Product family overview



OD Mini

Compact, lightweight sensor for precise measurement

DISPLACEMENT MEASUREMENT SENSORS

SICK
Sensor Intelligence.

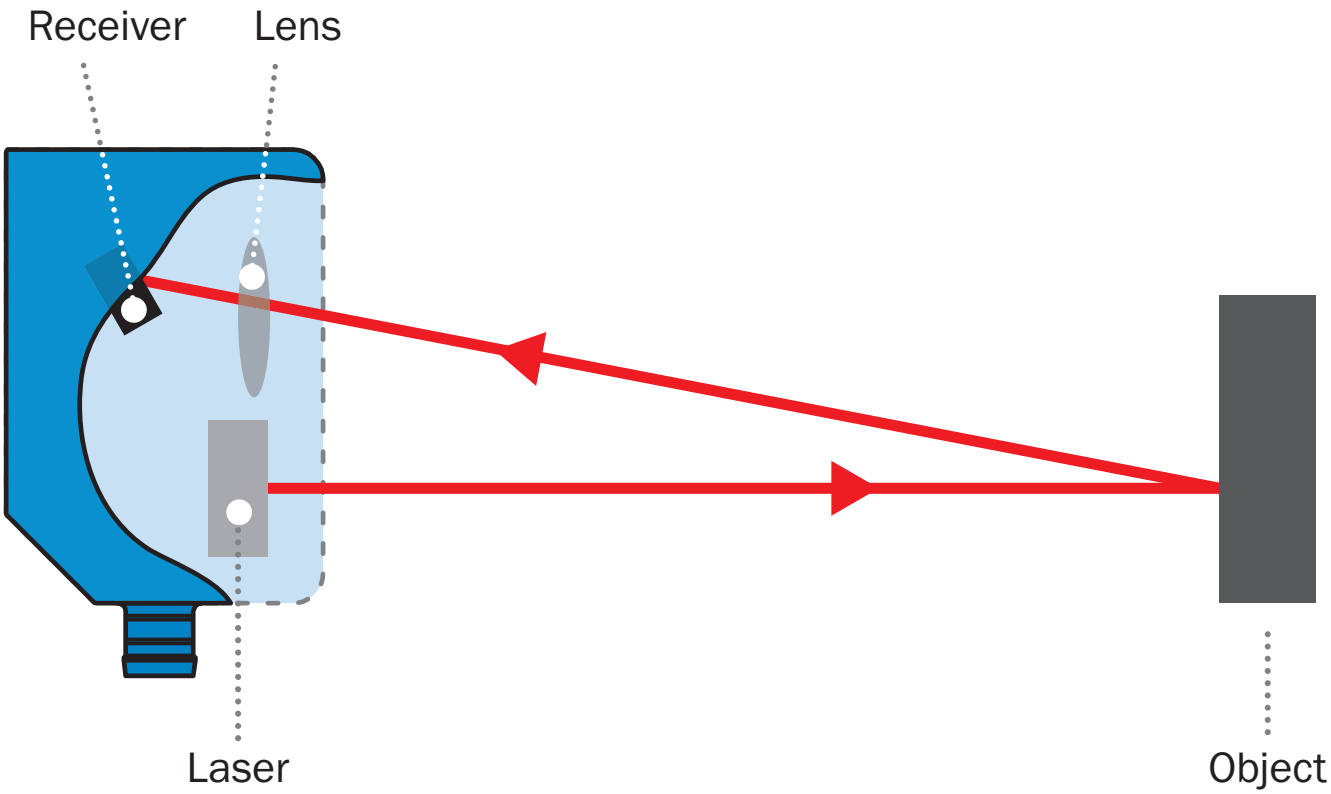
Advantages

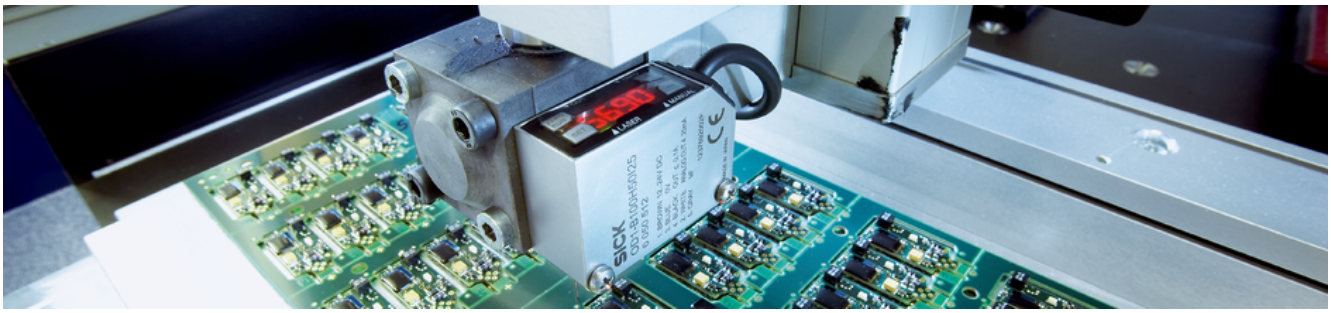


Precision meets quality

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

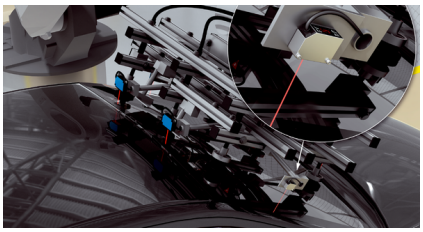
A point of light is projected onto the measuring object. The light reflected is captured by a light-sensitive receiver at a specific angle. Based on the angle between the send and receive direction, the position of the object is then triangulated (from the Latin "triangulum" = triangle).





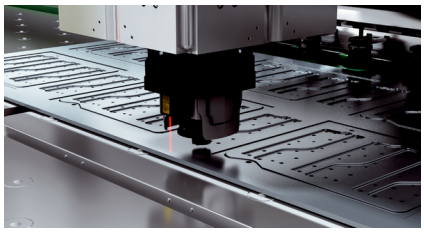
OD Mini – The lightweight sensor in a compact housing

The OD Mini displacement measurement sensors from SICK use the triangulation principle to very precisely monitor series production in assembly processes. Due to their small design, the sensors are extremely flexible and can be used in many applications, for example when measuring components, for precise positioning, in the inspection of manufacturing tolerances in quality control, for process controls by robot positioning and for classification and sorting (e.g. by length). Since manufacturing quality plays an important role in such applications, the OD Mini is perfect here due to its high measurement precision.



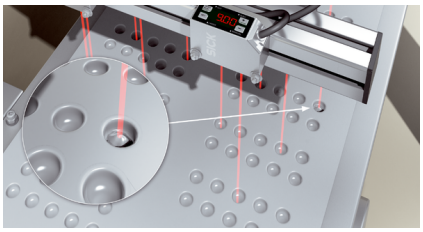
Precise positioning

- Typical applications are robot guidance for the installation of front screens and high-precision positioning of carriages
- Typical industries are robotics, handling and assembly, automotive and parts suppliers



Collision avoidance

- Typical applications are height positioning and collision avoidance at the cutting head and positioning of grippers
- Typical industries are handling and assembly, machine tools



Ensuring quality

- Typical applications are quality control of components and checking the shape of blister packs
- Typical industries are consumer goods, handling and assembly, pharmaceutical and cosmetics manufacturers

The OD Mini also impresses when used in highly dynamic applications due to its small size and low weight.



OD Minis are among the world's smallest displacement measurement sensors with display and control elements in terms of their dimensions (44.4 mm x 31 mm x 17 mm). The product family impresses with its measurement accuracy in the µm range as well as the high-quality fittings, compact size and low weight. The OD Mini is available in two housing designs.



OD Mini in stainless-steel housing – the rugged version for use in harsh environments



OD Mini in aluminum housing – for highly dynamic applications, e. g. robotic arms and grippers

The OD Mini impresses with its measurement accuracy in the µm range and its rugged and compact housing.

SICK LifeTime Services

SICK's services increase machine and plant productivity, enhance the safety of people all over the world, provide a solid foundation for a sustainable business operation, and protect investment goods. In addition to its usual consulting services, SICK provides direct on-site support during the conceptual design and commissioning phases as well as during operation.

The range of services not only covers aspects like maintenance and inspection, but also includes performance checks as well as upgrades and retrofits. Modular or customized service contracts extend the service life of plants and therefore increase their availability. If faults occur or limit values are exceeded, these are detected at all times by the corresponding sensors and systems.



Consulting and design
Application-specific advice on the product, its integration and the application itself.



commissioning and maintenance
Application-optimized and sustainable — thanks to professional commissioning and maintenance by a trained SICK service technician.



service contracts
Extended warranty, SICK Remote Service, 24-hour helpdesk, maintenance, availability guarantees and other modular components can be individually combined on request.



Technical data overview

Measuring range	10 mm ... 250 mm (depending on type)
Linearity	± 10 µm ... ± 100 µm (depending on type)
Repeatability	20 µm 200 µm 1 µm 6 µm
Response time	≥ 2 ms
Output time	≥ 0.5 ms
Measuring frequency	≤ 2 kHz
Digital output	1 ... 3 x PNP/NPN, selectable
Light source	Laser, red
Type of light	Visible red light
Laser class	1 / 2 (depending on type)
Serial	✓, RS-485
PROFIBUS DP	✓, optional, over external evaluation unit
Analog output	
Number	1
Type	Current output / voltage output (depending on type)
Ambient temperature, operation	–10 °C ... +50 °C

Product description

Simple, precise, and economic solutions for measuring tasks; the OD Mini displacement measurement sensors are impressive with their compact and rugged housing, which is available in a lightweight aluminum or a rugged stainless steel. These sensors are equipped with the latest CMOS receiver technology for precise measurement, regardless of the brightness and color of the surface material. The integrated amplifier unit enables the OD Mini to work on a stand-alone basis. For complex measurement tasks up to two OD Mini Pro sensor heads can be connected to one OD Mini evaluation unit and calculate together. The OD Mini is simple to configure due to its intuitive design and display with four status LEDs. The OD Mini can also be remotely programmed via the external teaching input. The large number of available interfaces also simplifies integration into industrial networks. This ensures the highest possible reliability and precision when solving a wide range of measurement tasks.

At a glance

- Compact, rugged housing
- Stand-alone use or in combination with the OD Mini evaluation unit
- Display and LEDs on device for visualization of current status
- Different interfaces available
- Simple teach-in using display or external teaching input
- CMOS receiver unit for precise, fast measurement in the µm range
- Various measuring ranges: Measuring from 10 mm to 250 mm possible

Your benefits

- Cost-saving commissioning through simple operating concept and display
- Small installation size and low weight also allow use in highly dynamic applications
- Calculation of two sensorheads - easy possible over the external evaluation unit
- High machine throughput thanks to reliable measurement, regardless of brightness and color of surface
- The wide range of available interfaces enables simple integration into industrial networks
- Optimum performance even at high production speeds

Fields of application

- Main field of applications in electronics and solar indsutries, the automotive industry and in machine tools
- Precise positioning
- Quality control of manufacturing tolerances in processed workpieces
- Classification and sorting
- Positioning of robots by grippers in closed control circuit
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Ordering information

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

- **Housing material:** metal

Laser class	Measuring range	Type of analog output	Connection type	Typ. light spot size (distance)	Digital output	Type	Part no.
1	10 mm ... 20 mm	Current output	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 500 µm (15 mm)	1 x PNP/NPN, selectable	OD1-B015C05I25	6050520
			Male connector, M8, 4-pin	700 µm x 500 µm (15 mm)	–	OD1-B015C05I14	6050519
	20 mm ... 50 mm	–	Cable with male connector, M12, 5-pin, 30 cm	1.6 mm x 1 mm (35 mm)	1 x PNP/NPN, selectable	OD1-B035C15Q15	6052309
			Male connector, M8, 4-pin	1.6 mm x 1 mm (35 mm)	1 x PNP/NPN, selectable	OD1-B035C15Q14	6052308
		Current output	Cable with male connector, M12, 5-pin, 30 cm	800 µm x 450 µm (35 mm)	1 x PNP/NPN, selectable	OD1-B035C15I25	6050524
			Male connector, M8, 4-pin	800 µm x 450 µm (35 mm)	–	OD1-B035C15I14	6050523
	50 mm ... 150 mm	Current output	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 600 µm (100 mm)	1 x PNP/NPN, selectable	OD1-B100C50I25	6050528
			Male connector, M8, 4-pin	700 µm x 600 µm (100 mm)	–	OD1-B100C50I14	6050527
2	50 mm ... 250 mm	–	Cable with male connector, M12, 5-pin, 30 cm	2 mm x 1.3 mm (150 mm)	1 x PNP/NPN, selectable	OD1-B150F0AQ15	6052327
			Male connector, M8, 4-pin	2 mm x 1.3 mm (150 mm)	1 x PNP/NPN, selectable	OD1-B150F0AQ14	6052326

- **Housing material:** stainless steel
- **Laser class:** 1

Measuring range	Type of analog output	Connection type	Typ. light spot size (distance)	Digital output	Type	Part no.
10 mm ... 20 mm	Current output	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 500 µm (15 mm)	1 x PNP/NPN, selectable	OD1-B015H05I25	6050496
		Male connector, M8, 4-pin	700 µm x 500 µm (15 mm)	–	OD1-B015H05I14	6050495
	Voltage output	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 500 µm (15 mm)	1 x PNP/NPN, selectable	OD1-B015H05U25	6050498
		Male connector, M8, 4-pin	700 µm x 500 µm (15 mm)	–	OD1-B015H05U14	6050497
20 mm ... 50 mm	Current output	Cable with male connector, M12, 5-pin, 30 cm	800 µm x 450 µm (35 mm)	1 x PNP/NPN, selectable	OD1-B035H15I25	6050504
		Male connector, M8, 4-pin	800 µm x 450 µm (35 mm)	–	OD1-B035H15I14	6050503
	Voltage output	Cable with male connector, M12, 5-pin, 30 cm	800 µm x 450 µm (35 mm)	1 x PNP/NPN, selectable	OD1-B035H15U25	6050506
		Male connector, M8, 4-pin	800 µm x 450 µm (35 mm)	–	OD1-B035H15U14	6050505
50 mm ... 150 mm	Current output	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 600 µm (100 mm)	1 x PNP/NPN, selectable	OD1-B100H50I25	6050512
		Male connector, M8, 4-pin	700 µm x 600 µm (100 mm)	–	OD1-B100H50I14	6050511
	Voltage output	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 600 µm (100 mm)	1 x PNP/NPN, selectable	OD1-B100H50U25	6050514
		Male connector, M8, 4-pin	700 µm x 600 µm (100 mm)	–	OD1-B100H50U14	6050513

- **Communication interface:** Serial, PROFIBUS DP
- **Housing material:** stainless steel
- **Laser class:** 1
- **Type of analog output:** Current output
- **Digital output:** 1 ... 3 x PNP/NPN, selectable

Measuring range	Connection type	Typ. light spot size (distance)	Type	Part no.
10 mm ... 20 mm	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 500 µm (15 mm)	OD1-B015H05A15	6054082
	Male connector, M8, 4-pin	700 µm x 500 µm (15 mm)	OD1-B015H05A14	6050499
20 mm ... 50 mm	Cable with male connector, M12, 5-pin, 30 cm	800 µm x 450 µm (35 mm)	OD1-B035H15A15	6054083
	Male connector, M8, 4-pin	800 µm x 450 µm (35 mm)	OD1-B035H15A14	6050507
50 mm ... 150 mm	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 600 µm (100 mm)	OD1-B100H50A15	6054084
	Male connector, M8, 4-pin	700 µm x 600 µm (100 mm)	OD1-B100H50A14	6050515

- **Communication interface:** Serial, PROFIBUS DP
- **Housing material:** metal
- **Laser class:** 1
- **Type of analog output:** Current output
- **Digital output:** 1 ... 3 x PNP/NPN, selectable

Measuring range	Connection type	Typ. light spot size (distance)	Type	Part no.
10 mm ... 20 mm	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 500 µm (15 mm)	OD1-B015C05A15	6054085
	Male connector, M8, 4-pin	700 µm x 500 µm (15 mm)	OD1-B015C05A14	6050521
20 mm ... 50 mm	Cable with male connector, M12, 5-pin, 30 cm	800 µm x 450 µm (35 mm)	OD1-B035C15A15	6054086
	Male connector, M8, 4-pin	800 µm x 450 µm (35 mm)	OD1-B035C15A14	6050525
50 mm ... 150 mm	Cable with male connector, M12, 5-pin, 30 cm	700 µm x 600 µm (100 mm)	OD1-B100C50A15	6054087
	Male connector, M8, 4-pin	700 µm x 600 µm (100 mm)	OD1-B100C50A14	6050529

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