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TECHNOLOGY GROUP

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Online data sheet



OD2-P85W20I0

OD Value

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
OD2-P85W20I0	6036613

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

Detailed technical data

Performance

Measuring range	65 mm ... 105 mm, 6 % ... 90 % remission
Resolution	10 µm [1]
Repeatability	30 µm [2] [1] [3] [4]
Linearity	± 40 µm [1] [5] [4] [6]
Response time	1 ms / 10 ms / 35 ms [7]
Measuring frequency	2 kHz
Light source	Laser, red
Laser class	2 (EN 60825-1) [8]
Typ. light spot size (distance)	0.8 mm x 1.3 mm (85 mm)
Additional function	Mean-value setting 1 ... 64x, automatic sensitivity adjustment, Analog outputs can be taught in, Invertable analog output, Teach-in of switching output, Invertable switching output, multi-functional input: laser-off / external teach-in / trigger, switching mode: distance to object (DtO), switching mode: window (Wnd)

[1] At averaging function medium.
[2] 6 % ... 90 % remission.
[3] Constant ambient conditions.
[4] For best performance consider warm up time ≤ 5 minutes.
[5] Measurement on 90 % remission (ceramic, white)
[6] When calibrated in the application regularly.
[7] Automatic sensitivity adjustment ≤ 4 ms, 6 ms for the models with measuring range of 100 mm ... 400 mm.
[8] Wavelength: 655 nm, max. output: 1 mW.

Interfaces

Switching output	2 x PNP (100 mA) [1]
Multifunctional input (MF)	1 x MF [2]
Data interface	1 x 4 mA ... 20 mA (< 300 Ω)

[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.

Mechanics/electronics

Supply voltage V_S	DC 12 V ... 24 V [1]
Power consumption	≤ 2.88 W [2]
Warm-up time	≤ 30 min
Housing material	PBT housing with PMMA lens
Connection type	Male connector, M12, 8-pin
Indication	Distance bar graph, up to 8 status LEDs
Weight	70 g

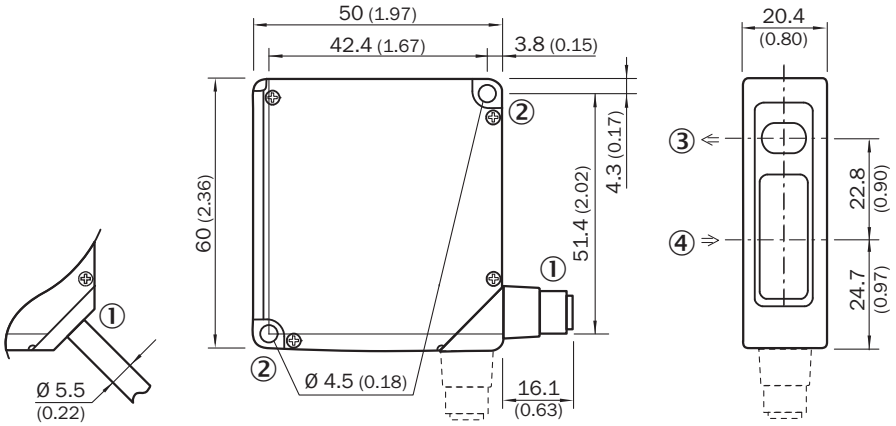
[1] DC 12 V (-5 %) ... 24 V (+10 %); DC 18 V (-5 %) ... DC 24 V (+10 %) when using analog voltage output.
[2] Without load, with current output.

Ambient data

Enclosure rating	IP 67
Protection class	III
Ambient temperature	Operation: –10 °C ... +40 °C 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)

Dimensional drawing (Dimensions in mm (inch))

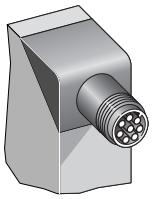
OD2-x85W20xx



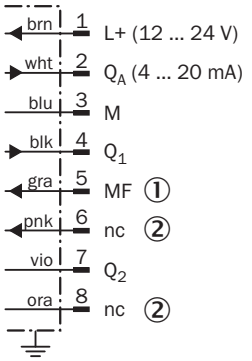
① 2 m cable or M12 connector; 90° rotatable
② Mounting hole, Ø 4.5 mm
③ Optical axis sender
④ Optical axis receiver

Connection type

OD2-xxxxxxA0 OD2-xxxxxxC0 OD2-xxxxxxI0 OD2-xxxxxxU0 connector M12, 8-pin



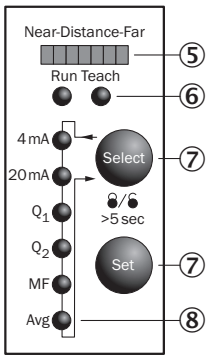
Connection diagram



① Multifunctional input (MF)
② Not assigned

Adjustment possible

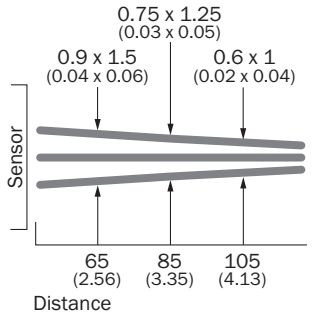
OD2-xxxxxxIx



⑤ Distance indicator
⑥ Mode indicator (Run/Teach)
⑦ Operating elements
⑧ Status indicator in- and outputs (Run-mode)/menu indicator (Teach-mode)

Light spot size

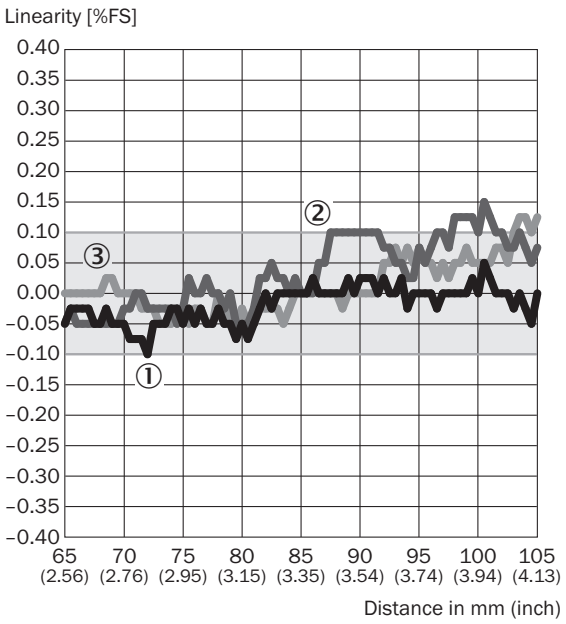
OD2-x85W20xx



All dimensions in mm (inch)

Linearity

OD2-x85xxxxx



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.
Plug connectors and cables			

	Brief description	Type	Part no.
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: special color code, PVC, shielded, 2 m	DOL-1208-G02MF	6020663
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: special color code, PVC, shielded, 5 m	DOL-1208-G05MF	6020664
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: special color code, PVC, shielded, 10 m	DOL-1208-G10MF	6048434

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