
























PROXIMITY SENSORS




PRODUCTS AT A GLANCE

Inductive proximity sensors, inductive safety switches, capacitive proximity sensors, magnetic proximity sensors



SICK
Sensor Intelligence.

Material to be detected	Product family	Housing			Material				Properties			Sensing range		
		Cylindrical threaded	Cylindrical smooth	Rectangular	Stainless steel	Metal	VISTAL™	Plastic	IP 69K	PTFE-coating	High-pressure resistant	Standard sensing range	Extended sensing range	Triple sensing range
Inductive proximity sensors 														
Metal 	 IMM	■	■		■	■			■		■	■	■	
	 IME	■				■						■	■	■
	 IMB	■			■				■				■	
	 IMF	■			■				■				■	
	 IMI	■			■				■					■
	 IMN	■				■						■		
	 IMA	■				■								■
	 IMP	■				■					■	■		
	 SAM	■				■						■		
	 IQM			■				■				■		
	 IQY			■				■					■	
	 IQB			■			■						■	
	 IQV			■		■						■		
	 IQG			■				■	■				■	
	 IQL			■				■					■	
	Inductive safety switches 													
Metal 	 IN3000 Direct	■			■	■						■		
	 IN4000 Direct			■		■						■		
	 IN4000 Standard	■		■	■	■			■			■		
Capacitive proximity sensors 														
Powders, granules, liquid, solid 	 CM	■						■	■			■		
	 CM PTFE	■						■		■		■		
	 CQ			■				■				■		
Magnetic proximity sensors 														
Magnet 	 MM	■			■	■						■		
	 MM Namur	■				■						■		
	 MQ			■			■					■		



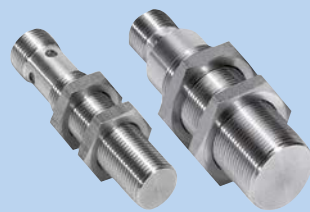
Electrical wiring		Switching output				Sensing range S _n												Page		
DC 2-wire	AC/DC 2-wire	DC 3-wire	DC 4-wire	NAMUR output	Analog output	Semiconductor (OSSD)	IO-Link	10	20	30	40	50	60	70	80	90	100	110	120	
		■					■	4 mm												→ 4
■		■	■					20 mm												→ 4
■		■	■				■	20 mm												→ 5
		■	■					20 mm												→ 5
		■						40 mm												→ 5
				■				15 mm												→ 6
					■			0 mm ... 40 mm												→ 6
		■	■					3 mm												→ 7
			■				■	10mm												→ 7
		■						3 mm												→ 8
		■						4 mm												→ 8
		■						8 mm												→ 8
		■	■					7 mm												→ 9
		■	■					40 mm												→ 9
	■	■	■					60 mm												→ 9
						■		22 mm												→ 10
						■		45 mm												→ 11
						■		30 mm												→ 11
			■					25 mm												→ 12
			■					8 mm												→ 13
		■	■					25 mm												→ 13
		■						120 mm												→ 14
				■				120 mm												→ 15
		■						60 mm												→ 15

	 <p style="text-align: center;">IMM</p>	 <p style="text-align: center;">IME</p>	
	Miniature sensors for industrial applications	The economic standard for use in industrial environments	




Technical data overview			
Housing	Cylindrical smooth housing / Cylindrical thread design	Cylindrical thread design	
Thread size	M4 x 0.5 M5 x 0.5	M8 x 1 M12 x 1 M18 x 1 M30 x 1.5	
Diameter	Ø 3 mm Ø 4 mm Ø 6.5 mm	-	
Sensing range S_n	0.6 mm ... 4 mm	1 mm ... 38 mm	
Electrical wiring	DC 3-wire	DC 2-wire / DC 3-wire	
Housing material	Stainless steel (V2A)	Nickel-plated brass	
Enclosure rating	IP 68 / IP 69K / IP 67	IP 67	

At a glance			
	<ul style="list-style-type: none"> • Types: M4 to M5, diameter from 3 mm to 6.5 mm • Extended sensing ranges: 0.6 mm to 4 mm • Electrical configuration: DC 3-wire • Enclosure rating: IP 67 • Temperature range: -25 °C to +70 °C • Rugged stainless-steel housing; plastic sensing face • IO-Link ready • Extremely compact, lightweight, and space-saving <div style="text-align: center; margin-top: 20px;">  </div>	<ul style="list-style-type: none"> • Types: M8 to M30 • Extended sensing ranges: 1.5 mm to 38 mm • Electrical configuration: DC 3-/4-wire, DC 2-wire • Enclosure rating: IP 67 • Temperature range: -25 °C to +75 °C • Nickel-plated brass housing; plastic sensing face <div style="text-align: center; margin-top: 20px;">  </div>	

Detailed information	→ www.sick.com/IMM	→ www.sick.com/IME	
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 <p>IMB</p>	 <p>IMF</p>	 <p>IMI</p>
<p>The rugged standard for use in harsh ambient conditions</p>	<p>The economic standard for use in the food industry</p>	<p>Robust full metal sensors for use in the food industry</p>



<p>Cylindrical thread design</p>	<p>Cylindrical thread design</p>	<p>Cylindrical thread design</p>
<p>M8 x 1 M12 x 1 M18 x 1 M30 x 1.5</p>	<p>M8 x 1 M12 x 1 M18 x 1 M30 x 1.5</p>	<p>M12 x 1 M18 x 1 M30 x 1.5</p>
<p>-</p>	<p>-</p>	<p>-</p>
<p>2 mm ... 20 mm DC 2-wire / DC 3-wire / DC 4-wire</p>	<p>2 mm ... 20 mm DC 3-wire / DC 4-wire</p>	<p>6 mm ... 40 mm DC 3-wire</p>
<p>Stainless steel (V2A) IP 68, IP 69K</p>	<p>Stainless steel (V4A) IP 68, IP 69K</p>	<p>Stainless steel (V4A) IP 68, IP 69K</p>

<ul style="list-style-type: none"> • Types: M8 to M30 • Extended sensing ranges: 2 mm to 20 mm • Electrical configuration: DC 3-/4-wire, DC 2-wire • Enclosure rating: IP 68, IP 69K • Temperature range: -40 °C to +100 °C • Rugged stainless-steel housing; plastic sensing face • Optical adjustment indicator, IO-Link-ready • Resistant to oils and cooling lubricants; suitable for use outdoors 	<ul style="list-style-type: none"> • Types: M8 to M30 • Extended sensing ranges: 2 mm to 20 mm • Electrical configuration: DC 3-/4-wire • Enclosure rating: IP 68, IP 69K • Temperature range: -40 °C to +100 °C • Food-compatible stainless-steel housing, plastic sensing face • Optical adjustment indicator, IO-Link-ready • Resistant to industrial cleaning agents, Ecolab-certified 	<ul style="list-style-type: none"> • Types: M8 to M30 • Triple sensing ranges: 6 mm to 40 mm • Electrical configuration: DC 3-wire • Enclosure rating: IP 68, IP 69K • Temperature range: -25 °C to +85 °C • Food-compatible stainless-steel housing, stainless steel sensing face • Sensing face made of food-compatible stainless steel • Resistant against cleaning agents 
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<p>→ www.sick.com/IMB</p>	<p>→ www.sick.com/IMF</p>	<p>→ www.sick.com/IMI</p>
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	 <p style="text-align: center;">IMN</p>	 <p style="text-align: center;">IMA</p>
	NAMUR sensors for explosive zones	Analog sensors with triple sensing range for use in industrial environments

Technical data overview			
Housing	Cylindrical thread design		Cylindrical thread design
Thread size	M8 x 1 M12 x 1 M18 x 1 M30 x 1.5		M8 x 1 M12 x 1 M18 x 1 M30 x 1.5
Sensing range S_n	1 mm ... 15 mm		4 mm ... 40 mm
Electrical wiring	-		-
Housing material	Nickel-plated brass		Nickel-plated brass
Enclosure rating	IP 67		IP 67

At a glance		
	<ul style="list-style-type: none"> • Types: M8 to M30 • Sensing ranges: 1 mm to 15 mm • NAMUR according to DIN EN 60947-5-6 • Enclosure rating: IP 67 • Temperature range: -20 °C to +70 °C • Nickel-plated brass housing; plastic sensing face • ATEX device category 1G and 2G • Suitable for applications in explosion-hazardous areas <div style="text-align: center;">  </div>	<ul style="list-style-type: none"> • Types: M8 to M30 • Extended detection ranges: 0 mm to 40 mm • Analog output signal 0 V ... 10 V and 4 mA ... 20 mA • Enclosure rating: IP 67 • Temperature range: -25 °C to +75 °C • Nickel-plated brass housing; plastic sensing face • High resolution and repeatability • Distance control and continuous position detection <div style="text-align: center;">  </div>

Detailed information	→ www.sick.com/IMN	→ www.sick.com/IMA
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IMP

High-pressure-resistant sensors for hydraulic applications



SAM

The simple and intelligent way of speed monitoring

Cylindrical thread design

- M5 x 0.5
- M8 x 1
- M12 x 1
- M14 x 1.5

1 mm ... 3 mm

DC 3-wire / DC 4-wire

Stainless steel (V2A / V4A)

IP 68

Cylindrical thread design

- M18 x 1
- M30 x 1.5

7 mm / 10 mm

DC 4-wire

Nickel-plated brass

IP 67

- Types: M5, M8, M12 and M14
- Extended sensing ranges: 1 mm to 3 mm
- Electrical configuration: DC 3- and 4-wire
- Enclosure rating: IP 68
- Temperature range: -25 °C to +100 °C
- Stainless steel housing with active surface made from stable high-performance ceramic
- Pressure resistant up to 500 bar, gas-tight front
- Expected service life of up to 1 million pressure cycles







→ www.sick.com/IMP

- Types: M18 and M30
- Sensing ranges: up to 10 mm flush
- Speed and acceleration monitoring
- Monitoring range: 6 to 12,000 pulses/min. and 0.1 to 2 pulses/sec.²
- Switching and pulse output
- Intelligent start-up delay
- Speed monitoring can be flexibly configured via two thresholds
- Flexible sensor settings, monitoring, extended diagnostics, and visualization thanks to IO-Link






→ www.sick.com/SAM

	 <p style="text-align: center;">IQM</p>	 <p style="text-align: center;">IQY</p>	 <p style="text-align: center;">IQB</p>	
<p>Rectangular miniature sensors for use in industrial environments</p>		<p>Slim rectangular housings for use in industrial environments</p>		<p>Small rectangular housings for use in industrial environments</p>

Technical data overview

Housing	Rectangular	Rectangular	Rectangular
Dimensions	8 mm x 16 mm x 4 mm 10 mm x 30 mm x 6 mm	8 mm x 8 mm x 40 mm 5 mm x 5 mm x 25 mm	10 mm x 28 mm x 16 mm 12 mm x 40 mm x 26 mm
Sensing range S _n	1.5 mm / 3 mm	0.8 mm ... 4 mm	2 mm ... 8 mm
Electrical wiring	DC 3-wire	DC 3-wire	DC 3-wire / DC 4-wire
Housing material	PA6-GF30	Nickel-plated brass / VISTAL™	VISTAL™
Enclosure rating	IP 67	IP 67 / IP 68	IP 68

At a glance

<p>Detailed information</p>	<ul style="list-style-type: none"> Types: 8 mm x 16 mm x 4 mm or 10 mm x 30 mm x 6 mm Extended sensing ranges: 1.5 mm to 3 mm Electrical configuration: DC 3-wire Enclosure rating: IP 67 Temperature range: -20 °C to +70 °C Plastic housing Flat, space-saving and light design <div style="text-align: center;">  </div> <p style="text-align: center;">→ www.sick.com/IQM</p>	<ul style="list-style-type: none"> Types: 5 mm x 5 mm x 25 mm or 8 mm x 8 mm x 40 mm Extended sensing ranges: 0.8 mm to 4 mm Electrical configuration: DC 3-wire Enclosure rating: IP 67 or IP 68 Temperature range: -25 °C to +75 °C Tough VISTAL™ housing Thin version with 270° output state display <div style="text-align: center;">  </div> <p style="text-align: center;">→ www.sick.com/IQY</p>	<ul style="list-style-type: none"> Types: 10 mm x 16 mm x 28 mm or 12 mm x 26 mm x 40 mm Extended sensing ranges: 2 mm to 8 mm Electrical configuration: DC 3-/4-wire Enclosure rating: IP 68 Temperature range: -25 °C to +75 °C Tough VISTAL™ housing Small version with 270° output state display <div style="text-align: center;">  </div> <p style="text-align: center;">→ www.sick.com/IQB</p>	
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IQV

Flat rectangular housings
for use in industrial environments



IQG

Compact rectangular housings
for use in harsh ambient conditions



IQL

Large rectangular housings
for use in industrial environments

Rectangular
20 mm x 32 mm x 8 mm
25 mm x 50 mm x 10 mm

7 mm / 5 mm
DC 3-wire / DC 4-wire
GD Zn

IP 67

Rectangular
40 mm x 40 mm x 66 mm
40 mm x 40 mm x 132 mm
40 mm x 40 mm x 118 mm

20 mm / 40 mm
DC 3-wire / DC 4-wire
PA 66

IP 67, IP 68, IP 69K

Rectangular
80 mm x 40 mm x 105 mm
80 mm x 40 mm x 112 mm

60 mm / 50 mm
AC/DC 2-wire / DC 3-wire / DC 4-wire
PPE

IP 65 / IP 67

- Types:
20 mm x 32 mm x 8 mm
or
25 mm x 50 mm x 10 mm
- Extended sensing ranges:
5 mm to 7 mm
- Electrical configuration: DC 3-/4-wire
- Enclosure rating: IP 67
- Temperature range:
-25 °C to +70 °C
- Metal housing, plastic sensing face
- Flat housing made of robust metal



→ www.sick.com/IQV

- Type: 40 mm x 40 mm
- Extended sensing ranges:
15 mm to 40 mm
- Electrical configuration: DC 3-/4-wire
- Enclosure rating: IP 68, IP 69K
- Temperature range:
-25 °C to +85 °C
- Plastic housing
- Push-lock mounting system
- Sensor head can be rotated in five directions



→ www.sick.com/IQG

- Type: 80 mm x 80 mm
- Longer sensing ranges:
50 mm to 60 mm
- Electrical configuration:
DC 3-/4-wire, or AC/DC 2-wire
- Enclosure rating IP 65 or IP 67
- Temperature range:
-25 °C to +80 °C
- Plastic housing
- Programmable N/O or N/C function
- Sensing range setting via potentiometer



→ www.sick.com/IQL



IN3000 Direct

Safe, non-contact position monitoring

Technical data overview

Housing	Cylindrical thread design
Thread size	M12 x 1 M18 x 1 M30 x 1.5
Dimensions (W x H x D)	-
Safety integrity level	SIL2 (IEC 61508), SILCL2 (EN 62061)
Category	Applicable up to category 3 (EN ISO 13849)
Performance level	PL d (EN ISO 13849)
Actuator coding level	Uncoded (EN ISO 14119)
Type of output	Semiconductor
Number of safe outputs	2
Connection type	Plug connector, M12, 4-pin
Flexi-Loop-ready	✓

At a glance

- Response range of up to 15 mm
- LED status indicator
- Up to performance level PL d (EN ISO 13849), SILCL2 (EN 62061), SIL2 (IEC 61508)
- Flexi Loop-compatible M12 plug connector



Detailed information

→ www.sick.com/IN3000_Direct



IN4000 Direct

Safe, non-contact position monitoring



IN4000 Standard

Safe, non-contact position monitoring

	Rectangular	Cylindrical thread design / Rectangular
	-	M18 x 1 M30 x 1.5
	40 mm x 40 mm x 66 mm	40 mm x 40 mm x 66 mm
	SIL3 (IEC 61508), SILCL3 (EN 62061)	SIL3 (IEC 61508)
	Category 4 (EN ISO 13849)	Category 4 (EN ISO 13849)
	PL e (EN ISO 13849)	PL e (EN ISO 13849)
	Uncoded (EN ISO 14119)	Uncoded (EN ISO 14119)
	Semiconductor (OSSD)	Semiconductor, pulsed
	2	1
	Plug connector, M12, 4-pin	Plug connector, M12, 4-pin
	✓	-

- Two OSSD safety outputs for direct connection of sensors to a single safety controller
- Response range of up to 20 mm
- LED status indicator
- Up to performance level PL e / Cat. 4 (EN ISO 13849)
- Flexi Loop-compatible M12 plug connector



→ www.sick.com/IN4000_Direct

- One clocked safety output for direct connection of sensors to a safety controller
- IP67 or IP69K enclosure rating
- Response range up to 15 mm
- LED status indicator
- Up to performance level PL e (EN ISO 13849)
- Safe series connection of sensors possible



→ www.sick.com/IN4000_Standard



CM

Tried-and-tested sensors
for object detection and fill level detection

Technical data overview

Housing	Cylindrical thread design
Thread size	M12 x 1 M18 x 1 M30 x 1.5
Dimensions (W x H x D)	-
Sensing range S_n	8 mm ... 25 mm
Electrical wiring	DC 4-wire / AC 2-wire
Housing material	Plastic
Enclosure rating	IP 67 / IP 68 / IP 69K

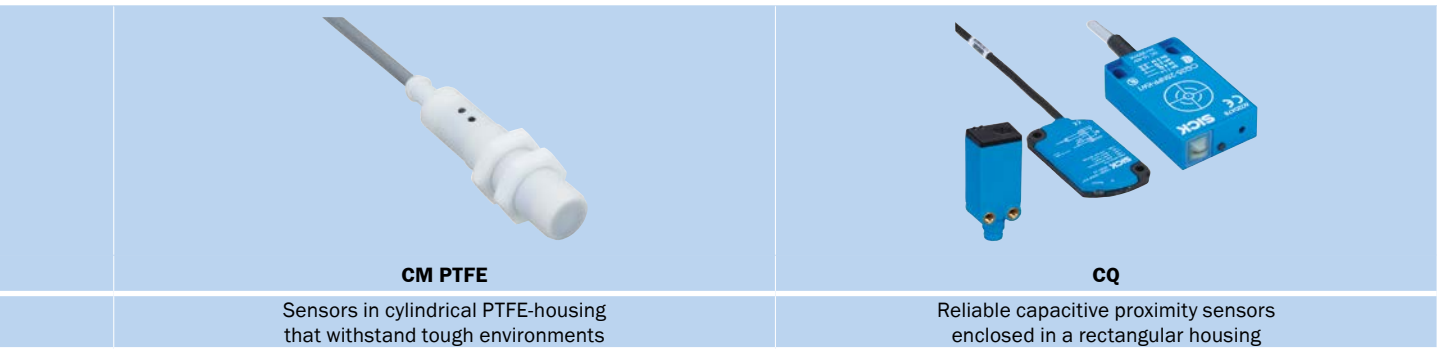
At a glance

- Cylindrical housing in M12, M18, and M30 models
- Detects powders, granulates, liquids, and solids
- High electromagnetic compatibility
- Electrical configuration: DC 2 and 4-wire
- Supply voltage: 10 V DC to 36 V DC
- Optical adjustment indicator
- Sensing ranges of up to 25 mm
- Enclosure rating: IP 65, IP 68, IP 69K



Detailed information

→ www.sick.com/CM



<p>Cylindrical thread design M18 x 1</p>	<p>Rectangular -</p>
<p>-</p>	<p>16 mm x 39.5 mm x 12 mm 28 mm x 46 mm x 5.5 mm 35 mm x 69.5 mm x 15 mm</p>
<p>8 mm</p>	<p>6 mm ... 25 mm</p>
<p>DC 4-wire</p>	<p>DC 3-wire / DC 4-wire</p>
<p>PTFE</p>	<p>Plastic</p>
<p>IP 67</p>	<p>IP 67 / IP 68</p>

- M18 - metric housing
- Detects powders, granulates, liquids, and solids
- Extremely high electromagnetic compatibility
- Electric version: DC, 4-conductor
- Supply voltage: 10 V ... 36 V DC
- Short-circuit protection (pulsed)
- Housing material made from PTFE
- IP 67 protection class



→ www.sick.com/CM_PTFE

- Rectangular housing
- Detects powders, granulates, liquids, and solids
- Extremely high electromagnetic compatibility
- Electric version: DC, 4-conductor
- Supply voltage: 10 V ... 36 V DC
- Short-circuit protection (pulsed)



→ www.sick.com/CQ



MM

Magnetic proximity sensors in common M8, M12, and M18 cylindrical housing

Technical data overview

Housing	Cylindrical thread design / cylindrical
Thread size	M8 x 1 M12 x 1 M18 x 1
Housing	-
Sensing range S_n	45 mm ... 120 mm
Electrical wiring	DC 3-wire
Magnetic field sensitivity, min.	0.4 mT ... 1 mT
Housing material	Nickel-plated brass / V4A
Enclosure rating	IP 67

At a glance

- Types: M8 to M18
- Sensing range: up to 120 mm
- Electrical configuration: DC 3-wire
- Enclosure rating: IP 67
- Temperature range: -25 °C to +75 °C
- Nickel-plated brass housing; plastic sensing face
- Reliable detection of permanent magnets through non-ferromagnetic materials such as stainless steel, aluminum, plastic or wood
- Solves high-temperature applications by installing the permanent magnet in the high-temperature area and the sensor behind an insulated area



Detailed information

→ www.sick.com/MM



MM Namur

NAMUR magnetic proximity sensors in a cylindrical housing for explosive areas



MQ

Magnetic proximity sensors in a rectangular housing

	Cylindrical thread design	Rectangular
	M12 x 1 M18 x 1	-
	-	10.3 mm x 37 mm x 16 mm 10.3 mm x 28 mm x 16 mm
	60 mm ... 120 mm	≤ 60 mm
	-	DC 3-wire
	≤ 0.4 mT ... ≤ 1 mT	1 mT
	Nickel-plated brass / Stainless steel V4A (1.4404, 316L)	VISTAL™
	IP 67	IP 68

- Types: M12 to M18
- Sensing range: up to 120 mm
- Electrical configuration: NAMUR
- Enclosure rating: IP 67
- Temperature range: -25 °C to +70 °C
- Nickel-plated brass housing; plastic sensing face
- Reliable detection of permanent magnets through non-ferromagnetic materials such as stainless steel, aluminum, plastic or wood
- NAMUR design for usage in explosion-hazardous areas



→ www.sick.com/MM_Namur

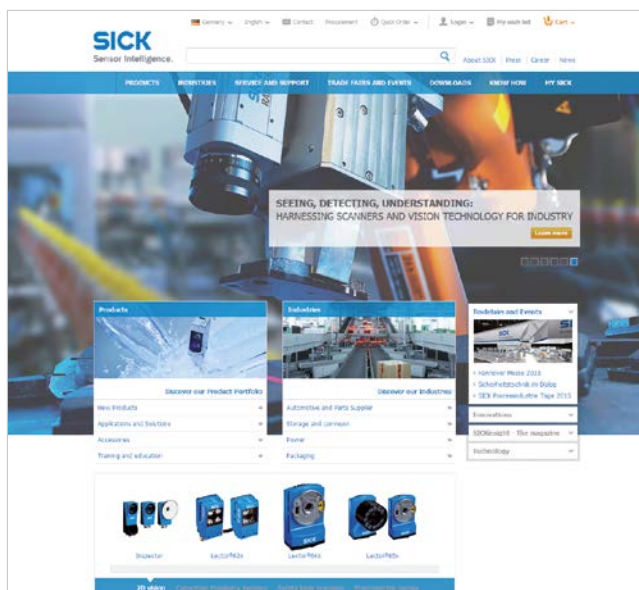
- Type: 10 mm x 28 mm x 16 mm
- Sensing ranges: up to 60 mm
- Electrical configuration: DC, 3-wire
- Enclosure rating: IP 67, IP 68
- Temperature range: -25 °C to +75 °C
- Tough VISTAL™ housing
- Reliable detection of permanent magnets through non-ferromagnetic materials such as stainless steel, aluminum, plastic or wood
- Solves high-temperature applications by installing the permanent magnet in the high-temperature area and the sensor behind an insulated area



→ www.sick.com/MQ

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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 7,400 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.

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Detailed addresses and further locations → www.sick.com