Data sheet

OD1-B035C15Q15

OD Mini

DISPLACEMENT SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
OD1-B035C15Q15	6052309

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

Detailed technical data

Features

Measuring range	20 mm ... 50 mm
Repeatability	20 µm [1) 2) 3)]
Response time	≥ 2 ms [4)]
Measuring frequency	≤ 2 kHz
Output time	≥ 0.5 ms
Emitted beam	
Light source	Laser, red
Typ. light spot size (distance)	1.6 mm x 1 mm (35 mm)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	1 [5)]
Additional function	Averaging 1 ... 512x Automatic or manual sensitivity adjustment Digital outputs can be taught in Invertable digital output Switching mode: window (Wnd) Switching mode: distance to object (Dt0) Switiching mode: object between sensor and background (ObSB) Multifunctional input: laser-off / external teach-in / trigger
General notes	
Note	Not free of paint wetting impairment substances.

1) Averaging function set to: 512.

2) Hysteresis 0.08 mm.

3) Constant ambient conditions.

4) 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.

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

Safety-related parameters	
$MTTF_D$	101 years
DC_{avg}	0%

[1] Averaging function set to: 512.
[2] Hysteresis 0.08 mm.
[3] Constant ambient conditions.
[4] 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.
[5] Wavelength: 655 nm, max. output: 390 µW (laser class 1) / < 1 mW (laser class 2).

Interfaces

Digital output	
Number	1
Type	PNP/NPN, selectable
Multifunctional input (MF)	1 x [1]

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

Electronics

Supply voltage U_B	DC 12 V (–5 %) ... DC 24 V (+10 %)
Power consumption	≤ 1.92 W [1]
Warm-up time	≤ 5 min
Display	4-digit 7-segment display (plus 4 LEDs for status display)
Enclosure rating	IP67
Protection class	III
Connection type	Cable with male connector, 30 cm

[1] Without load, with current output.

Mechanics

Dimensions (W x H x D)	17.8 mm x 44.4 mm x 31 mm
Control elements	4 buttons
Housing material	Metal (Aluminum)
Window material	Plastic (PPSU)
Weight	40 g

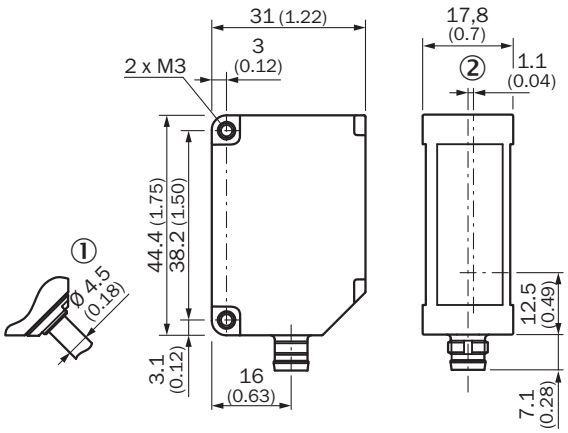
Ambient data

Ambient temperature, operation	–10 °C ... +50 °C
Ambient temperature, 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)

Classifications

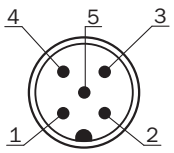
ECLASS 5.0	27270801
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

Dimensional drawing Aluminum housing

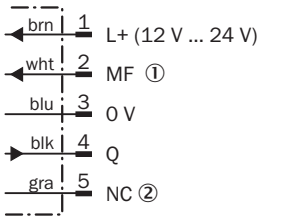


Dimensions in mm (inch)
① variant with 30 cm cable with M12, 5-pin connector
② Optical axis

Connection type

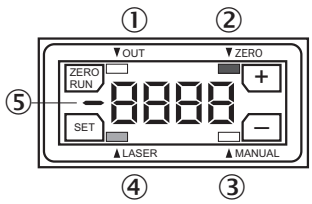


Connection diagram OD1-BxxxxxxQ15



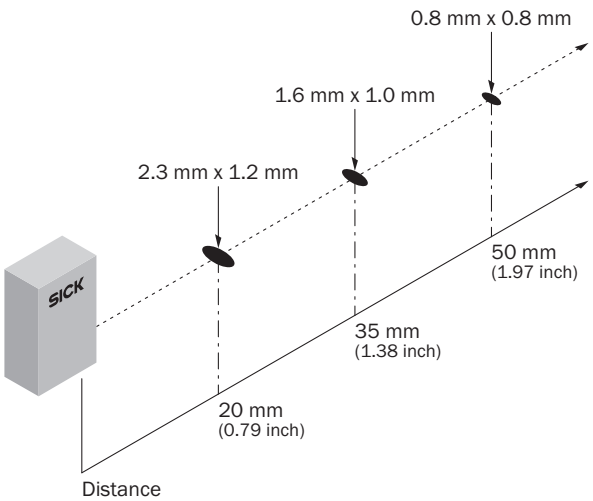
① Multifunctional input (MF)
② Not assigned

Adjustments



① digital 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 Core20 mm ... 50 mm



Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	Strich		On request
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Male connector, M8, 4-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-020UA3M8U14	2096112
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A15-020UB5XLEAX	2095617
Mounting systems			
	• **Description:** Mounting bracket, no alignment bracket • **Material:** Stainless steel • **Details:** Stainless steel	BEF-OD1-B	5328344
	• **Description:** Mounting bracket, for wall installation, no alignment bracket • **Material:** Stainless steel • **Details:** Stainless steel	BEF-OD1-A	5328343

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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