

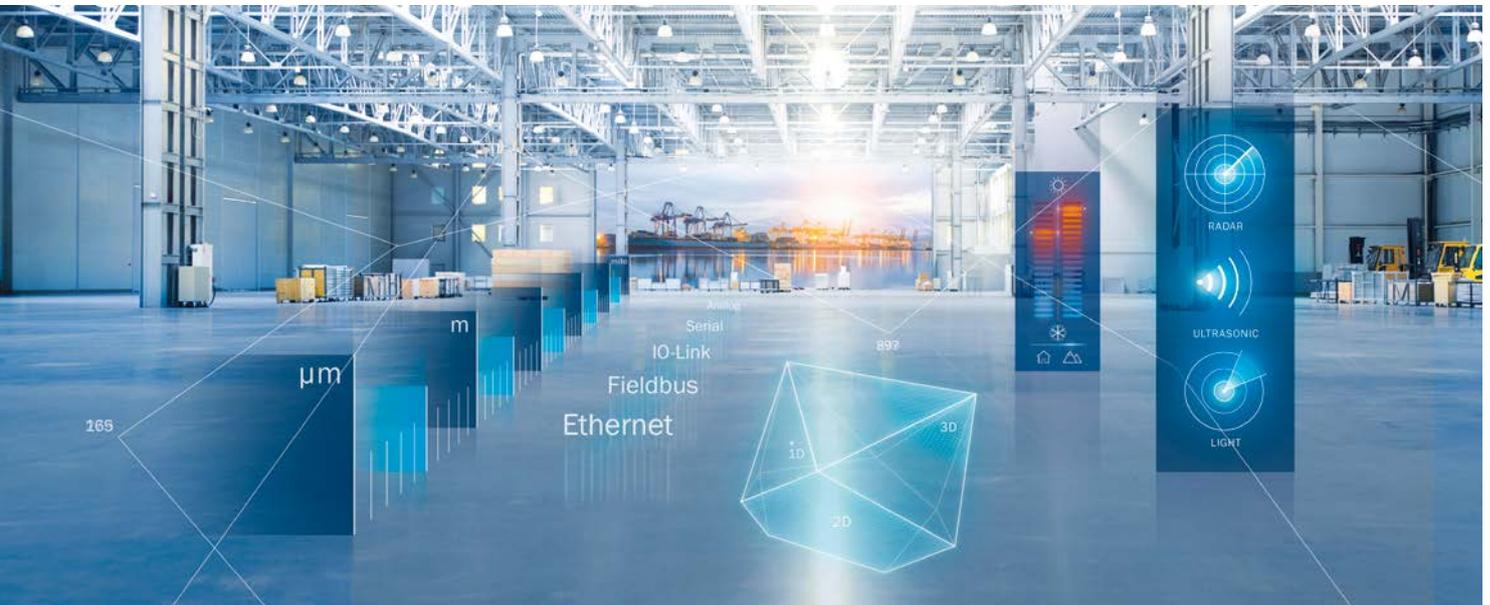


# DISTANCE SENSORS

PRECISION FOR MEASURING TASKS

Displacement measurement sensors, mid range, long range distance sensors, linear measurement sensors, ultrasonic sensors, optical data transmission

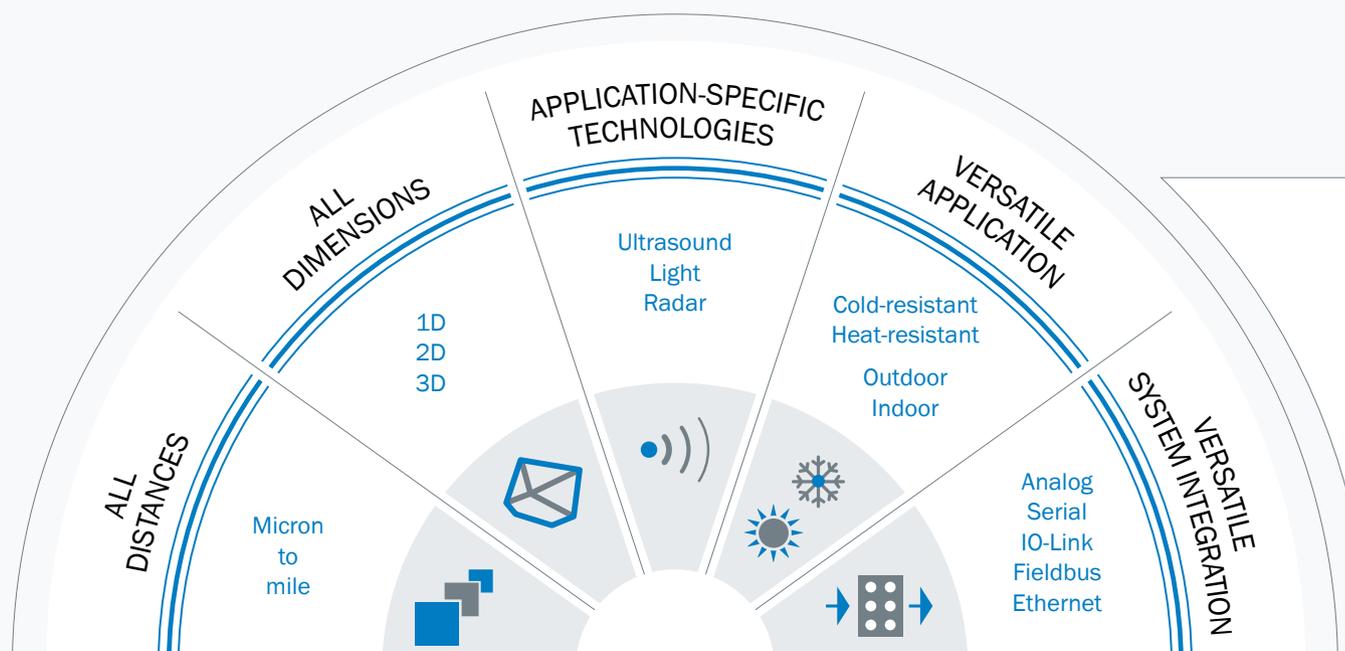
**SICK**  
Sensor Intelligence.



## FROM MICRON TO MILE. IN ALL DIMENSIONS.

Distance sensors and LiDAR sensors from SICK: range in all dimensions, precise results in all environments

Automation is forging ahead in all industries with no sign of stopping. And right at the forefront are distance sensors and detection and ranging solutions from SICK. As intelligent sources of data, they deliver precise information for nearly any application. Over any distance, in all environments. Equipped with high-developed technologies and a wide range of interfaces. Discover a unique portfolio unparalleled throughout the world which unites diverse industry knowledge and extraordinary capacity for innovation in all dimensions. Comprehensive performance and boundless flexibility – combined for your success.





### Electronics

Innovative sensor solutions save time and ensure a high quality standard in the electronics production process.



### Automated guided vehicle systems

LiDAR and distance sensors enable efficient operation of automated guided vehicle systems.



### Storage and conveyor

Sensors ensure precise position determination, reliable empty bay detection and exact contour measurement in storage and conveyors.



### Traffic

With safety and free travel: sensors retain a synoptic view in road traffic applications.



### Ports

Intelligent automation ensures high handling capacity, increased efficiency and disruption-free port operation.



Additional industrial areas of application in which automated solutions control production and processes.

[www.sick.com/industries-overview](http://www.sick.com/industries-overview)

## Excellent performance over any distance, in all dimensions

### For more details

3D LiDAR sensors scan with high point density.

### Individual sensor solutions

SICK AppSpace combines software, programmable sensors and a dynamic developer community.

### Effective for both indoor and outdoor applications

The versatile HDDM+ distance measurement method reliably determines distances.

### Detecting changes in real time

2D LiDAR sensors detect details in moving road traffic. They have the clear advantage when it comes to detection and classification of vehicles.

[www.sick.com/micron-to-mile](http://www.sick.com/micron-to-mile)

Product		Principle of operation				
		Triangulation	Time-of-flight	Optical linear	Ultrasonic	Optical data transmission
<b>Displacement measurement sensors</b>						
	DT20 Hi	■				
	OD Value	■				
	OD1000	■				
	OD Mini	■				
	OD Max	■				
	OD Precision	■				
	OD5000	■				
	Profiler	■				
<b>Mid range distance sensors</b>						
	Dx35		■			
	Dx50		■			
	Dx50-2		■			
<b>Long range distance sensors</b>						
	Dx100		■			
	Dx1000		■			
	Dx500		■			
<b>Linear measurement sensors</b>						
	OLM100			■		
	OLM100 Hi			■		
	OLM200			■		
<b>Ultrasonic sensors</b>						
	UM30				■	
	UM18				■	
	UM12				■	
	UC30				■	
	UC12				■	
	UC4				■	
	UD18				■	
<b>Optical data transmission</b>						
	ISD400					■

Measuring ranges												Page
0 m	0.01 m	0.1 m	0.5 m	1 m	5 m	10 m	100 m	500 m	1,000 m	5,000 m	10,000 m	
				0.05 m ... 1 m								→ 6
				0.026 m ... 0.5 m								→ 6
				0.2 m ... 1 m								→ 7
				0.01 m ... 0.25 m								→ 7
				0.024 m ... 0.45 m								→ 8
				0.024 m ... 0.7 m								→ 8
				0.014 m ... 0.19 m								→ 9
				0.075 m ... 0.125 m								→ 9
				0.05 m ... 35 m								→ 10
				0.2 m ... 50 m								→ 11
				0.2 m ... 30 m								→ 11
				0.15 m ... 300 m								→ 12
				0.2 m ... 1,500 m								→ 13
				0.2 m ... 70 m								→ 13
				0 m ... 10,000 m								→ 14
				0 m ... 10,000 m								→ 15
				0 m ... 10,000 m								→ 15
				0.03 m ... 8 m								→ 16
				0.02 m ... 1.3 m								→ 16
				0.02 m ... 0.35 m								→ 16
				0.35 m ... 8 m								→ 17
				0.02 m ... 0.35 m								→ 17
				0.013 m ... 0.25 m								→ 17
				Not relevant. Sender/ receiver operating principle								→ 17
				Transmission range: 0.2 m ... 200 m								→ 18

	 <p><b>DT20 Hi</b></p>	 <p><b>OD Value</b></p>	
	Reliable, accurate distance measurement up to 1 m	Simply accurate measurement	

Technical data overview			
Measuring range	50 mm ... 1,000 mm	26 mm ... 500 mm	
Linearity	± 0.5 mm ... ± 6 mm	± 8 µm ... ± 1,200 µm	
Repeatability	0.125 mm ... ≥ 10 mm	2 µm ... 100 µm	
Response time	≥ 2.5 ms	≥ 1 ms	
Measuring frequency	≤ 400 Hz	≤ 2 kHz	
Switching output	1 x PNP 1 x NPN	1 x PNP 1 x NPN 2 x PNP 2 x NPN	
Ethernet	-	-	
Serial	-	✓, RS-422	
PROFIBUS DP	-	-	
IO-Link	-	-	
Analog output	1 x 4 mA ... 20 mA (≤ 300 Ω)	1 x 4 mA ... 20 mA (≤ 300 Ω) / 1 x 0 V ... 10 V (> 10 kΩ)	
Ambient temperature operation	-20 °C ... +55 °C	-10 °C ... +40 °C	
Ambient storage temperature	-40 °C ... +60 °C	-20 °C ... +60 °C	

At a glance		
	<ul style="list-style-type: none"> <li>• Four measuring ranges from 50 mm up to 1,000 mm</li> <li>• Very high linearity of up to ± 0.5 mm</li> <li>• CMOS receiving element enables accurate distance measurement independent of color or shininess</li> <li>• Red laser</li> <li>• Scaleable analog and switching output</li> <li>• Display with easy to use setup menu</li> <li>• Advanced settings (e.g., averaging function, external laser-off, etc.)</li> </ul> <div style="text-align: center;">  </div>	<ul style="list-style-type: none"> <li>• Several measurement ranges from 26 mm ... 34 mm to 100 mm ... 500 mm</li> <li>• CMOS receiving element for measurement independent of surface</li> <li>• Easy, LED-based user and teach-in concept</li> <li>• Wide range of models and a wide range of standard interfaces</li> <li>• Laser technology for precise measurement of very small objects</li> <li>• Compact stand-alone device</li> <li>• Excellent price-performance ratio</li> </ul> <div style="text-align: center;">  </div>

Detailed information	→ <a href="http://www.sick.com/DT20_Hi">www.sick.com/DT20_Hi</a>	→ <a href="http://www.sick.com/OD_Value">www.sick.com/OD_Value</a>
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**OD1000**

The solution for precise measurement over long distances



**OD Mini**

Compact, lightweight sensor for precise measurement

200 mm ... 1,000 mm	10 mm ... 250 mm
± 1.5 mm	± 10 µm ... ± 100 µm
0.4 mm	1 µm ... 200 µm
≥ 1.5 s	≥ 2 ms
≤ 3 kHz	≤ 2 kHz
2 x push-pull	1 x PNP/NPN, selectable 2 x PNP/NPN, selectable 3 x PNP/NPN, selectable
-	-
-	✓, RS-485
-	✓, optional, over external evaluation unit AOD1 and Gateway WI180C-PB
✓, V1.1, V1.0 (process data, parameterization, diagnosis, data storage)	-
1 x 4 mA ... 20 mA (≤ 600 Ω) / 1 x 0 V ... 10 V (> 20 kΩ)	1 x 4 mA ... 20 mA (≤ 300 Ω) 1 x 0 V ... 10 V (> 10 kΩ)
-10 °C ... +50 °C	-10 °C ... +40 °C
-20 °C ... +60 °C	-20 °C ... +60 °C

- Large measuring range of up to 1 m
- Simple setting via OLED display or SOPAS configuration software
- Standalone device without external amplifier unit
- Rugged metal housing
- Adjustable analog output (mA/V) and push-pull switching output with IO-Link
- Precise measurement regardless of color or surface
- Versatile mounting possibilities



→ [www.sick.com/OD1000](http://www.sick.com/OD1000)

- 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



→ [www.sick.com/OD\\_Mini](http://www.sick.com/OD_Mini)

	 <p style="text-align: center;"><b>OD Max</b></p>	 <p style="text-align: center;"><b>OD Precision</b></p>	
	<p>Two sensors in one evaluation unit: very accurate measuring and calculation</p>	<p>Measuring each dimension with high precision</p>	

Technical data overview			
Measuring range	24 mm ... 450 mm	24 mm ... 700 mm	
Linearity	± 2 µm ... ± 200 µm	± 1.6 µm ... ± 400 µm	
Repeatability	0.1 µm ... 50 µm	0.02 µm ... 10 µm	
Response time	≥ 0.5 ms	≥ 0.1 ms	
Measuring frequency	≤ 10 kHz	≤ 10 kHz	
Switching output	5 x PNP 5 x NPN	5 x PNP 5 x NPN	
Ethernet	-	-	
Serial	✓, RS-232 (over evaluation unit AOD)	✓, RS-232, RS-422 (optional over evaluation unit AOD5)	
PROFIBUS DP	-	-	
IO-Link	-	-	
Analog output	2 x 4 mA ... 20 mA (≤ 300 Ω)	3 x 4 mA ... 20 mA (≤ 300 Ω)	
Ambient temperature operation	-10 °C ... +45 °C	-10 °C ... +50 °C	
Ambient storage temperature	-20 °C ... +60 °C	-20 °C ... +60 °C	

At a glance			
	<ul style="list-style-type: none"> <li>• Several measurement ranges from 24 ... 26 mm up to 250 mm ... 450 mm</li> <li>• CMOS receiving element for measurement independent of surface</li> <li>• High measurement frequency and high linearity</li> <li>• Variety of selectable integrated calculations based on values from two sensors</li> <li>• Laser technology for precise measurement or detection of very small objects</li> <li>• Several output options</li> </ul> <div style="text-align: center;">  </div>	<ul style="list-style-type: none"> <li>• Numerous measuring ranges from 24 mm ... 26 mm to 300 mm ... 700 mm</li> <li>• CMOS receiving element for measurement independent of surface</li> <li>• Maximum measurement accuracy and frequency</li> <li>• Glass thickness measurement with just one sensor head</li> <li>• Various light spot sizes</li> <li>• Integrated calculations for up to three sensors</li> <li>• Stand-alone use via RS-422</li> </ul> <div style="text-align: center;">  </div>	
<p>Detailed information</p>	<p>→ <a href="http://www.sick.com/OD_Max">www.sick.com/OD_Max</a></p>	<p>→ <a href="http://www.sick.com/OD_Precision">www.sick.com/OD_Precision</a></p>	



**OD5000**

The expert for high performance measurement



**Profiler**

Cost-effective profile measurement

14 mm ... 190 mm	75 mm ... 125 mm
± 1 µm ... ± 32 µm	± 170 µm ... ± 270 µm, x-direction ± 50 µm, z-direction
0.01 µm ... 0.2 µm	25 µm, x-direction 2 µm, z-direction
≥ 12.5 µs	≥ 5 ms
≤ 80 kHz	-
1 x PNP/NPN	3 x PNP
2 x PNP/NPN	3 x NPN
3 x PNP/NPN	-
✓, TCP, UDP/IP	-
-	✓, RS-485
✓, optional, over external evaluation unit AOD1 and Gateway WI180C-PB	-
-	-
1 x 4 mA ... 20 mA (≤ 300 Ω)	1 x 4 mA ... 20 mA (≤ 300 Ω)
-10 °C ... +50 °C	-10 °C ... +40 °C
-20 °C ... +60 °C	-20 °C ... +60 °C

- Measuring frequency up to 80 kHz
- Ethernet interface with TCP/IP protocol directly in the sensor head
- Web server interface for configuration
- Innovative analysis algorithm
- Maximum repeatability for positioning tasks
- Detection and measurement of the smallest indentations or holes



→ [www.sick.com/OD5000](http://www.sick.com/OD5000)

- Measure complex profiles with just one laser line
- Analyze up to four areas at the same time
- More than 10 integrated measurement functions, e.g., height, width, and inclination
- Sensor head and evaluation unit in one device
- Commissioning via software or integrated display with operating elements
- High-quality CMOS receiver unit



→ [www.sick.com/Profiler](http://www.sick.com/Profiler)



**Dx35**

Larger than life performance – flexible measurement and detection up to 35 m

**Technical data overview**

<b>Measuring range</b>	50 mm ... 3,100 mm, 6 % remission 50 mm ... 5,300 mm, 18 % remission 50 mm ... 12,000 mm, 90 % remission 200 mm ... 35,000 mm, on reflective tape "Diamond Grade"
<b>Repeatability</b>	0.5 mm ... 5 mm
<b>Accuracy</b>	Typ. ± 10 mm Typ. ± 15 mm
<b>Response time</b>	2.5 ms ... 96.5 ms 4.5 ms ... 192.5 ms
<b>Serial</b>	-
<b>SSI</b>	-
<b>IO-Link</b>	✓, V1.0 (process data, parameterization, diagnosis) ✓, V1.1 (process data, parameterization, diagnosis, data storage)
<b>Analog output</b>	1 x 4 mA ... 20 mA (≤ 450 Ω) / 1 x 0 V ... 10 V (≥ 50 kΩ) / -
<b>Switching output</b>	1 x / 2 x push-pull: PNP/NPN 2 x push-pull: PNP/NPN
<b>Ambient temperature operation</b>	-30 °C ... +55 °C
<b>Light source</b>	Laser, red Laser, infrared
<b>Laser class</b>	1 (IEC 60825-1:2014, EN 60825-1:2014) 2 (IEC 60825-1:2014, EN 60825-1:2014)

**At a glance**

- Maximum reliability, immunity to ambient light, and best price/performance ratio thanks to HDDM technology
- Measuring range of 0.05 m to 12 m for natural objects or 0.2 m to 35 m on reflective tape
- Devices with analog and switching output, or just switching
- Infrared or red laser in class 1 or class 2
- Repeatability: 0.5 mm to 5 mm
- Small housing size
- IO-Link



Detailed information

→ [www.sick.com/Dx35](http://www.sick.com/Dx35)



**Dx50**

Measuring distances – reliable, precise and versatile



**Dx50-2**

The new era in distance measurement

<p>200 mm ... 5,000 mm, 6 % remission                  200 mm ... 8,500 mm, 18 % remission                  200 mm ... 20,000 mm, 90 % remission                  200 mm ... 50,000 mm, on reflective tape "Diamond Grade"</p>	<p>200 mm ... 10,000 mm, 6 % remission                  200 mm ... 17,000 mm, 18 % remission                  200 mm ... 30,000 mm, 90 % remission</p>
<p>0.25 mm ... 5 mm                  ± 3 mm                  ± 7 mm                  ± 10 mm</p>	<p>0.5 mm ... 5 mm                  ± 7 mm</p>
<p>10 ms ... 160 ms</p>	<p>0.83 ms ... 75 ms                  1.67 ms ... 150 ms</p>
<p>✓, RS-422                  ✓                  -</p>	<p>-                  -                  ✓, V1.1 (process data, parameterization, diagnosis, data storage)</p>
<p>1 x 0 V ... 10 V (≥ 5 kΩ) / 1 x 4 mA ... 20 mA (≤ 300 Ω)</p>	<p>1 x 4 mA ... 20 mA (≤ 450 Ω) / 1 x 0 V ... 10 V (≥ 50 kΩ) / -                  1 x / 2 x complementary / 2 x push-pull: PNP/NPN</p>
<p>1 x PNP                  1 x NPN                  2 x PNP                  2 x NPN                  2 x / 1 x PNP                  2 x / 1 x NPN</p>	
<p>-30 °C ... +65 °C</p>	<p>-40 °C ... +65 °C</p>
<p>Laser, red</p>	<p>Laser, red</p>
<p>1 (IEC 60825-1:2014, EN 60825-1:2014)                  2 (IEC 60825-1:2014, EN 60825-1:2014)</p>	<p>1 (IEC 60825-1:2014, EN 60825-1:2014)                  2 (IEC 60825-1:2014, EN 60825-1:2014)</p>

- HDDM technology offers best reliability, immunity to ambient light and price/performance ratio
- Measurement ranges of 10 m or 20 m directly onto the object or even 50 m on reflector
- Different performance levels depending on product and laser class chosen
- Different interfaces: switching, analog or serial interface
- Display with intuitive and consistent operating concept
- Robust die-cast zinc metal housing
- Operating temperature from -30 °C to +65 °C



→ [www.sick.com/Dx50](http://www.sick.com/Dx50)

- Measuring range up to 10 m on black targets and up to 30 m on white targets within a compact housing
- Output rate up to 3,000/s
- Repeatability: 0.5 mm to 5 mm
- Reliable, patented HDDM time-of-flight technology
- Withstands extreme temperatures from -40 °C to +65 °C thanks to rugged metal housing
- Shape comparison integrated in sensor
- IO-Link, analog and switching output
- Display with intuitive menu structure and easy teach option
- Enclosure rating IP65 and IP67



→ [www.sick.com/Dx50-2](http://www.sick.com/Dx50-2)



**Dx100**

Reliable, fast, precise positioning

**Technical data overview**

Measuring range	0.15 m ... 300 m
Repeatability	0.5 mm ... 2.5 mm
Accuracy	± 2 mm ... ± 5 mm
Target	Reflector
Ethernet	-
SSI	✓
Serial	✓, RS-422
CAN	-
PROFINET	✓
PROFIBUS DP	✓
CANopen	✓
EtherNet/IP™	✓
Measurement cycle time	1 ms
Output time	Synchronous on PLC request (SSI and RS-422)
Ambient temperature operation	-20 °C ... +55 °C -40 °C ... +55 °C, operation with heating -40 °C ... +75 °C, operation with cooling case
Ambient storage temperature	-40 °C ... +75 °C

**At a glance**

- Measuring range up to 300 m (dependent on type)
- Numerous fieldbus interfaces
- Pre-failure notification and diagnostic data available
- Display with intuitive menu and easy to see status LEDs
- Small, rugged metal housing
- 3-axis alignment bracket with quick lock system available as accessory
- Elongated holes for zero point adjustment when replacing devices



Detailed information

→ [www.sick.com/Dx100](http://www.sick.com/Dx100)



**Dx1000**

Great performance at great distance



**Dx500**

Precision distance measurement for natural objects – up to 70 m on white, 30 m on black

0.2 m ... 155 m, 6 % remission 0.2 m ... 460 m, 90 % remission 0.2 m ... 1,500 m, on "Diamond Grade" reflective tape	0.2 m ... 70 m
1 mm ... 15 mm	1 mm
± 10 mm (5 m ... 50 m) ± 20 mm (50 m ... 100 m)	± 3 mm
Reflector / natural objects	Natural objects
✓ , TCP/IP (parameterization, output of measurement data)	-
✓ , output of measurement data	-
✓ , RS-422 (parameterization, output of measurement data)	✓ , RS-422
-	✓ , Layer 2
-	-
-	-
-	-
1 ms ... 128 ms, adjustable	-
-	150 ms ... 6,000 ms
-40 °C ... +55 °C	-10 °C ... +45 °C
-40 °C ... +95 °C, operation with cooling case	-40 °C ... +45 °C, operation with heating -40 °C ... +75 °C, operation with cooling case
-40 °C ... +75 °C	-25 °C ... +75 °C

- Long range distance sensor with infrared laser featuring HDDM\* technology
- Measures natural objects (DT1000) or reflectors (DL1000)
- Dust-proof and waterproof housing (IP65 and IP67) made of highly corrosion-resistant aluminum alloy
- Configurable digital inputs and outputs, analog output, RS-422/SSI
- Measures hot surfaces (DT1000)



→ [www.sick.com/Dx1000](http://www.sick.com/Dx1000)

- Range of up to 30 m on black, 70 m on white
- Very high measurement accuracy and repeatability
- Heated variants for use in cold store applications
- Rugged housing (IP65) made of high-strength aluminum alloy
- Serial interfaces as well as analog and switching outputs
- Display for plug and play commissioning



→ [www.sick.com/Dx500](http://www.sick.com/Dx500)



**OLM100**

Great flexibility in a small housing

**Technical data overview**

Measuring range	0 m ... 10,000 m
Reading distance	100 mm ± 20 mm 130 mm ± 20 mm
Repeatability	1 mm
Max. movement speed	4 m/s
CANopen	✓
PROFIBUS DP	-
Serial	✓, RS-422, RS-485
PROFINET	-
SSI	✓
EtherNet/IP™	-
Output time	1 ms / 5 ms
Light source	LED, red
Ambient temperature operation	-30 °C ... +60 °C
Ambient storage temperature	-40 °C ... +75 °C

**At a glance**

- Highly accurate image-based bar code positioning system
- Traversing speeds of up to 4 m/s can be achieved
- Wear and maintenance-free thanks to camera technology
- Adjustable resolution as low as 0.1 mm
- Precise positioning up to 10,000 m
- Compact, extremely rugged magnesium housing
- Wide range of interfaces: SSI, RS-422, RS-485, and CANopen
- Wide operating temperature range from -30 °C to +60 °C



Detailed information

→ [www.sick.com/OLM100](http://www.sick.com/OLM100)



**OLM100 Hi**

High performance in a small housing



**OLM200**

Innovative positioning with fieldbus interfaces

0 m ... 10,000 m  
 100 mm ± 20 mm  
 130 mm ± 20 mm  
 0.15 mm  
 10 m/s  
 ✓  
 -  
 ✓ , RS-422  
 -  
 ✓  
 -  
 1 ms / 5 ms  
 LED, red  
 -30 °C ... +60 °C  
 -40 °C ... +75 °C

0 m ... 10,000 m  
 100 mm ± 20 mm  
 130 mm ± 20 mm  
 0.15 mm  
 10 m/s  
 -  
 ✓ , DPVO  
 -  
 ✓  
 -  
 ✓  
 2.5 ms  
 LED, red  
 -30 °C ... +60 °C  
 -40 °C ... +75 °C

- Highly accurate image-based bar code positioning system
- Traversing speeds of up to 10 m/s can be achieved
- Wear and maintenance-free thanks to camera technology
- Adjustable resolution as low as 0.1 mm
- Precise positioning up to 10,000 m
- Compact, extremely rugged magnesium housing
- Wide range of interfaces: SSI, RS-422, and CANopen
- Wide operating temperature range from -30 °C to +60 °C



→ [www.sick.com/OLM100\\_Hi](http://www.sick.com/OLM100_Hi)

- Highly accurate image-based bar code positioning system
- Movement speed of up to 10 m/s can be achieved
- Wear and maintenance-free thanks to camera technology
- Adjustable resolution as low as 0.1 mm
- Output of position and speed data, as well as pre-failure notifications via fieldbus interfaces
- Large temperature range from -30 °C to +60 °C



→ [www.sick.com/OLM200](http://www.sick.com/OLM200)

		
<b>UM30</b>	<b>UM18</b>	<b>UM12</b>
The universal application solver	Simple set up, perfect detection	Small sensor, great benefits

Technical data overview				
Operating range, limiting range	30 mm ... 6,000 mm, 8,000 mm	20 mm ... 1,000 mm, 1,300 mm	20 mm ... 240 mm, 350 mm	
Resolution	≥ 0.18 mm	≥ 0.069 mm	≥ 0.069 mm	
Repeatability	± 0.15 %	± 0.15 %	± 0.15 %	
Analog output	1 x 4 mA ... 20 mA (≤ 500 Ω) / 1 x 0 V ... 10 V (≥ 100 kΩ)	1 x 4 mA ... 20 mA (≤ 500 Ω) / 1 x 0 V ... 10 V (≥ 100 kΩ)	1 x 4 mA ... 20 mA (≤ 500 Ω) / 1 x 0 V ... 10 V (≥ 100 kΩ)	
Switching output	1 x PNP 2 x PNP 1 x NPN 2 x NPN 1 x push-pull PNP/NPN	1 x PNP 2 x PNP 1 x NPN 2 x NPN 1 x push-pull PNP/NPN 2 x push-pull PNP/NPN	1 x PNP 1 x NPN	
IO-Link	✓, V1.1 (process data, parameterization, diagnosis, data storage)	✓, V1.1 (process data, parameterization, diagnosis, data storage)	-	
Sending axis	Straight	Straight / angled	Straight	

At a glance				
	<ul style="list-style-type: none"> <li>• Reliable measurement, regardless of material color, transparency, gloss, or ambient light</li> <li>• Sensing range up to 8,000 mm</li> <li>• Display enables fast and flexible sensor adjustment</li> <li>• Immune to dirt, dust, humidity, and fog</li> <li>• Versatile interfaces including IO-Link available</li> <li>• Adjustable sensitivity</li> </ul>	<ul style="list-style-type: none"> <li>• Reliable measurement, regardless of material color, transparency, gloss, or ambient light</li> <li>• Sensing ranges up to 1,300 mm</li> <li>• Short metal or plastic M18 housing from 42 mm in length</li> <li>• Straight or angled design</li> <li>• Immune to dirt, dust, humidity, and fog</li> <li>• Versatile interfaces including IO-Link available</li> </ul>	<ul style="list-style-type: none"> <li>• Reliable measurement, regardless of material color, transparency, gloss, or ambient light</li> <li>• Very short and rugged M12 metal housing</li> <li>• Variants with PNP/NPN switching output or analog output</li> <li>• Immune to dirt, dust, humidity, and fog</li> <li>• Detection, measurement, or positioning with ultrasound technology</li> <li>• Cable teach-in</li> </ul>	
				
Detailed information	→ <a href="http://www.sick.com/UM30">www.sick.com/UM30</a>	→ <a href="http://www.sick.com/UM18">www.sick.com/UM18</a>	→ <a href="http://www.sick.com/UM12">www.sick.com/UM12</a>	



**UC30**

Rugged. Reliable. Rectangular.



**UC12**

Ultrasonic technology housed in an industry-proven design



**UC4**

Small, precise, ultrasonic



**UD18**

Double layer and splice detection for paper, cardboard, metal, and plastic

350 mm ... 6,000 mm, 8,000 mm	20 mm ... 250 mm, 350 mm	13 mm ... 150 mm, 250 mm	-
≥ 0.18 mm	≥ 0.1 mm	≥ 0.1 mm	Material layer
± 0.15 %	± 0.15 %	± 0.15 %	-
1 x 4 mA ... 20 mA (≤ 500 Ω) / 1 x 0 V ... 10 V (≥ 100 kΩ)	-	1 x 4 mA ... 20 mA (≤ 500 Ω) / 1 x 0 V ... 10 V (≥ 100 kΩ)	-
2 x PNP 2 x NPN 1 x push-pull PNP/NPN	2 x PNP, complementary 2 x NPN, complementary	1 x PNP 1 x NPN 1 x push-pull PNP/NPN	2 x PNP 2 x NPN
✓, V1.1 (process data, parameterization, diagnosis, data storage)	-	✓, V1.1 (process data, parameterization, diagnosis, data storage)	-
Straight	Straight	Straight	Straight / angled

- Reliable measurement, regardless of material color, transparency, gloss, or ambient light
- Rugged housing with teach-in buttons
- Sensing ranges up to 8,000 mm
- Analog output, push-pull switching output with IO-Link or two PNP/NPN switching outputs
- Immune to dirt, dust, humidity, and fog
- Adjustable sensitivity



→ [www.sick.com/UC30](http://www.sick.com/UC30)

- Transparent foils, glass, liquids and bottles are detected, regardless of the material color and ambient light
- Easy and quick teach-in with teach-in button
- Insensitive to dirt, dust and fog
- Two complementary switching outputs (Q /Q)
- Very good background suppression (BGS)
- Three operating modes: distance to object (DtO), window (Wnd), or object between sensor and background (OBSB)



→ [www.sick.com/UC12](http://www.sick.com/UC12)

- Reliable measurement, regardless of material color, transparency, gloss, or ambient light
- Ultrasonic technology in a small housing
- Detection, measurement, and positioning with ultrasonic technology
- Variants with PNP/NPN switching output, analog output or push-pull output with IO-Link
- Teach-in button
- Precise background suppression
- Immune to dirt, dust, humidity, and fog



→ [www.sick.com/UC4](http://www.sick.com/UC4)

- Material classifications: no layers, single layer, double layers
- Plug-and-play; sensitivity levels that can be selected, taught in, and changed during operation
- Up to four individual sensitivity levels
- Variable mounting distance
- LEDs visible from any direction
- Immune to dirt, dust, and humidity



→ [www.sick.com/UD18](http://www.sick.com/UD18)



**ISD400**

Wireless communication – fast and easy

**Technical data overview**

Transmission range	0.2 m ... 200 m
PROFIBUS DP	✓
Ethernet	✓
Enclosure rating	IP65
Ambient temperature operation	-25 °C ... +55 °C -40 °C ... +55 °C, operation with heating -40 °C ... +75 °C, operation with cooling case
Ambient storage temperature	-40 °C ... +75 °C
Data transmission rate	3 Mbit/s ... 100 Mbit/s

**At a glance**

- PROFIBUS DP interface for the ISD400 Core
- Protocol-free Fast Ethernet interface for the ISD400 Pro
- Fast Ethernet with a transmission rate of 100 Mbps for the ISD400 Pro
- Connection and operation without opening the device
- Version with heating for use in temperatures as low as -40 °C



Detailed information

→ [www.sick.com/ISD400](http://www.sick.com/ISD400)

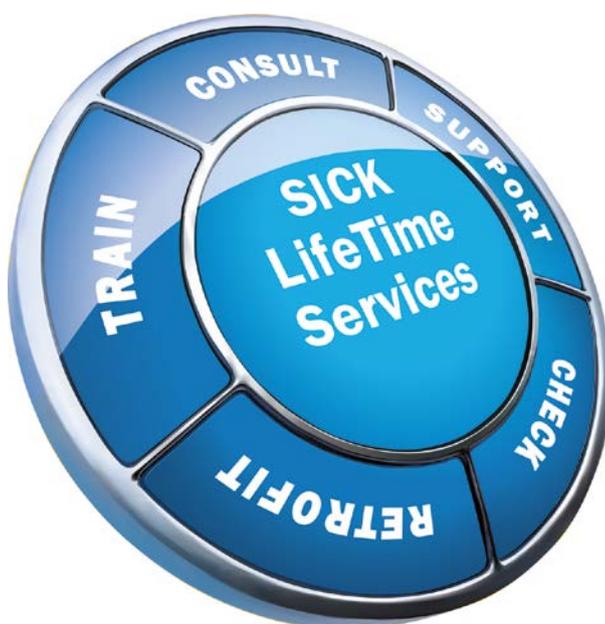
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Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.



- 
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 Safe and professional
- 
**Product and system support**  
 Reliable, fast, and on-site
- 
**Verification and optimization**  
 Safe and regularly inspected
- 
**Upgrade and retrofits**  
 Easy, safe, and economical
- 
**Training and education**  
 Practical, focused, and professional

## SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,000 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. 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 various 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 round out 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:**

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

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