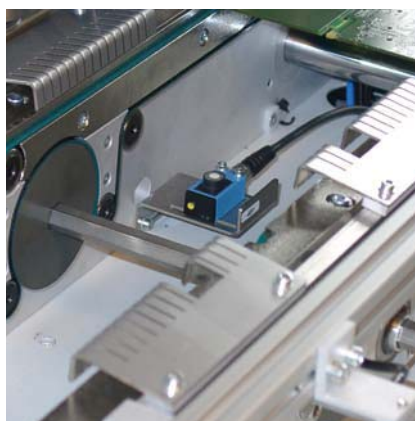


Distance sensors from SICK – precision for measuring tasks

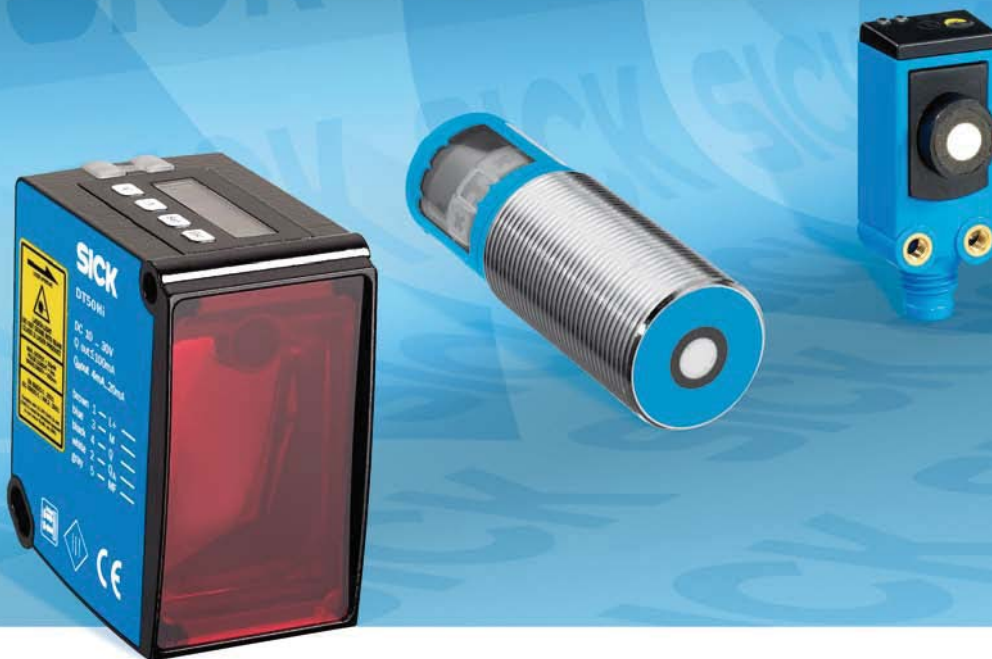


Distance sensors

SICK has a wide range of optic and ultrasonic solutions that measure from sub-microns to kilometers. They solve measuring, detecting and positioning applications using triangulation and

time-of-flight modes. Sensors using triangulation are ideal for short-range, highly precise measurement. They can inspect miniature parts, thickness and shape, etc. Time-of-flight sensors work at

longer distances, are not influenced by reflectivity or ambient light – perfect for positioning AS/RS, rail cars and gantry cranes.



Distance sensors

Selection guide distance sensors 280



OD Value. 282
Simply accurate measurement



OD Precision 284
Three sensor heads with one controller unit: measuring each dimension with high precision



DT20 Hi 286
Reliable, accurate distance measurement up to 1 m



Dx35. 288
Larger than life performance – flexible distance measurement up to 12 m



Dx50. 290
Measuring distances – reliable, precise and versatile



Dx100 292
Leading in versatility and flexibility



DMT 294
The longest measurement range without a reflector for challenging applications



OLM100 295
Great flexibility in a small housing



UM18 297
Ultimate ultrasonic sensor solutions from SICK



UM30 300
The universal application solver



UC4 303
Small, precise, ultrasonic



UC12. 305
Ultrasonic technology housed in an industry-proven design



ISD400 307
Wireless communication – fast and easy

Distance sensor selection guide

Product family	Measuring ranges												
	0.01	0.1	0.5	1	5	10	100	500	1,000	5,000	10,000		
OD Value		0.026 m - 0.4 m											
OD Precision		0.024 m - 0.7 m											
DT20 Hi		0.05 m - 1 m											
Dx35		0.05 m - 12 m											
Dx50		0.2 m - 50 m											
Dx100		0.15 m - 300 m											
DMT		0.5 m - 155 m											
OLM100	0 m - 10,000 m												
UM18		0.02 m - 1.3 m											
UM30		0.03 m - 8 m											
UC4		0.013 m - 0.25 m											
UC12		0.02 m - 0.35 m											
ISD400		Transmission range: 0.2 m - 180 m											

	Principle of operation					Page
	Triangulation	Time-of-flight	Optical linear	Ultrasonic	Optical data transmission	
	■					282
	■					284
	■					286
		■				288
		■				290
		■				292
		■				294
			■			295
				■		297
				■		300
				■		303
				■		305
					■	307



CE III CDRH
RS-422

At a glance

- Several measurement ranges from 26 mm ... 34 mm to 100 mm ... 500 mm
- CMOS receiving element for measurement independent of surface
- Easy, LED-based user and teach-in concept
- Wide range of models and a wide range of standard interfaces
- Laser technology for precise measurement of very small objects
- Compact stand-alone device
- Excellent price-performance ratio

Your benefits

- Reliable measurement independent of surface, minimizes machine downtime
- Extremely simple sensor teach-in makes setup faster and more cost-effective
- Minimal space requirements and less wiring due to its compact, standalone design
- Many measurement ranges and output interfaces make it ideal for cost-effective integration into any production environment
- Low investment costs make consistent, regular quality inspection possible
- Non-contact measurement technology from a safe distance allows the inspection to be carried out directly during the production process
- Wear and damage-free inspection, due to non-contact measurement

→ www.mysick.com/en/OD_Value

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/OD_Value

Measuring range ¹⁾	Resolution	Repeatability ^{1) 2) 3) 4)}	Linearity ^{4) 5) 6)}	Typ. light spot size (distance)	Response time ⁷⁾	Data interface ⁸⁾	Connection type	Switching output ⁹⁾	Model name	Part no.
26 mm ... 34 mm	2 µm	6 µm	± 8 µm	0.1 mm x 0.1 mm (30 mm)	1 ms / 10 ms / 35 ms	4 mA ... 20 mA (≤ 300 Ω)	Connector M12, 8-pin	2 x PNP (100 mA)	OD2-P30W04IO	6036580
								2 x NPN (100 mA)	OD2-N30W04IO	6036572
40 mm ... 60 mm	5 µm	15 µm	± 20 µm	0.5 mm x 1 mm (50 mm)	1 ms / 10 ms / 35 ms	4 mA ... 20 mA (≤ 300 Ω)	Connector M12, 8-pin	2 x PNP (100 mA)	OD2-P50W10IO	6036597
								2 x NPN (100 mA)	OD2-N50W10IO	6036588
65 mm ... 105 mm	10 µm	30 µm	± 40 µm	0.8 mm x 1.3 mm (85 mm)	1 ms / 10 ms / 35 ms	4 mA ... 20 mA (≤ 300 Ω)	Connector M12, 8-pin	2 x PNP (100 mA)	OD2-P85W20IO	6036613
								2 x NPN (100 mA)	OD2-N85W20IO	6036605
60 mm ... 180 mm	30 µm	90 µm	± 120 µm	1 mm x 1.5 m (120 mm)	1 ms / 10 ms / 35 ms	4 mA ... 20 mA (≤ 300 Ω)	Connector M12, 8-pin	2 x PNP (100 mA)	OD2-P120W60IO	6036629
								2 x NPN (100 mA)	OD2-N120W60IO	6036621

¹⁾ 6 % ... 90 % remission.

²⁾ At averaging function medium.

³⁾ Constant ambient conditions.

⁴⁾ For best performance consider warm up time ≤ 5 min.

⁵⁾ Measurement on 90 % remission (ceramic, white).

⁶⁾ When calibrated in the application regularly.

⁷⁾ Automatic sensitivity adjustment ≤ 4 ms, 6 ms for the models with measuring range of 100 mm ... 400 mm.

⁸⁾ Resolution analog output 16 bit.

⁹⁾ PNP: HIGH = $V_S - (< 2 V)$ / LOW = $< 2 V$; NPN: HIGH = $< 2 V$ / LOW = V_S .

Measuring range ¹⁾	Resolution	Repeat-ability ^{1) 2) 3) 4)}	Linearity ^{4) 5) 6)}	Typ. light spot size (dis- tance)	Re- sponse time ⁷⁾	Data inter- face ⁸⁾	Con- nection type	Switch- ing output ⁹⁾	Model name	Part no.
100 mm ... 400 mm	75 µm	225 µm	± 750 µm	1.8 mm x 3.5 mm (250 mm)	2 ms / 15 ms / 50 ms	4 mA ... 20 mA (≤ 300 Ω)	Con- nec- tor M12, 8-pin	2 x PNP (100 mA)	OD2-P250W150IO	6036645
						RS-422	Cable 2 m	2 x PNP (100 mA)	OD2- P250W150A2	6036644
						4 mA ... 20 mA (≤ 300 Ω)	Con- nec- tor M12, 8-pin	2 x NPN (100 mA)	OD2- N250W150IO	6036637

¹⁾ 6 % ... 90 % remission.

²⁾ At averaging function medium.

³⁾ Constant ambient conditions.

⁴⁾ For best performance consider warm up time ≤ 5 min.

⁵⁾ Measurement on 90 % remission (ceramic, white).


⁶⁾ When calibrated in the application regularly.

⁷⁾ Automatic sensitivity adjustment ≤ 4 ms, 6 ms for the models with measuring range of 100 mm ... 400 mm.

⁸⁾ Resolution analog output 16 bit.

⁹⁾ PNP: HIGH = $V_s - (< 2 \text{ V})$ / LOW = $< 2 \text{ V}$; NPN: HIGH = $< 2 \text{ V}$ / LOW = V_s .

Accessories

	Accessory category	Brief description	Model name	Part no.
 Illustration may differ	Plug connectors and cables	Female connector, M12, 8-pin, straight, 2 m, PVC, shielded, special color code	DOL-1208-G02MF	6020663
		Female connector, M12, 8-pin, straight, 5 m, PVC, shielded, special color code	DOL-1208-G05MF	6020664
		Female connector, M12, 8-pin, straight, shielded	DOS-1208-GA	6028369



At a glance

- Many measurement ranges from 24 mm ... 26 mm up to 300 mm ... 700 mm
- CMOS receiving element for measurement independent of surface
- High measuring accuracy and frequency
- Glass thickness measurement with just one sensor head
- Different light spot sizes
- Integrated calculations for up to three sensors
- Stand alone use via RS-422

Your benefits

- Non-contact measurement improves quality inspection during production
- Surface-independent measurement algorithms ensure minimum machine downtime, regardless of surface gloss or color
- Reduced processing times as a result of the high measuring frequency of up to 10 kHz
- Simple, cost-effective solution for challenging measuring tasks due to a variety of sensor models
- Optional stand-alone operation via RS-422 means the OD Precision offers maximum performance at lower investment costs
- High visibility LC display enables simple, cost-effective setup
- Many interfaces for simple integration into an existing production environment

→ www.mysick.com/en/OD_Precision

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/OD_Precision

OD Precision sensor head

- **Output rate:** 0.1 ms (values for stand-alone use: baud rate set to 921.6 kBaud; sensitivity set manually)
- **Note:** OD Precision sensor head can be used with AOD5-P/N1 or stand-alone via RS-422

Measuring range ²⁾	Resolution	Repeatability	Linearity ³⁾	Response time ^{4) 5)}	Laser protection class	Typ. light spot size (distance)	Model name	Part no.
24 mm ... 26 mm	0.02 µm ¹⁾	0.06 µm ²⁾	± 1.6 µm	0.1 ms	1 (EN 60825-1)	25 µm x 35 µm (25 mm)	OD5-25T01	6035975
						100 µm x 700 µm (25 mm)	OD5-25W01	6035976
25 mm ... 35 mm	0.2 µm ³⁾	0.6 µm ⁶⁾	± 8 µm	0.1 ms	2 (EN 60825-1)	30 µm x 100 µm (30 mm)	OD5-30T05	6035977
						260 µm x 1,000 µm (30 mm)	OD5-30W05	6035978
65 mm ... 105 mm	1 µm ³⁾	3 µm ⁶⁾	± 20 µm	0.1 ms	2 (EN 60825-1)	70 µm x 290 µm (85 mm)	OD5-85T20	6035979
						260 µm x 1,200 µm (85 mm)	OD5-85W20	6035980

¹⁾ Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096.

²⁾ Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096; constant ambient conditions; 6 % to 90 % remission at default settings.

³⁾ Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096.

⁴⁾ Time needed for automatic sensitivity adjustment is calculated as: sampling period x 20. At default setting 100 µs (10kHz) this is ≤ 2ms.

⁵⁾ Default setting for OD5-350x100 and OD5-500x200 = 0.8 ms, 1.25 kHz likewise, all other types = 0.1 ms / 10 kHz.

⁶⁾ Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096; constant ambient conditions.

Measuring range ²⁾	Resolution	Repeat-ability	Linear-ity ³⁾	Response time ^{4) 5)}	Laser protection class	Typ. light spot size (distance)	Model name	Part no.
250 mm ... 450 mm	5 µm ³⁾	15 µm ⁶⁾	± 160 µm	0.1 ms	2 (EN 60825-1)	700 µm x 2,400 µm (350 mm)	OD5-350W100	6035981
300 mm ... 700 mm	10 µm ³⁾	30 µm ⁶⁾	± 320 µm	0.1 ms	2 (EN 60825-1)	1,000 µm x 3,700 µm (500 mm)	OD5-500W200	6035982

¹⁾ Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096.

²⁾ Measurement on 90 % remission (ceramic, white), for OD25-x measurement on mirror; averaging set to: 256, for OD25-x: 4096; constant ambient conditions; 6 % to 90 % remission at default settings.

³⁾ Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096.

⁴⁾ Time needed for automatic sensitivity adjustment is calculated as: sampling period x 20. At default setting 100 µs (10kHz) this is ≤ 2ms.

⁵⁾ Default setting for OD5-350x100 and OD5-500x200 = 0.8 ms, 1.25 kHz likewise, all other types = 0.1 ms / 10 kHz.

⁶⁾ Measurement on 90 % remission (ceramic, white), for OD5-25x measurement on mirror; averaging set to: 4096; constant ambient conditions.




OD Precision controller unit

Switching output ^{1) 2)}	Typ	Artikelnr.
5 x PNP (100 mA)	AOD5-P1	6035985
5 x NPN (100 mA)	AOD5-N1	6035984

¹⁾ PNP: HIGH = $U_V - (< 2 V)$ / LOW = $< 2 V$; NPN: HIGH = $< 2 V$ / LOW = U_V .

²⁾ With use of external 50-pin terminal (accessories).

Accessories

	Accessory category	Brief description	Model name	Part no.
	Adapters/distributors	External in- and output terminal, 50-pin, and cable, PVC, 3 m, open ends	IO-EXP-AOD5	6035990
		Terminal block for AOD5-P1/AOD5-N1 (OD Precision)	TERM.-AOD5	6035989
 Illustration may differ	Plug connectors and cables	Female connector, M12, 12-pin, straight, 5 m, PVC, shielded, for stand-alone use	DOL-1212-G05M	6035988
		Connection cable, M12, 12-pin, connector straight/socket straight, 2 m	DSL-1212-G02M	6035986
		Connection cable, M12, 12-pin, connector straight/socket straight, 5 m	DSL-1212-G05M	6035987



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 enables accurate distance measurement independent of color or shininess
- Red laser
- Scaleable analog and switching output
- Display with easy to use setup menu
- Advanced settings (e.g., averaging function, external laser-off, 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

→ www.mysick.com/en/DT20_Hi

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/DT20_Hi

- **Laser protection class:** 2 (EN 60825-1)
- **Measuring frequency:** 400 Hz
- **Response time:** 2,5 ms / 10 ms / 40 ms (Dependent on the set average: fast/medium/slow.)

Measuring range ¹⁾	Resolution ¹⁾	Repeatability ^{1) 2) 3)}	Linearity ^{3) 4)}	Typ. light spot size (distance)	Switching output ⁵⁾	Model name	Part no.
50 mm ... 150 mm	0.1 mm	0.5 mm / 0.25 mm / 0.125 mm	± 0.5 mm	2 mm x 4 mm (150 mm)	1 x PNP (100 mA)	DT20-P254B	1041278
100 mm ... 300 mm	0.2 mm	1 mm / 0.5 mm / 0.25 mm	± 1 mm	3 mm x 6 mm (300 mm)	1 x PNP (100 mA)	DT20-P244B	1040406
50 mm ... 150 mm,	0.1 mm	0.5 mm / 0.25 mm / 0.125 mm	± 0.5 mm	2 mm x 4 mm (150 mm)	1 x NPN (100 mA)	DT20-N254B	1041279
100 mm ... 300 mm	0.2 mm	1 mm / 0.5 mm / 0.25 mm	± 1 mm	3 mm x 6 mm (300 mm)	1 x NPN (100 mA)	DT20-N244B	1040713
100 mm ... 600 mm	0.5 mm	2 mm / 1 mm / 0.5 mm	± 2 mm	3 mm x 6 mm (600 mm)	1 x PNP (100 mA)	DT20-P214B	1040012
					1 x NPN (100 mA)	DT20-N214B	1040140
100 mm ... 1,000 mm	1 mm ⁶⁾	10 mm / 5 mm / 2.5 mm ⁶⁾	± 6 mm ⁶⁾	6 mm x 12 mm (1000 mm)	1 x PNP (100 mA)	DT20-P224B	1040405
					1 x NPN (100 mA)	DT20-N224B	1044216

¹⁾ 6 % ... 90 % remission.

²⁾ Dependent on the set average: fast/medium/slow.



³⁾ When calibrated in the application regularly.

⁴⁾ 90 % remission.

⁵⁾ PNP: HIGH = $V_S - (< 2 V)$ / LOW = $< 2 V$; NPN: HIGH = $< 2 V$ / LOW = V_S .

⁶⁾ The models with measuring range of 100 mm ... 1,000 mm meets the specification of the models with measuring range of 100 mm ... 1,000 mm for distances < 600 mm.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket, stainless steel (1.4404), without mounting material, for DT20 Hi	BEF-WN-DT20	4043524
 Illustration may differ	Plug connectors and cables	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899
		Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868
		Female connector, M12, 5-pin, straight, 10 m, PVC	DOL-1205-G10M	6010544
		Female connector, M12, 5-pin, angled, 2 m, PVC	DOL-1205-W02M	6008900
		Female connector, M12, 5-pin, angled, 5 m, PVC	DOL-1205-W05M	6009869
		Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542



At a glance

- HDDM™ technology provides the best reliability, ambient light immunity and price/performance ratio
- Measuring range: 50 mm ... 12,000 mm, depending on individually adjustable response time
- Response time: 2.5 ms ... 192 ms
- Accuracy: ± 10 mm
- Repeatability: 0.5 mm ... 5 mm
- Small housing size
- Laser classes 1 and 2 available
- IO-Link as well as analog and switching output

Your benefits

- Smallest blind zone and reduced housing size allow for use in confined spaces
- Consistent, reliable and precise measurement even when measuring extremely shiny or dark objects
- Ideal solution for any application requirement by choosing response time and measurement range individually
- Three switching modes provide a simple solution to challenging applications
- No cross talk allows several sensors to be used simultaneously in confined spaces
- Simple and fast teach-in reduces commissioning costs
- IO-Link enables fast batch changes as well as simple maintenance and remote diagnostics
- Low investment costs and high performance guarantee quick return on investment

→ www.mysick.com/en/Dx35

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information



Other models available at www.mysick.com/en/Dx35

- **Measuring range:** 50 mm ... 12,000 mm (90 % remission; for speed setting Super Slow), 50 mm ... 5,300 mm (18 % remission), 50 mm ... 3,100 mm (6 % remission)
- **Switching output:** 1 x / 1 x / 2 x push-pull: PNP/NPN (100 mA), IO-Link (output Q short-circuit protected; voltage drop < 3 V; output Q₂ selectable: 4 mA ... 20 mA, 0 V ... 10 V or switching output)
- **Multifunctional input:** 1 x (Response time ≤ 60 ms)
- **Analog output:** 1 x 4 mA ... 20 mA (≤ 450 Ω)/1 x 0 V ... 10 V (≥ 50 kΩ) / - (Output Q₂ selectable: 4 mA ... 20 mA, 0 V ... 10 V or switching output).

Laser protection class ¹⁾	Model name	Part no.
2 (EN 60825-1)	DT35-B15251	1057652
1 (EN 60825-1)	DT35-B15551	1057651

¹⁾ Wavelength: 658 nm; max. output: 250 mW; pulse duration: 4 ns; pulse repetition rate: 1/250.

Accessories

	Accessory category	Brief description	Model name	Part no.
 Illustration may differ	Plug connectors and cables	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899
		Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868
		Female connector, M12, 5-pin, straight, 10 m, PVC	DOL-1205-G10M	6010544
 Illustration may differ		Female connector, M12, 5-pin, angled, 2 m, PVC	DOL-1205-W02M	6008900
		Female connector, M12, 5-pin, angled, 5 m, PVC	DOL-1205-W05M	6009869
		Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542





At a glance

- HDDM technology offers best reliability, immunity to ambient light and price/performance ratio
- Measurement ranges of 10 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

Your benefits

- Wide measurement ranges up to 10, 20 or 50 m in combination with different interfaces allow an easy and fast integration in any production environment
- Highly reliable and precise measurement helps to increase process quality and stability
- High measurement or switching frequencies enable a fast material flow
- Dx50 product family is based on a common platform, offering multiple performance levels, making it easy to accommodate future changes
- Intuitive setup via display or remote teach reduces installation time and costs
- Temperature range from -30 °C to +65 °C allows for outdoor use without additional cooling or heating
- Up to 40 klx ambient light immunity – allows for use in optically challenging environments
- Low to reasonable investment costs and high to very high performance levels ensure short return on investment

→ www.mysick.com/en/Dx50

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/Dx50

Measuring range ⁷⁾	Laser protection class	Switching output ²⁾	Analog output	Model name	Part no.
200 mm ... 10,000 mm 200 mm ... 6,500 mm 200 mm ... 4,000 mm	2 (EN 60825-1) ¹⁾	1 x PNP (100 mA) ³⁾	1x 0 V ... 10 V (≥ 5 kΩ)	DT50-P1114	1047581
		1 x NPN (100 mA) ⁶⁾	1 x 4 mA ... 20 mA (≤ 300 Ω)	DT50-N1113	1047396
			1x 0 V ... 10 V (≥ 5 kΩ)	DT50-N1114	1047582
		1 x PNP (100 mA) ³⁾	1 x 4 mA ... 20 mA (≤ 300 Ω)	DT50-P1113	1044369
200 mm ... 20,000 mm 200 mm ... 8,500 mm 200 mm ... 5,000 mm	2 (EN 60825-1) ¹⁾	1 x NPN (100 mA) ⁶⁾	1 x 4 mA ... 20 mA (≤ 300 Ω)	DT50-N2113	1047398
		1 x PNP (100 mA) ³⁾	1 x 4 mA ... 20 mA (≤ 300 Ω)	DT50-P2113	1047314
	2 (EN 60825-1) ¹⁾	2 x PNP (100 mA) ³⁾	–	DS50-P2112	1047407
		2 x NPN (100 mA) ⁶⁾	–	DS50-N2112	1047408
	1 (EN 60825-1) ⁹⁾	2 x PNP (100 mA) ³⁾	–	DS50-P2122	1047409
		2 x NPN (100 mA) ⁶⁾	–	DS50-N2122	1047410

¹⁾ Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; pulse repetition rate: 1/200. ²⁾ Output Q short-circuit protected.

³⁾ PNP: HIGH = V_S - (< 2.5 V) / LOW = 0 V. ⁴⁾ Response time ≤ 15ms.

⁵⁾ PNP: HIGH = V_S / LOW = ≤ 2.5 V. ⁶⁾ NPN: HIGH = < 2.5 V / LOW = V_S. ⁷⁾ 90% / 18% / 6% remission.

⁸⁾ On Diamond Grade.

⁹⁾ Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/400.

¹⁰⁾ Wavelength: 658 nm; max. output: 80 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/240.

¹¹⁾ Dependent on the set function MF: switching output 2 / laser off, external teach.

¹²⁾ Response time ≤ 60 ms.

Measuring range ⁷⁾	Laser protection class	Switching output ²⁾	Analog output	Model name	Part no.
200 mm ... 50,000 mm ⁸⁾	1 (EN 60825-1) ⁹⁾	1 x PNP (100 mA) ³⁾	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)	DL50-P1123	1047361
		1 x NPN (100 mA) ⁶⁾	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)	DL50-N1123	1047401
	1 (EN 60825-1) ¹⁰⁾	2 x / 1 x PNP (100 mA) ^{3) 11)}	–	DL50-P2225	1048418
		2 x / 1 x NPN (100 mA) ^{6) 11)}	–	DL50-N2225	1048419
200 mm ... 10,000 mm 200 mm ... 5,000 mm 200 mm ... 2,500 mm	1 (EN 60825-1) ⁹⁾	1 x PNP (100 mA) ³⁾	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)	DT50-P1123	1047118
		1 x NPN (100 mA) ⁶⁾	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)	DT50-N1123	1047397
		1 x PNP (100 mA) ³⁾	1 x 0 V ... 10 V ($\geq 5 \text{ k}\Omega$)	DT50-P1124	1047616
		1 x NPN (100 mA) ⁶⁾		DT50-N1124	1047617
200 mm ... 10,000 mm 200 mm ... 6,000 mm 200 mm ... 4,000 mm	2 (EN 60825-1) ¹⁾	2 x PNP (100 mA) ³⁾	–	DS50-P1112	1047402
		2 x NPN (100 mA) ⁶⁾	–	DS50-N1112	1047404
	1 (EN 60825-1) ⁹⁾	2 x PNP (100 mA) ³⁾		DS50-P1122	1047405
		2 x NPN (100 mA) ⁶⁾		DS50-N1122	1047406
200 mm ... 13,000 mm 200 mm ... 5,800 mm 200 mm ... 3,400 mm	1 (EN 60825-1) ⁹⁾	1 x PNP (100 mA) ³⁾	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)	DT50-P2123	1047399
		1 x NPN (100 mA) ⁶⁾		DT50-N2123	1047400

¹⁾ Wavelength: 658 nm; max. output: 180 mW; pulse duration: 5 ns; pulse repetition rate: 1/200. ²⁾ Output Q short-circuit protected.

³⁾ PNP: HIGH = V_S - (< 2.5 V) / LOW = 0 V. ⁴⁾ Response time ≤ 15 ms.

⁵⁾ PNP: HIGH = V_S / LOW = ≤ 2.5 V. ⁶⁾ NPN: HIGH = < 2.5 V / LOW = V_S . ⁷⁾ 90% / 18% / 6% remission.

⁸⁾ On Diamond Grade.






⁹⁾ Wavelength: 658 nm; max. output: 120 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/400.

¹⁰⁾ Wavelength: 658 nm; max. output: 80 mW; pulse duration: 2.5 ns; pulse repetition rate: 1/240.

¹¹⁾ Dependent on the set function MF: switching output 2 / laser off, external teach.

¹²⁾ Response time ≤ 60 ms.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Device protection (mechanical)	Weather protecting hood for Dx50	OBW-KHS-M02	2050205
	Mounting brackets/plates	Mounting bracket, steel, zinc coated, incl. mounting material, for Dx50	BEF-WN-DX50	2048370
		Mounting bracket for weather-protection hood OBW-KHS, steel, zinc coated, incl. mounting material	BEF-WN-OBW	2023251
 Illustration may differ	Plug connectors and cables	Female connector, M12, 5-pin, straight, 2 m, PVC	DOL-1205-G02M	6008899
		Female connector, M12, 5-pin, straight, 5 m, PVC	DOL-1205-G05M	6009868
Female connector, M12, 5-pin, straight, 10 m, PVC		DOL-1205-G10M	6010544	
Female connector, M12, 5-pin, angled, 2 m, PVC		DOL-1205-W02M	6008900	
Female connector, M12, 5-pin, angled, 5 m, PVC		DOL-1205-W05M	6009869	
 Illustration may differ		Female connector, M12, 5-pin, angled, 10 m, PVC	DOL-1205-W10M	6010542
	Reflectors	Reflector plate, DG tape 330 mm x 330 mm, material: base plate aluminum, screw connection	PL240DG	1017910



At a glance

- 3-axis alignment bracket with quick lock system
- SpeedCon™ and standard M12 electrical connections
- Small and rugged metal housing
- Display with intuitive menu and easy-to-see status LEDs
- Pre-failure and diagnostic data available
- Numerous fieldbus and Ethernet interfaces
- Elongated holes for precise adjustment of sensor offset (or "home position")
- Versatile accessories

Your benefits

- 3-axis alignment bracket ensures fast alignment and easy exchange, reducing maintenance and setup costs
- Enhanced closed-loop behavior offers highest performance and productivity
- Fast setup with an intuitive and easy-to-use display guarantees the perfect sensor settings
- Pre-failure and extensive diagnostic data allow for preventive maintenance, ensuring the highest machine uptime
- Numerous fieldbus and Ethernet-based interfaces offer the highest flexibility and fast communication for maximum efficiency
- Small, rugged metal housing and SpeedCon™ compatible connectors ensure hassle-free installation – even in confined spaces
- Numerous accessories allow flexible use and guarantee high operation functionality

→ www.mysick.com/en/Dx100

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/Dx100

Ambient temperature	Measuring range ³⁾	Accuracy	Repeatability ²⁾	Interface	Model name	Part no.
Operation -20 °C ... +55 °C ¹⁾ Operation with cooling case -20 °C ... +75 °C Storage -40 °C ... +75 °C	0.15 m ... 100 m	± 2 mm	0.5 mm	SSI	DL100-21AA2101	1052684
				PROFIBUS	DL100-21AA2102	1052686
			± 0.5 mm	RS-422	DL100-21AA2103	1052688
				PROFINET	DL100-21AA2112	1058164
	0.15 m ... 200 m	± 2.5 mm	1 mm	SSI	DL100-22AA2101	1052690
				PROFIBUS	DL100-22AA2102	1052692
			± 0.75 mm	RS-422	DL100-22AA2103	1052694
				PROFINET	DL100-22AA2112	1058166
	0.15 m ... 300 m	± 3 mm	2 mm	SSI	DL100-23AA2101	1052696
				PROFIBUS	DL100-23AA2102	1052698
			± 1 mm	RS-422	DL100-23AA2103	1052700
				PROFINET	DL100-23AA2112	1058168

¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes.

²⁾ Statistical error 1 σ, environmental conditions constant, min. warm-up time 10 min.

³⁾ On Reflective tape „Diamond Grade“.











Ambient temperature	Measuring range ³⁾	Accuracy	Repeatability ²⁾	Interface	Model name	Part no.
Operation with heating -40 °C ... +55 °C ¹⁾ Operation with cooling case -40 °C ... +75 °C Storage -40 °C ... +75 °C	0.15 m ... 100 m	± 2 mm	0.5 mm	SSI	DL100-21HA2101	1052685
				PROFIBUS	DL100-21HA2102	1052687
				RS-422	DL100-21HA2103	1052689
	0.15 m ... 200 m	± 2.5 mm	± 0.5 mm	PROFINET	DL100-21HA2112	1058165
				SSI	DL100-22HA2101	1052691
			1 mm	PROFIBUS	DL100-22HA2102	1052693
				RS-422	DL100-22HA2103	1052695
				PROFINET	DL100-22HA2112	1058167
	0.15 m ... 300 m	± 3 mm	2 mm	SSI	DL100-23HA2101	1052697
				PROFIBUS	DL100-23HA2102	1052699
				RS-422	DL100-23HA2103	1052701
			± 1 mm	PROFINET	DL100-23HA2112	1058169

¹⁾ Temperatures < -10 °C require warm-up time of typ. 7 minutes.

²⁾ Statistical error 1 σ , environmental conditions constant, min. warm-up time 10 min.

³⁾ On Reflective tape „Diamond Grade“.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Plug connectors and cables	Female connector, M12, 4-pin, straight, 5 m, PVC	DOL-1204-G05M	6009866
Illustration may differ				
		Female connector, M12, 5-pin, straight, 5 m, PROFIBUS, shielded	DOL-1205-G05MQ	6026006
		Female connector, M12, 8-pin., straight, 5 m, PUR halogen-free, shielded	DOL-1208-G05MAH1	6032449
		Male connector, M12, 4-pin, straight, PROFIBUS, terminal resistor	PR-STE-END	6021156
		Connecting cable, M12 male connector, D-coded, straight, to RJ45, straight, 5 m	SSL-1204-G05MZ60	6048245
		Connecting cable, M12 male connector, D-coded, straight, to M12 male connector, straight, 5 m	SSL-1204-G05MZ90	6048242
		Connection cable, Ethernet patch cable, 5 m, straight, connector M12, 4-pin to connector RJ-45	SSL-2J04-G05ME	6035389
		Male connector, M12, 5-pin, straight, 5 m, PROFIBUS, shielded	STL-1205-G05MQ	6026005
	Reflectors	Reflector plate, DG tape 665 mm x 665 mm, material: base plate aluminum, screw connection, heated	PL560DG-H	1023888
	Terminal and alignment brackets	Alignment unit for Dx100, steel, zinc coated, incl. mounting material	BEF-AH-DX100	2058653



At a glance

- Measurement range from 0.5 m up to 155 m on natural targets
- Excellent accuracy thanks to time-of-flight measurement
- Easy alignment thanks to pilot laser
- Freely programmable parameters
- RS-422, RS-232, PROFIBUS, analog and two switching outputs
- Near field blanking parameter for operation through a protection window
- Models with filter for measurement of glowing, hot metal (up to 1,400 °C)

Your benefits

- Extremely wide measurement range of up to 155 m on natural targets offers high flexibility in applications where range is key
- Supplementary visible alignment laser allows fast and easy alignment – even over long distances, offering fast and cost-effective installation
- Tough metal housing design for trouble-free operation in the roughest environmental conditions
- Non-visible, Class 1 IR laser for safe measurement and detection
- User-friendly software with an easy-to-follow interface ensures fast and cost-optimized setup
- Serial and analog interfaces as well as two digital switching outputs allow flexible use for varied applications
- Integrated filter option allows for direct measurement of 1,400 °C glowing, hot targets

→ www.mysick.com/en/DMT

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/DMT

Special characteristic	Measuring range	Response time ¹⁾	Aperture delay time ²⁾	Interface	Model name	Part no.
Mechanical aperture	0.5 m ... 155 m ⁵⁾	1 ms ... 4,000 ms	1 s	RS-422, RS-232 ³⁾	DMT10-2-1111	1027603
	0.5 m ... 65 m ⁶⁾			PROFIBUS DP	DMT10-2-1211	1027604
	0.5 m ... 40 m ⁷⁾			RS-422, RS-232 ³⁾	DMT10-2-1113	1027605
	0.5 m ... 20 m ⁴⁾			PROFIBUS DP	DMT10-2-1213	1027606
Electronic aperture	0.5 m ... 155 m ⁵⁾	1 ms ... 3,000 ms	1 ms	RS-422, RS-232 ³⁾	DMT10-2-2111	1028540
	0.5 m ... 65 m ⁶⁾			PROFIBUS DP	DMT10-2-2211	1028541
	0.5 m ... 40 m ⁷⁾					

¹⁾ Dependant on average setting, average depth, timeout, baud rate, data output, output format and effective dead time of aperture.

²⁾ Dependant on average setting, average depth, timeout, baud rate, data output and output format.

³⁾ Switchable. ⁴⁾ Max. object temperature 1,400 °C.

⁵⁾ 90% remission. ⁶⁾ 18 % remission. ⁷⁾ 6 % remission.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Device protection (mechanical)	Thermo protection cooling case DMTx/DML40, peltier cooling unit, fiber glass housing	Cooling Case DML/DMT	6036183
	Plug connectors and cables	Serial RS-232 connecting cable, 3 m, 9-pin, D-sub, socket/open cable end	Connecting cable (socket-open end)	2020319
	Terminal and alignment brackets	Alignment unit for DMT/DML, steel, zinc coated, incl. mounting material	BEF-GH-DMT	5309130



At a glance

- Control marks for special functions and sensor configuration
- Measurement range up to 10 km
- High repeatability of 1 mm
- Adjustable resolution as low as 0.1 mm
- Multiple interfaces: SSI, RS-422, RS-485 and CANopen
- Self-adjusting quadruple redundant red LED lighting
- Integrated skew and bank angle for fast parallel mounting, therefore alignment only in one axis is necessary
- Large temperature range from -30 °C to +60 °C

Your benefits

- Precise positioning with speeds of up to 4 m/s significantly increases throughput
- Camera-based system with no moving parts in combination with tough metal housing ensure increased lifetime, thus reducing replacement costs
- High ambient light safety due to selfadjusting LED illumination ensures reliable operation, thus increasing machine availability
- Large temperature range from -30 °C to +60 °C offers flexible and reliable use in many applications
- Various interfaces (RS-422, RS-485, SSI and CANopen) offer highest flexibility and easiest system integration, hence saving costs for interface converters and protocol adaption
- Smallest available housing for common industrial serial interfaces offers easy integration in confined spaces, therefore allowing the customer to save room on his machine design

→ www.mysick.com/en/OLM100

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information


Other models available at www.mysick.com/en/OLM100






- Resolution: 0.1 mm, 1 mm

Sensing distance	Bar code width ¹⁾	Output rate	Data interface	Model name	Part no.
100 mm ± 20 mm (to bar code tape, 30 mm bar code width)	30 mm	1 ms	SSI	OLM100-1001	1047411
		5 ms	RS-422	OLM100-1003	1047412
			RS-485	OLM100-1005	1046580
			CANopen	OLM100-1006	1047413
130 mm ± 20 mm (to bar code tape, 40 mm bar code width)	40 mm	1 ms	SSI	OLM100-1051	1050136
		5 ms	RS-422	OLM100-1053	1050137
			RS-485	OLM100-1055	1050135
			CANopen	OLM100-1056	1050138

¹⁾ The bar code tape available from SICK always has a width of 30 mm. The bar code tape is available in two heights: 30 mm or 40 mm.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Codes	Width 30 mm, height 30 mm, scanning range 0 m ... 20 m	Bar code tape	5324069
		Width 30 mm, height 30 mm, scanning range 20 m ... 40 m	Bar code tape	5324070
		Width 30 mm, height 30 mm, scanning range 40 m ... 60 m	Bar code tape	5324071
		Width 30 mm, height 30 mm, scanning range 60 m ... 80 m	Bar code tape	5324072
		Width 30 mm, height 30 mm, scanning range 80 m ... 100 m	Bar code tape	5324073

	Accessory category	Brief description	Model name	Part no.
	Plug connectors and cables	Female connector, M12, 5-pin, straight, 5 m, PUR halogen free, shielded	DOL-1205-G05MAC	6036384
		Female connector, M12, 5-pin, straight, 5 m, CAN/CANopen, shielded on pin 1	DOL-1205-G05M_Can	6021166
		Female connector, M12, 8-pin., straight, 5 m, PUR halogen-free, shielded	DOL-1208-G05MAH1	6032449
		Connection cable, Ethernet patch cable, 2 m, straight, connector M12, 4-pin to connector RJ-45	SSL-2J04-G02ME	6034414
		Male connector, M12, 5-pin, straight, terminal resistor, DeviceNet and CANopen	STE-1205-GKEND	6037193