Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

OD1-B100H50I25
OD Mini

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.

OD1-B100H50I25 | OD Mini
DISPLACEMENT MEASUREMENT SENSORS

Ordering information

Type	Part no.
OD1-B100H50I25	6050512

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

Detailed technical data

Performance

Measuring range	50 mm ... 150 mm
Target	Natural objects
Repeatability	20 µm [1] [2]
Linearity	± 100 µm [3]
Response time	≥ 2 ms [4]
Measuring frequency	≤ 2 kHz
Output time	≥ 0.5 ms
Light source	Laser, red
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014) [5]
Typ. light spot size (distance)	700 µm x 600 µm (100 mm)
Additional function	Averaging 1 ... 512x, automatic or manual sensitivity adjustment, Analog outputs can be taught in, Switching outputs can be taught in, Invertable switching output, switching mode: window (Wnd), switching mode: distance to object (DtO), switiching mode: object between sensor and background (ObSB), multifunctional input: laser-off / external teach-in / trigger

[1] Averaging function set to: 512.

[2] Constant ambient conditions.

[3] Measurement on 90 % remission (ceramic, white).

[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

Analog output	1 x 4 mA ... 20 mA (≤ 300 Ω)
Resolution analog output	13.4 bit
Switching output	1 x PNP/NPN, selectable
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 %)
Power consumption	≤ 1.92 W [1]
Warm-up time	≤ 5 min
Housing material	Stainless steel
Window material	PPSU
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	70 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
Ambient storage temperature	–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.

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

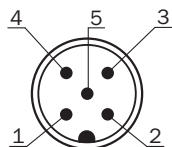## Dimensional drawing (Dimensions in mm (inch))

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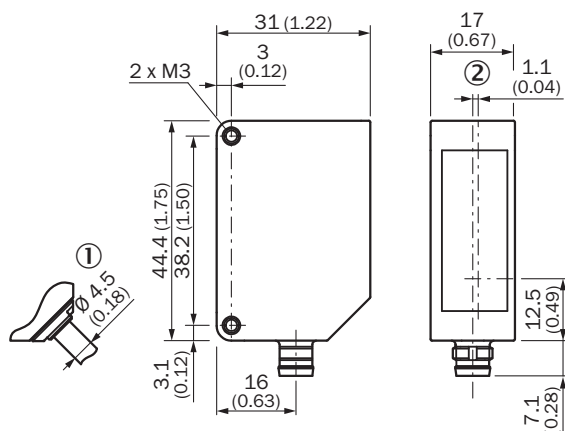
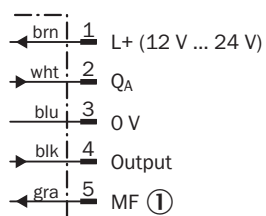① Variant with 30 cm cable with M12, 5-pin connector
② Optical axis

Connection type

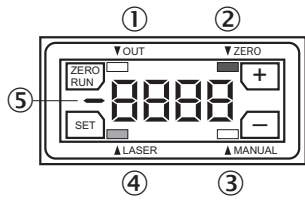OD1-BxxxxxxI25 OD1-BxxxxxxU25 cable with 5-pin, M12 male connector

Connection diagram

OD1-BxxxxxxI25 OD1-BxxxxxxU25 cable with 5-pin, M12 male connector

brn	1	L+ (12 V ... 24 V)
wht	2	Q_A
blu	3	0 V
blk	4	Output
gra	5	MF ①

① Multifunctional input (MF)

Adjustment possible

Adjustments

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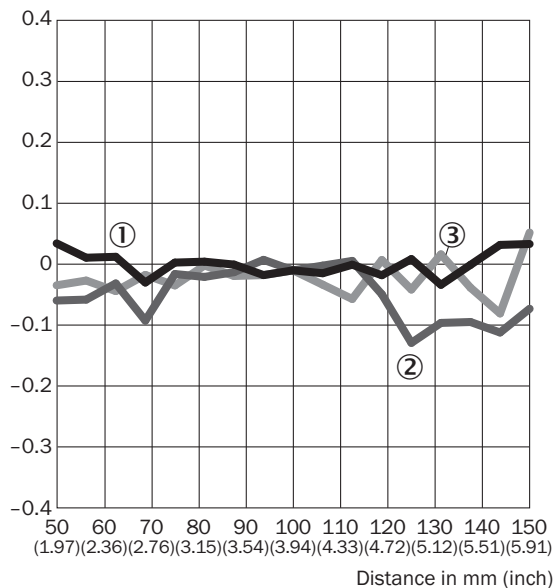⑤ Minus sign for measured value indicator

Light spot size

OD Mini Prime 50 mm ... 150 mm
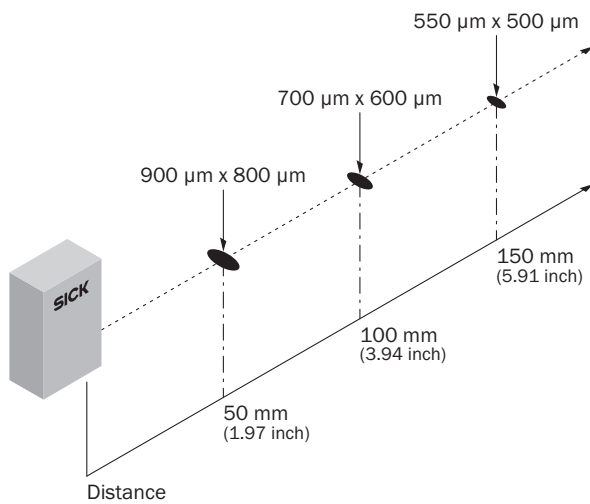
Linearity

OD Mini Prime 50 mm ... 150 mm

Linearity [% FS]

① White ceramic
② Stainless steel
③ Black rubber

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
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5XLEAX	2095617
	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, A-coded Head B: male connector, M8, 4-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A14-020UA3M8U14	2096112

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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