



Short range distance sensors (displacement)  
OD Mini, 1 x 4 mA ... 20 mA (< 300 &#937;), OD  
Mini Prime

OD1-B015C05I14



**Model Name** > OD1-B015C05I14  
**Part No.** > 6050519



**At a glance**

- Compact, robust housing
- Integrated amplifier unit, no additional unit necessary
- Display and LEDs on device for visualization of current status
- Wide range of interfaces available
- Simple teach-in using display or external teaching input
- CMOS receiver unit for precise, fast measurement in the μm range
- Different measuring ranges enabling measurement from 10 mm up to 250 mm

**Your benefits**

- Cost-saving commissioning through simple operating concept and display
- Small installation size and low weight also allow use in highly dynamic applications
- Reduction in cabling, as no additional amplifier unit is necessary
- High machine throughput thanks to reliable measurement, regardless of brightness and color of surface
- The wide range of available interfaces enables simple integration into industrial networks
- Optimum performance even at high production speeds



**Performance**

Measuring range:	10 mm ... 20 mm
Resolution:	1 μm <sup>1)</sup>
Repeatability:	3 μm <sup>2) 3)</sup>
Linearity:	± 10 μm <sup>4) 5)</sup>
Response time <sup>6)</sup> :	0.5 ms/1 ms/2 ms/4 ms/auto
Measuring frequency:	2 kHz/1 kHz/500 Hz/250 Hz/auto
Light source <sup>7)</sup> :	Laser, red
Typ. light spot size (distance):	700 μm x 500 μm (15 mm)
Additional function:	Automatic or manual sensitivity adjustment, Teach-in of analog outputs, Teach-in of switching outputs, Switching output invertible, Averaging 1 ... 512x, Multifunctional input: laser-off/external teach-in/trigger, Switching mode: distance to object (DtO), Switching mode: window (Wnd), Switching mode: object between sensor and background (ObSB)
Laser class:	1 (EN 60825-1) 2 (21 CFR 1040.10)

<sup>1) 2)</sup> Averaging function set to: 512    <sup>3)</sup> Constant ambient conditions    <sup>4)</sup> Measurement on 90 % remission (ceramic, white)    <sup>5)</sup> For best performance consider warm up time ≤ 5 minutes    <sup>6)</sup> When automatic sensitivity adjustment is activated, the response time doubles    <sup>7)</sup> Wavelength: 650 nm, max. output: 0.39 mW

## Interfaces

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Data interface:	1 x 4 mA ... 20 mA (< 300 Ω)
Multifunctional input (MF) <sup>1)</sup> :	1 x

<sup>1)</sup> MF can be used as laser-off, trigger, external teach-in or deactivated

## Mechanics/electronics

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Connection type:	Connector M8, 4-pin
Supply voltage $V_s$ :	DC 12 V (-5 %) ... DC 24 V (+10 %)
Power consumption <sup>1)</sup> :	≤ 1.92 W
Warm-up time:	≤ 5 min
Indication:	4-digit 7-segment display (plus 4 LEDs for status display)
Control elements:	4 buttons
Weight:	40 g
Dimensions:	44.4 mm x 31 mm x 17 mm
Housing material:	Aluminum housing with PPSU lens

<sup>1)</sup> Without load, with current output

## Ambient data

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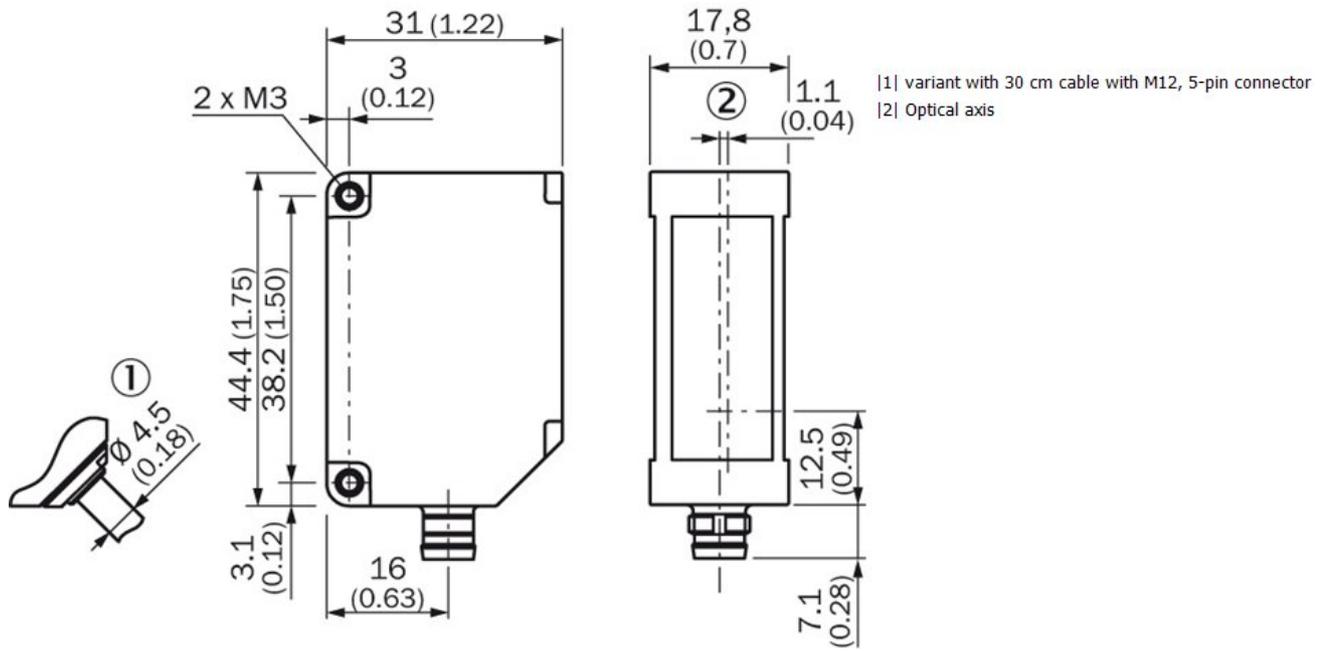
Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: -10 ... 40 °C, Storage: -20 ... 60 °C
Min. rel. humidity (not condensing):	35 %
Max. rel. humidity (not condensing):	95 %
Temperature drift:	± 0.08 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. ambient light safety:	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000 lx
Vibration resistance:	10 Hz ... 55 Hz (amplitude 1.5 mm, x-, y-, z-axis 2 hours each)
Shock resistance:	50 G (x-, y-, z-axis 3 times each)

## General notes

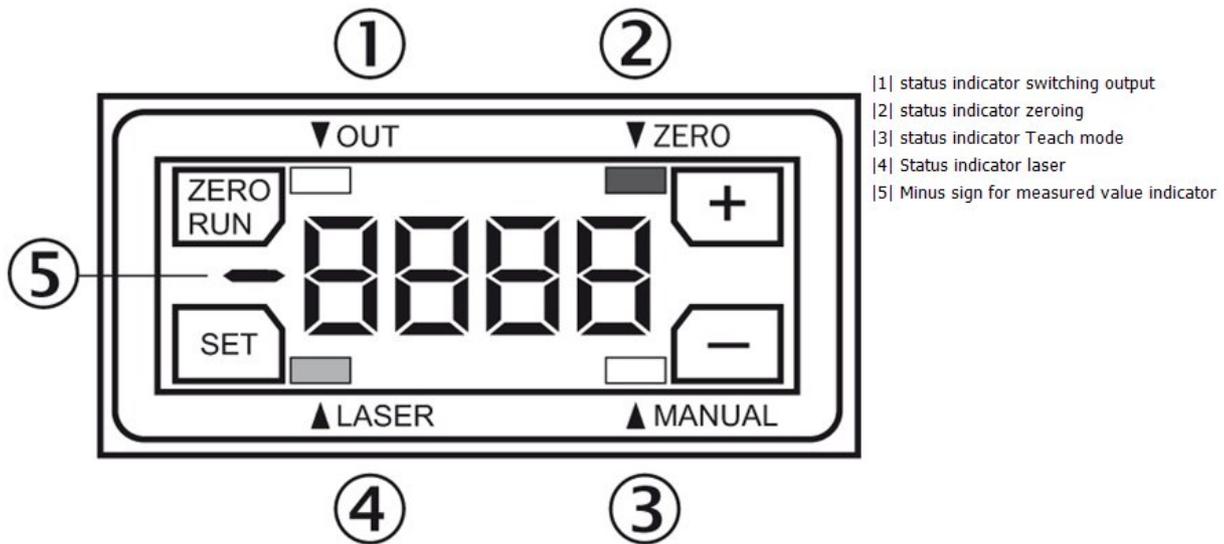
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Note:	Not free of paint wetting impairment substances
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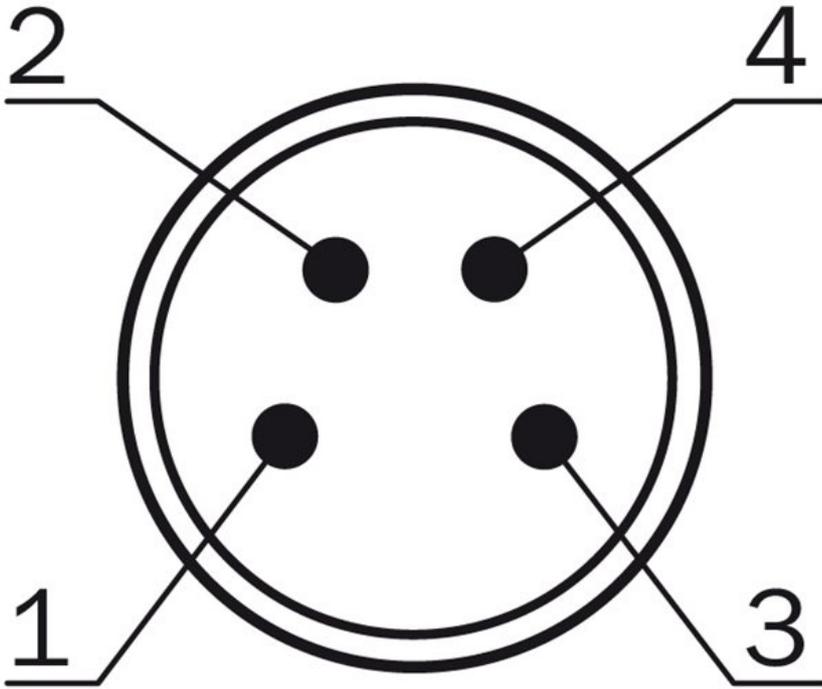
**Dimensional drawing**



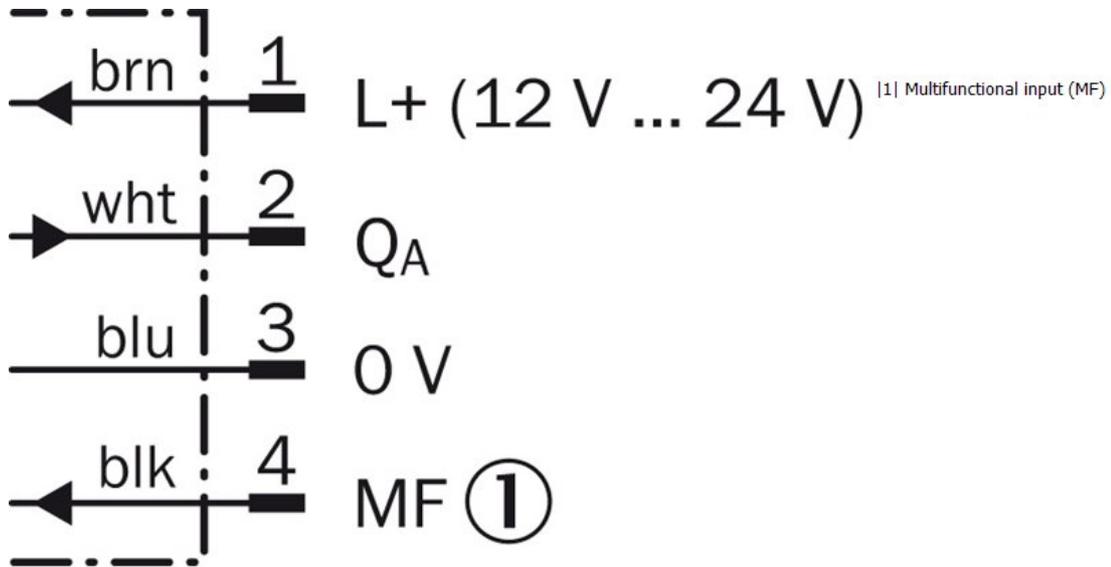
**Adjustments**



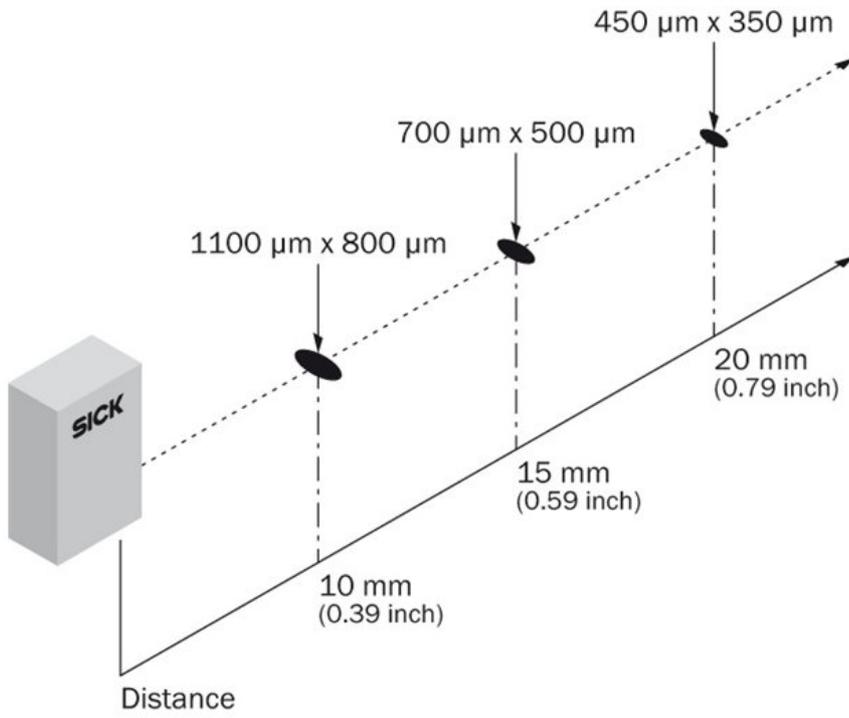
Connection type



Connection diagram



Light spot size



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