



# OD2000-2452T15

## OD2000

DISPLACEMENT SENSORS

**SICK**  
Sensor Intelligence.



Ordering information

Type	part no.
OD2000-2452T15	6074383

Other models and accessories → [www.sick.com/OD2000](http://www.sick.com/OD2000)

Detailed technical data

Features

Measuring range	70 mm ... 420 mm <sup>1)</sup>
Repeatability	10 µm <sup>2) 3) 4)</sup>
Linearity	± 350 µm <sup>2) 4) 5)</sup>
Response time	≥ 0.533 ms <sup>6)</sup>
Measuring frequency	≤ 7.5 kHz
Output time	≥ 0.1333 ms
Emitted beam	
Light source	Laser, red
Typ. light spot size (distance)	Ø 500 µm (245 mm)
Key laser figures	
Normative reference	IEC 60825-1:2014, EN 60825-1:2014
Laser class	2 <sup>7)</sup>
Additional function	Adjustable average value or media filter Switching mode: Distance to Object (DtO) / switching window / object between sensor and background (ObSB) Teach-in of digital output Invertable digital output Teach-in of analog output Invertable analog output Switchable analog output (mA / V) Multifunctional input: sender off/hold functions/deactivated Switch-off display

<sup>1)</sup> 6 % ... 90 % remission; at default settings.  
<sup>2)</sup> Measurement on 60 % remission (ceramic, white).  
<sup>3)</sup> Average value setting: 512, median: 31, measuring frequency: 5 kHz, in the middle of the measuring range, for static measurement.  
<sup>4)</sup> At T = +25 °C, under constant general conditions.  
<sup>5)</sup> Observe min. warm-up time of 30 minutes.  
<sup>6)</sup> Dependent on the set average or sensitivity.  
<sup>7)</sup> Visible, wavelength: 655 nm, max. average power: 1 mW, max. pulse power: 1 mW, max. pulse duration: 5 ms.

<b>Safety-related parameters</b>		Lock user interface Display can be rotated by 180° Alarm function Edge height jump Time functions (ON/OFF delay, 1 shot) region of interest
	MTTF <sub>D</sub>	107 years
	DC <sub>avg</sub>	0%

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## Interfaces

<b>IO-Link</b>		✓ , IO-Link V1.1
	Function	Process data, parameterization, diagnosis, data storage
	Data transmission rate	230,4 kbit/s (COM3), Process data length 6 bytes, min. cycle time 0.7 ms
<b>Digital input</b>		In <sub>1</sub> Can be used as sender off, trigger for hold functions, or deactivated
<b>Digital output</b>	Number	2 <sup>1)</sup>
	Type	PNP/NPN, selectable
<b>Analog output</b>	Number	1
	Type	Current output / voltage output
	Function	Selectable
	Current	4 mA ... 20 mA, ≤ 300 Ω
	Voltage	0 V ... 10 V, > 10,000 Ω
	Resolution	16 bit

<sup>1)</sup> PNP/PP: HIGH = UV > 13.5 V/LOW = UV < 8 V; NPN: HIGH = UV < 8 V/LOW = UV > 13.5 V.

## Electronics

<b>Supply voltage U<sub>B</sub></b>	DC 18 V ... 24 V, ± 10%, including residual ripple <sup>1)</sup>
<b>Power consumption</b>	1.5 W, At 24 V DC <sup>2)</sup>
<b>Warm-up time</b>	< 30 min
<b>Display</b>	OLED display, status LEDs
<b>Enclosure rating</b>	IP67
<b>Protection class</b>	III (EN 50178)
<b>Electrical safety</b>	IEC 61010-1 AMD 1:2016-12
<b>Connection type</b>	Cable with male connector, 30 cm

<sup>1)</sup> Limit values, reverse-polarity protected.

<sup>2)</sup> Without load, at +20 °C.

### Mechanics

<b>Dimensions (W x H x D)</b>	27 mm x 60 mm x 50 mm
<b>Control elements</b>	4 buttons
<b>Housing material</b>	Plastic (PBT)
<b>Window material</b>	Plastic (PMMA)
<b>Weight</b>	90 g

### Ambient data

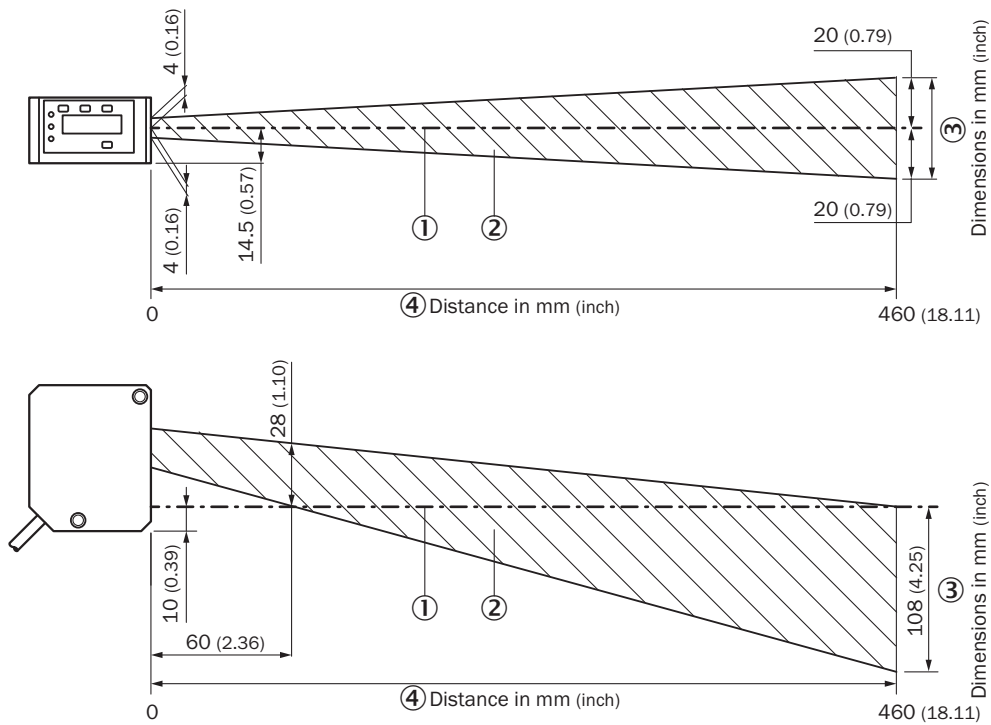
<b>Ambient temperature, operation</b>	-10 °C ... +50 °C, Operating temperature at V <sub>S</sub> = 24 V
<b>Ambient temperature, storage</b>	-20 °C ... +60 °C
<b>Relative air humidity (non-condensing)</b>	35 % ... 85 %
<b>Temperature drift</b>	210 µm/K
<b>Typ. Ambient light immunity</b>	Artificial light: ≤ 3,000 lx <sup>1)</sup> Sunlight: ≤ 10,000 lx
<b>Vibration resistance</b>	EN 60068-2-6, EN 60068-2-64
<b>Shock resistance</b>	EN 60068-2-27

<sup>1)</sup> With constant object movement in the measuring range.

### Classifications

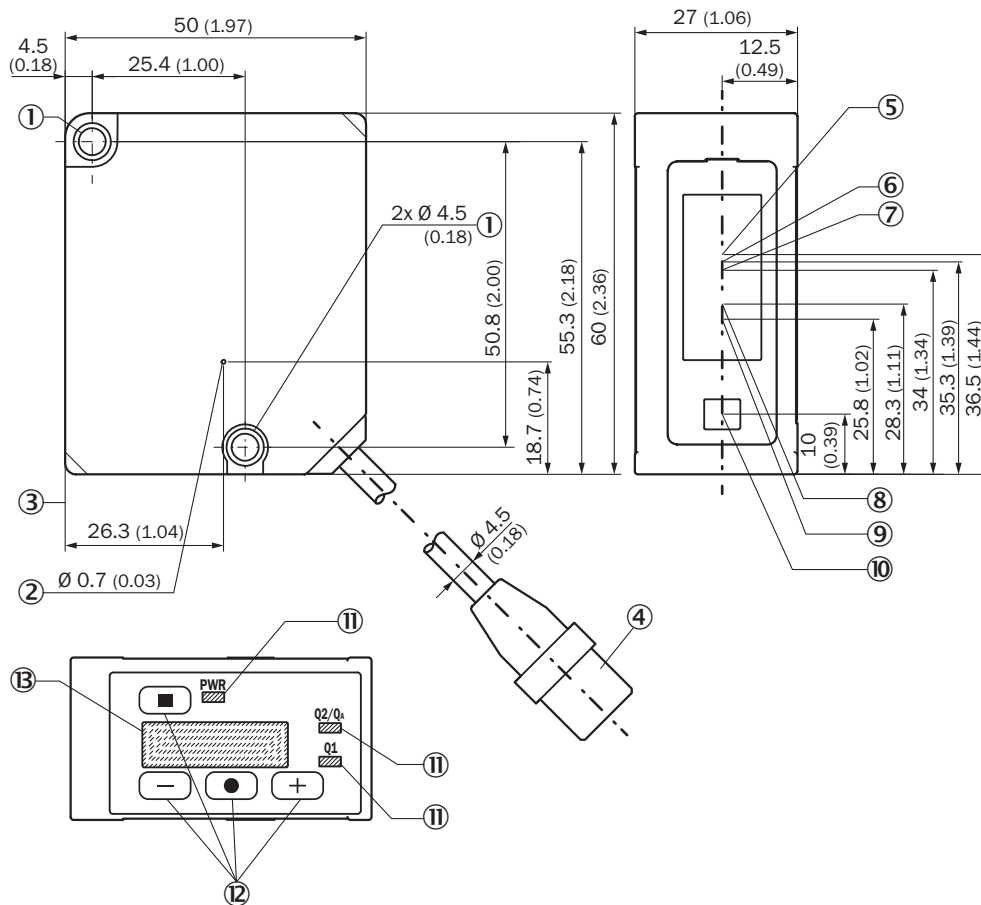
<b>ECLASS 5.0</b>	27270801
<b>ECLASS 5.1.4</b>	27270801
<b>ECLASS 6.0</b>	27270801
<b>ECLASS 6.2</b>	27270801
<b>ECLASS 7.0</b>	27270801
<b>ECLASS 8.0</b>	27270801
<b>ECLASS 8.1</b>	27270801
<b>ECLASS 9.0</b>	27270801
<b>ECLASS 10.0</b>	27270801
<b>ECLASS 11.0</b>	27270801
<b>ECLASS 12.0</b>	27270916
<b>ETIM 5.0</b>	EC001825
<b>ETIM 6.0</b>	EC001825
<b>ETIM 7.0</b>	EC001825
<b>ETIM 8.0</b>	EC001825
<b>UNSPSC 16.0901</b>	41111613

## Interference diagram

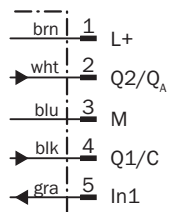


- Dimensions in mm (inch)
- ① Optical axis sender and receiver
  - ② Interference diagram
  - ③ dimensions in mm (inch)
  - ④ Distance in mm

### Dimensional drawing

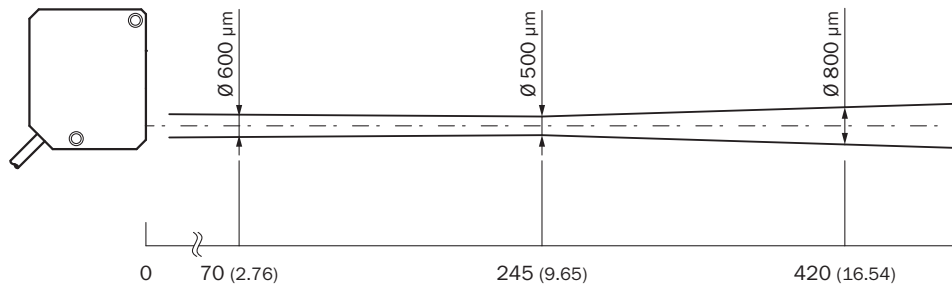


## Connection diagram



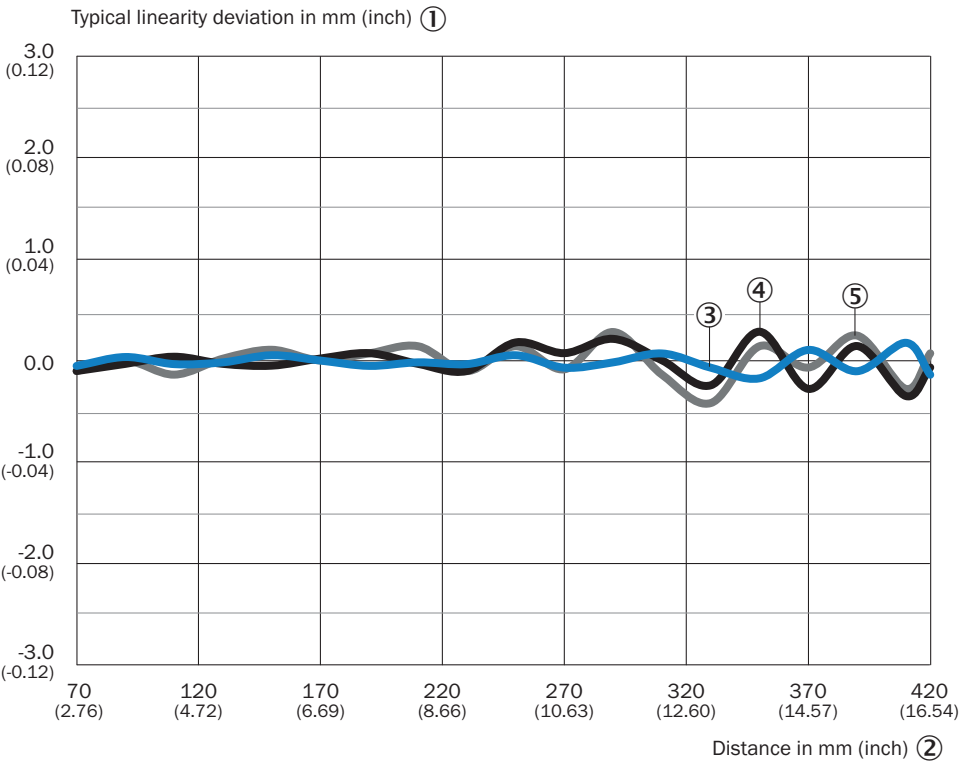
- ① Brown
- ② White
- ③ blue
- ④ Black
- ⑤ Gray

## Light spot size Typical light spot size OD2000-245xxx



Unit: mm (inch), decimal separator: period

Linearity







- ① Typical linearity deviation in mm (inch)
- ② Distance in mm (inch)
- ③ White 60% remission factor
- ④ Black 9.5% remission factor
- ⑤ stainless steel

Recommended accessories

Other models and accessories → [www.sick.com/OD2000](http://www.sick.com/OD2000)

	Brief description	Type	part no.
network devices			
	Strich		On request



	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-020VB5XLEAX	2096239
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 0.6 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-C60VB5XLEAX	2145570
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 3 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-030VB5XLEAX	2145572
Mounting systems			
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Stainless-steel mounting bracket</li> <li>• <b>Material:</b> Stainless steel</li> <li>• <b>Details:</b> Stainless steel</li> </ul>	BEF-WN-OD2000	4112929

## 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](http://www.sick.com)