



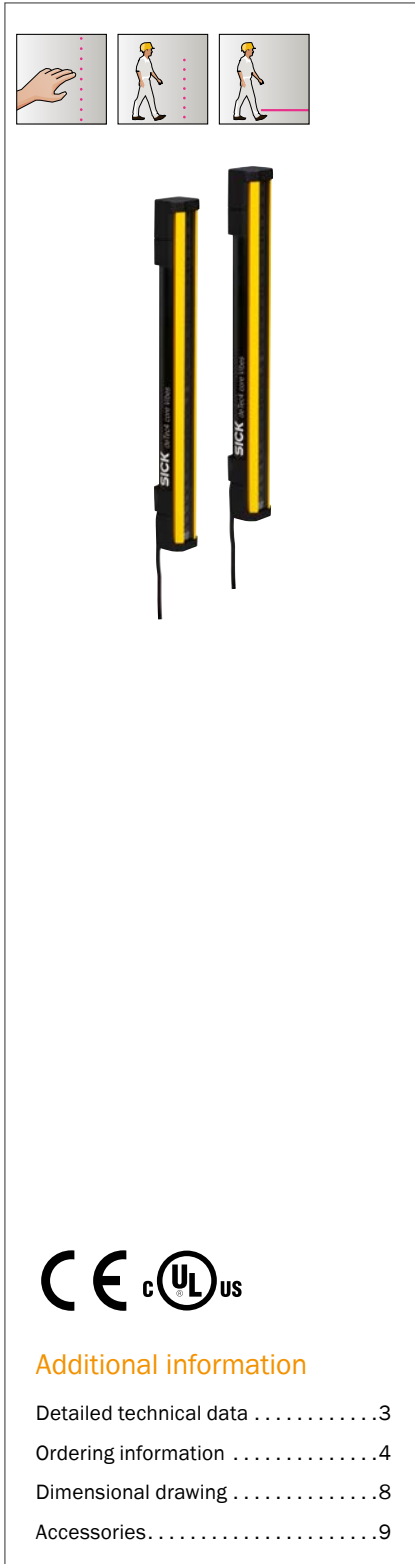
## deTec Core Vibes

MAXIMUM RELIABILITY WHEN EXPOSED  
TO SHOCKS AND VIBRATIONS

Safety light curtains

**SICK**  
Sensor Intelligence.

# MAXIMUM RELIABILITY WHEN EXPOSED TO SHOCKS AND VIBRATIONS



## Product description

The deTec Core Vibes safety light curtain has been specially designed to protect machines and plants that constantly generate shocks and strong vibrations. The light curtain is characterized by its high availability, thereby guaranteeing plant productivity even in harsh envi-

ronments subject to strong vibrations. deTec Core Vibes is available with three different sensing ranges. This enables interference between individual light curtains to be avoided and machines to be positioned close to each other.

## At a glance

- Withstands vibrations up to 200 Hz at 20 g or 400 Hz at 15 g
- Glued optics module
- 3 sensing ranges: 1.8 m ... 3.8 m, 3.8 m ... 6 m, 0 m ... 15 m
- Protective field height: 300 mm ... 2,100 mm
- Ambient operating temperature: -30 °C ... +55 °C
- Enclosure rating: IP65, IP67
- Type 2, Type 4

## Your benefits

- Maximum reliability when constantly exposed to shocks and strong vibrations
- No abrasion-related wear and tear thanks to glued optics module
- High availability: Three different sensing ranges can be selected, which avoids interference between the individual light curtains and allows the machines to be positioned close to each other
- Quick commissioning thanks to integrated LED displays and automatic calibration of the protective field width
- Very durable thanks to IP65 and IP67 enclosure ratings; withstands ambient operating temperatures down to -30 °C



## Additional information

Detailed technical data . . . . .	3
Ordering information . . . . .	4
Dimensional drawing . . . . .	8
Accessories . . . . .	9

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

For more information, simply 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.



## Detailed technical data

More detailed data can be found in the operating instructions. Download → [www.sick.com](http://www.sick.com)

## Features

<b>Application</b>	Machinery with high vibration
<b>Resolution</b>	30 mm
<b>Scanning range</b>	0 m ... 15 m / 1.8 m ... 3.8 m / 3.8 m ... 6 m (depending on type)
<b>Protective field height</b>	300 mm ... 2,100 mm (depending on type)
<b>No blind zones</b>	Yes
<b>Synchronization</b>	Optical synchronisation

## Safety-related parameters

	deTec4 Core Vibes	deTec2 Core Vibes
<b>Type</b>	Type 4 (IEC 61496-1)	Type 2 (IEC 61496-1)
<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (IEC 62061)	SIL1 (IEC 61508) SILCL1 (IEC 62061)
<b>Category</b>	Category 4 (ISO 13849-1)	Category 2 (ISO 13849-1)
<b>Performance level</b>	PL e (ISO 13849-1)	PL c (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	3.7 x 10 <sup>-9</sup>	31.0 x 10 <sup>-9</sup>
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)	
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.	

## Interfaces

<b>System connection</b>	Male connector M12, 5-pin
<b>Display elements</b>	LEDs
<b>Fieldbus, industrial network</b>	
Integration via Flexi Soft safety controller	CANopen, DeviceNet™, EtherCAT®, EtherNet/IP™, Modbus TCP, PROFIBUS DP, PROFINET <sup>1)</sup>

<sup>1)</sup> For additional information on Flexi Soft → [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft)

## Electrical data

<b>Protection class</b>	III (IEC 61140)
<b>Supply voltage V<sub>s</sub></b>	24 V DC (19.2 V ... 28.8 V)
<b>Ripple</b>	≤ 10 %
<b>Output signal switching devices (OSSDs)</b>	
Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>1)</sup>
ON state, switching voltage HIGH	24 V DC (V <sub>s</sub> - 2.25 V DC ... V <sub>s</sub> )
OFF state, switching voltage LOW	≤ 2 V DC
Current-carrying capacity per OSSD	≤ 300 mA

<sup>1)</sup> Applies to the voltage range between -30 V and +30 V.

## Mechanical data

<b>Dimensions</b>	See dimensional drawing
<b>Housing material</b>	Aluminum extruded profile

## Ambient data

<b>Enclosure rating</b>	IP65 (IEC 60529) IP67 (IEC 60529)
<b>Ambient operating temperature</b>	-30 °C ... +55 °C

<b>Storage temperature</b>	-30 °C ... +70 °C
<b>Air humidity</b>	15 % ... 95 %, Non-condensing
<b>Vibration resistance <sup>1)</sup></b>	20 g, 10 Hz ... 200 Hz (in each axis) 15 g, 200 Hz ... 400 Hz (in each axis)
<b>Shock resistance <sup>2)</sup></b>	10 g, 16 ms (IEC 60068-2-27)

<sup>1)</sup> In addition to the swept-sine tests described in accordance with IEC 60068-2-6, the safety light curtain was subjected to additional tests. The tested devices passed tests with a frequency sensing range between 200 Hz and 2 kHz (broadband noise) and an acceleration of 10 g over 8 h in each axis without any modifications.

<sup>2)</sup> In addition to tests in accordance with IEC 60068-2-27, the safety light curtain was subjected to additional continuous shock tests. The tested devices passed tests with 1,000,000 shocks and an acceleration of 30 g as well as tests with 100,000 shocks and an acceleration of 100 g without any modifications.

### Other information

<b>Wave length</b>	850 nm
<b>Type of light</b>	Near-infrared (NIR), invisible

### Ordering information

#### deTec4 Core Vibes

- **Scanning range:** 0 m ... 15 m

Resolution	Protective field height	Sender		Receiver	
		Type	Part no.	Type	Part no.
30 mm	300 mm	C4C-SV03030A10000	1223203	C4C-EV03030A10000	1223204
	450 mm	C4C-SV04530A10000	1223205	C4C-EV04530A10000	1223206
	600 mm	C4C-SV06030A10000	1223207	C4C-EV06030A10000	1223208
	750 mm	C4C-SV07530A10000	On request	C4C-EV07530A10000	On request
	900 mm	C4C-SV09030A10000	1223209	C4C-EV09030A10000	1223210
	1,050 mm	C4C-SV10530A10000	On request	C4C-EV10530A10000	On request
	1,200 mm	C4C-SV12030A10000	On request	C4C-EV12030A10000	On request
	1,350 mm	C4C-SV13530A10000	On request	C4C-EV13530A10000	On request
	1,500 mm	C4C-SV15030A10000	On request	C4C-EV15030A10000	On request
	1,650 mm	C4C-SV16530A10000	On request	C4C-EV16530A10000	On request
	1,800 mm	C4C-SV18030A10000	On request	C4C-EV18030A10000	On request
	1,950 mm	C4C-SV19530A10000	On request	C4C-EV19530A10000	On request
	2,100 mm	C4C-SV21030A10000	On request	C4C-EV21030A10000	On request

- **Scanning range:** 1.8 m ... 3.8 m

Resolution	Protective field height	Sender		Receiver	
		Type	Part no.	Type	Part no.
30 mm	300 mm	C4C-SV03030C10000	1223194	C4C-EV03030B10000	1223195
	450 mm	C4C-SV04530C10000	1223196	C4C-EV04530B10000	1223197
	600 mm	C4C-SV06030C10000	1223198	C4C-EV06030B10000	1223232
	750 mm	C4C-SV07530C10000	On request	C4C-EV07530B10000	On request
	900 mm	C4C-SV09030C10000	1223173	C4C-EV09030B10000	1223174
	1,050 mm	C4C-SV10530C10000	On request	C4C-EV10530B10000	On request
	1,200 mm	C4C-SV12030C10000	On request	C4C-EV12030B10000	On request
	1,350 mm	C4C-SV13530C10000	On request	C4C-EV13530B10000	On request
	1,500 mm	C4C-SV15030C10000	On request	C4C-EV15030B10000	On request
	1,650 mm	C4C-SV16530C10000	On request	C4C-EV16530B10000	On request
	1,800 mm	C4C-SV18030C10000	On request	C4C-EV18030B10000	On request
	1,950 mm	C4C-SV19530C10000	On request	C4C-EV19530B10000	On request
	2,100 mm	C4C-SV21030C10000	On request	C4C-EV21030B10000	On request

- **Scanning range:** 3.8 m ... 6 m

Resolution	Protective field height	Sender		Receiver	
		Type	Part no.	Type	Part no.
30 mm	300 mm	C4C-SV03030C10000	1223194	C4C-EV03030C10000	1223199
	450 mm	C4C-SV04530C10000	1223196	C4C-EV04530C10000	1223200
	600 mm	C4C-SV06030C10000	1223198	C4C-EV06030C10000	1223201
	750 mm	C4C-SV07530C10000	On request	C4C-EV07530C10000	On request
	900 mm	C4C-SV09030C10000	1223173	C4C-EV09030C10000	1223202
	1,050 mm	C4C-SV10530C10000	On request	C4C-EV10530C10000	On request
	1,200 mm	C4C-SV12030C10000	On request	C4C-EV12030C10000	On request
	1,350 mm	C4C-SV13530C10000	On request	C4C-EV13530C10000	On request
	1,500 mm	C4C-SV15030C10000	On request	C4C-EV15030C10000	On request
	1,650 mm	C4C-SV16530C10000	On request	C4C-EV16530C10000	On request
	1,800 mm	C4C-SV18030C10000	On request	C4C-EV18030C10000	On request
	1,950 mm	C4C-SV19530C10000	On request	C4C-EV19530C10000	On request
	2,100 mm	C4C-SV21030C10000	On request	C4C-EV21030C10000	On request

deTec2 Core Vibes

- **Scanning range:** 0 m ... 15 m

Resolution	Protective field height	Sender		Receiver	
		Type	Part no.	Type	Part no.
30 mm	300 mm	C2C-SV03030A10000	1223223	C2C-EV03030A10000	1223224
	450 mm	C2C-SV04530A10000	1223225	C2C-EV04530A10000	1223226
	600 mm	C2C-SV06030A10000	1223227	C2C-EV06030A10000	1223228
	750 mm	C2C-SV07530A10000	1105493	C2C-EV07530A10000	1105495
	900 mm	C2C-SV09030A10000	1223229	C2C-EV09030A10000	1223230
	1,050 mm	C2C-SV10530A10000	1105498	C2C-EV10530A10000	1105500
	1,200 mm	C2C-SV12030A10000	On request	C2C-EV12030A10000	On request
	1,350 mm	C2C-SV13530A10000	On request	C2C-EV13530A10000	On request
	1,500 mm	C2C-SV15030A10000	On request	C2C-EV15030A10000	On request
	1,650 mm	C2C-SV16530A10000	On request	C2C-EV16530A10000	On request
	1,800 mm	C2C-SV18030A10000	On request	C2C-EV18030A10000	On request
	1,950 mm	C2C-SV19530A10000	On request	C2C-EV19530A10000	On request
2,100 mm	C2C-SV21030A10000	On request	C2C-EV21030A10000	On request	

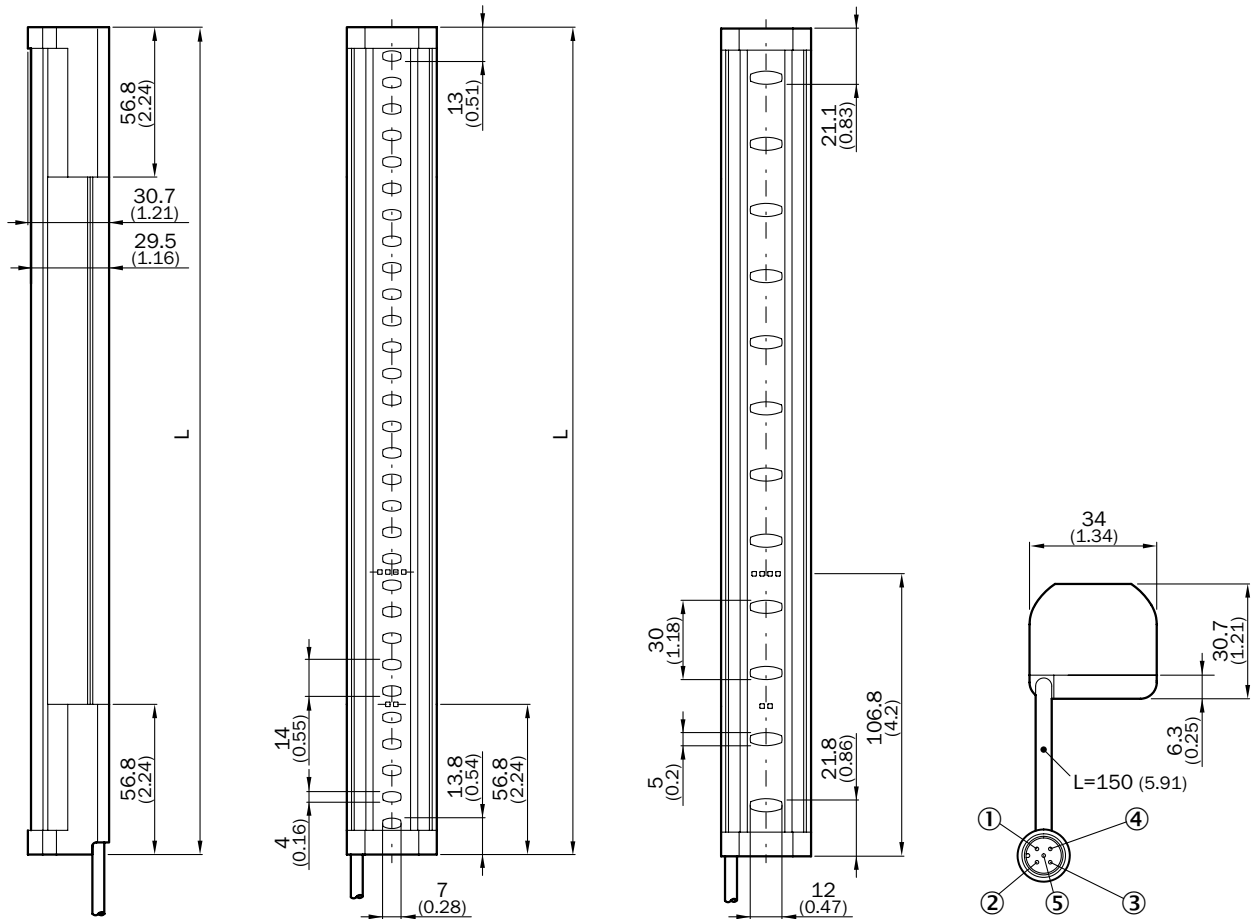
- **Scanning range:** 1.8 m ... 3.8 m

Resolution	Protective field height	Sender		Receiver	
		Type	Part no.	Type	Part no.
30 mm	300 mm	C2C-SV03030C10000	1223211	C2C-EV03030B10000	1223212
	450 mm	C2C-SV04530C10000	1223213	C2C-EV04530B10000	1223214
	600 mm	C2C-SV06030C10000	1223215	C2C-EV06030B10000	1223216
	750 mm	C2C-SV07530C10000	1105494	C2C-EV07530B10000	1105496
	900 mm	C2C-SV09030C10000	1223217	C2C-EV09030B10000	1223218
	1,050 mm	C2C-SV10530C10000	1105499	C2C-EV10530B10000	1105501
	1,200 mm	C2C-SV12030C10000	On request	C2C-EV12030B10000	On request
	1,350 mm	C2C-SV13530C10000	On request	C2C-EV13530B10000	On request
	1,500 mm	C2C-SV15030C10000	On request	C2C-EV15030B10000	On request
	1,650 mm	C2C-SV16530C10000	On request	C2C-EV16530B10000	On request
	1,800 mm	C2C-SV18030C10000	On request	C2C-EV18030B10000	On request
	1,950 mm	C2C-SV19530C10000	On request	C2C-EV19530B10000	On request
2,100 mm	C2C-SV21030C10000	On request	C2C-EV21030B10000	On request	

- **Scanning range:** 3.8 m ... 6 m

Resolution	Protective field height	Sender		Receiver	
		Type	Part no.	Type	Part no.
30 mm	300 mm	C2C-SV03030C10000	1223211	C2C-EV03030C10000	1223219
	450 mm	C2C-SV04530C10000	1223213	C2C-EV04530C10000	1223220
	600 mm	C2C-SV06030C10000	1223215	C2C-EV06030C10000	1223221
	750 mm	C2C-SV07530C10000	1105494	C2C-EV07530C10000	1105497
	900 mm	C2C-SV09030C10000	1223217	C2C-EV09030C10000	1223222
	1,050 mm	C2C-SV10530C10000	1105499	C2C-EV10530C10000	1105502
	1,200 mm	C2C-SV12030C10000	On request	C2C-EV12030C10000	On request
	1,350 mm	C2C-SV13530C10000	On request	C2C-EV13530C10000	On request
	1,500 mm	C2C-SV15030C10000	On request	C2C-EV15030C10000	On request
	1,650 mm	C2C-SV16530C10000	On request	C2C-EV16530C10000	On request
	1,800 mm	C2C-SV18030C10000	On request	C2C-EV18030C10000	On request
	1,950 mm	C2C-SV19530C10000	On request	C2C-EV19530C10000	On request
	2,100 mm	C2C-SV21030C10000	On request	C2C-EV21030C10000	On request

Dimensional drawing (Dimensions in mm (inch))



Protective field height	L
300 (11.81)	313 (12.32)
450 (17.72)	463 (18.23)
600 (23.62)	613 (24.13)
750 (29.53)	763 (30.04)
900 (35.43)	913 (35.94)
1,050 (41.34)	1,063 (41.85)
1,200 (47.24)	1,213 (47.76)
1,350 (53.15)	1,362 (53.62)
1,500 (59.06)	1,512 (59.53)
1,650 (64.96)	1,662 (65.43)
1,800 (70.87)	1,812 (71.34)
1,950 (76.77)	1,962 (77.24)
2,100 (82.68)	2,112 (83.15)



## Accessories

### Mounting systems

Terminal and alignment brackets

Alignment brackets

Figure	Description	Packing unit	Type	Part no.
	QuickFix bracket for 1 device (e.g. sender or receiver), plastic	2 pieces	BEF-3SHABPKU2	2066048
	QuickFix bracket for 2 devices (e.g. sender and receiver), plastic	4 pieces	BEF-3SHABPKU4	2098710



Dimensional drawings → [page 11](#)

### Connection systems

Plug connectors and cables

Connecting cables

- **Model:** PUR, halogen-free, unshielded

Figure	Connection type		Conductor cross-section	Length of cable	Type	Part no.
	Female connector, M12, 5-pin, angled	Flying leads	0.34 mm <sup>2</sup>	2 m	YG2A15-020UB5XLEAX	2095772
				5 m	YG2A15-050UB5XLEAX	2095773
				10 m	YG2A15-100UB5XLEAX	2095774
	Female connector, M12, 5-pin, straight	Flying leads	0.34 mm <sup>2</sup>	2 m	YF2A15-020UB5XLEAX	2095617
				5 m	YF2A15-050UB5XLEAX	2095618
				10 m	YF2A15-100UB5XLEAX	2095619
				15 m	YF2A15-150UB5XLEAX	2095620
				20 m	YF2A15-200UB5XLEAX	2095614
				30 m	YF2A15-300UB5XLEAX	2095621


Connection cables

- **Model:** PVC, unshielded
- **Length of cable:** 0.25 m


Figure	Connection type		Conductor cross-section	Items supplied	Type	Part no.
	Female connector, M12, 5-pin, straight	Male connector, M12, 8-pin, straight	0.34 mm <sup>2</sup>	Packaging unit: 2 pcs.	DSL-1285GM25034KM1	2070987
		Male connector, M26, 12-pin, straight	0.34 mm <sup>2</sup>	Packaging unit: 2 pcs.	DSL-6182GM25034KM1	2070989
		Male connector, M26, 7-pin, straight	0.34 mm <sup>2</sup>	Packaging unit: 2 pcs.	DSL-6187GM25034KM1	2070988

Adapters and distributors

T-junctions



Figure	Description	Type	Part no.
	T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver, 5-pin	DSC-1205T000025KM0	6030664

Power supply units and power supply cables

Figure	Input voltage	Output voltage	Output current	Type	Part no.
 Illustration may differ	100 V AC ... 240 V AC	24 V DC	≤ 2.1 A	PS50WE24V	7028789
			≤ 3.9 A	PS95WE24V	7028790

Reflectors and optics

Alignment aids

Figure	Description	Type	Part no.
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!	AR60	1015741
	Adapter AR60 for deTec4, deTec2 and MLG-2	AR60 adapter, deTec, deTem, MLG-2	4070854

Optics cloths


Figure	Description	Type	Part no.
	Cloth for cleaning optical surfaces	Lens cloth	4003353

Further accessories

Test and monitoring tools

Figure	Description	Type	Part no.
	30 mm diameter	Test rod 30 mm	2022602
	Test rod holder	BEF-3WNAAAAL1	2052249

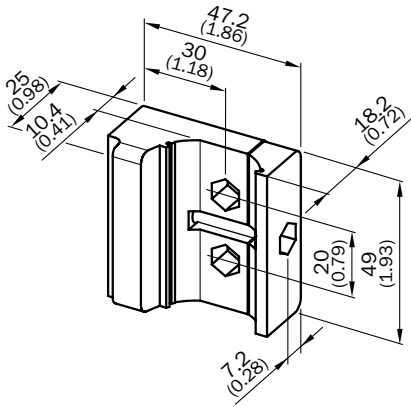
Cleaning agent

Figure	Description	Type	Part no.
	Plastic cleaner and care product, anti-static, 0.5 liter	Plastic cleaner	5600006

**Dimensional drawings for accessories** (Dimensions in mm (inch))**Terminal and alignment brackets**

BEF-3SHABPKU2

BEF-3SHABPKU4



## SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 9,700 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its 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.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the 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 SICK a reliable supplier and development partner.

Comprehensive services round out the offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**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.

Detailed addresses and further locations → [www.sick.com](http://www.sick.com)