Product family overview

DT20 Hi

Reliable, consistent distance measurement up to 1 m

DISPLACEMENT MEASUREMENT SENSORS

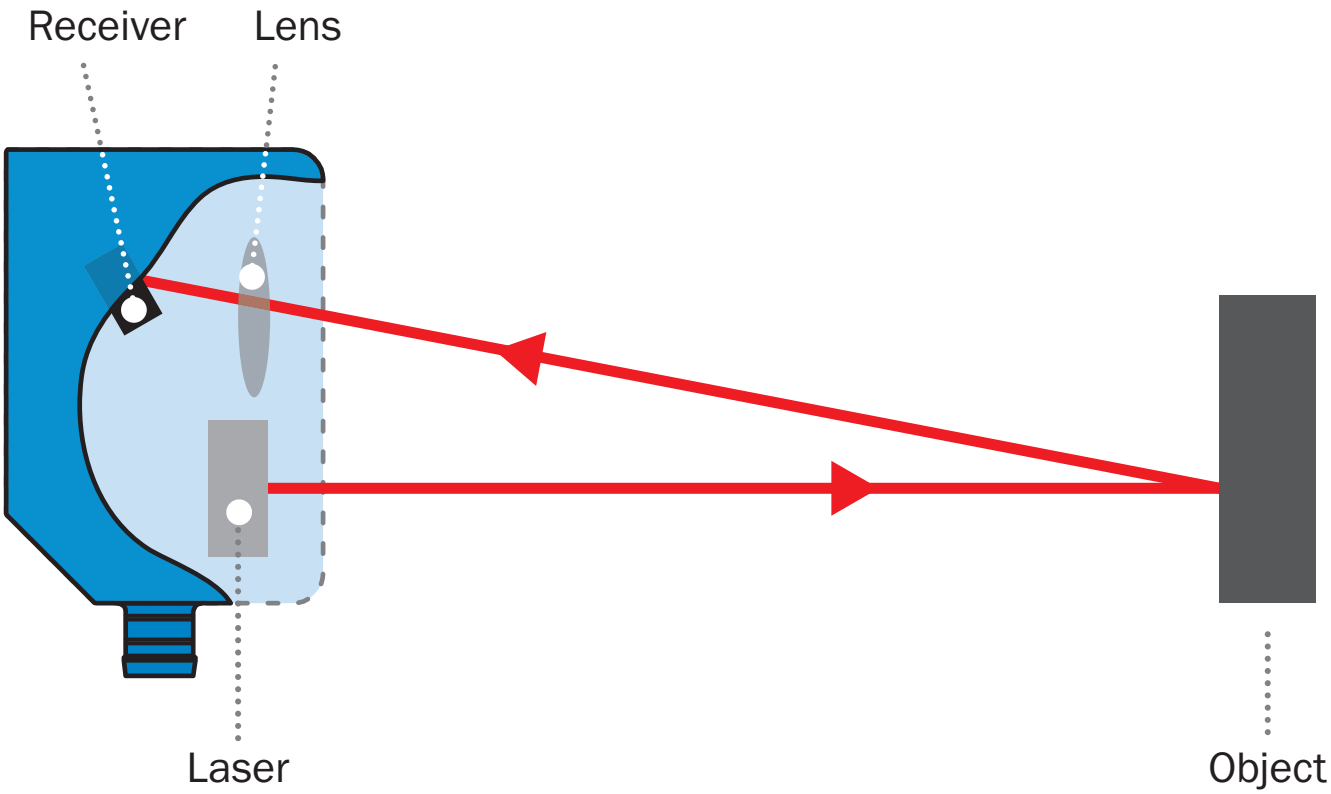
SICK
Sensor Intelligence.

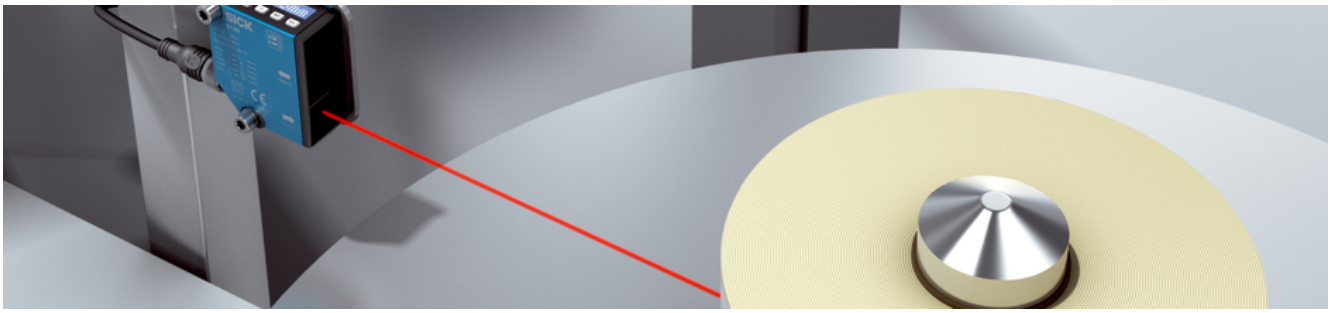
Advantages

Precision meets quality

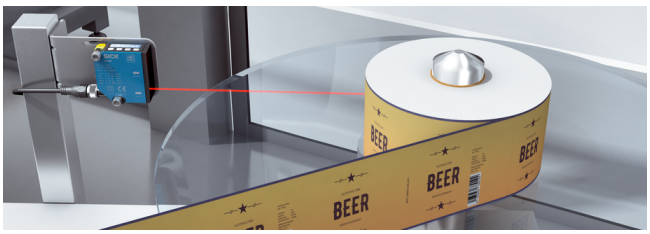
With expert-developed intelligent measurement technology which proves its worth in industrial applications time and time again, SICK offers the solution to any challenge which demands maximum measurement accuracy and quality. A pioneering spirit founded on our years of experience and our own innovations 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).

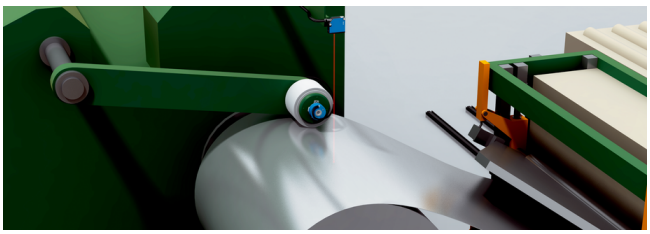




The DT20 Hi displacement sensor provides reliable and precise measurement up to 1,000 mm in many applications, regardless of color and gloss. The sensor is suitable for detection, positioning, and process control applications in a wide variety of sectors, including the electronic and solar, pharma and metal industries, as well as machine building and robotics.



Precise monitoring of unused film
Powerful machines in the bottle filling sector apply up to 60,000 labels every hour non-stop. In order to use up as much of the thin label material as possible, the roll being used must be measured precisely. The high resolution of the DT20 Hi displacement measurement sensor minimizes unused labels and optimally controls the flying roll change via a switching output.



Sheet coil uncoiling
To ensure a constant feed of material, the uncoiling speed of the sheet coil must be regulated. The DT50 distance sensor measures the radius of the sheet coil continuously over the entire unwinding process. The DFS60 incremental encoder uses a friction roller to measure the retraction speed of the sheet. The measured values from both sensors are used to control the retraction speed and initiate automatic coil change.

The DT20 Hi is a rugged and economic single sensor solution which is easy to install and configure.

Technical data overview

Measuring range	50 mm ... 1,000 mm (depending on type)
Linearity	± 0.5 mm ... ± 6 mm (depending on type)
Repeatability	≥ 0.125 mm ≥ 0.25 mm ≥ 0.5 mm ≥ 2.5 mm
Response time	≥ 2.5 ms
Output time	≥ 2.5 ms
Measuring frequency	≤ 400 Hz
Digital output	1 x PNP 1 x NPN
Light source	Laser, red
Type of light	Visible red light
Laser class	2 / 1 (depending on type)
Analog output	
Number	1
Type	Current output
Ambient temperature, operation	–20 °C ... +55 °C, Operating temperature at V_S = 24 V

Product description

DT20 Hi distance sensor is the ideal choice for quality control tasks from a distance of up to 1 m. The reliable and precise distance measurement independent of any color, enables consistent check of any component. In addition, a precise red laser makes it possible to accurately detect very small objects. The DT20 Hi's exceptional measurement performance and advanced settings are ideal for solving nearly any demanding measurement task.

At a glance

- Four measuring ranges from 50 mm up to 1,000 mm
- Very high linearity of up to ± 0.5 mm
- CMOS receiving element makes accurate distance measurement possible regardless of color and gloss
- Red light laser
- Freely scalable analog and digital output
- Display with intuitive menu navigation
- Extended adjustments (e.g. averaging, external laser-off function, etc.)

Your benefits

- Reliable, precise measurement, independent of surface, increases production quality
- Reliable and consistent measurements, regardless of color, reduce changeover time
- Advanced settings provide increased application flexibility to easily solve customer-specific applications
- Fast commissioning via button, remote or numerical teach
- Easy, precise alignment and verification based on red laser light and LC display, decreasing commissioning time
- Tough metal housing permits operation in harsh environments

Ordering information

Other models and accessories ➜ www.sick.com/DT20_Hi

- **Housing material:** metal
- **Type of analog output:** Current output
- **Connection type:** male connector, M12, 5-pin, swivel connector unit

Laser class	Measuring range	Typ. light spot size (distance)	Digital output	Type	Part no.
1	100 mm ... 300 mm	3 mm x 6 mm (300 mm)	1 x PNP	DT20-P244BS04	1052829
	100 mm ... 600 mm	3 mm x 6 mm (600 mm)	1 x PNP	DT20-P214BS03	1051547
2	100 mm ... 1,000 mm	6 mm x 12 mm (1000 mm)	1 x NPN	DT20-N224B	1044216
			1 x PNP	DT20-P224B	1040405
	100 mm ... 300 mm	3 mm x 6 mm (300 mm)	1 x NPN	DT20-N244B	1040713
			1 x PNP	DT20-P244B	1040406
	100 mm ... 600 mm	3 mm x 6 mm (600 mm)	1 x NPN	DT20-N214B	1040140
			1 x PNP	DT20-P214B	1040012
	50 mm ... 150 mm	2 mm x 4 mm (150 mm)	1 x NPN	DT20-N254B	1041279
			1 x PNP	DT20-P254B	1041278

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

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