



# RFU620-10105

RFU62x

RFID

**SICK**  
Sensor Intelligence.



## Ordering information

| Type         | part no. |
|--------------|----------|
| RFU620-10105 | 1068728  |

Other models and accessories → [www.sick.com/RFU62x](http://www.sick.com/RFU62x)



## Detailed technical data

## Features

|                          |                                                                                                                                                                                                           |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Version</b>           | Mid Range                                                                                                                                                                                                 |
| <b>Product category</b>  | RFID read/write device with integrated antenna                                                                                                                                                            |
| <b>Radio approval</b>    | China (800 900 RFID 设备检验标准)<br>Thailand                                                                                                                                                                   |
| <b>Frequency band</b>    | UHF (860 MHz ... 960 MHz)                                                                                                                                                                                 |
| <b>Carrier frequency</b> | 920.625 MHz ... 924.375 MHz                                                                                                                                                                               |
| <b>Output power</b>      | 0.2 W (ERP, 23 dBm)                                                                                                                                                                                       |
| <b>RFID standard</b>     | EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C, RAIN                                                                                                                                               |
| <b>Modulation</b>        | PR-ASK                                                                                                                                                                                                    |
| <b>Connection type</b>   | Ethernet                                                                                                                                                                                                  |
| <b>Aperture angle</b>    | 100°                                                                                                                                                                                                      |
| <b>Heating</b>           | Yes                                                                                                                                                                                                       |
| <b>Reading range</b>     | ≤ 2 m <sup>1)</sup>                                                                                                                                                                                       |
| <b>Antenna</b>           | Integrated                                                                                                                                                                                                |
| Transmitting power       | Adjustable                                                                                                                                                                                                |
| Polarization             | Circular                                                                                                                                                                                                  |
| Axial ratio              | Typ. 3 dB                                                                                                                                                                                                 |
| Front-to-back ratio      | > 5 dB                                                                                                                                                                                                    |
| <b>Further functions</b> | Diagnosis, updatable firmware, freely programmable data output format, Heartbeat, triggering, SICK AppSpace functionalities can be enabled with the SD card accessory SDK6U-P00100 (for firmware ≥ 2.0.0) |

<sup>1)</sup> Depending on transponder used and ambient conditions.

## Mechanics/electronics

|                               |                                                                                                                      |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Connection type</b>        | 1 x M12, 17-pin male connector, A-coded<br>1 x M12, 4-pin female connector, D-coded<br>1 x USB, 5-pin micro-B socket |
| <b>Supply voltage</b>         | 10 V DC ... 30 V DC <sup>1)</sup>                                                                                    |
| <b>Power consumption</b>      | Typ. 8 W, with heating typ. 16 W                                                                                     |
| <b>Housing material</b>       | Aluminum die cast<br>Plastic (PPS)                                                                                   |
| <b>Enclosure rating</b>       | IP67                                                                                                                 |
| <b>Protection class</b>       | III                                                                                                                  |
| <b>Weight</b>                 | 780 g                                                                                                                |
| <b>Dimensions (L x W x H)</b> | 137 mm x 131 mm x 56 mm                                                                                              |
| <b>MTBF</b>                   | > 100 years                                                                                                          |

<sup>1)</sup> With heating 20 V DC ... 30 V DC.

## Interfaces

|                     |                              |                                                                                                                                  |
|---------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Ethernet</b>     |                              | ✓ , TCP/IP, OPC UA                                                                                                               |
|                     | Remark                       | Companion Spec V1.0 from firmware 2.20                                                                                           |
|                     | 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 interface (read result output) |
|                     | Data transmission rate       | 10/100 MBit/s                                                                                                                    |
| <b>EtherNet/IP™</b> |                              | ✓                                                                                                                                |
|                     | Function                     | Data interface (read result output)                                                                                              |
|                     | Data transmission rate       | 10/100 MBit/s                                                                                                                    |
| <b>Serial</b>       |                              | ✓ , RS-232, RS-422                                                                                                               |
|                     | Remark                       | RS-422 only via 4-wire                                                                                                           |
|                     | Function                     | Data interface (read result output), Service interface                                                                           |
|                     | Data transmission rate       | 0.3 kBaud ... 115.2 kBaud, AUX: 57.6 kBaud                                                                                       |
| <b>CAN</b>          |                              | ✓                                                                                                                                |
|                     | Remark                       | CSN (SICK CAN Sensor Network)                                                                                                    |
|                     | Function                     | Data interface (read result output)                                                                                              |
| <b>PROFIBUS DP</b>  |                              | ✓                                                                                                                                |
|                     | Type of fieldbus integration | Optional over external fieldbus module CDF600-2                                                                                  |
|                     | Function                     | Data interface (read result output)                                                                                              |
| <b>CANopen</b>      |                              | ✓                                                                                                                                |
|                     | Function                     | Data interface (read result output)                                                                                              |
| <b>EtherCAT®</b>    |                              | ✓                                                                                                                                |
|                     | Type of fieldbus integration | Optional over external fieldbus module                                                                                           |
|                     | Function                     | Data interface (read result output)                                                                                              |
| <b>USB</b>          |                              | ✓                                                                                                                                |

<sup>1)</sup> Another alternative is to generate your own configuration tools based on the SICK command language CoLa (e.g. in your own software or on PLC function blocks).

|                               |          |                                                                                                     |
|-------------------------------|----------|-----------------------------------------------------------------------------------------------------|
|                               | Remark   | USB 2.0                                                                                             |
|                               | Function | Service interface                                                                                   |
| <b>Digital inputs</b>         |          | 2 (physical, 2 additional logical inputs via optional CMC600 parameter memory in CD-B620 / CDM420)  |
| <b>Digital outputs</b>        |          | 2 (physical, 2 additional logical outputs via optional CMC600 parameter memory in CD-B620 / CDM420) |
| <b>Optical indicators</b>     |          | 7 LEDs, multi-color (device status)<br>4 RGB LED (Process feedback)                                 |
| <b>Operator interfaces</b>    |          | Web server                                                                                          |
| <b>Configuration software</b> |          | SOPAS ET <sup>1)</sup>                                                                              |
| <b>Programming interface</b>  |          | Application-specific programming using the SICK AppStudio development environment                   |
| <b>Memory card</b>            |          | microSD memory card (parameter cloning, data storage)                                               |

<sup>1)</sup> Another alternative is to generate your own configuration tools based on the SICK command language CoLa (e.g. in your own software or on PLC function blocks).

### Ambient data

|                                            |                       |
|--------------------------------------------|-----------------------|
| <b>Electromagnetic compatibility (EMC)</b> | EN 301489-3           |
| <b>Vibration resistance</b>                | EN 60068-2-64:2008-02 |
| <b>Shock resistance</b>                    | EN 60068-2-27:2009-05 |
| <b>Ambient operating temperature</b>       | -40 °C ... +50 °C     |
| <b>Storage temperature</b>                 | -40 °C ... +70 °C     |
| <b>Permissible relative humidity</b>       | 90 %, Non-condensing  |

### Certificates

|                                            |   |
|--------------------------------------------|---|
| <b>China RoHS</b>                          | ✓ |
| <b>Profinet certificate</b>                | ✓ |
| <b>Radio Approval certificate China</b>    | ✓ |
| <b>Radio Approval certificate Thailand</b> | ✓ |
| <b>4Dpro</b>                               | ✓ |
| <b>RAIN RFID</b>                           | ✓ |

### Classifications

|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27280401 |
| <b>ECLASS 5.1.4</b> | 27280401 |
| <b>ECLASS 6.0</b>   | 27280401 |
| <b>ECLASS 6.2</b>   | 27280401 |
| <b>ECLASS 7.0</b>   | 27280401 |
| <b>ECLASS 8.0</b>   | 27280401 |
| <b>ECLASS 8.1</b>   | 27280401 |
| <b>ECLASS 9.0</b>   | 27280401 |
| <b>ECLASS 10.0</b>  | 27280401 |
| <b>ECLASS 11.0</b>  | 27280401 |
| <b>ECLASS 12.0</b>  | 27280401 |
| <b>ETIM 5.0</b>     | EC002998 |
| <b>ETIM 6.0</b>     | EC002998 |
| <b>ETIM 7.0</b>     | EC002998 |

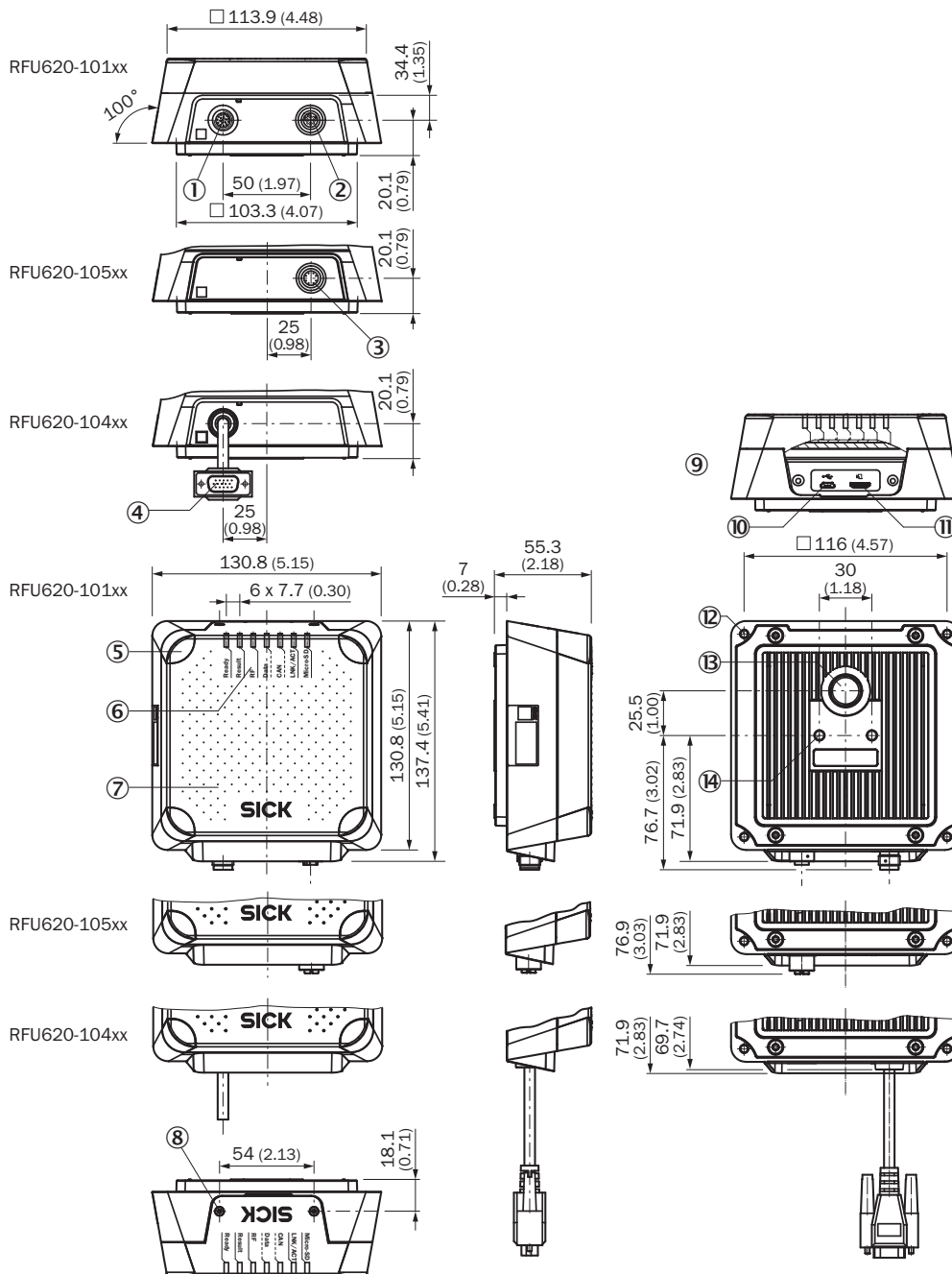
ETIM 8.0

EC002998

UNSPSC 16.0901

52161523

## dimensional drawing RFU62x



Dimensions in mm (inch)

① "Power/AUX/CAN/I/O" connection, 17-pin M12 male connector, A-coded

② "Ethernet" connection, 4-pin M12 female connector, D-coded

③ "Ethernet" connection, 8-pin M12 female connector, X-coded

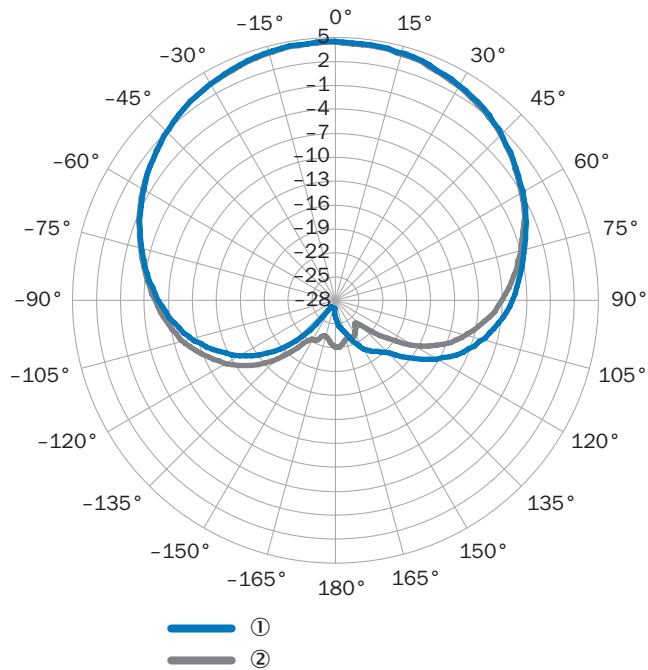
④ "Power/HOST/AUX/CAN/I/O" connection, 15-pin D-Sub HD male connector, cable 0,9 m

⑤ 4 x LED, multi-colored (process feedback)

⑥ 7 x LED for status display

- ⑦ cover with integrated antenna
- ⑧ screw (Torx T8), captive (2 x), for side cover
- ⑨ side cover opened
- ⑩ USB socket, type Micro-B
- ⑪ Slot for microSD memory card
- ⑫ blind hole thread M5, 9 mm deep (4 x), for alternatively mounting
- ⑬ pressure compensation valve (ventilation element)
- ⑭ M6 blind tapped holes, 7 mm deep (2 x), for mounting

### Radiation pattern

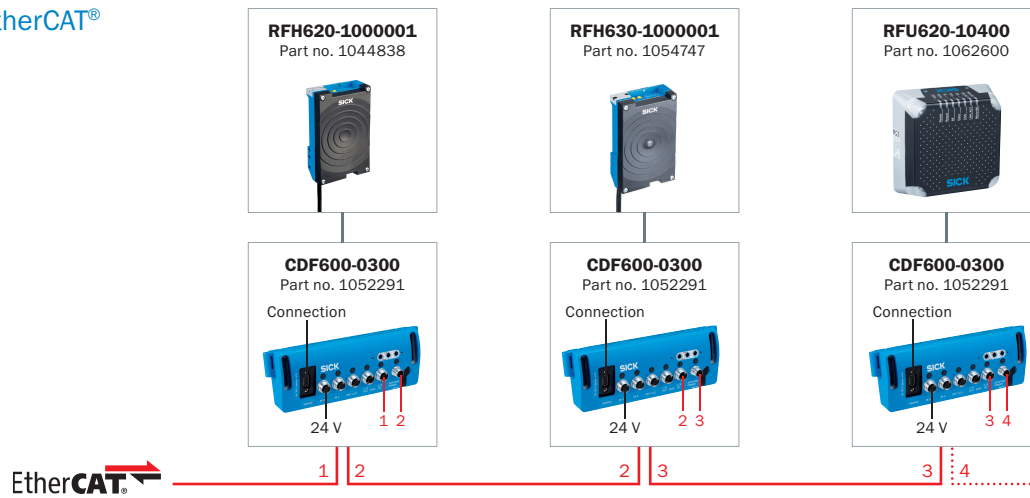


measured antenna gain in dBic at 868.5 MHz, RHCP (right-hand circularly polarized)

- ① Horizontal plane (azimuth)
- ② vertical plane (elevation)

## Connection diagram EtherCAT®

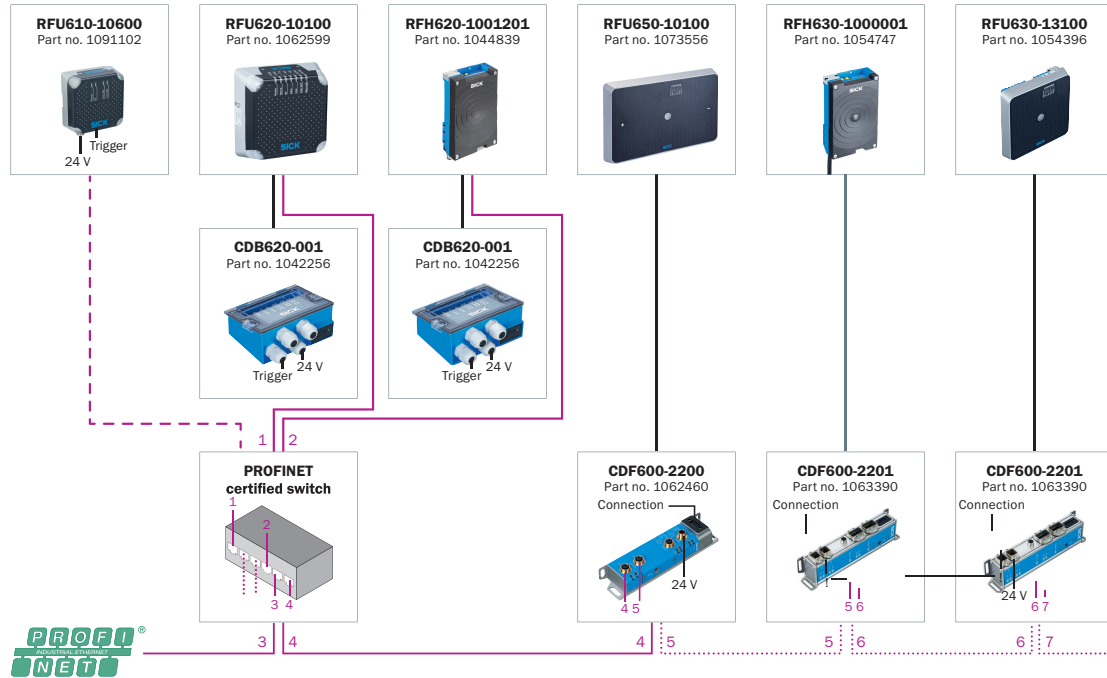
EtherCAT®



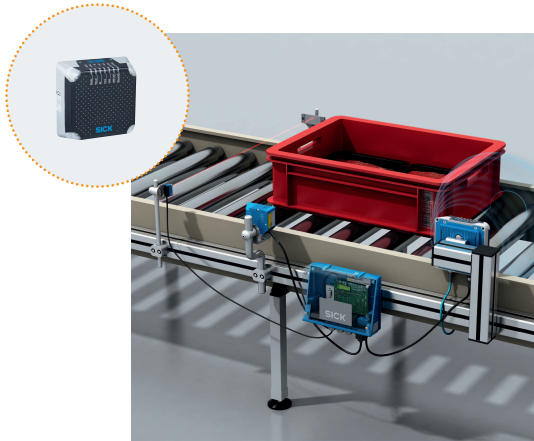
- Connecting cable (already present on device)
- EtherCAT® cable, 2 m (Part no. 2106159)

### Connection diagram PROFINET IO/RT

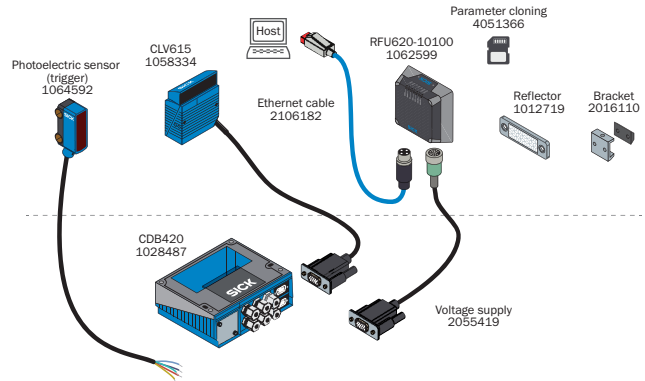
#### PROFINET



## System construction



RFU62x



data combination of barcode and RFID

## Recommended accessories

Other models and accessories → [www.sick.com/RFU62x](http://www.sick.com/RFU62x)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type                                 | part no. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------|
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, Micro-B, 4-pin, straight</li> <li><b>Connection type head B:</b> Male connector, USB-A, 4-pin, straight</li> <li><b>Signal type:</b> USB 2.0</li> <li><b>Cable:</b> 2 m, 4-wire</li> <li><b>Description:</b> USB 2.0, unshielded</li> </ul>                                                                                                                              | USB cable                            | 6036106  |
|  | <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, 4-pin, straight</li> <li><b>Signal type:</b> Ethernet, PROFINET</li> <li><b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Ethernet, shielded, PROFINET</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants</li> </ul> | YM2D24-020P-N1MRJA4                  | 2106182  |
| Storage media                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> microSD memory card with 1 GB for industrial use</li> </ul>                                                                                                                                                                                                                                                                                                                                         | microSD memory card                  | 4051366  |
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Simple mounting bracket</li> </ul>                                                                                                                                                                                                                                                                                                                                                                  | Mounting bracket                     | 2071067  |
| RFID transponders                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |          |
|  | <ul style="list-style-type: none"> <li><b>Carrier frequency:</b> 865 MHz ... 928 MHz</li> <li><b>Memory capacity (EPC / user memory):</b> 496/128 Bit (EPC / User Memory)</li> <li><b>Dimensions (L x W x H):</b> 18 mm x 122 mm x 2 mm</li> </ul>                                                                                                                                                                                                             | UHF Transponder, Rectangular, global | 6088050  |

|                                                                                   | Brief description | Type       | part no. |
|-----------------------------------------------------------------------------------|-------------------|------------|----------|
| Junction boxes                                                                    |                   |            |          |
|  |                   | CDB620-001 | 1042256  |

## SICK AT A GLANCE

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.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)