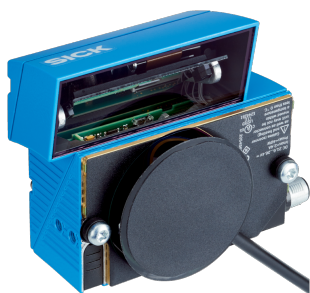


# CLV631-6120F0

CLV63x

FIXED MOUNT BARCODE SCANNERS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
CLV631-6120F0	1065606

Other models and accessories → [www.sick.com/CLV63x](http://www.sick.com/CLV63x)



## Detailed technical data

### Features

<b>Version</b>	Mid Range
<b>Connection type</b>	Ethernet
<b>Reading field</b>	Oscillating mirror
<b>Sensor type</b>	Line scanner
<b>Optical focus</b>	Fixed focus
<b>Light source</b>	Light spot, laser, Visible, Red, 655 nm
<b>Light spot</b>	Circular
<b>Laser class</b>	2, complies with 21 CFR 1040.10 except for the conformance according to "Laser Notice No. 56" from May 8, 2019 (EN 60825-1:2014+A11:2021, IEC 60825-1:2014)
<b>Aperture angle</b>	≤ 50°
<b>Reading distance</b>	78 mm ... 397 mm <sup>1)</sup>
<b>Scanning frequency</b>	400 Hz ... 1,200 Hz
<b>Code resolution</b>	0.25 mm ... 0.5 mm
<b>Oscillating mirror functions</b>	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot
Oscillation frequency	0.5 Hz ... 6.25 Hz
Angle of deflection	-20° ... 20°
<b>Heating</b>	✓
<b>Cold storage applications</b>	✓

<sup>1)</sup> For details see reading field diagram.

### Mechanics/electronics

<b>Connection type</b>	2 x M12 cylindrical connectors (12-pin male connector, 4-pin female connector) on swivel connector 1 x cable, open-ended, 3-wire (2 m)
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<sup>1)</sup> Swivel connector is 15 mm longer.

<sup>2)</sup> At 25 °C.

<b>Supply voltage</b>	≤ 24 V DC, ± 10 %
<b>Power consumption</b>	40 W
<b>Housing material</b>	Aluminum die cast
<b>Housing color</b>	Light blue (RAL 5012)
<b>Window material</b>	Glass
<b>Enclosure rating</b>	IP65 (EN 60529)
<b>Protection class</b>	III (EN 61140)
<b>Weight</b>	550 g, without connecting cable
<b>Dimensions (L x W x H)</b>	95 mm x 107 mm x 50 mm <sup>1)</sup>
<b>MTBF</b>	100,000 h
<b>MTTF</b>	40,000 h (Laser diode) <sup>2)</sup>

<sup>1)</sup> Swivel connector is 15 mm longer.

<sup>2)</sup> At 25 °C.

### Performance

<b>Readable code structures</b>	1D codes
<b>Bar code types</b>	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
<b>Code printing process</b>	Label (printed codes)
<b>Print ratio</b>	2:1 ... 3:1
<b>No. of codes per scan</b>	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
<b>No. of codes per reading interval</b>	1 ... 50 (auto-discriminating)
<b>No. of characters per reading interval</b>	5,000 500 (for multiplexer function in CAN operation)
<b>No. of multiple readings</b>	1 ... 99

### Interfaces

<b>Ethernet</b>	✓, TCP/IP
Function	Data interface (read result output), Service interface
Data transmission rate	10/100 MBit/s
<b>PROFINET</b>	✓
Function	PROFINET Single Port, PROFINET Dual Port (optional via external connection module CDF600-2)
Data transmission rate	10/100 MBit/s
<b>EtherNet/IP™</b>	✓
Data transmission rate	10/100 MBit/s
<b>EtherCAT</b>	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600
<b>Serial</b>	✓, RS-232, RS-422, RS-485
Function	Data interface (read result output), Service interface
Data transmission rate	2,400 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
<b>CAN</b>	✓
Function	SICK CAN sensor network CSN (CAN controller/CAN device, multiplexer/server)
Data transmission rate	20 kbit/s ... 1 Mbit/s

<b>CANopen</b>	✓
Data transmission rate	20 kbit/s ... 1 Mbit/s
<b>PROFIBUS DP</b>	✓
Type of fieldbus integration	Optional over external fieldbus module CDF600-2
<b>Digital inputs</b>	3 ("Sensor 1", 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
<b>Digital outputs</b>	2 (Via optional CMC600 parameter memory in CDB620/CDM420)
<b>Reading pulse</b>	Digital inputs, non-powered, serial interface, auto pulse, CAN
<b>Optical indicators</b>	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
<b>Acoustic indicators</b>	Beeper/buzzer (can be switched off, can be allocated as a result indication function)
<b>Control elements</b>	2 buttons (choose and start/stop functions)
<b>Configuration software</b>	SOPAS ET
<b>Memory card</b>	MicroSD memory card (flash card), optional

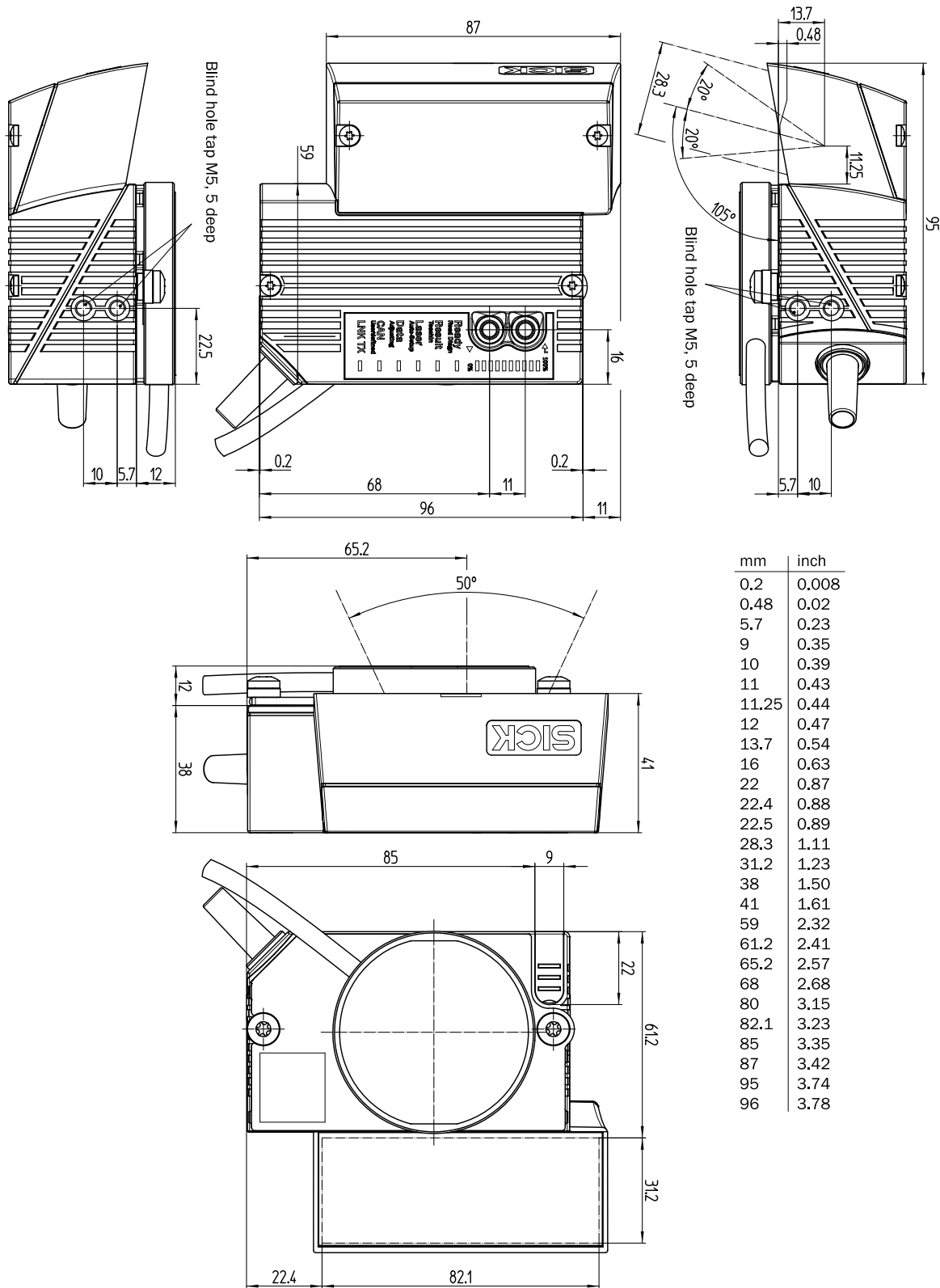
### Ambient data

<b>Electromagnetic compatibility (EMC)</b>	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
<b>Vibration resistance</b>	EN 60068-2-6 (1995)
<b>Shock resistance</b>	EN 60068-2-27 (1993)
<b>Ambient operating temperature</b>	-35 °C ... +35 °C
<b>Storage temperature</b>	-20 °C ... +70 °C
<b>Permissible relative humidity</b>	90 %, Non-condensing
<b>Ambient light immunity</b>	2,000 lx, on barcode
<b>Bar code print contrast (PCS)</b>	≥ 60 %

### Classifications

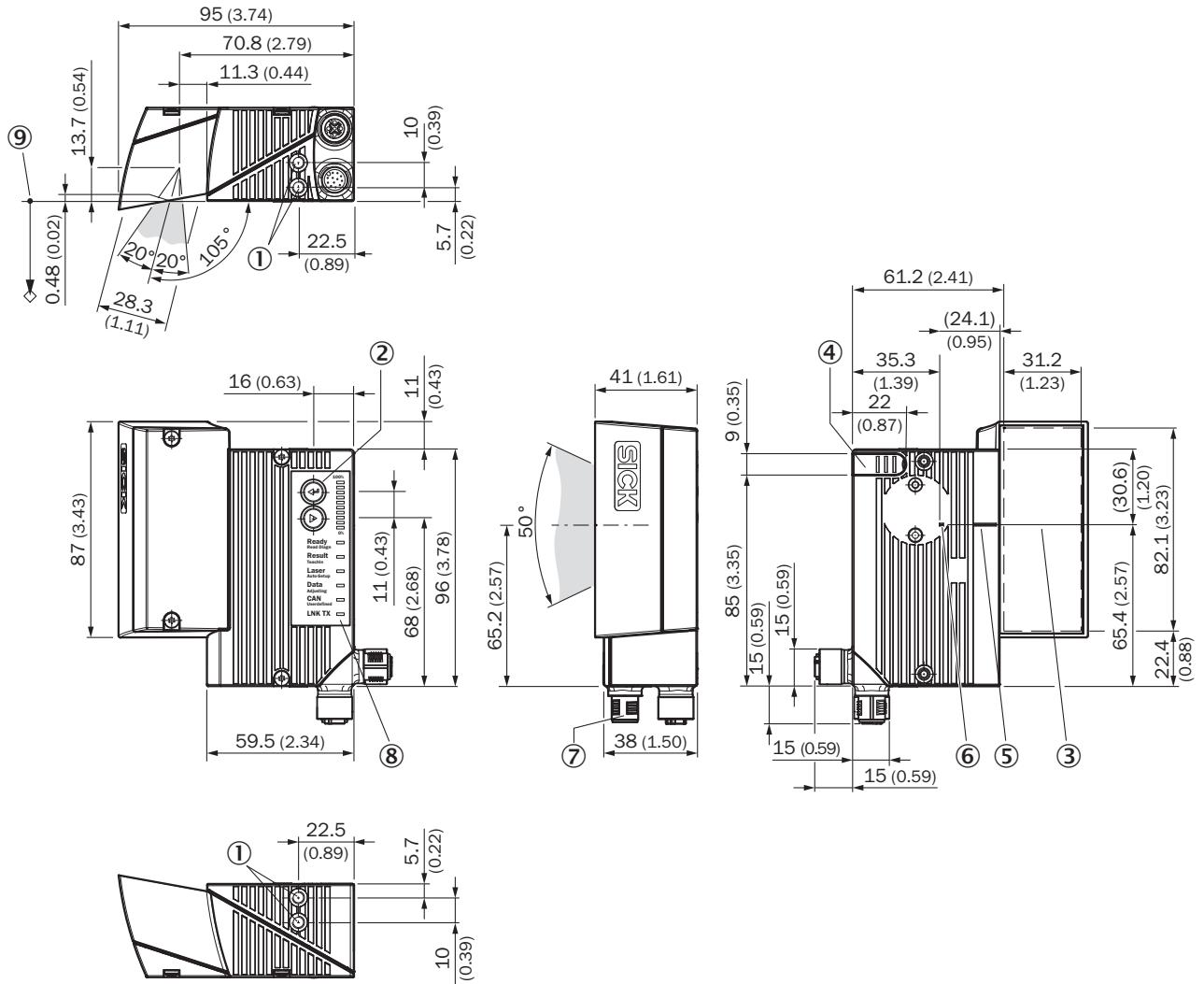
<b>ECLASS 5.0</b>	27280102
<b>ECLASS 5.1.4</b>	27280102
<b>ECLASS 6.0</b>	27280102
<b>ECLASS 6.2</b>	27280102
<b>ECLASS 7.0</b>	27280102
<b>ECLASS 8.0</b>	27280102
<b>ECLASS 8.1</b>	27280102
<b>ECLASS 9.0</b>	27280102
<b>ECLASS 10.0</b>	27280102
<b>ECLASS 11.0</b>	27280102
<b>ECLASS 12.0</b>	27280102
<b>ETIM 5.0</b>	EC002550
<b>ETIM 6.0</b>	EC002550
<b>ETIM 7.0</b>	EC002550
<b>ETIM 8.0</b>	EC002550
<b>UNSPSC 16.0901</b>	43211701

Dimensional drawing (Dimensions in mm (inch))



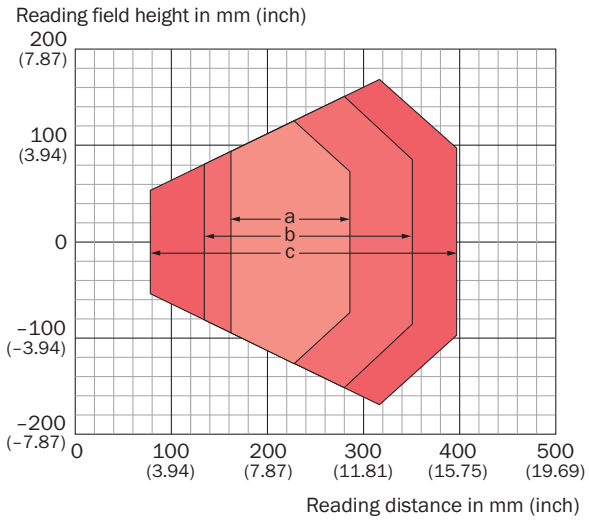
mm	inch
0.2	0.008
0.48	0.02
5.7	0.23
9	0.35
10	0.39
11	0.43
11.25	0.44
12	0.47
13.7	0.54
16	0.63
22	0.87
22.4	0.88
22.5	0.89
28.3	1.11
31.2	1.23
38	1.50
41	1.61
59	2.32
61.2	2.41
65.2	2.57
68	2.68
80	3.15
82.1	3.23
85	3.35
87	3.42
95	3.74
96	3.78

CLV63x/64x/65x, JEF3xx, JEF5xx, Ethernet, oscillating mirror



- ① Blind hole thread M5, 5 mm deep (2 x), for mounting
- ② Function button (2 x)
- ③ Reading field
- ④ Cover for the microSD memory card
- ⑤ Central position of the deflected laser beam in the V-shaped aperture angle
- ⑥ Internal impact point: rotation point of the variable direction laser beam
- ⑦ M12 round connectors (1 x 12-pin or 1 x 17-pin male connector, A-coded, 1 x 4-pin female connector, D-coded) with swivel connector
- ⑧ LED status indicator (6x) and bar graph
- ⑨ Reference point for reading distance (from housing edge to object)

### Reading field diagram

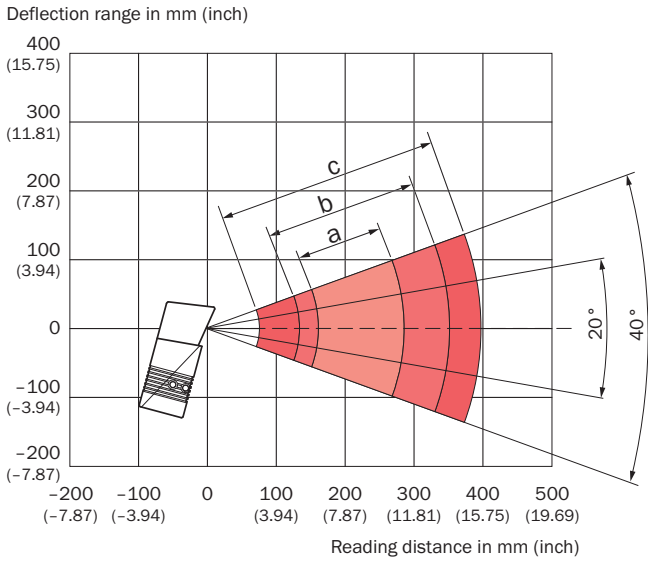


For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

**Resolution**

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

### Deflection width


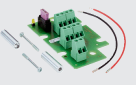







**Resolution**

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

### Recommended accessories

Other models and accessories → [www.sick.com/CLV63x](http://www.sick.com/CLV63x)

	Brief description	Type	Part no.
<b>Cloning modules</b>			
	External parameter memory for integration in CDB620/CDB650/CDM42x	CMC600-101	1042259
<b>Electronic modules</b>			
	Additional board for connecting a bar code scanner with heater in combination with CDM-420	Additional board	2055071
<b>Modules</b>			
	<ul style="list-style-type: none"> <li><b>Accessory group:</b> 4DproConnectivity</li> <li><b>Product family:</b> Connection Device Basic</li> <li><b>Sub product family:</b> CDB620</li> <li><b>Supported products:</b> CLV61x - CLV65xLector62xRFH6xxRFU62x</li> <li><b>Brief description:</b> Small connection module for one sensor, 4 cable glands, base for CMC600</li> </ul>	CDB620-001	1042256
	<ul style="list-style-type: none"> <li><b>Accessory group:</b> 4DproConnectivity</li> <li><b>Product family:</b> Connection Device Modular</li> <li><b>Sub product family:</b> CDM420</li> <li><b>Fieldbus interface:</b> PROFIBUS DPEthernetDeviceNet™</li> <li><b>Supported products:</b> Lector62xCLV61x - CLV65xMobile handheld scannersRFH6xxRFU62xRFU63x</li> <li><b>Brief description:</b> Modular connection module for one sensor</li> </ul>	CDM420-0001	1025362
<b>Storage media</b>			
	microSD memory card with 1 GB for industrial use	microSD memory card	4051366
<b>Mounting brackets and plates</b>			
	Hanger-shaped mounting bracket, thermally isolated for use with heating devices, mounting hardware included	Mounting bracket	2050705
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, D-coded</li> <li><b>Connection type head B:</b> Male connector, RJ45, 8-pin, straight</li> <li><b>Signal type:</b> PROFINET</li> <li><b>Cable:</b> 2 m, 4-wire, AWG26, PVC</li> <li><b>Description:</b> PROFINET, shielded</li> </ul>	YM2D24-020EB2MRJA4	6050198

### Recommended services

Additional services → [www.sick.com/CLV63x](http://www.sick.com/CLV63x)

	Type	Part no.
<b>Performance check</b>		
<ul style="list-style-type: none"> <li><b>Product area:</b> Fixed mount barcode scanners</li> <li><b>Range of services:</b> Inspection of defined functions, e.g., reading performance</li> <li><b>Duration:</b> Additional work will be invoiced separately</li> </ul>	Performance check CLV	1682028



	Type	Part no.
Commissioning		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> Fixed mount barcode scanners</li> <li>• <b>Range of services:</b> Inspection of connection, fine adjustment, optimization of parameters of SICK product as well as tests, Setup of previously defined functions of reading configuration, code configuration, data processing and network, interfaces or inputs and outputs</li> <li>• <b>Duration:</b> Additional work will be invoiced separately</li> </ul>	Commissioning CLV61x ... CLV64x	1681925
Extended warranty		
<ul style="list-style-type: none"> <li>• <b>Product area:</b> Machine vision, LiDAR sensors, safety camera sensors, Safety laser scanners, Safety radar sensors, Radar sensors, Fixed mount barcode scanners, Image-based code readers, RFID, Mobile handheld scanners</li> <li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms of delivery).</li> <li>• <b>Duration:</b> Five-year warranty from delivery date.</li> </ul>	Extended warranty for a total of five years from delivery date	1680671

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. 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 a wide range of 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 complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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