunlight: $\leq 10,000 \text{ lx}$
Vibration resistance	EN 60068-2-6
Shock resistance	EN 60068-2-27

¹⁾ Operating temperature at $V_S = 24 \text{ V}$.

Certificates

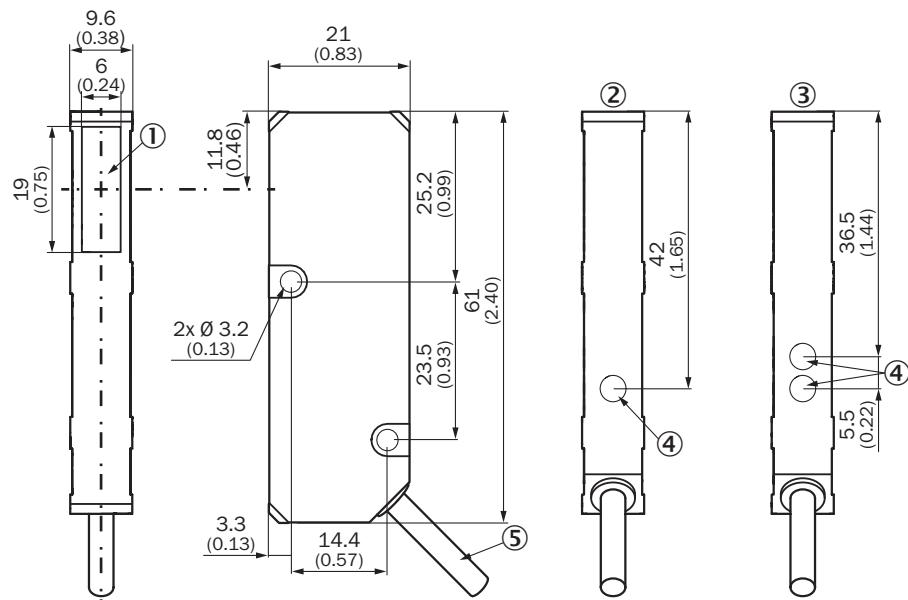
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓

Classifications

ECLASS 5.0	27270801
ECLASS 5.1.4	27270801

ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

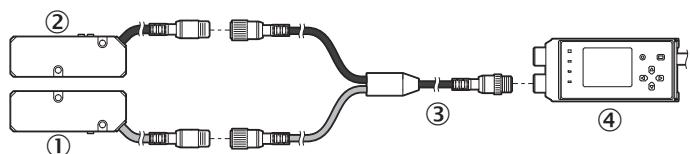
Dimensional drawing OL1



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)

Recommended accessories

Other models and accessories → www.sick.com/OL1

	Brief description	Type	part no.
integration modules and adapters			
	<ul style="list-style-type: none">• Description: OD Mini evaluation unit, OD5000 and OL1, master, 3 x Q, 1 x analog, open end cable, 2 m	AOD1-MR27C4	6058195
	<ul style="list-style-type: none">• Description: OD Mini evaluation unit, OD5000 and OL1, slave, 3 x Q, 1 x analog, open end cable, 2 m	AOD1-SR27C4	6058196

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

WORLDWIDE PRESENCE:

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