



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⁾ |
| Repeatability | 5 μm ^{2) 3) 4)} |
| Linearity | ± 20 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) | 0.5 mm x 1 mm (50 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 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 |

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.

| | | |
|----------------------------------|-------------------|--|
| Safety-related parameters | | Switching mode: distance to object (DtO) Switching mode: window (Wnd) |
| | 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.
- 7) Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

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 |
| Display | Distance bar graph, up to 8 status LEDs |
| Enclosure rating | IP67 |
| Protection class | III |
| Connection type | Cable, 2 m |

- 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) |

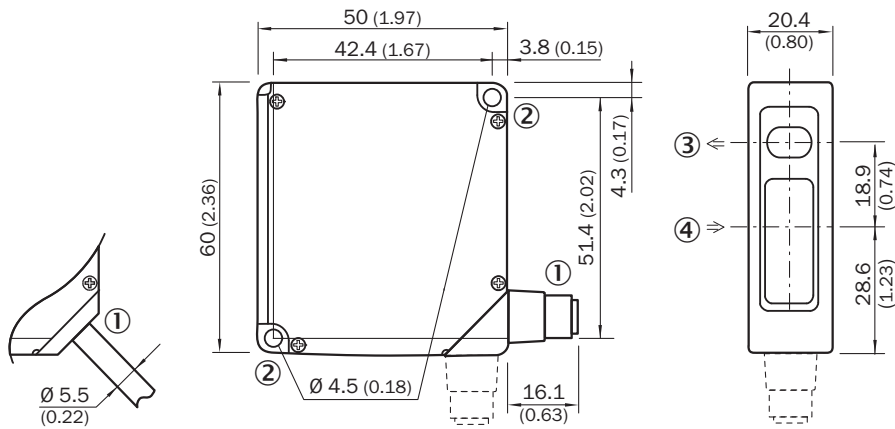
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| 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 |
| UNSPSC 16.0901 | 41111613 |

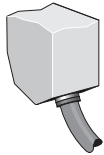
Dimensional drawing OD2-x50W10xx



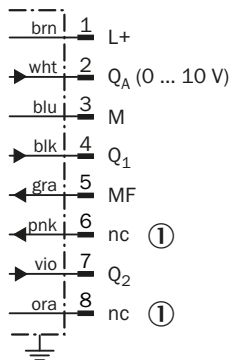
Dimensions in mm (inch)

- 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

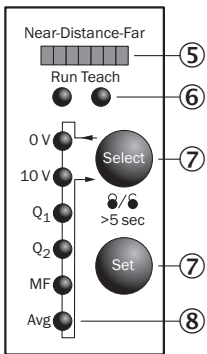


Connection diagram



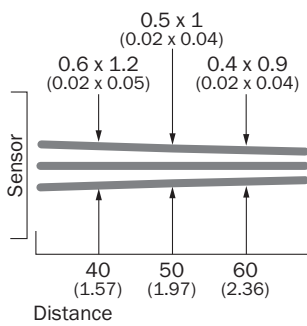
① Not assigned

Adjustment possible OD2-xxxxxxUx



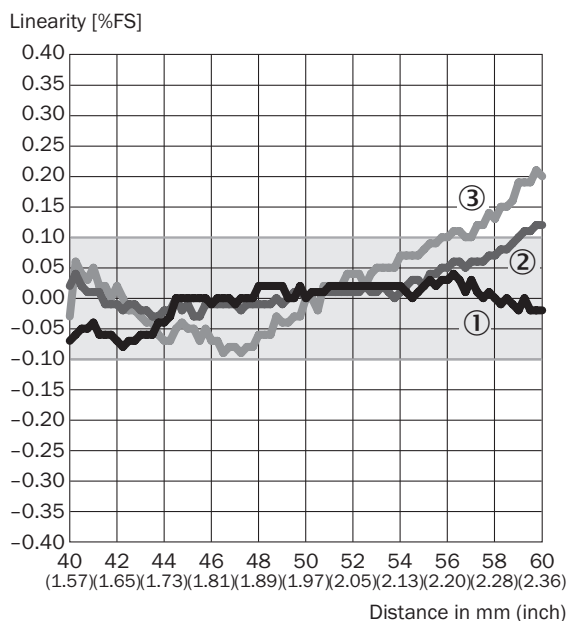
- ⑤ Distance indicator
- ⑥ mode indicator (Run/Teach)
- ⑦ Control elements
- ⑧ status indicator in- and outputs (Run-mode)/menu indicator (Teach-mode)

Light spot size OD2-x50W10xx



All dimensions in mm (inch)



Linearity OD2-x50xxxx



- 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"> Description: Sensor/actuator cable, special color code, shielded 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 Connection systems: Flying leads Application: Uncontaminated zones, Zones with chemicals | 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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For us, that is “Sensor Intelligence.”

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