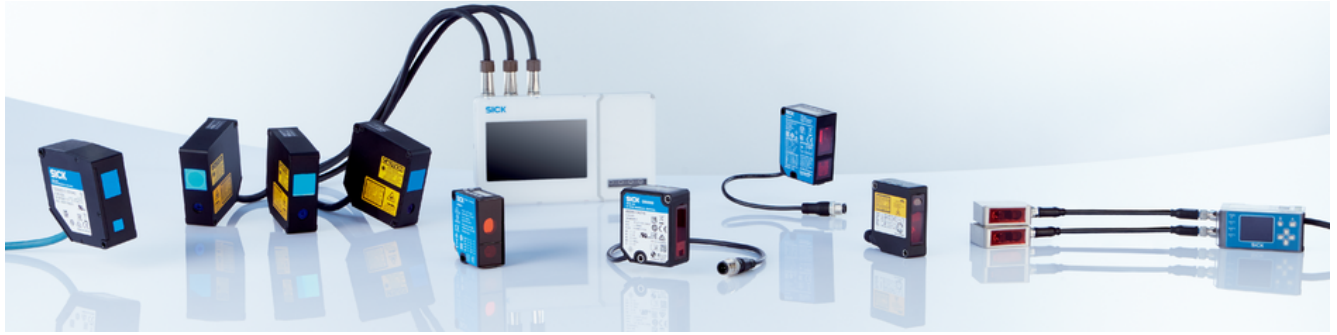# OD2000

Efficient all-rounder for precise distance measurements

SICK
Sensor Intelligence.

Advantages

Precision meets quality

With expert-developed intelligent measurement technology which proves its worth in industrial applications time and time again, SICK offers the solution to any challenge which demands maximum measurement accuracy and quality. A pioneering spirit founded on our years of experience and our own innovations in optical sensor technology. We ensure efficient processes while fulfilling the demands of even complex measuring tasks – regardless of surface, diameter, thickness, or width, and regardless of whether an object is to be positioned or measured. This is how we ensure that your products are every bit as perfect as you want them to be. Moreover, SICK's measurement technology supports quality assurance processes and delivers cost-saving benefits. Have a look on <a href=https://www.sick.com/measurement-sensors target="_blank">www.sick.com/measurement-sensors

A point of light is projected onto the measuring object. The light reflected is captured by a light-sensitive receiver at a specific angle. Based on the angle between the send and receive direction, the position of the object is then triangulated (from the Latin "triangulum" = triangle).
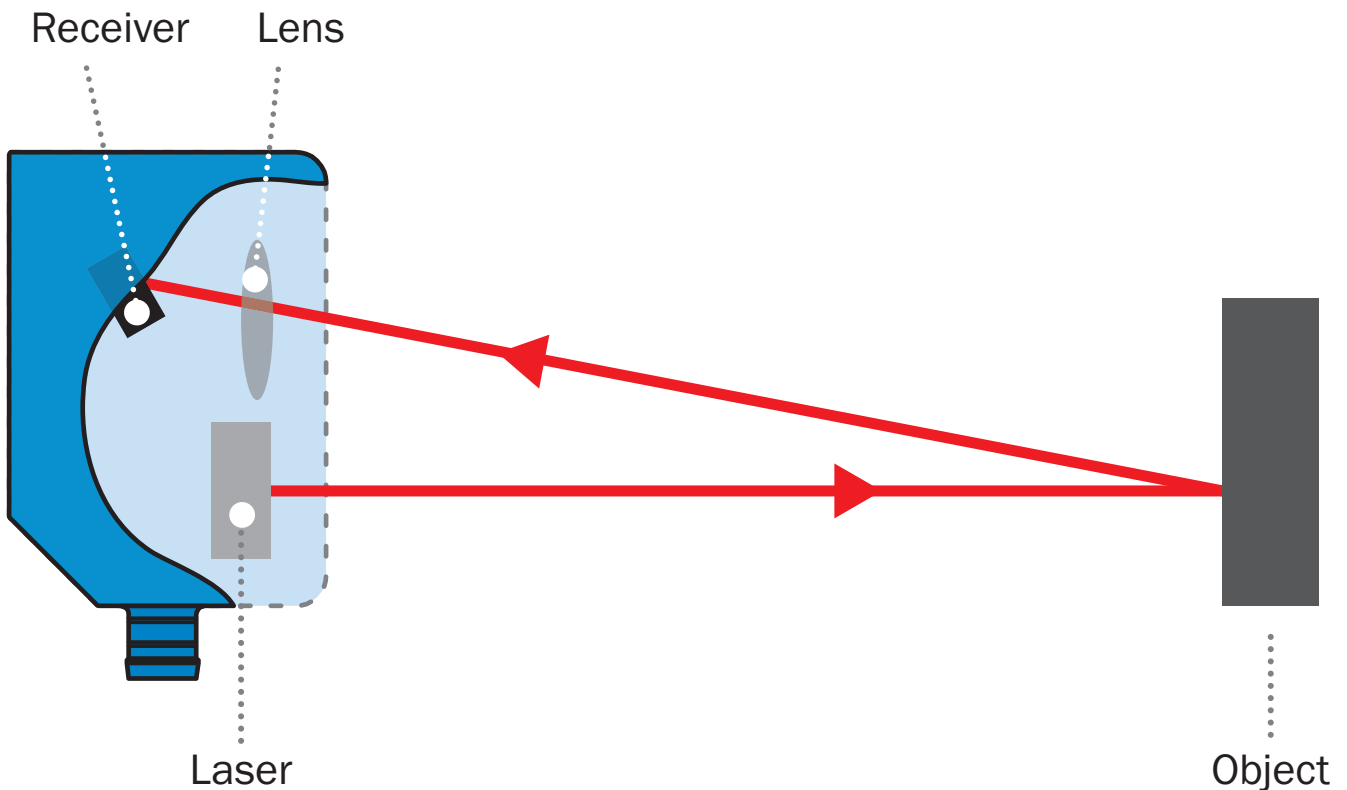
Seamless system integration via IO-Link

The OD2000 offers both an analog and a digital output signal. Point-to-point communication via the IO-Link interface is what makes the displacement measurement sensor intelligent. In addition to increased reliability due to interference-free signal transmission, the technology primarily scores points for its potential in process automation. A wide range of diagnostic options simplify sensor monitoring and at the same time increase availability for production.
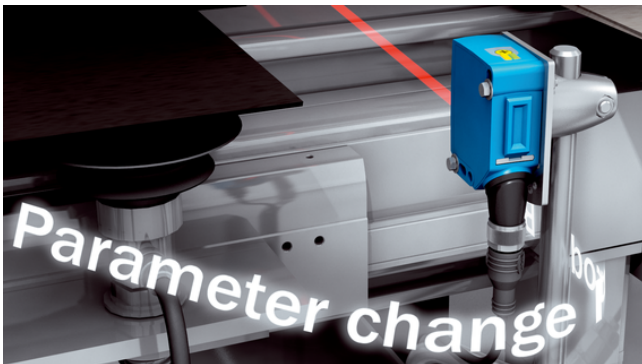
Easy device replacement:
Parameterization via IO-Link accesses existing data, preventing incorrect settings.


More options for condition monitoring:
With process and extended diagnostic data, IO-Link offers extensive information in real time that in turn provides information about the sensor status.

➕ Precise real-time data for automation: Thanks to IO-Link, the OD2000 communicates with the system and creates the foundation for predictive maintenance with its process and status data.

Connect and get started thanks to plug and play sensor exchange

Direct parameterization via IO-Link and the configuration software simplify integration, especially when mounting in poorly accessible places. If a sensor has to be replaced, the plug and play principle of the OD2000 minimizes plant downtime and personnel costs by automatically importing parameterization data. Replacing the sensor itself is child's play.

OD2000
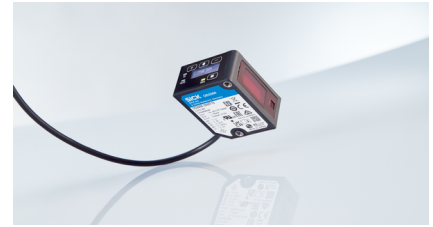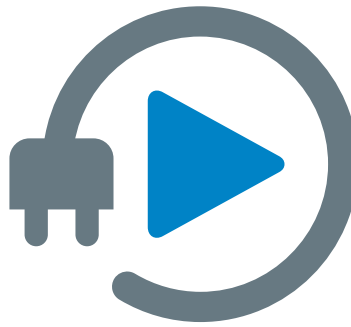
Simple adjustment:
Uncomplicated sensor configuration via OLED display for precise and reliable distance measurement, regardless of the surface and color of the measuring object.

Mounted quickly, replaced in a flash:
Thanks to the intuitive operating concept, commissioning is done in just a few steps and without any additional settings.

Less cabling:
IO-Link enables signal transmission and power supply with a single cable.

➕ Less effort, higher availability: The OD2000 minimizes production downtime through plug and play integration as well as automated transmission of parameterization data when replacing sensors.


One displacement measurement sensor, countless possibilities

The OD2000 feels at home in nearly any application. Thanks to a scanning range of up to 1,200 mm, a measuring frequency of up to 7.5 kHz and high measuring accuracy down to the last micrometer, the OD2000 is the universal solution for challenging measuring tasks in industrial environments. The sensor is suitable for a wide range of positioning tasks in manufacturing and assembly, but shows its full performance potential in particular in precise measurements in quality applications.
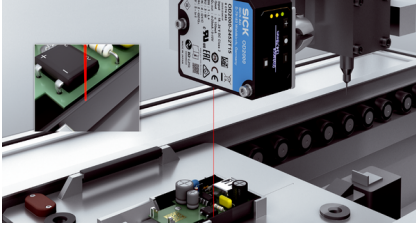
Full control
For example, in robot-guided positioning tasks or mounting printed circuit boards in the electronics industry.
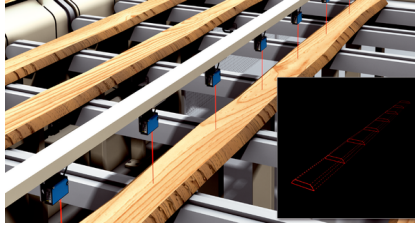
High precision
For example, for measuring wanes and board thicknesses in the timber industry.
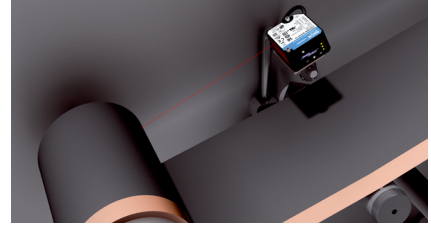
Reliable quality
For example, in cell winding when monitoring remaining film.

Economical all-rounder: The OD2000 is the ideal solution for a wide range of tasks in which performance meets price sensitivity.

OD2000

Technical data overview

Repeatability	0.1 µm 0.2 µm 4 µm 10 µm 20 µm 100 µm (depending on type)
Response time	≥ 0.533 ms [1]
Output time	≥ 0.1333 ms
Analog output	4 mA ... 20 mA, ≤ 300 Ω0 V ... 10 V, > 10,000 Ω
Digital output	
Type	PNP/NPN, selectable
IO-Link	✓, IO-Link V1.1
Enclosure rating	IP67
Ambient temperature, operation	–10 °C ... +50 °C, Operating temperature at V_S = 24 V

[1] Dependent on the set average or sensitivity.

Product description

The compact OD2000 displacement measurement sensor is a very economical stand-alone solution for accurate distance measurement. The universally applicable sensor is suitable for a wide variety of applications with distances of up to 1,200 mm. Using high-precision triangulation, it detects even the smallest differences in height in the micrometer range. Due to top values in terms of linearity and repeatability as well as a measuring frequency of up to 7.5 kHz, the OD2000 delivers reliable distance data on virtually any surface. Thanks to the plug and play concept, the sensor can be integrated very quickly. In addition, configuration via the OLED display on the sensor or via IO-Link interface and software is extremely convenient.

At a glance

- Large measuring range of up to 1,200 mm
- High measuring frequency of up to 7.5 kHz
- OLED display for easy parameterization on the sensor
- IO-Link interface for configuration, e.g. with SOPAS
- Adjustable analog output (mA/V) and digital output
- Laser classes 1 and 2
- Stand-alone device – no external amplifier required

Your benefits

- Optimizes the process quality due to high repeatability and linearity throughout the entire measuring range
- Universally applicable thanks to precise measurement results on virtually any surface, regardless of its texture or color
- Reliable distance values in every application thanks to intelligent measured value filters and evaluation algorithms
- Very economic solution, even for demanding applications
- Simple and convenient configuration via OLED display or software
- Quick commissioning thanks to intuitive operating concept
- Enables high production throughput thanks to a high measuring frequency

Fields of application

- Diameter check on spools or coils for unwinding tasks
- Double layer detection in metal and paper processing
- Positioning tasks in robotic, handling, and mounting processes
- Printed circuit board (PCB) assembly
- Board and rough edge measurement in the timber industry
- Precise positioning for quality inspection processes

Ordering information

Other models and accessories ➜ www.sick.com/OD2000

- **Communication interface:** IO-Link
- **Housing material:** plastic
- **Type of analog output:** Current output / voltage output
- **Connection type:** cable with male connector, M12, 5-pin, A-coded, 30 cm
- **Digital output:** 2 x PNP/NPN, selectable

Laser class	Measuring range	Typ. light spot size (distance)	Type	Part no.
1	25 mm … 35 mm	Ø 50 µm (30 mm)	OD2000-0301T15	6074380
			OD2000-0301T15S02	6087794
	40 mm … 60 mm	Ø 70 µm (50 mm)	OD2000-0501T15	6074381
	60 mm … 200 mm	Ø 300 µm (130 mm)	OD2000-1301T15	6074382
2	100 mm … 600 mm	Ø 600 µm (350 mm)	OD2000-3502T15	6074384
	200 mm … 1,200 mm	Ø 1 mm (700 mm)	OD2000-7002T15	6074385
	70 mm … 420 mm	Ø 500 µm (245 mm)	OD2000-2452T15	6074383

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**

SICK AG | Waldkirch | Germany | www.sick.com

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