OD2-P120W60A0

OD Value

DISPLACEMENT SENSORS

SICK
Sensor Intelligence.

OD2-P120W60A0 | OD Value
DISPLACEMENT SENSORS

Illustration may differ

Ordering information

Type	part no.
OD2-P120W60A0	6036632

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

Detailed technical data

Features

Measuring range	60 mm … 180 mm [1]
Repeatability	30 µm [2] [3] [4]
Linearity	± 120 µm [2] [3] [5]
Response time	≥ 1 ms
Measuring frequency	≤ 2 kHz [1]
Output time	≥ 0.5 ms
Emitted beam	
Light source	Laser, red
Typ. light spot size (distance)	1 mm x 1.5 mm (120 mm)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	2 [6]
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
Display	Distance bar graph, up to 8 status LEDs
Enclosure rating	IP67
Protection class	III
Connection type	
	Male connector

[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

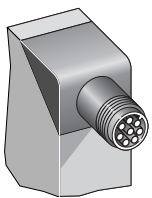| Ambient temperature, operation	–10 °C ... +40 °C
Ambient temperature, storage	–20 °C ... +60 °C
Relative air humidity (non-condensing)	35 % ... 95 %
Temperature drift	± 0.08 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. Ambient light immunity	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000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

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-x120W60xx

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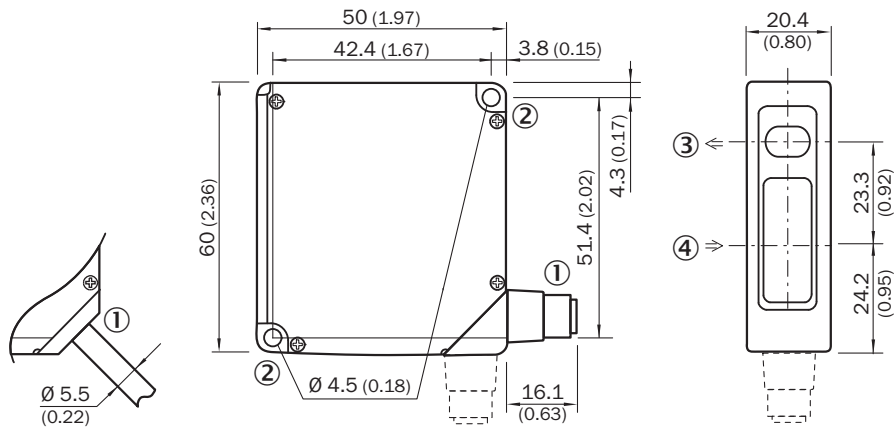
Connection type OD2-xxxxxxA0 OD2-xxxxxxC0 OD2-xxxxxxI0 OD2-xxxxxxU0 connector M12, 8-pin

Connection diagram

brn	1	L+
wht	2	RXD−
blu	3	M
blk	4	RXD+
gra	5	MF
pnk	6	TXD−
vio	7	Q₂
ora	8	TXD+
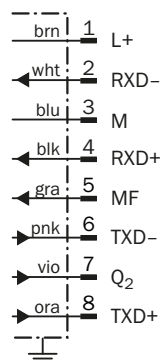
① Multifunctional input (MF)

Adjustment possible OD2-xxxxxxAx

Near-Distance-Far
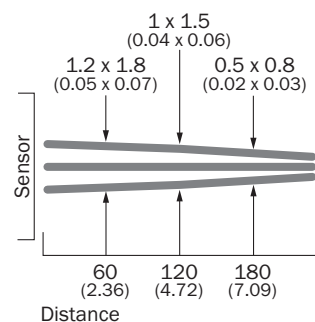⑤
Run Teach
⑥
Select ⑦
⛃/⛃
>5 sec
Q₂
MF Set ⑦
Avg ⑧
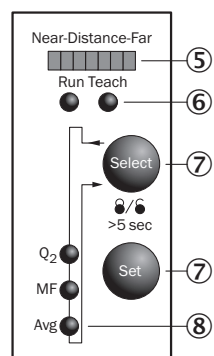
⑤ Distance indicator
⑥ mode indicator (Run/Teach)
⑦ Control elements
⑧ status indicator in- and outputs (Run-mode)/menu indicator (Teach-mode)

Light spot size OD2-x120W60xx

1 x 1.5
(0.04 x 0.06)
1.2 x 1.8
(0.05 x 0.07)
0.5 x 0.8
(0.02 x 0.03)

Sensor

60 120 180
(2.36) (4.72) (7.09)
Distance

All dimensions in mm (inch)

Linearity OD2-x120xxxxx

Linearity [%FS]
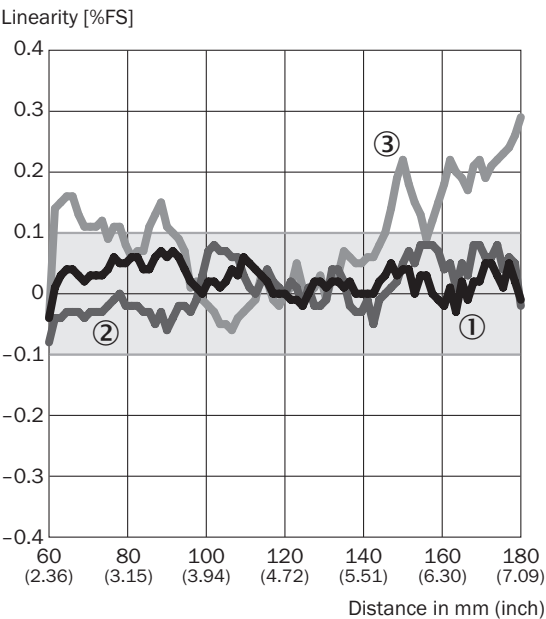
① White ceramic
② Black paper
③ stainless steel

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.

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