DETECTION AND RANGING SOLUTIONS
COMPACT, RELIABLE DETECTION AND DISTANCE MEASUREMENT

2D laser scanners, 3D laser scanners, radar sensors

SICK
Sensor Intelligence.

Product			Principle of operation				Applications										
			Navigation	Detection	Measurement	Multi-echo technology	Level measurement	Checking height	Area monitoring	Checking presence	Collision prevention	Position detection	Electronic routing	Range finding	Shape recognition	Classification	
2D laser scanners																	
	TiM series	TiM3xx		■				■	■	■	■						
		TiM5xx			■			■	■		■	■		■			
	LMS series	S100		■						■	■						
		LMS1xx		■	■	■	■	■	■	■	■	■	■	■	■	■	
		LMC1xx		■	■	■			■	■							
		LMS5xx		■	■	■	■	■	■		■	■	■	■	■	■	
		LMS4xx		■	■		■	■		■		■		■	■		
	LD series	LD-OEM		■	■		■	■			■			■			
		LD-LRS		■	■		■		■		■	■		■			
	NAV series	NAV2xx	■	■	■							■	■	■	■		
		NAV3xx	■	■	■							■			■		
3D laser scanners																	
		LD-MRS		■	■	■	■	■	■		■	■	■	■	■	■	
Radar sensors																	
		RAS4xx							■	■	■						

Working ranges (with 10 % remission)	Page
20 m 40 m 60 m 80 m 100 m 120 m 140 m 160 m 180 m 200 m 220 m 240 m 260 m 280 m	

	Page
0.05 m ... 10 m (8 m)	➜ 4
0.05 m ... 25 m (8 m)	➜ 4
0.05 m ... 10 m (4.5 m)	➜ 4
0.5 m ... 50 m (30 m)	➜ 5
0.5 m ... 20 m (18 m)	➜ 5
0.7 m ... 80 m (40 m)	➜ 5
0.7 m ... 3 m	➜ 6
0.5 m ... 250 m (55 m)	➜ 6
0.5 m ... 250 m (80 / 120 m)	➜ 7
0.5 m ... 50 m (18 m)	➜ 7
0.5 m ... 250 m (35 m)	➜ 7
0.5 m ... 300 m (50 / 30 m)	➜ 8
0.2 m ... 20 m	➜ 9

	TiM3xx	TiM5xx	S100
	Incredibly good at detection	Complete measurement accuracy	Easy for anticollision

Technical data overview

	TiM3xx	TiM5xx	S100
Field of application	Indoor	Indoor	Indoor
Aperture angle	270°	270°	270°
Operating range	0.05 m … 10 m	0.05 m … 25 m	0 m … 10 m
Angular resolution	0.33°, 1°	0.33°, 1°, 3°	0.5°, 1°
Max. range with 10 % reflectivity	2 m / 8 m	2 m / 8 m	4.5 m
Scanning frequency	15 Hz	15 Hz	25 Hz
Heating	–	–	–
Ethernet	– / ✔	– / ✔	–
CAN bus	–	–	✔
USB	✔ , micro USB	✔ , micro USB	–
Serial (RS-232, RS-422)	– / –	✔ / –	✔ / –
Weight	150 g / 250 g	150 g / 250 g	1.2 kg

At a glance

TiM3xx	TiM5xx	S100
• Configure without a PC using "touch and teach" • Small, lightweight and economical measurement sensor • Field evaluation using intelligent algorithms • Set parameter interface is accessible while device is mounted • One of the smallest laser scanners on the market • Proven industrial design • Low power consumption (typ. 3 W)	• Monitoring area of up to 235 m² with just one sensor • High ambient light tolerance due to HDDM technology • Rugged housing with up to an IP 67 enclosure rating • Low power consumption of just 3 W • Compact design with a housing height of just 86 mm maximum • Integrated Ethernet interface • Long sensing range of up to max. 10 m • Industry-standard design and M12 male connector	• Small, lightweight and economical measurement sensor • Field evaluation using intelligent algorithms • Parameter setting interface is accessible from the front while the device is mounted

| **Detailed information** | ➜ www.mysick.com/en/TiM3xx | ➜ www.mysick.com/en/TiM5xx | ➜ www.mysick.com/en/S100 |

	LMS1xx	LMC1xx	LMS5xx
	Compact and economical, even in harsh environments	Laser Measurement Certified (LMC) – intelligent and flexible security	Reliable and precise, even over long distances
	Indoor Outdoor Security	Security Indoor / Security Outdoor	Indoor Outdoor Security
	270°	270°	190°
	0.5 m … 50 m	0.5 m … 20 m	0 m … 80 m
	0.25°, 0.5°	0.25°, 0.5°	0.166°, 0.167°, 0.25°, 0.333°, 0.5°, 0.667°, 1°
	18 m / 30 m	18 m	26 m / 40 m
	25 Hz / 50 Hz	50 Hz	25 Hz / 35 Hz / 50 Hz / 75 Hz / 100 Hz
	No / yes	No / yes	Yes
	✔	✔	✔
	✔	✔	– / ✔
	–	–	✔ , Mini-USB
	✔ / –	✔ / –	✔ / ✔
	1.1 kg	1.1 kg	3.7 kg

LMS1xx

- Efficient and cost-effective 2D laser scanner for measuring ranges of up to 50 m
- Outstanding performance whatever the weather, thanks to multi-echo technology and intelligent algorithms
- Rugged, compact housing with enclosure rating up to IP 67, integrated heating and a temperature range from –40 °C and +60 °C
- Variants for security applications with relay outputs and VdS certification available
- Measurement data output via Ethernet interface in real time
- Number of switching outputs can be expanded via external CAN modules

LMC1xx

- The only VdS-certified laser scanner on the market (German certificate standard)
- Highest class "C" with environmental class II or IVa
- Flexible connection to DC 9 V to 30 V
- Two isolated relays (alarms) and one obstruction output
- Long detection range of 20 m, horizontal and vertical
- Up to 10 freely definable monitoring fields with intelligent evaluation algorithms
- Certified QuickStart menu
- 200 RAL colors available

LMS5xx

- Powerful and efficient laser scanner for measuring ranges of up to 80 m
- Outstanding performance in adverse weather conditions due to multi-echo technology
- Compact housing up to IP 67 enclosure rating and built-in heater for outdoor devices
- Low power consumption
- Fast signal processing
- Multiple I/Os
- Synchronization of multiple sensors possible

➜ www.mysick.com/en/LMS1xx

➜ www.mysick.com/en/LMC1xx

➜ www.mysick.com/en/LMS5xx

	LMS4xx	LD-OEM	
	Fast and reliable, for precise measurement of distances and contours	Long-range laser technology for use in harsh industrial environments	

Technical data overview

Field of application	Indoor	Indoor	
Aperture angle	70°	360°	
Operating range	0.7 m ... 3 m	0.5 m ... 250 m	
Angular resolution	0.1° ... 1.0°, configurable	0.125°, 0.1875°, 0.25°, 0.375°, 0.5°, 0.75°, 1°, 1.5°, interlaced: 0.0625°	
Max. range with 10 % reflectivity	3 m	55 m	
Scanning frequency	180 Hz ... 500 Hz	5 Hz ... 20 Hz	
Heating	–	–	
Ethernet	✔	✔	
CAN bus	–	–	
Serial (RS-232, RS-422)	✔ / –	✔ / ✔	
Weight	2.3 kg	2.4 kg	

At a glance

	• The "Level Control" application integrated in the sensor is, with its gapless scanning surface, able to perform "shadowless" detection of objects in containers. Even small objects, regardless of color, are detected anywhere in the container. • Large dynamic measurement range of 0.7 m to 3 m • Rugged design • High angular resolution and scanning frequency • Ideal for depalletizing taks, contour verification and vision applications on pallets	• Long scanning range even when detecting dark surfaces • Eye-safe, class 1 laser technology • High angular resolution of up to 0.125 degrees • High level of immunity to solar radiation and other infrared light sources • Synchronous monitoring of up to four freely definable fields • Real-time output of measurement data via Ethernet interface • Gap-free scanning with uniform laser spot over the full 360-degree angle

Detailed information	➜ www.mysick.com/en/LMS4xx	➜ www.mysick.com/en/LD-OEM

LD-LRS	NAV2xx	NAV3xx
High-Performance, long-distance laser Scanner for outdoor areas	Position determination and navigation – even in highly demanding conditions	Precise laser navigation for maximum efficiency

Indoor	Outdoor	Indoor
360°	270°	360°
0.5 m ... 250 m	0.5 m ... 50 m, 30 m on reflectors	0.5 m ... 250 m, 70 m on reflectors, 0.5 m ... 70 m on reflectors
0.125°, 0.1875°, 0.25°, 0.375°, 0.5°, 0.75°, 1°, 1.5°, interlaced: 0.0625°	0.001°, on reflectors 0.25°, on raw / contour data	0.125°, 1.875°, 0.25°, 0.375°, 0.5°, 0.75°, 1°, interlaced: 0.0625°
80 m / 120 m	18 m	35 m
5 Hz ... 15 Hz	25 Hz	5 Hz ... 20 Hz, 8 Hz, ± 5 %
Yes	Yes	–
✔	–	✔
–	–	–
– / ✔	✔ / –	✔ / ✔
9.1 kg	1.1 kg	2.4 kg

• Long scanning range, even when detecting dark surfaces • High angular resolution of up to 0.0625 degrees • High immunity to solar radiation • Synchronous monitoring of up to four different fields • Small laser spot diameter even at long distances	• Integrated data evaluation for determining reflector positions • Scanning range of up to 30 m on reflectors, up to 18 m on black (10 % remission), maximum of up to 50 m • Collection angle: 270° • Scanning frequency: 25 Hz • Angle resolution on reflectors: 0.001° • Temperature resistant from –30 °C to +50 °C • IP 67 enclosure rating and integrated heating	• Mixed-mode navigation provides both spatial contour data and reflector data • Long scanning range: up to 70 m on reflectors (up to 35 m on black targets) • High internal computing power and individual AGV configuration • Measurement, navigation, and determination of position with highest level of precision from three visible reflectors • Angular resolution of up to 0.1 degrees • Navigation, spatial and contour data, reflector marks, angular position and/or raw data collection

➔ www.mysick.com/en/LD-LRS   ➔ www.mysick.com/en/NAV2xx   ➔ www.mysick.com/en/NAV3xx

LD-MRS

Rugged multi-layer scanner for harsh environments

Technical data overview

Field of application	Outdoor
Aperture angle	110°
Operating range	0.5 m ... 300 m
Angular resolution	0.125°, 0.25°, 0.5°
Max. range with 10 % reflectivity	50 m / 30 m
Scanning frequency	12.5 Hz ... 50 Hz, object tracking at 12.5 Hz
Ethernet	✔
CAN bus	✔
Serial (RS-232)	✔
Weight	1 kg

At a glance

- Simultaneous measurements on up to 8 scan planes
- Weatherproof thanks to multi-echo technology and IP 69K enclosure rating
- Lightweight, compact design: Approx. 1 kg
- Wide temperature range: –40 °C to +70 °C
- Low power consumption: 8 watts
- Supply voltage: 9 V DC to 27 V DC
- Different angular resolutions in the scanning range are available
- Integrated object tracking

Detailed information	➜ www.mysick.com/en/LD-MRS

RAS4xx

Extensive sensing range and large-scale coverage for collision avoidance

Technical data overview	
Field of application	Outdoor
Aperture angle	7° x 28° (coned shape)
Operating range	0.2 m ... 20 m
USB	✔
USB (Function)	Parameterization
Switching outputs	3 (relays)
Weight	580 g ... 1,480 g

At a glance
• Optional and simple sensing range adjustment of up to 20 m
• High level of availability even with contamination or in poor weather conditions
• Simple mounting and adjustment
• Additional sender / receiver modules

Detailed information	➜ www.mysick.com/en/RAS4xx

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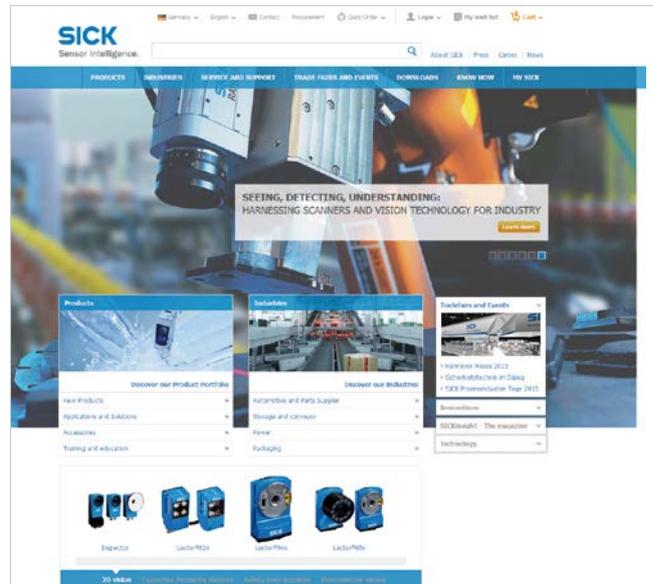
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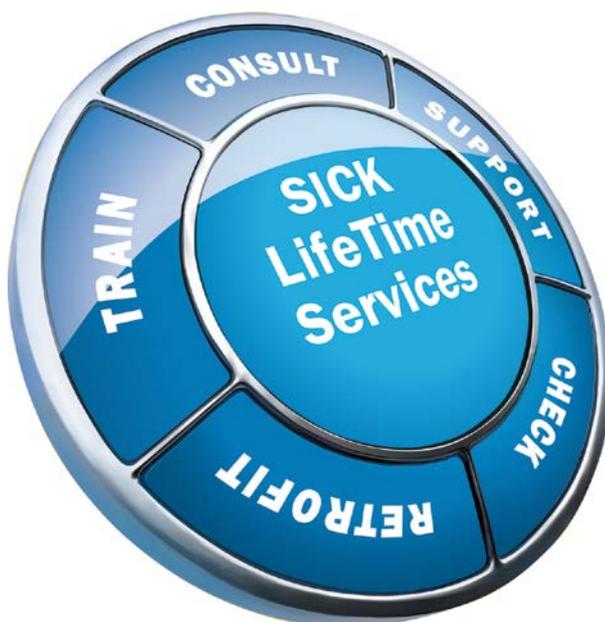
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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With almost 7,000 employees and over 50 subsidiaries and equity investments as well as numerous representative offices 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.

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Detailed addresses and additional representatives ➜ **www.sick.com**

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