



OD1-B150F0AQ15

OD Mini

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
OD1-B150FOAQ15	6052327

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

Detailed technical data

Performance

Measuring range	50 mm ... 250 mm
Resolution	200 µm ^{1) 2) 3) 4)}
Reproducibility	600 µm ^{2) 3) 5)}
Response time	2 ms / 4 ms / 8 ms / 16 ms / auto ⁶⁾
Measuring frequency	2 kHz / 1 kHz / 500 Hz / 250 Hz / auto
Light source	Laser, red
Laser class	2 (EN 60825-1) ⁷⁾
Typ. light spot size (distance)	2 mm x 1.3 mm (150 mm)
Additional function	Averaging 1 ... 512x, automatic or manual sensitivity adjustment, Switching outputs can be taught in, Invertable switching output, switching mode: window (Wnd), switching mode: distance to object (DtO), switching mode: object between sensor and background (ObSB), multi-functional input: laser-off / external teach-in / trigger

¹⁾ Measurement on 90 % remission (ceramic, white).

²⁾ Averaging function set to: 512.

³⁾ Hysteresis 0.8 mm.

⁴⁾ For best performance consider warm up time ≤ 5 minutes.

⁵⁾ Constant ambient conditions.

⁶⁾ With fixed sensitivity adjustment and averaging setting = 1. With automatic sensitivity and measuring rate 500 µs: 2 ... 7.5 ms response time/measuring rate 1,000 µs: 4 ... 15 ms response time.

⁷⁾ Wavelength: 655 nm, max. output: 390 µW (laser class 1) / < 1 mW (laser class 2).

Interfaces

Switching output	1 x PNP/NPN
Multifunctional input (MF)	1 x ¹⁾

¹⁾ MF can be used as laser-off, trigger, external teach-in or deactivated.

Mechanics/electronics

Supply voltage V_s	DC 12 V (-5 %) ... DC 24 V (+10 %)
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¹⁾ Without load, with current output.

Power consumption	≤ 1.92 W ¹⁾
Warm-up time	≤ 5 min
Housing material	Aluminum housing with PPSU lens
Connection type	Cable with male connector, M12, 5-pin, 30 cm
Indication	4-digit 7-segment display (plus 4 LEDs for status display)
Operating elements	4 buttons
Weight	40 g
Dimensions	44.4 mm x 31 mm x 17 mm
Enclosure rating	IP67
Protection class	III

¹⁾ Without load, with current output.

Ambient data

Ambient temperature	Operation: -10 °C ... +50 °C Storage: -20 °C ... +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 immunity	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

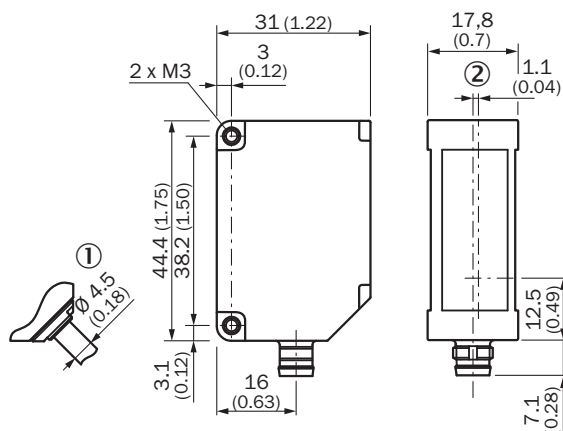
Note	Not free of paint wetting impairment substances.
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Classifications

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
ETIM 5.0	EC001825
ETIM 6.0	EC001825
UNSPSC 16.0901	41111613

Dimensional drawing (Dimensions in mm (inch))

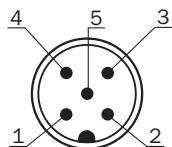
Aluminum housing



- ① Variant with 30 cm cable with M12, 5-pin connector
- ② Optical axis

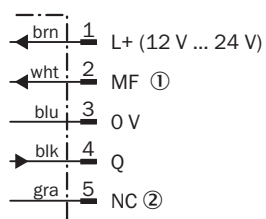
Connection type

OD1-BxxxxxI25 OD1-BxxxxxU25 cable with 5-pin, M12 male connector



Connection diagram

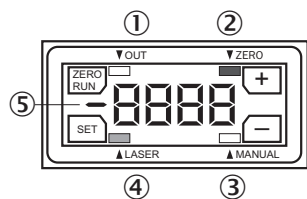
OD1-BxxxxxQ15



- ① Multifunctional input (MF)
- ② Not assigned

Adjustment possible

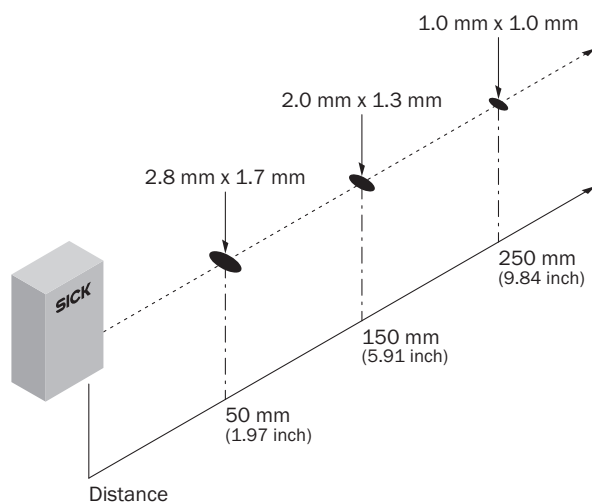
Adjustments



- ① Switching output status indicator
- ② Zero offset status indicator
- ③ Teach mode status indicator
- ④ Laser status indicator
- ⑤ Minus sign for measured value indicator



Light spot size




OD Mini Core50 mm ... 250 mm



Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, for wall installation, no alignment bracket, Stainless steel	BEF-OD1-A	5328343
	Mounting bracket, no alignment bracket, Stainless steel	BEF-OD1-B	5328344

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: Power, I/O, drag chain use, PUR, halogen-free, unshielded, 2 m	DOL-1205-G02MC	6025906
	Head A: female connector, M12, 4-pin, straight Head B: male connector, M8, 4-pin Cable: Highly flexible, PUR, 2 m	DSL-2804-G02MB	6059743
	Head A: female connector, M12, 4-pin, straight Head B: male connector, M8, 4-pin, straight Cable: PUR, halogen-free, unshielded, 2 m	DSL-2804-G02MC	6039180

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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