OD1-B035H15U25

OD Mini

DISPLACEMENT SENSORS

SICK
Sensor Intelligence.

OD1-B035H15U25 | OD Mini

DISPLACEMENT SENSORS

Ordering information

Type	part no.
OD1-B035H15U25	6050506

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

Detailed technical data

Features

Measuring range	20 mm ... 50 mm
Repeatability	6 µm [1] [2]
Linearity	± 30 µm [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)	800 µm x 450 µm (35 mm)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	1 [5]
	[6]
Additional function	Averaging 1 ... 512x Automatic or manual sensitivity adjustment Analog outputs can be taught in Digital outputs can be taught in Invertable digital output Switching mode: window (Wnd) Switching mode: distance to object (DtO) Switiching mode: object between sensor and background (ObSB)

[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).

[6] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

General notes		Multifunctional input: laser-off / external teach-in / trigger
	Note	Not free of paint wetting impairment substances.
Safety-related parameters		
	MTTF$_D$	101 years
	DC$_{avg}$	0%

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Interfaces

Digital output		
	Number	1
	Type	PNP/NPN, selectable
Analog output		
	Number	1
	Type	Voltage output
	Voltage	0 V … 10 V, > 10,000 Ω
	Resolution	13.4 bit
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	Stainless steel
Window material	Plastic (PPSU)
Weight	70 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

Certificates

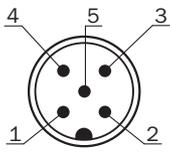|	
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

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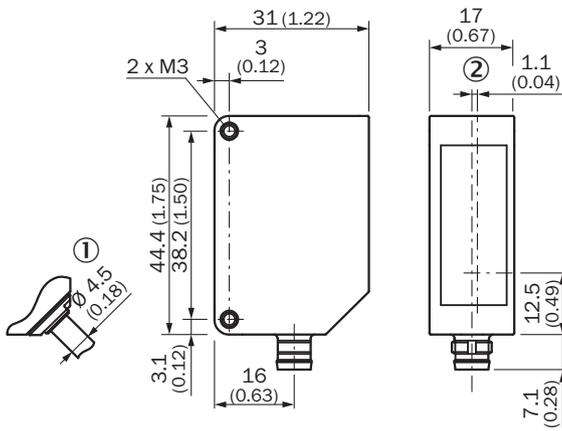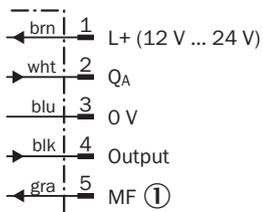
Dimensions in mm (inch)
① variant with 30 cm cable with M12, 5-pin connector
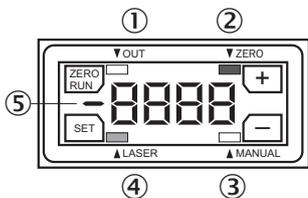② Optical axis

Connection type

connection diagram

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)

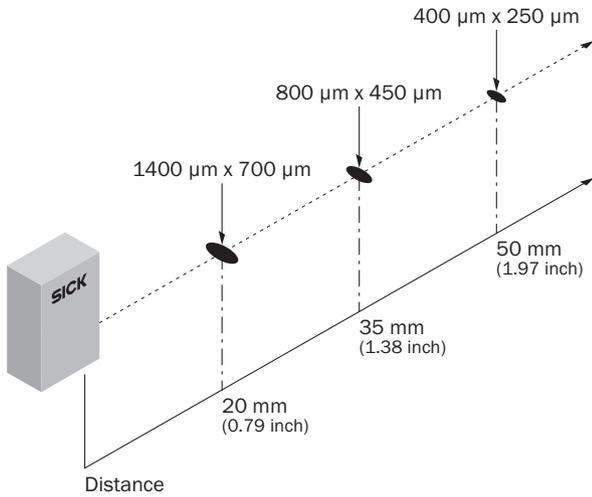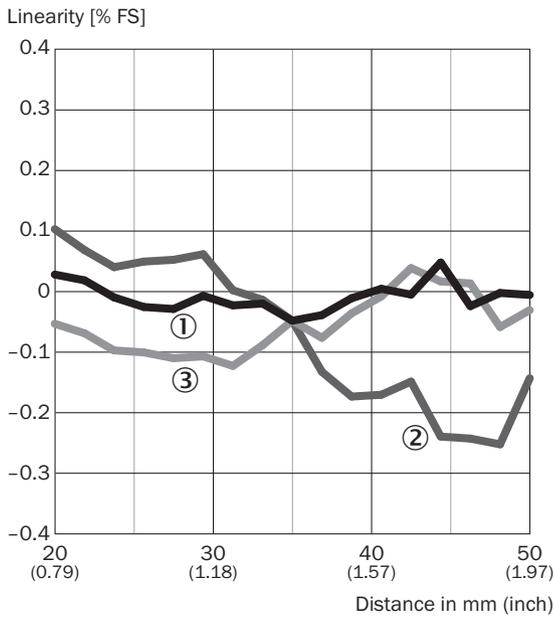## Adjustments

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 Prime 20 mm ... 50 mm

400 µm x 250 µm

800 µm x 450 µm

1400 µm x 700 µm

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50 mm
(1.97 inch)

35 mm
(1.38 inch)

20 mm
(0.79 inch)

Distance

Linearity

Linearity [% FS]

Distance in mm (inch)

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.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 4-pin, straight • **Connection type head B:** Male connector, M8, 4-pin • **Cable:** 2 m, PUR • **Description:** Highly flexible	DSL-2804-G02MB	6059743
	• **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:** Drag chain operation, 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:** Drag chain operation, 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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