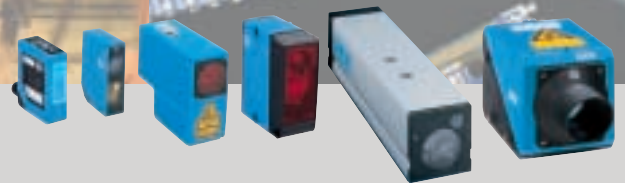




SENSICK
Measuring Distance with Light



Product Information

SICK



**Not a question of distance,
but of technology.**





Non-contact measuring of distance with light.

SICK sensors allow you to measure distance with the highest level of precision. Our products are able to measure precisely at short and long distances and ensure smooth production sequences. Because no mechanical parts are used, ultimate stability is achieved between transmitter and object. Distance measurement data is produced immediately after activating the sensor.

SICK – global sensor systems provider.

The company has over 50 years experience in sensor technology and 2,700 employees in 20 countries. SICK is among the world's leading sensor manufacturers. We are not just a component supplier, but an experienced partner in large-scale projects in almost every industry. Together with customers, SICK works constantly on innovative product ideas and pioneering technologies.

Precise measurement is easy.



Sometimes it is not so easy to measure distances accurately. But with SICK sensors, the task becomes child's play.

There are different sensors for different applications, based on technical requirements and budget. The system that best meets your needs depends on the distance to be measured and precision of measurement.

Here is a brief review of our product line.

OD Displacement sensor



The OD displacement sensor measures even the smallest differences. A high-precision finely focussed laser beam illuminates the object and high-resolution CMOS lines detect its distance by triangulation.

WTA 24 Distance sensor



This economical analog proximity switch designed as a photoelectric switch features simple construction. An LED illuminates the object and a PSD element detects its distance by triangulation.

DT 200 Laser analog sensor



By means of phase correlation, this sophisticated analog laser sensor measures by time of flight up to a distance of two meters with millimeter resolution.

DS 60 Distance sensor



The correlation measurement patented by SICK provides background suppression up to 100 meters. The resolution of time of flight is 100 picoseconds. This permits a customer-specific ASIC with a 100 picoseconds delay line.

DMD Distance measuring device



The red laser pointer assists in object alignment up to a distance of 240 meters. The infrared laser measures the pulse-travel time.

DME 3000 Distance measuring unit

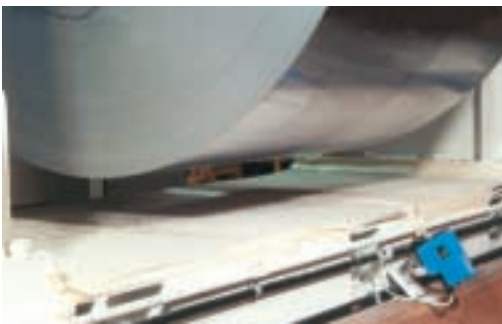


Unsurpassed for high-precision measuring results using phase correlation. The resolution of 0.1 mm corresponds to a time of flight of less than one picosecond.

DMT/DML Distance measuring unit



The pulse-travel time is measured by tiny flashes of laser light, only four nanoseconds in duration. These sensors have scan ranges of up to 155 meters on white natural surfaces and more than one kilometer when reflectors are used.





Where exact measurement is essential.

OD Displacement sensor

Proximity type



OD – precise measurement and simple operation

The OD is not only a high-precision displacement sensor, but its simple set-up and calibration using the Teach-in function makes it very easy to use. In addition, an analog measurement of 4 – 20 mA represents the measured distance and a digital switch output permits its use as a high-precision scanner with background masking. It also has a special feature. With the ODC control interface, it is possible to extend the functions of the OD even further.

- Measurement range: 26 – 400 mm
- Resolution: 1 – 1500 μm
- Measuring output: 1 – 100 ms
- Measurement: triangulation with laser diodes/LED

26 mm 400 mm





WTA 24 Distance sensor

Proximity type



WTA 24 – tried and tested process, easy to operate

This sensor features simple operation and is enclosed in a rugged, tried-and-proven housing. An analog output signal represents the distance measured. The sensor can be used as a proximity switch with background suppression with two switching outputs. The switching outputs can be easily configured by utilizing the Teach-in function.

- Measurement range: 100 – 1200 mm
- Resolution: 5 – 25 mm
- Measuring output: 100 ms
- Measurement: triangulation with LED



DT 200 Laser analog sensor

Proximity type

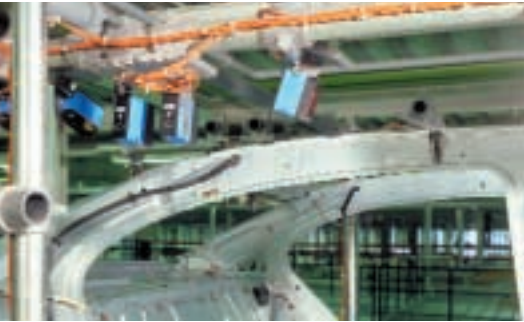


DT 200 – determine wide scanning distances precisely

This analog laser sensor is ideal for use when distance is large and must be measured in a precise manner. The measurement output from 0 – 20 mA is easy to interpret and signals a measurement distance at 0.01 mA/mm. The plug and play process makes sensor set-up simple.

- Measurement range: 0.1 – 2 m
- Resolution: 0.125 mm
- Measuring output: 29 ms
- Measurement: time of flight “phase correlation”





DS 60 Distance sensor

Proximity type



DS 60 “Proximity switch” – the solution, even for critical surfaces

The sensor is best suited for large scanning distances and measurements on dark critical surfaces. The proximity sensor version of the DS 60 works on the principle of time of flight measurement. Set-up is facilitated by utilization of the Teach-in function. Two switching outputs signal two different object distances and the background suppression takes place by travel time measurement up to 100 meters. Optional: a small light spot for precise detection of small objects or large light spot for uneven surfaces. In addition, invisible measurements can be made with infrared light, class 1 laser (safe for the eyes) or simply align with laser light pointer.



- Measurement range: 0.1 – 6 m
- Resolution: 15 mm
- Measuring output: 2 switch points
- Measurement: time of flight



Reflector type



DS 60 “Reflector” – variable in use

The reflector version of the DS 60 measures distances up to 20 meters. Two switching outputs detect three distance zones: reflective tape at large distances, reflective tape at medium distances, and reflective tape at small distances.

- Measurement range: 0.1 – 20 m
- Resolution: 15 mm
- Measuring output: 2 switch points
- Measurement: time of flight



When it's a bit further away: SICK sensors with laser pointer.



DMD Distance measuring device

Reflector type



DMD – distance measurement, contact-free and accurate

This sensor accurately measures distances of up to 240 meters on reflective tape or lens reflectors with invisible infrared class 1 laser. Alignment is performed easily using a red laser pointer.

Flexible interfaces are also supported and include SSI, Profibus, and Interbus.

- Measurement range: 0.5 – 240 m
- Resolution: 0.1 – 1 mm
- Measuring output: 13 – 50 ms
- Measurement: time of flight "pulse-travel time"





DME 3000 Distance measuring unit

Proximity type



DME 3000 “Proximity switch” – fast measurement, versatile use

The DME 3000 is a fully featured sensor with its simple alignment and visible red-light class 2 laser (safe for the eyes). This sensor can detect and measure the distance of black objects up to a distance of two meters. This proximity switch can be programmed to calculate an average value, perfectly performing the required measurement task. It also features two adjustable switching outputs, e.g. for end-position control. Integrated failure-signalling and error outputs increase up-time time of manufacturing processes.

- Measurement range: 0.1 – 8 m
- Resolution: 0.125 mm
- Measuring output: 21 ms
- Measurement: time of flight “phase correlation”



Reflector type



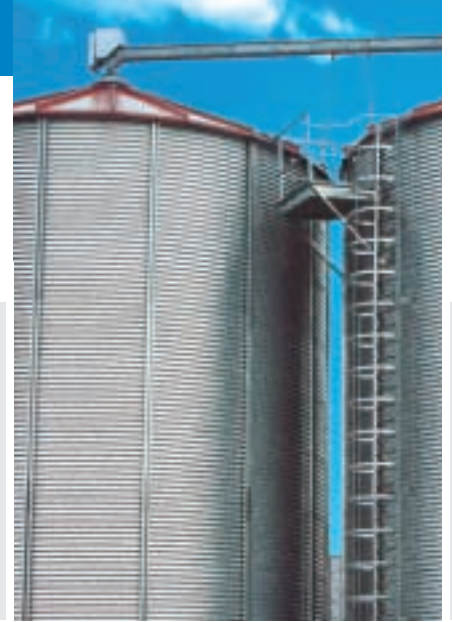
DME 3000 “Reflector” – fast and simple to align

This device measures up to 500 meters to reflector and the fast measuring times permit its use in closed control loops. The DME 3000 has an easily visible class 2 red laser light (safe for the eyes) which makes it very easy to align. A wide range of accessories, e.g. integrated heated housing and heated reflectors for use in refrigerated stores, is also available. The sensor has variable interfaces RS 422, SSI, and Profibus. The operator interface makes it very easy to program, commission, and service.

- Measurement range: 0.1 – 500 m
- Resolution: 0.125 mm
- Measuring output: 1 ms
- Measurement: time of flight “phase correlation”



Suitable for large distances and critical surfaces.



DMT/DML Distance measuring unit

Proximity type



DMT “Proximity switch” – for measurement anywhere and individual programming

This sensor has a measuring range up to 155 millimeters through pulse travel measurement. This permits measurements on virtually all types of surface at close range up to 10 meters. Numerous setting options allow perfect adaptation of measurement characteristics. The integrated laser pointer, which can be switched on and off, permits easy alignment of the scanner, even for large scanning ranges. The measurement readings can be transferred easily through various interfaces including analog, RS 232 and Profibus. There are two adjustable switching outputs for applications such as limit switching.

- Measurement range: 0.5 – 155 m
- Resolution: 1 mm
- Measuring output: 16 – 1024 ms
- Measurement: time of flight “pulse-travel time”



Reflector type



DML “Reflector” – multiple options, even for out of doors

The DML measures distances up to a range of 600 meters on a reflector with an area of 1 square meter, or up to 1200 meters when triple glass reflectors are used. Large signal output permits reliable outdoor use.

- Measurement range: 0.5 – 1100 m
- Resolution: 1 mm
- Measuring output: 16 – 1024 ms
- Measurement: time of flight “pulse-travel time”

