OD2-P250W150A2

OD Value

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.

OD2-P250W150A2 | OD Value
DISPLACEMENT MEASUREMENT SENSORS

Illustration may differ

Ordering information

Type	part no.
OD2-P250W150A2	6036644

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

Detailed technical data

Features

Measuring range	100 mm ... 400 mm [1]
Target	Natural objects
Repeatability	75 µm [2] [3] [4]
Linearity	± 750 µm [2] [3] [5]
Response time	≥ 1 ms
Output time	≥ 0.75 ms
Light source	Laser, redvisible red light
Type of light	Visible red light
Laser class	2 (IEC 60825-1:2014, EN 60825-1:2014) [6]
Typ. light spot size (distance)	1.8 mm x 3.5 mm (250 mm)
Additional function	Mean-value setting 1 ... 64x Automatic sensitivity adjustment Teach-in of digital output Invertable switching output Multifunctional input: laser-off / external teach-in / trigger Switching mode: distance to object (DtO) Switching mode: window (Wnd)
Safety-related parameters	
$MTTF_D$	101 years
DC_{avg}	0%

[1] 6% ... 90% remission factor.

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

[3] At averaging function medium.

[4] Constant ambient conditions.

[5] When calibrated in the application regularly.

[6] Wavelength: 655 nm, max. output: 1 mW.

Interfaces

Serial	✓ , RS-422
Digital output	
Number	1 [1]
Type	PNP
Maximum output current I_A	≤ 100 mA
Multifunctional input (MF)	1 x MF [2]

[1] PNP: HIGH = V_S - (< 2 V) / LOW = < 2 V; NPN: HIGH = < 2 V / LOW = V_S.

[2] MF can be used as laser-off, trigger, external teach-in, or deactivated; response time ≤ 3 ms.

Electronics

Supply voltage U_B	DC 12 V ... 24 V
Power consumption	≤ 2.88 W [1]
Warm-up time	≤ 30 min
Indication	Distance bar graph, up to 8 status LEDs
Enclosure rating	IP67
Protection class	III

[1] Without load, with current output.

Mechanics

Dimensions (W x H x D)	20.4 mm x 60 mm x 50 mm
Housing material	Plastic (PBT)
Window material	Plastic (PMMA)
Weight	70 g
Connection type	Cable, 2 m

Ambient data

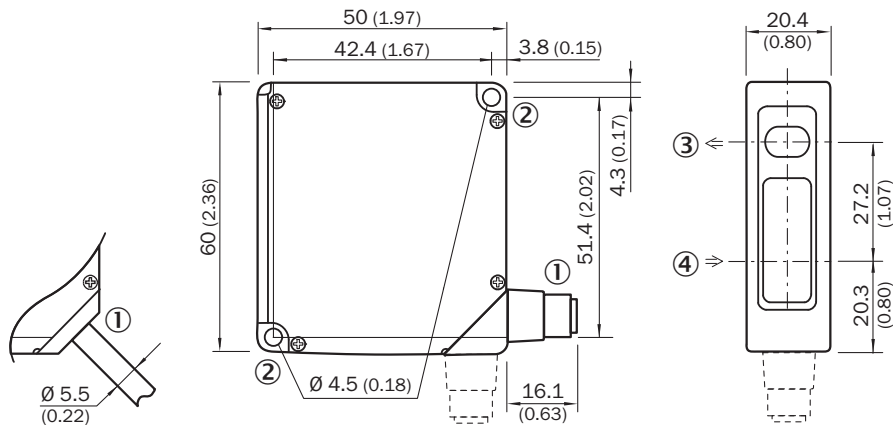|	
Ambient temperature, operation	−10 °C ... +40 °C
Ambient temperature, storage	−20 °C ... +60 °C
Relative air humidity (non-condensing)	35 % ... 95 %
Temperature drift	± 0.08 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. Ambient light immunity	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000 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)

Certificates

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

Classifications

ECLASS 5.0	27270801

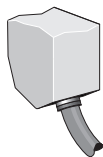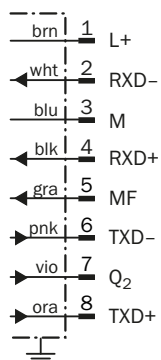|	
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

Dimensional drawing OD2-x250W150xx

Dimensions in mm (inch)
① 2 m cable or M12 connector; 90° rotatable
② Mounting hole, Ø 4.5 mm
③ optical axis, sender
④ optical axis, receiver

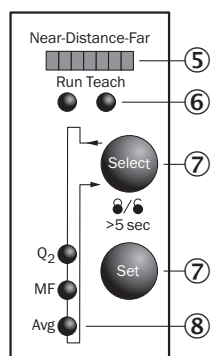## Connection type OD2-xxxxxxA2 OD2-xxxxxxC2 OD2-xxxxxxI2 OD2-xxxxxxU2 cable

Connection diagram
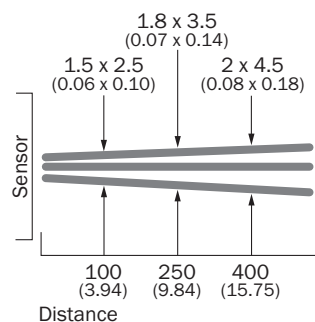
brn	1	L+
wht	2	RXD−
blu	3	M
blk	4	RXD+
gra	5	MF
pnk	6	TXD−
vio	7	Q_2
ora	8	TXD+

① Multifunctional input (MF)

Adjustment possible OD2-xxxxxxAx

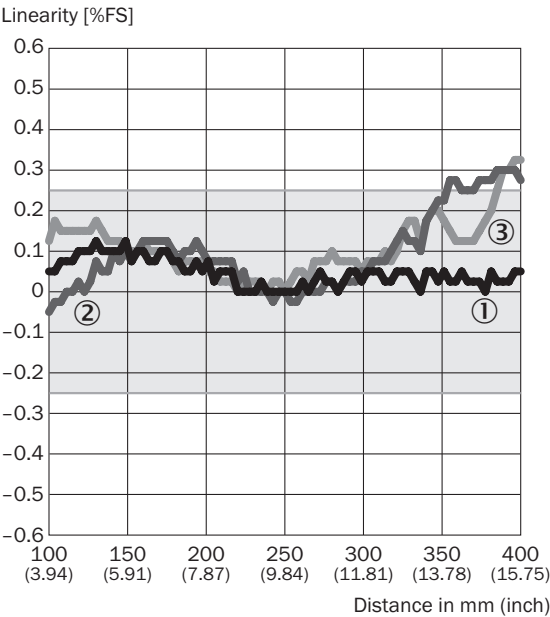Near-Distance-Far
⑤
Run Teach
⑥
Select ⑦
⌂/⌂
>5 sec
Q_2
Set ⑦
MF
Avg ⑧

⑤ Distance indicator
⑥ mode indicator (Run/Teach)
⑦ Control elements
⑧ status indicator in- and outputs (Run-mode)/menu indicator (Teach-mode)

Light spot size OD2-x250W150xx

1.8 x 3.5
(0.07 x 0.14)
1.5 x 2.5
(0.06 x 0.10)
2 x 4.5
(0.08 x 0.18)

Sensor

100
(3.94)
250
(9.84)
400
(15.75)

Distance

All dimensions in mm (inch)

Linearity OD2-x250xxxxx

Linearity [%FS]

Distance in mm (inch)

① White ceramic
② Black paper
③ stainless steel

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 8-pin, straight • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 8-wire, PVC • **Description:** Sensor/actuator cable, special color code, shielded • **Connection systems:** Flying leads	DOL-1208-G02MF	6020663
Mounting systems			
	• **Description:** Stainless-steel mounting bracket • **Material:** Stainless steel • **Details:** Stainless steel	BEF-WN-OD1000	4089813

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