



OD2-N85W20A2

OD Value

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
OD2-N85W20A2	6036604

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

Detailed technical data

Features

Measuring range	65 mm ... 105 mm ¹⁾
Target	Natural objects
Repeatability	10 μm ^{1) 2) 3)}
Linearity	± 40 μm ^{2) 4) 5)}
Response time	≥ 1 ms
Output time	≥ 0.5 ms
Light source	Laser, red visible 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)	0.8 mm x 1.3 mm (85 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⁾ At averaging function medium.

³⁾ Constant ambient conditions.

⁴⁾ Measurement on 90 % remission (ceramic, white).

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	NPN
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)

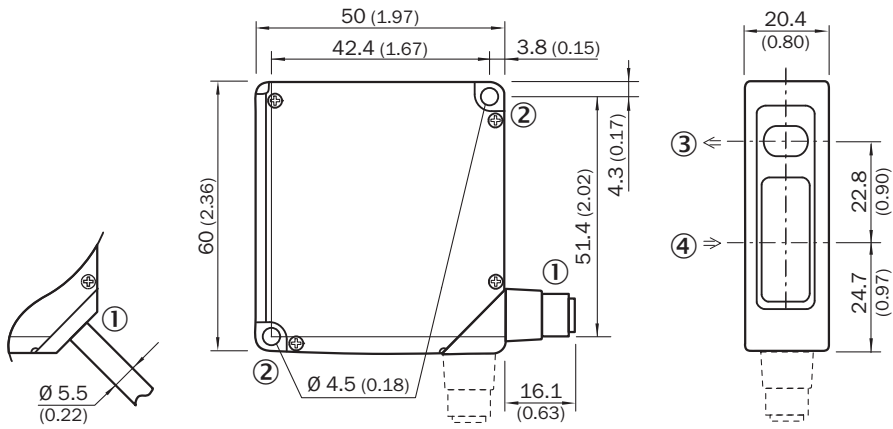
Certificates

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

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 </td
UNSPSC 16.0901	411111613

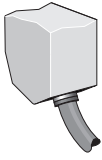
Dimensional drawing OD2-x85W20xx



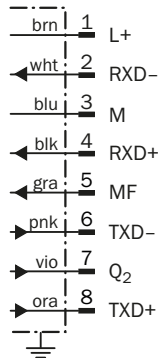
Dimensions in mm (inch)

- 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-xxxxxA2 OD2-xxxxxC2 OD2-xxxxxI2 OD2-xxxxxU2 cable

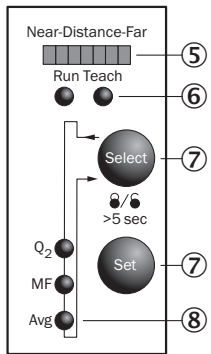


Connection diagram



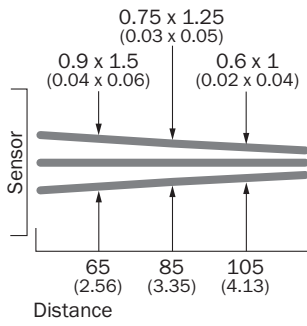
① Multifunctional input (MF)

Adjustment possible OD2-xxxxxAx



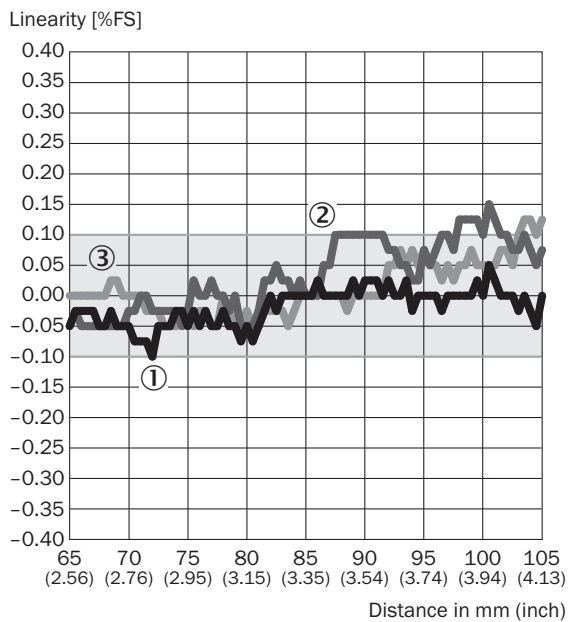
- ⑤ Distance indicator
- ⑥ mode indicator (Run/Teach)
- ⑦ Control elements
- ⑧ status indicator in- and outputs (Run-mode)/menu indicator (Teach-mode)

Light spot size OD2-x85W20xx



All dimensions in mm (inch)



Linearity OD2-x85xxxx



- 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			
	<ul style="list-style-type: none"> • 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			
	<ul style="list-style-type: none"> • Description: Stainless-steel mounting bracket • Material: Stainless steel • Details: Stainless steel 	BEF-WN-OD1000	4089813

SICK AT A GLANCE

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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.”

WORLDWIDE PRESENCE:

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