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DATA SHEET

OD2-P250W150A0

OD Value
Displacement Sensors

SICK
Sensor Intelligence



Illustration may differ

DISPLACEMENT SENSORS

OD2-P250W150A0

ORDERING INFORMATION

Type	part no.
OD2-P250W150A0	6036648

Further device versions and accessories at www.sick.com/OD_Value

DETAILED TECHNICAL DATA

FEATURES

Measuring range	100 mm ... 400 mm [1]
Repeatability	75 µm [2] [3] [4]
Linearity	± 750 µm [2] [3] [5]
Response time	≥ 1 ms
Measuring frequency	≤ 1.33 kHz [1]
Output time	≥ 0.75 ms
Emitted beam	
Light source	Laser, red
Typ. light spot size (distance)	1.8 mm x 3.5 mm (250 mm)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	2 [6] [7]
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)

[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.

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

	Switching mode: window (Wnd)
Safety-related parameters	
$MTTF_D$	101 years
DC_{avg}	0%

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

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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
Display	Distance bar graph, up to 8 status LEDs
Enclosure rating	IP67
Protection class	III
Connection type	
	Male connector, M12, 8-pin

[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

AMBIENT DATA

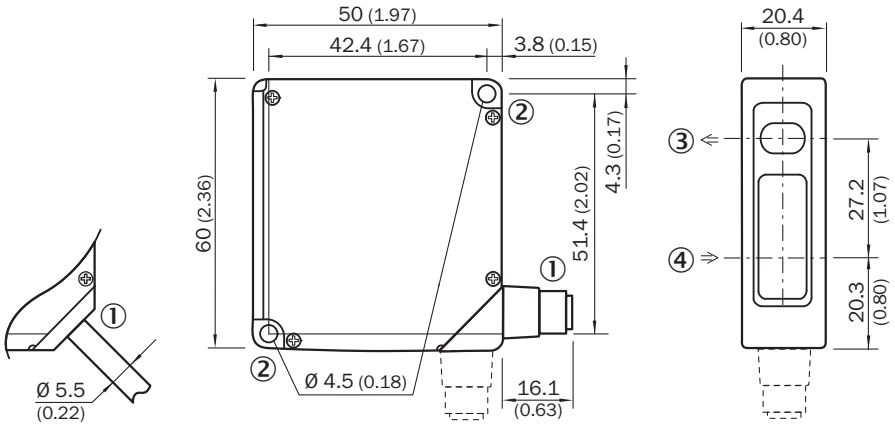
Ambient temperature, operation	–10 °C ... +40 °C
Ambient temperature, storage	–20 °C ... +60 °C
Relative air humidity (non-condensing)	35 % ... 95 %
Temperature drift	± 0.08 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. Ambient light immunity	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000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

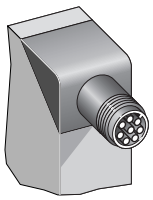
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING OD2-X250W150XX

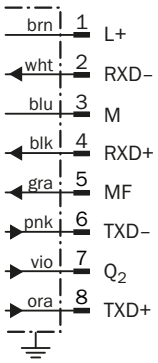


Dimensions in mm (inch)
① 2 m cable or M12 connector; 90° rotatable
② Mounting hole, Ø 4.5 mm
③ optical axis, sender
④ optical axis, receiver

CONNECTION TYPE OD2-XXXXXXA0 OD2-XXXXXXC0 OD2-XXXXXXI0 OD2-XXXXXXU0 CONNECTOR M12, 8-PIN

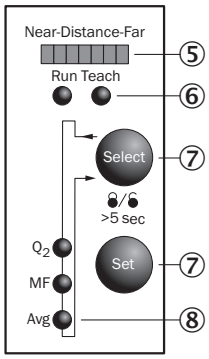


CONNECTION DIAGRAM



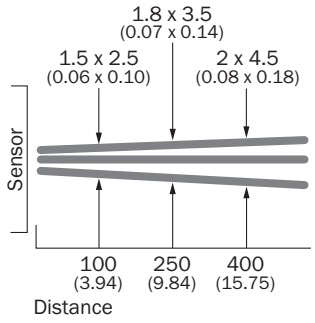
① Multifunctional input (MF)

ADJUSTMENT POSSIBLE OD2-XXXXXXAX



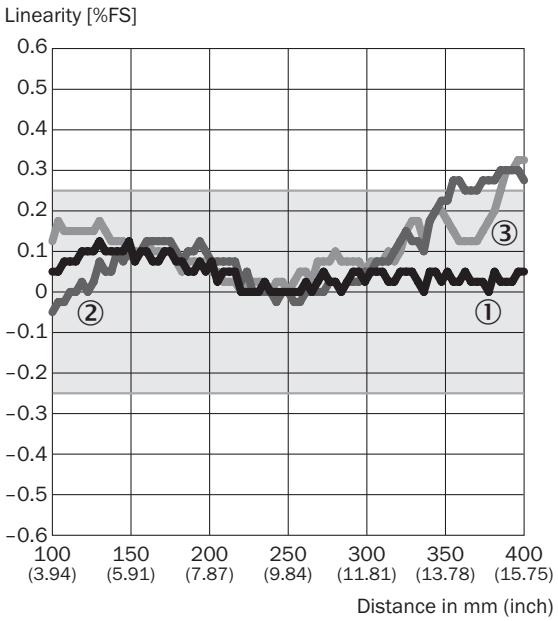
⑤ Distance indicator
⑥ mode indicator (Run/Teach)
⑦ Control elements
⑧ status indicator in- and outputs (Run-mode)/menu indicator (Teach-mode)

LIGHT SPOT SIZE OD2-X250W150XX



All dimensions in mm (inch)

LINEARITY OD2-X250XXXXX



① White ceramic
② Black paper
③ stainless steel

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6036648

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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