



OD2-N50W10U2

OD Value

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
OD2-N50W10U2	6036585

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

Detailed technical data

Features

Measuring range	40 mm ... 60 mm ¹⁾
Target	Natural objects
Repeatability	5 µm ^{2) 3) 4)}
Linearity	± 20 µm ^{2) 3) 5)}
Response time	≥ 1 ms
Output time	≥ 0.5 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)	0.5 mm x 1 mm (50 mm)
Additional function	Mean-value setting 1 ... 64x Automatic sensitivity adjustment Analog outputs can be taught in Invertable analog output 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

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.

DC _{avg}	0%
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- 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

Digital output	Number	2 ¹⁾
	Type	NPN
	Maximum output current I _A	≤ 100 mA
Analog output	Number	1
	Type	Voltage output
	Voltage	0 V ... 10 V, > 10,000 Ω
	Resolution	16 bit
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 18 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

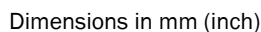
Ambient data

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

Certificates

Classifications

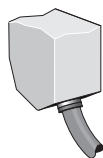
Dimensional drawing OD2-x50W10xx



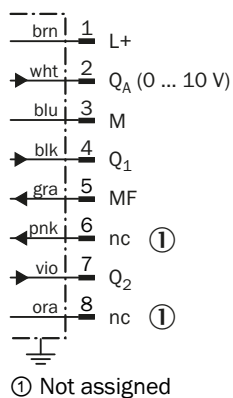
① 2 m cable or M12 connector; 90° rotatable

- ② Mounting hole, Ø 4.5 mm
- ③ optical axis, sender
- ④ optical axis, receiver

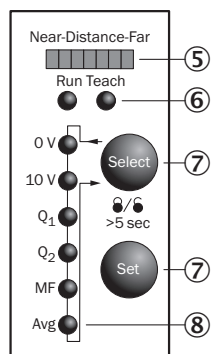
Connection type OD2-xxxxxxA2 OD2-xxxxxxC2 OD2-xxxxxxI2 OD2-xxxxxxU2 cable



Connection diagram

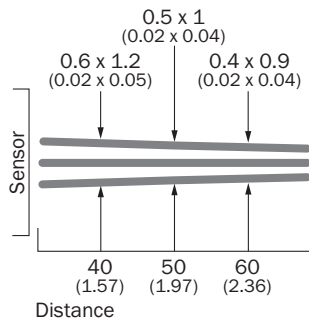


Adjustment possible OD2-xxxxxxUx



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

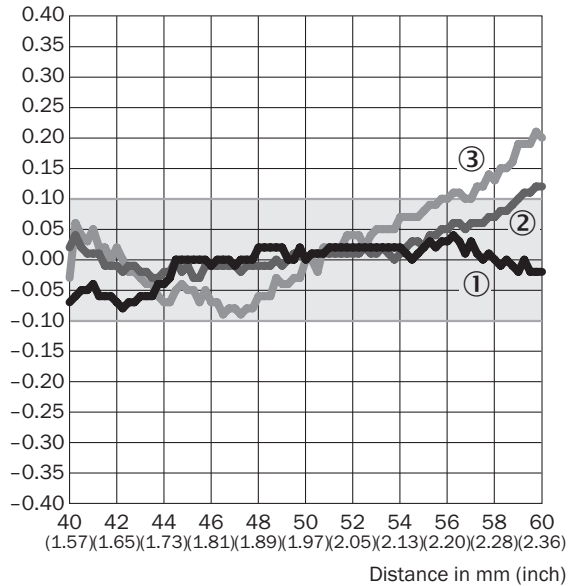
Light spot size OD2-x50W10xx



All dimensions in mm (inch)

Linearity OD2-x50xxxxx

Linearity [%FS]



- 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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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.”

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