



OD200-1101W15

OD200

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|---------------|----------|
| OD200-1101W15 | 6086982 |

Other models and accessories → www.sick.com/OD200



Detailed technical data

Features

| | |
|----------------------------------|---|
| Measuring range | 60 mm ... 160 mm ¹⁾ |
| Repeatability | 20 µm ^{2) 3) 4)} |
| Linearity | ± 100 µm ^{4) 5) 6)} |
| Response time | ≥ 1 ms ⁷⁾ |
| Measuring frequency | ≤ 3 kHz |
| Output time | ≥ 0.5 ms |
| Emitted beam | |
| Light source | Laser, red |
| Typ. light spot size (distance) | 500 µm x 1,600 µm (110 mm) |
| Key laser figures | |
| Normative reference | IEC 60825-1:2014, EN 60825-1:2014 |
| Laser class | 1 ⁸⁾ |
| Additional function | Adjustable average value or media filter, Switching mode: one-point mode/window mode/two-point mode, Teach-in of digital output, Peak value selection |
| Safety-related parameters | |
| MTTF _D | 101 years |

¹⁾ 6 % ... 90 % remission; at default settings.

²⁾ Measurement on 90 % remission (ceramic, white).

³⁾ Mean value setting: 128, median: off, measuring frequency: 1 kHz, for static measurement.

⁴⁾ Observe min. warm-up time of 30 minutes.

⁵⁾ Measurement on 60 % remission (ceramic, white).

⁶⁾ At T = +25 °C, under constant general conditions.

⁷⁾ Dependent on the set average or sensitivity.

⁸⁾ Visible, wavelength: 655 nm, max. average power: 0.31 mW, max. pulse power: 0.62 mW, max. pulse duration: 2 ms.

| | |
|-------------------|----|
| DC _{avg} | 0% |
|-------------------|----|

- 1) 6 % ... 90 % remission; at default settings.
- 2) Measurement on 90 % remission (ceramic, white).
- 3) Mean value setting: 128, median: off, measuring frequency: 1 kHz, for static measurement.
- 4) Observe min. warm-up time of 30 minutes.
- 5) Measurement on 60 % remission (ceramic, white).
- 6) At T = +25 °C, under constant general conditions.
- 7) Dependent on the set average or sensitivity.
- 8) Visible, wavelength: 655 nm, max. average power: 0.31 mW, max. pulse power: 0.62 mW, max. pulse duration: 2 ms.

Interfaces

| | | |
|-----------------------|---------------------------------------|---|
| IO-Link | Function | ✓, IO-Link V1.1 |
| | Data transmission rate | Process data, parameterization, diagnosis, data storage 230,4 kbit/s (COM3), Process data length 6 bytes, min. cycle time 0.8 ms |
| | Number | 1 |
| Digital input | Number | 1 |
| | Type | PNP/NPN, selectable |
| | Maximum output current I _A | ≤ 100 mA |
| Digital output | Number | 1 ^{1) 2)} |
| | Type | PNP/NPN, selectable |
| | Maximum output current I _A | ≤ 100 mA |
| | Number | 1 |
| | Type | Current output / voltage output |
| | Function | Selectable |
| | Current | 4 mA ... 20 mA, ≤ 300 Ω |
| Analog output | Voltage | 0 V ... 10 V, > 20,000 Ω |
| | Resolution | 16 bit |

1) PNP: HIGH = V_S - (< 2.5 V) / LOW = 0 V.

2) NPN: HIGH = < 2.5 V / LOW = V_S.

Electronics

| | |
|-------------------------------|--|
| Supply voltage U _B | DC 18 V ... 24 V, ± 10%, including residual ripple ¹⁾ |
| Power consumption | 1.5 W, At 24 V DC ²⁾ |
| Warm-up time | < 15 min |
| Display | OLED display, status LEDs |
| Enclosure rating | IP67 |
| Protection class | III (EN 50178) |
| Electrical safety | IEC 60947-5-2 / CSA C22.2 / No.60947-5-2 |
| Connection type | |
| | Cable with plug M12, 5-pin, 345 mm |
| Connection type Detail | |
| Length of male connector | 45 mm |
| Length of cable | 300 mm |

1) Limit values, reverse-polarity protected.

2) Without load, at +20 °C.

| | |
|-------------------------|-----------------------|
| Cable material | PVC |
| Cable diameter | 5.5 mm |
| Conductor cross section | 0.128 mm ² |

¹⁾ Limit values, reverse-polarity protected.

²⁾ Without load, at +20 °C.

Mechanics

| | |
|-------------------------------|---------------------------|
| Dimensions (W x H x D) | 18.4 mm x 46.4 mm x 33 mm |
| Control elements | 4 buttons |
| Housing material | Metal (Aluminum) |
| Window material | Plastic (PMMA) |
| Weight | 55 g |

Ambient data

| | |
|---|--|
| Ambient temperature, operation | -10 °C ... +50 °C, Operating temperature at V _S = 24 V |
| Ambient temperature, storage | -20 °C ... +60 °C |
| Relative air humidity (non-condensing) | 35 % ... 85 % |
| Temperature drift | 30 µm/K ¹⁾ |
| Typ. Ambient light immunity | Artificial light: 10,000 lx ²⁾ Sunlight: 10,000 lx |
| Vibration resistance | EN 60068-2-6 (IEC 60068-2-6:2007) Sinusoidal resonance measurement: 10 Hz ... 55 Hz, amplitude 1.5 mm, 2 h/axis |
| Shock resistance | EN 60068-2-27 (IEC 60068-2-27:2008) 50 g, 11 ms, 6 axes, ± 3 single shocks |

¹⁾ 0.03%/K.

²⁾ With constant object movement in the measuring range.

Certificates

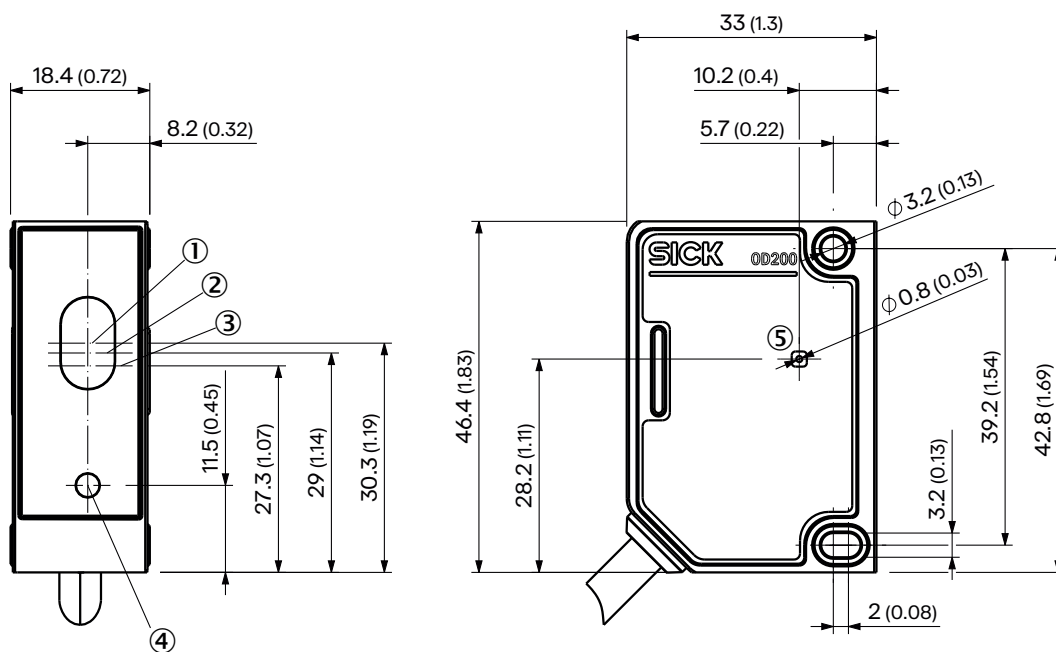
| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| IO-Link certificate | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

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 |

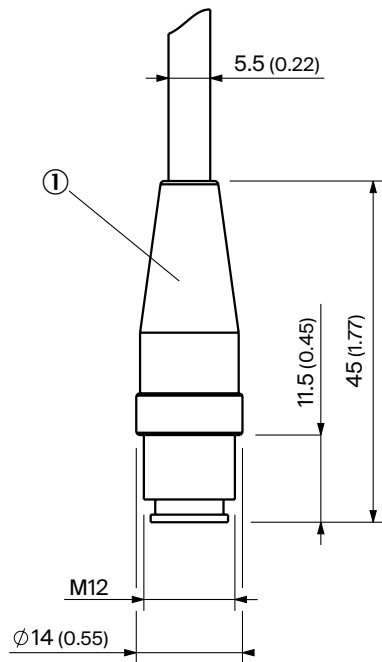
Dimensional drawing, sensor



Dimensions in mm (inch)

- ① optical axis, receiver (OD200-110xxxx)
- ② optical axis, receiver (OD200-050xxxx)
- ③ optical axis, receiver (OD200-030xxxx)
- ④ optical axis, sender
- ⑤ Ventilation element (membrane)

dimensional drawing, connection type

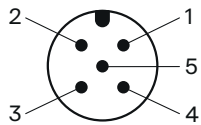


Dimensions in mm (inch)

Cable with M12 male connector

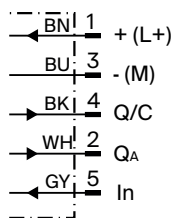
① connection (see technical data for length of cable)

pinouts

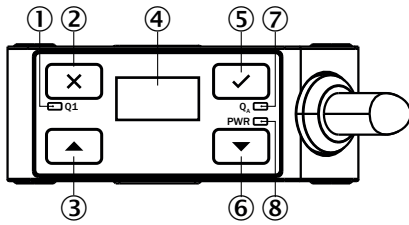


Supply voltage & I/O: plug M12, 5-pin, A-coded

Connection diagram

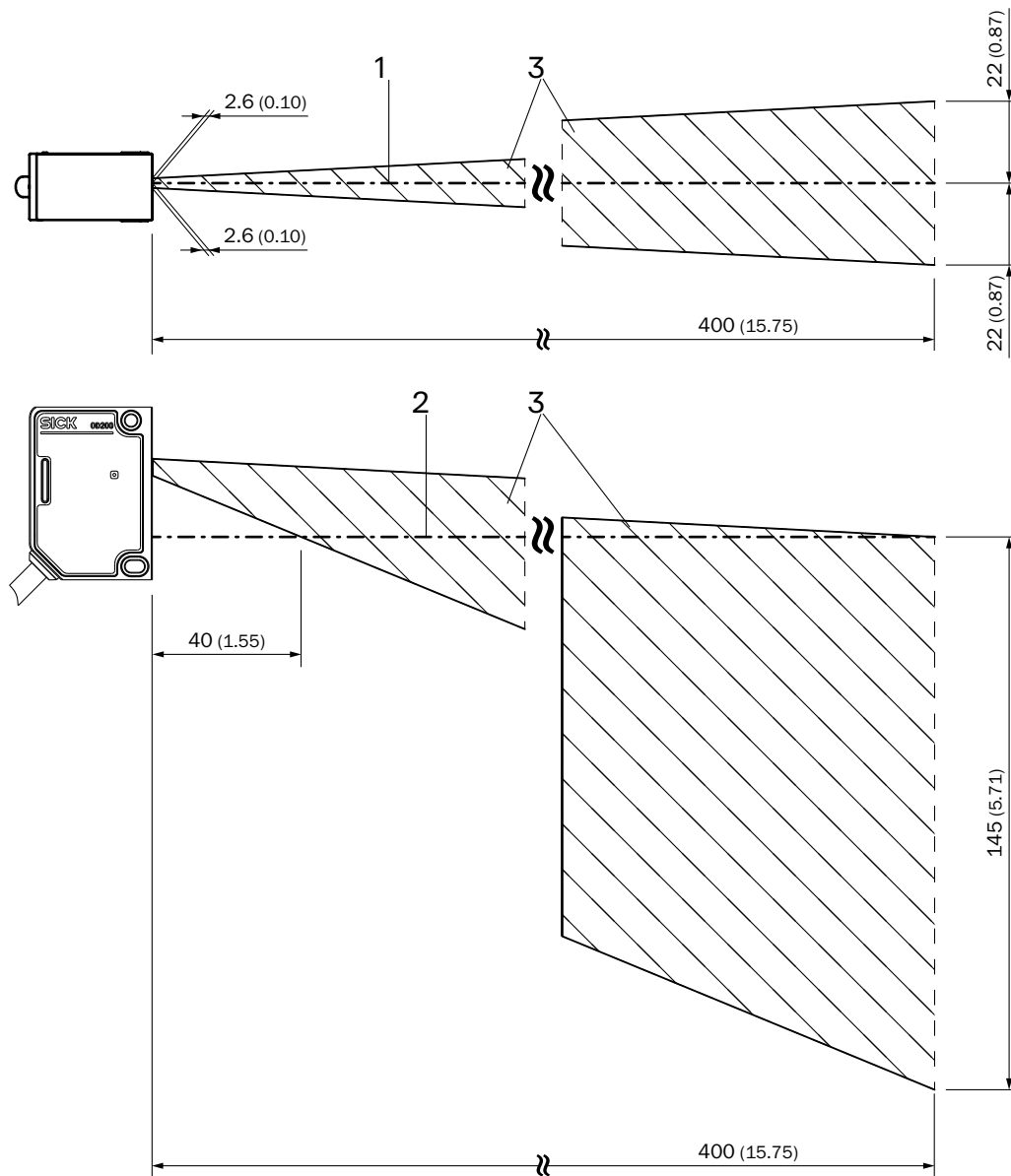


Display and control elements



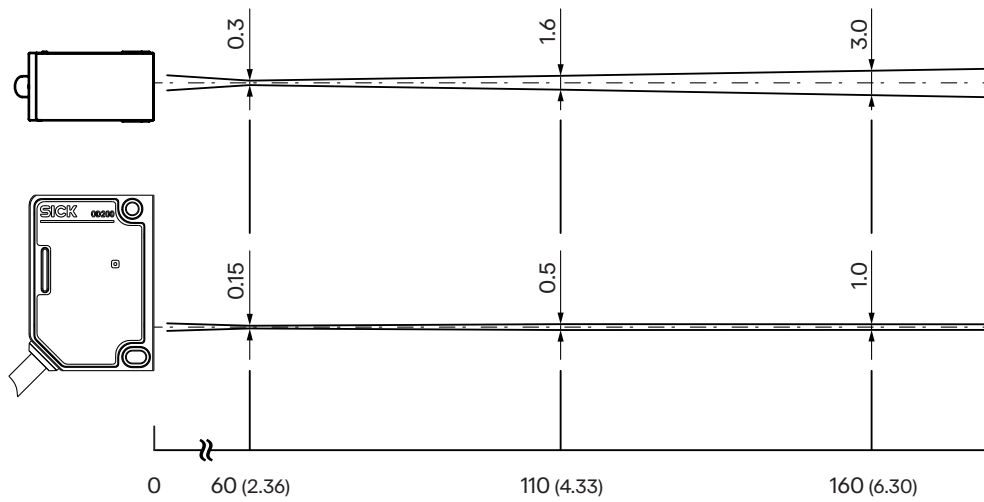
- ① Q1 status LED (orange)
- ② "Cross" pushbutton
- ③ UP pushbutton
- ④ Display
- ⑤ "Tick" pushbutton
- ⑥ DOWN pushbutton
- ⑦ Status LED QA (yellow)
- ⑧ PWR status LED (green)

Interference diagram

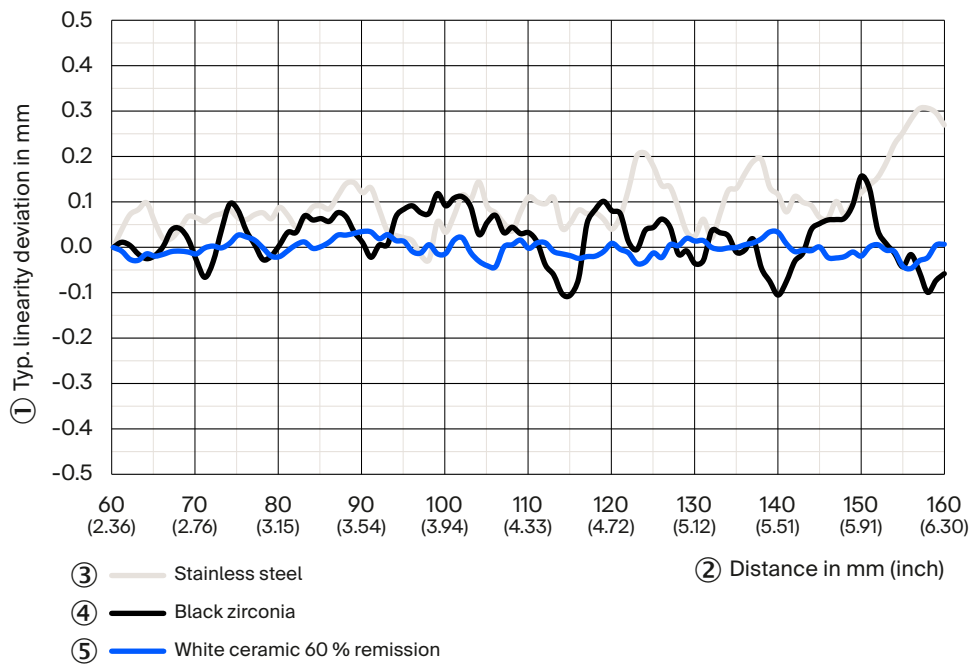


- ① optical axis, sender and receiver
- ② optical axis, sender
- ③ Interference range

Light spot size







Linearity



- ① Typical linearity deviation in mm
- ② Distance in mm (inch)
- ③ stainless steel
- ④ Black Zirconia
- ⑤ White ceramic 60 % remission

Recommended accessories

Other models and accessories → www.sick.com/OD200

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Untamminated zones, Zones with chemicals | YF2A15-020VB5XLEAX | 2096239 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Untamminated zones, Zones with chemicals | YF2A15-050VB5XLEAX | 2096240 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Untamminated zones, Zones with chemicals | YF2A15-100VB5XLEAX | 2096241 |
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> • Description: Stainless-steel mounting bracket (OD200) • Material: Stainless steel • Details: Stainless steel | BEF-WN-OD200 | 2149444 |

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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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