



OL1S/OL1E-R1010A13

OL1

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
OL1S/OL1E-R1010A13	6065943

The OL1 optical micrometer must be used in conjunction with the AOD1 evaluation unit (see "Recommended accessories")

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

Detailed technical data

Mechanics/electronics

Supply voltage V_s	12 V DC ... 24 V DC, $\pm 10\%$, including residual ripple
Power consumption	≤ 0.96 W, sender ¹⁾ ≤ 0.24 W, receiver ¹⁾
Warm-up time	≤ 10 min
Housing material	Metal (Aluminum die cast)
Window material	Glass
Connection type	Cable with M8 male connector, 4-pin, Y cable for connection to AOD1 evaluation unit
Indication	1 Status LED (sender) 2 status LEDs (receiver)
Weight	30 g (sender) 30 g (receiver)
Dimensions (W x H x D)	9.6 mm x 61 mm x 21 mm
Enclosure rating	IP50
Protection class	III

¹⁾ Without load.

Safety-related parameters

MTTF_D	101 years
DC_{avg}	0%

Performance

Measurement range min ... max:	10 mm
Installation distance	0 mm ... 300 mm, Sender/receiver
Minimum detectable object	0.2 mm
Repeatability	10 μ m
Linearity	± 40 μ m
Response time	≥ 0.5 ms
Measuring frequency	≤ 2 kHz

Light source	Laser, red 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

Interfaces

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

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.

Classifications

eCl@ss 5.0	27270801
eCl@ss 5.1.4	27270801
eCl@ss 6.0	27270801
eCl@ss 6.2	27270801
eCl@ss 7.0	27270801
eCl@ss 8.0	27270801
eCl@ss 8.1	27270801
eCl@ss 9.0	27270801
eCl@ss 10.0	27270801
eCl@ss 11.0	27270801
eCl@ss 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825

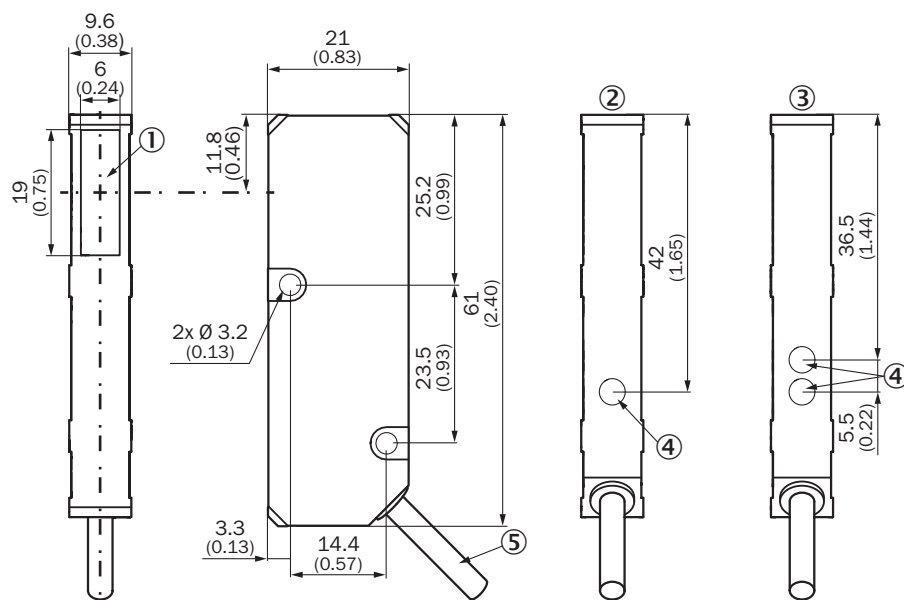
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DISPLACEMENT MEASUREMENT SENSORS

ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	411111613

Dimensional drawing (Dimensions in mm (inch))

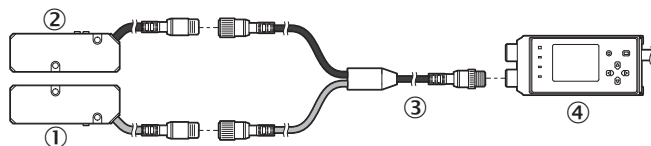
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- ① Window
- ② Sender
- ③ Receiver
- ④ LED
- ⑤ Connection cable

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.
Evaluation units			
	OD Mini evaluation unit, OD5000 and OL1, master, 3 x Q, 1 x analog, open end cable, 2 m	AOD1-MR27C4	6058195
	OD Mini evaluation unit, OD5000 and OL1, slave, 3 x Q, 1 x analog, open end cable, 2 m	AOD1-SR27C4	6058196

Recommended services

Additional services → www.sick.com/OL1

	Type	Part no.
Commissioning		
<ul style="list-style-type: none"> • Product area: Displacement measurement sensors • Range of services: Inspection of connection and mounting, optimization of parameters of SICK product as well as tests, set-up of previously defined functions of the scaling of the analog measuring range, switching point position, hysteresis, measuring frequency, measured value filter, signal quality, evaluation function, or communication interface • Travel expenses: The prices do not include travel costs such as hotel, flight, travel time and expenses. • Duration: Additional work will be invoiced separately 	DT20 Hi/OD/OL commissioning	1612241
Extended warranty		
<ul style="list-style-type: none"> • Product area: Identification solutions, machine vision, Distance sensors, Detection and ranging solutions • Range of services: The services correspond to the scope of the statutory manufacturer warranty (SICK general terms of delivery). • Duration: Five-year warranty from delivery date. 	Extended warranty for a total of five years from delivery date	1680671

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:

Contacts and other locations –www.sick.com