



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.

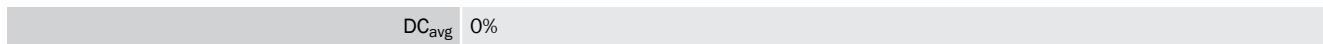
⁴⁾ Observe min. warm-up time of 30 minutes.

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.



- 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 $T = +25^\circ\text{C}$, 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
Digital input	Number	1
	Number	1
Digital output	Type	PNP/NPN, selectable
	Maximum output current I_A	$\leq 100 \text{ mA}$
Analog output	Number	1
	Type	Current output / voltage output
	Function	Selectable
	Current	4 mA ... 20 mA, $\leq 300 \Omega$
	Voltage	0 V ... 10 V, $> 20,000 \Omega$
	Resolution	16 bit

1) PNP: HIGH = $V_S - (< 2.5 \text{ V})$ / LOW = 0 V.

2) NPN: HIGH = $< 2.5 \text{ V}$ / LOW = V_S .

Electronics

Supply voltage U_B	DC 18 V ... 24 V, $\pm 10\%$, 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 $+20^\circ\text{C}$.

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

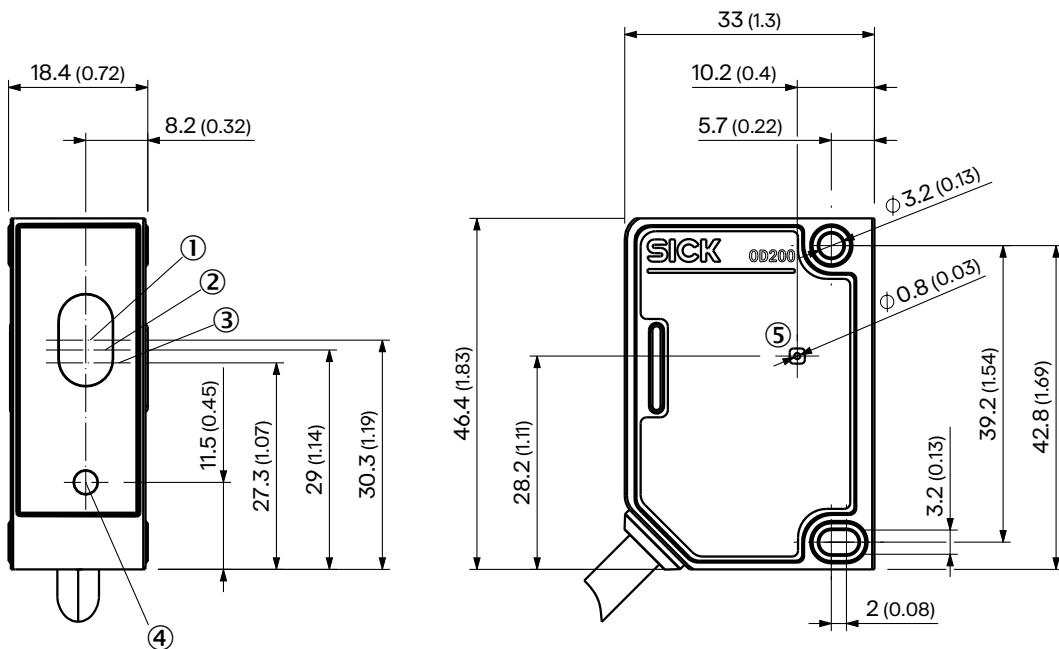
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
IO-Link certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

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

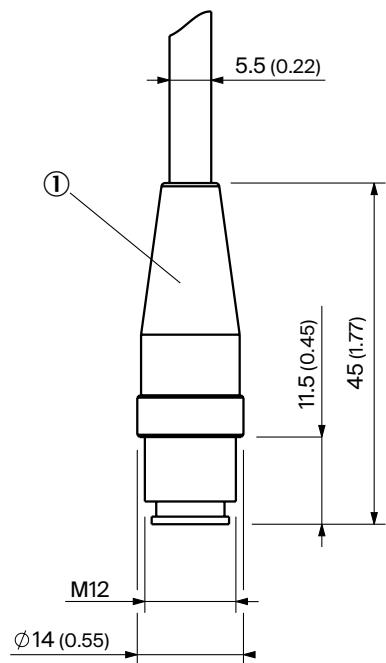
Dimensional drawing, sensor



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

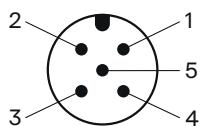


Dimensions in mm (inch)

Cable with M12 male connector

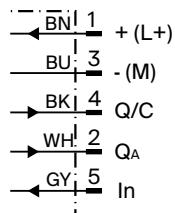
① connection (see technical data for length of cable)

pinouts

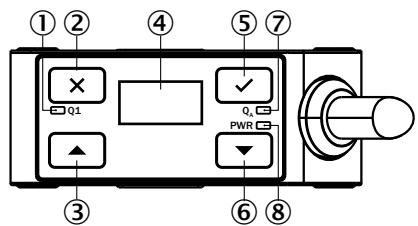


Supply voltage & I/O: plug M12, 5-pin, A-coded

Connection diagram

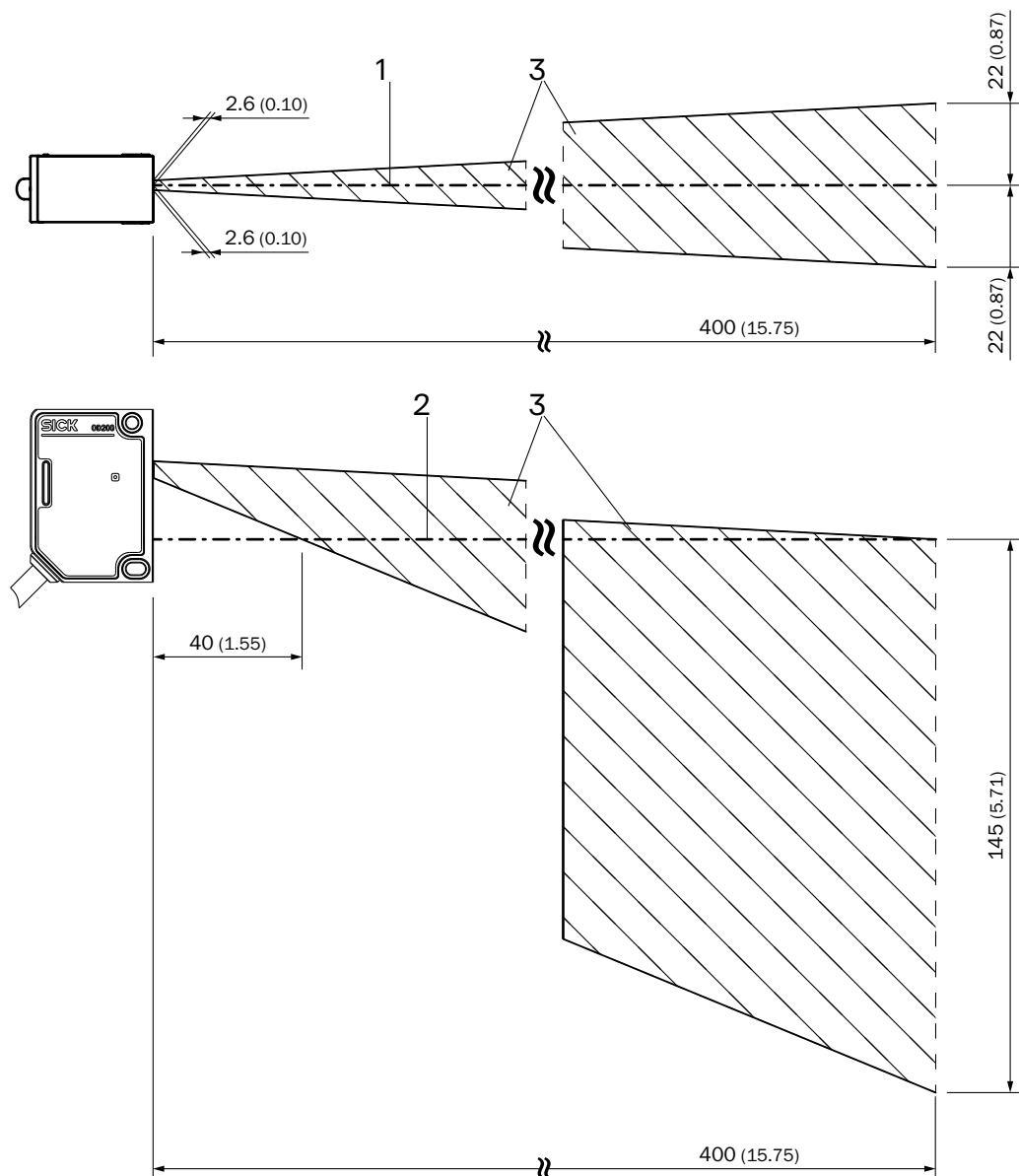


Display and control elements



- 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

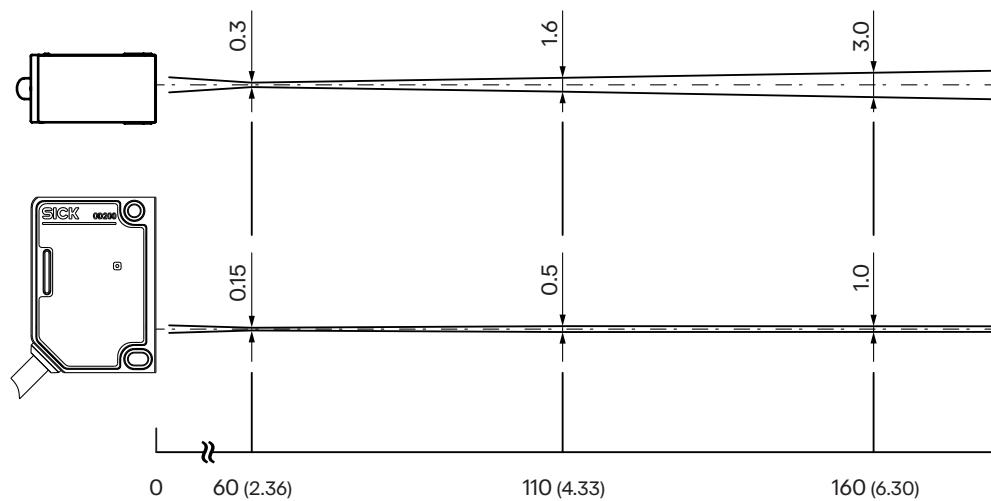


① optical axis, sender and receiver

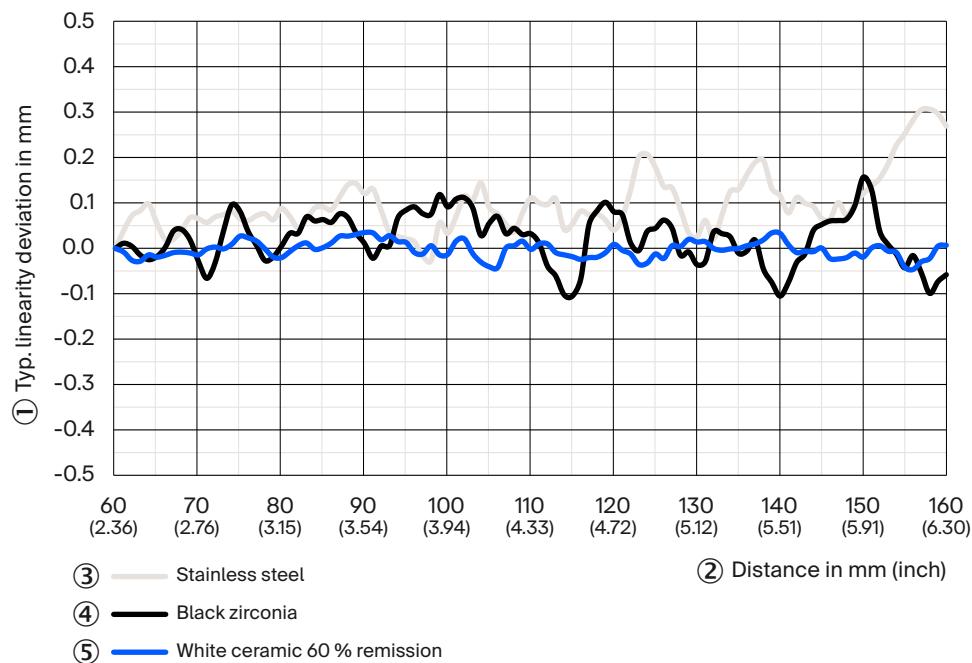
② optical axis, sender

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: Uncontaminated 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: Uncontaminated 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: Uncontaminated 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:

Contacts and other locations www.sick.com