



# ICR620E-H12013 ECO

Lector62x

IMAGE-BASED CODE READERS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type               | Part no. |
|--------------------|----------|
| ICR620E-H12013 ECO | 1054507  |

Other models and accessories → [www.sick.com/Lector62x](http://www.sick.com/Lector62x)



### Detailed technical data

#### Features

|                           |                                         |
|---------------------------|-----------------------------------------|
| <b>Optical focus</b>      | Adjustable focus (electric)             |
| <b>Sensor</b>             | CMOS matrix sensor, grayscale values    |
| <b>Sensor resolution</b>  | 752 px x 480 px (WVGA)                  |
| <b>Light source</b>       |                                         |
| Internal lighting         | LED, Visible, Red, 617 nm, ± 15 nm      |
| Feedback spot             | LED, Visible, green, 525 nm, ± 15 nm    |
| <b>LED class</b>          | 1 (IEC 62471:2006-07, EN 62471:2008-09) |
| <b>Laser class</b>        | EN 60825-1:2014                         |
| <b>Scanning frequency</b> | 25 Hz, WVGA resolution                  |
| <b>Code resolution</b>    | ≥ 0.1 mm <sup>1)</sup>                  |
| <b>Reading distance</b>   | 40 mm ... 1,500 mm <sup>1) 2)</sup>     |
| <b>Lens</b>               |                                         |
| Focal length              | 7 mm                                    |

<sup>1)</sup> Valid for Data Matrix, PDF417, and 1D codes with good print quality.

<sup>2)</sup> For details see reading field diagram.

#### Mechanics/electronics

|                          |                                            |
|--------------------------|--------------------------------------------|
| <b>Connection type</b>   | 1 x 15-pin D-Sub HD male connector (0.9 m) |
| <b>Supply voltage</b>    | 10 V DC ... 30 V DC                        |
| <b>Power consumption</b> | Typ. 3 W                                   |
| <b>Output current</b>    | ≤ 100 mA                                   |

<sup>1)</sup> Swivel connector is 17.8 mm longer.

|                               |                                                  |
|-------------------------------|--------------------------------------------------|
| <b>Housing</b>                | Aluminum die cast                                |
| <b>Housing color</b>          | Light blue (RAL 5012)                            |
| <b>Front screen</b>           | Glass                                            |
| <b>Enclosure rating</b>       | IP65 (EN 60529 (1991-10), EN 60529/A2 (2002-02)) |
| <b>Protection class</b>       | III                                              |
| <b>Electrical safety</b>      | EN 60950-1 (2006-04) / EN 60950-1/A11 (2009-03)  |
| <b>Weight</b>                 | 170 g                                            |
| <b>Dimensions (L x W x H)</b> | 71 mm x 43 mm x 35.6 mm <sup>1)</sup>            |
| <b>MTBF</b>                   | 75,000 h                                         |

<sup>1)</sup> Swivel connector is 17.8 mm longer.

## Performance

|                                               |                                                                                                                                |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Readable code structures</b>               | 1D codes, Stacked, 2D codes                                                                                                    |
| <b>Bar code types</b>                         | GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Code 39, Code 128, Codabar, Code 32, Code 93 |
| <b>2D code types</b>                          | Data Matrix ECC200, GS1 Data-Matrix, PDF417, PDF417 Truncated, QR code                                                         |
| <b>No. of codes per reading interval</b>      | 1 ... 50                                                                                                                       |
| <b>No. of characters per reading interval</b> | 500 (for multiplexer function in CAN operation)                                                                                |
| <b>Internal image storage</b>                 | 135 MB                                                                                                                         |
| <b>Transport speed</b>                        | 2 m/s                                                                                                                          |

## Interfaces

|                              |                                                                                              |
|------------------------------|----------------------------------------------------------------------------------------------|
| <b>PROFINET</b>              | ✓                                                                                            |
| Type of fieldbus integration | Optional over external fieldbus module CDF600-2                                              |
| Function                     | PROFINET Single Port, PROFINET Dual Port                                                     |
| <b>EtherCAT</b>              | ✓                                                                                            |
| Type of fieldbus integration | Optional over external fieldbus module CDF600-2                                              |
| <b>Serial</b>                | ✓, RS-232, RS-422                                                                            |
| Function                     | Host, AUX                                                                                    |
| Data transmission rate       | 0.3 kBaud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)                                          |
| <b>CAN</b>                   | ✓                                                                                            |
| Function                     | SICK CAN sensor network CSN (master/slave, 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>USB</b>                   | ✓                                                                                            |
| Remark                       | USB 2.0 (for parameterization only)                                                          |
| Function                     | AUX                                                                                          |
| <b>Digital inputs</b>        | 4 ("Sensor 1", "Sensor 2", 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)  |
| <b>Digital outputs</b>       | 4 ("Result 1", "Result 2", 2 outputs via optional parameter storage CMC600 in CDB620/CDM420) |

|                                      |                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------|
| <b>Reading pulse</b>                 | Digital inputs, non-powered, serial interface, CAN, auto pulse, presentation mode  |
| <b>Optical indicators</b>            | 16 LEDs (5 x status display, 10 x LED bar graph, 1 green feedback spot)            |
| <b>Acoustic indicators</b>           | Beeper/buzzer (can be switched off, can be assigned a function to signal a result) |
| <b>Control elements</b>              | 2 buttons (choose and start/stop functions)                                        |
| <b>Operator interfaces</b>           | Web server                                                                         |
| <b>Configuration software</b>        | SOPAS ET                                                                           |
| <b>Data storage and retrieval</b>    | Image and data storage via microSD memory card and external FTP                    |
| <b>Maximum encoder frequency</b>     | 300 Hz                                                                             |
| <b>External illumination control</b> | Via digital output (max. 24 V trigger)                                             |

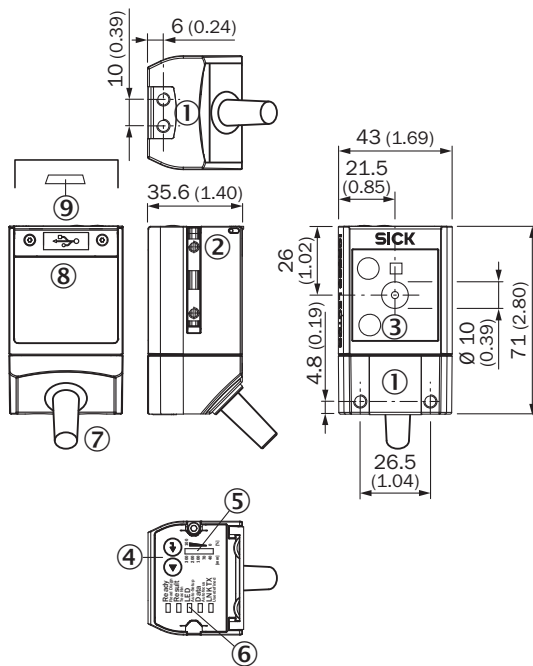
#### Ambient data

|                                            |                                                 |
|--------------------------------------------|-------------------------------------------------|
| <b>Electromagnetic compatibility (EMC)</b> | EN 61000-6-2 (2006-03) / EN 61000-6-2 (2009-05) |
| <b>Vibration resistance</b>                | EN 60068-2-6:2008-02                            |
| <b>Shock resistance</b>                    | EN 60068-2-27:2009-05                           |
| <b>Ambient operating temperature</b>       | 0 °C ... +50 °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 code                               |

#### Classifications

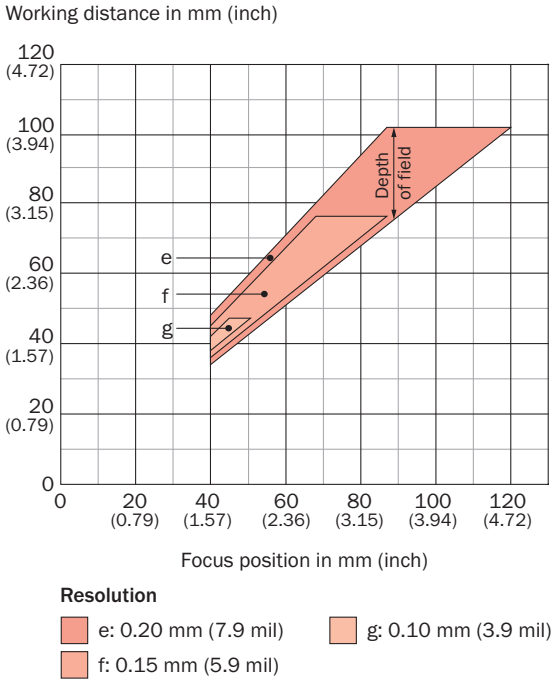
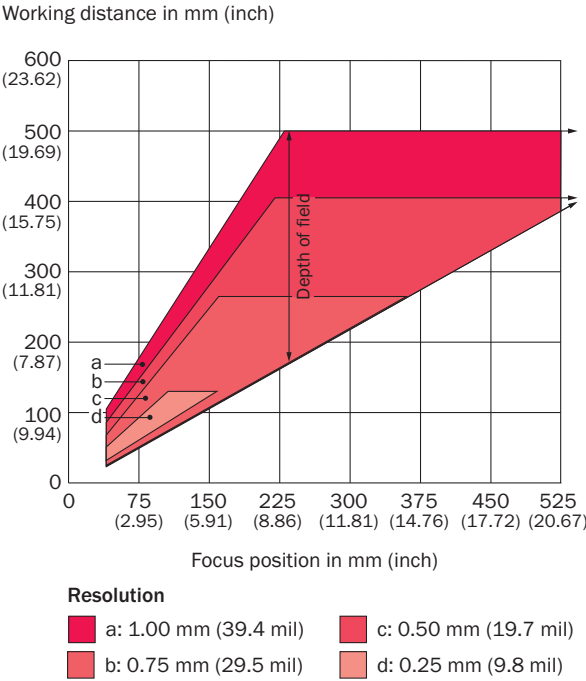
|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27280103 |
| <b>ECI@ss 5.1.4</b>   | 27280103 |
| <b>ECI@ss 6.0</b>     | 27280103 |
| <b>ECI@ss 6.2</b>     | 27280103 |
| <b>ECI@ss 7.0</b>     | 27280103 |
| <b>ECI@ss 8.0</b>     | 27280103 |
| <b>ECI@ss 8.1</b>     | 27280103 |
| <b>ECI@ss 9.0</b>     | 27280103 |
| <b>ECI@ss 10.0</b>    | 27280103 |
| <b>ECI@ss 11.0</b>    | 27280103 |
| <b>ETIM 5.0</b>       | EC002550 |
| <b>ETIM 6.0</b>       | EC002550 |
| <b>ETIM 7.0</b>       | EC002999 |
| <b>ETIM 8.0</b>       | EC002999 |
| <b>UNSPSC 16.0901</b> | 43211701 |

## Dimensional drawing (Dimensions in mm (inch))



- ① M5 blind tapped holes, 5 mm deep (4 x), for mounting the sensor
- ② Sliding nut M5, 5 mm deep (2 x), for mounting (as alternative)
- ③ Reading field
- ④ Function button (2 x)
- ⑤ Bar graph display
- ⑥ LEDs for status display (2 levels), 5 x
- ⑦ Cable with 15-pin D-sub HD male connector
- ⑧ Cover (flap)
- ⑨ "Micro USB" connection

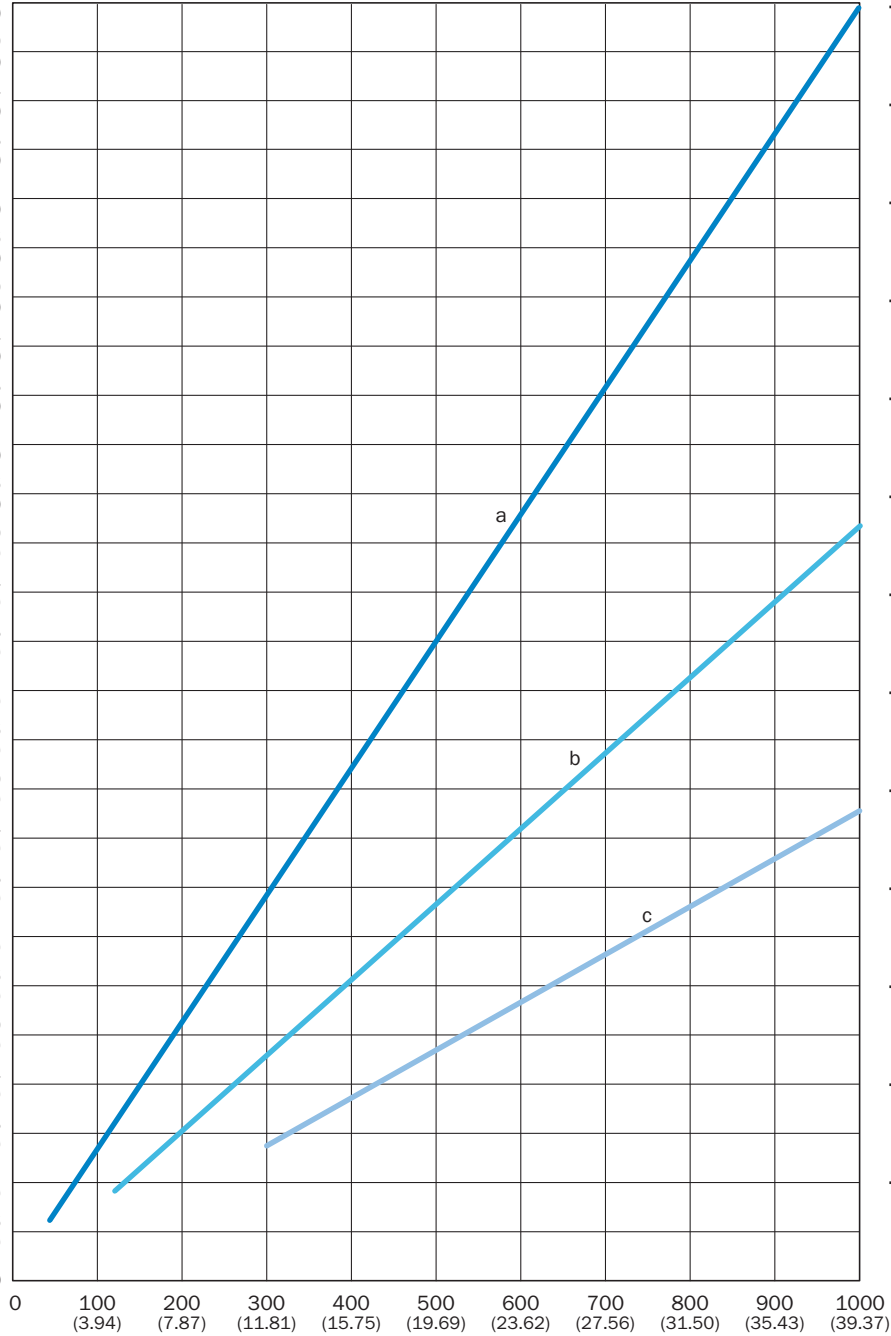
Reading field diagram



Field of view

Field of view in mm² (sq inch)

650 x 416  
(25.60 x 16.38)  
625 x 400  
(24.61 x 15.75)  
600 x 384  
(23.62 x 15.12)  
575 x 368  
(22.64 x 14.49)  
550 x 352  
(21.65 x 13.86)  
525 x 336  
(20.67 x 13.23)  
500 x 320  
(19.69 x 12.60)  
475 x 304  
(18.70 x 11.97)  
450 x 288  
(17.72 x 11.34)  
425 x 272  
(16.73 x 10.71)  
400 x 256  
(15.75 x 10.08)  
375 x 240  
(14.76 x 9.45)  
350 x 224  
(13.78 x 8.82)  
325 x 208  
(12.18 x 8.19)  
300 x 192  
(11.81 x 7.56)  
275 x 176  
(10.83 x 6.93)  
250 x 160  
(9.84 x 6.30)  
225 x 144  
(8.86 x 5.67)  
200 x 128  
(7.87 x 5.04)  
175 x 112  
(6.89 x 4.41)  
150 x 96  
(5.91 x 3.78)  
125 x 80  
(4.92 x 3.15)  
100 x 64  
(3.94 x 2.52)  
75 x 48  
(2.95 x 1.89)  
50 x 32  
(1.97 x 1.26)  
25 x 16  
(0.98 x 0.63)



Min. resolution in mm (mil)

| 1D code       | 2D code       |
|---------------|---------------|
| 1.3<br>(51.2) | 1.7<br>(66.9) |
| 1.2<br>(47.2) | 1.6<br>(63.0) |
| 1.1<br>(43.3) | 1.5<br>(59.1) |
| 1.0<br>(39.4) | 1.4<br>(55.1) |
| 0.9<br>(35.4) | 1.3<br>(51.2) |
| 0.8<br>(31.5) | 1.2<br>(47.2) |
| 0.7<br>(27.6) | 1.1<br>(43.3) |
| 0.6<br>(23.6) | 1.0<br>(39.4) |
| 0.5<br>(19.7) | 0.9<br>(35.4) |
| 0.4<br>(15.7) | 0.8<br>(31.5) |
| 0.3<br>(11.8) | 0.7<br>(27.6) |
| 0.2<br>(7.9)  | 0.6<br>(23.6) |
| 0.1<br>(3.9)  | 0.5<br>(19.7) |
|               | 0.4<br>(15.7) |
|               | 0.3<br>(11.8) |
|               | 0.2<br>(7.9)  |
|               | 0.1<br>(3.9)  |

- a: f = 7 mm (ICR620E-H12013, ICR620S-T11503, ICR620S-T11504)
- b: f = 12 mm (ICR620D-T31503)
- c: f = 18 mm (ICR620D-T51503)

## Recommended accessories

Other models and accessories → [www.sick.com/Lector62x](http://www.sick.com/Lector62x)

|                                                                                    | Brief description                                                                                                                                                                                                                                                                                                                                                                                                              | Type             | Part no. |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|
| Mounting brackets and plates                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |          |
|   | Bracket with adapter board                                                                                                                                                                                                                                                                                                                                                                                                     | Mounting bracket | 2042902  |
| Plug connectors and cables                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |          |
|   | Head A: male connector, USB-A<br>Head B: male connector, Micro-B<br>Cable: USB 2.0, unshielded, 2 m                                                                                                                                                                                                                                                                                                                            | USB cable        | 6036106  |
| Modules                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |          |
|   | <ul style="list-style-type: none"> <li><b>Sub product family:</b> CDB620</li> <li><b>Supported products:</b> CLV61x - CLV65x, Lector62x, RFH6xx, RFU62x</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>Sub product family:</b> CDF600-2 PROFIBUS DP</li> <li><b>Supported products:</b> Lector® series, CLV61x - CLV65x, CLV69x, RFID read/write device, Mobile hand-held scanners</li> <li><b>Brief description:</b> Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)</li> </ul> | CDF600-2100      | 1058965  |
|  | <ul style="list-style-type: none"> <li><b>Sub product family:</b> CDF600-2 PROFIBUS DP</li> <li><b>Supported products:</b> Lector® series, CLV61x - CLV65x, CLV69x, RFID read/write device, Mobile hand-held scanners</li> <li><b>Brief description:</b> Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)</li> </ul>              | CDF600-2103      | 1058966  |

## Recommended services

Additional services → [www.sick.com/Lector62x](http://www.sick.com/Lector62x)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Type                    | Part no. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------|
| Product, system, and software training                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |          |
| <ul style="list-style-type: none"> <li><b>Range of services:</b> The training contents relate to the Lector® series, Training format and location can be worked out in collaboration with SICK</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      | Lector® series training | 1612232  |
| Commissioning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |          |
| <ul style="list-style-type: none"> <li><b>Product area:</b> Image-based code readers</li> <li><b>Range of services:</b> Inspection of connection, fine adjustment, optimization of parameters of SICK product as well as tests, Set-up of previously defined functions of possible Lector6xx illumination, code configuration, trigger and digital inputs, interfaces and digital outputs as well as data processing</li> <li><b>Travel expenses:</b> The prices do not include travel costs such as hotel, flight, travel time and expenses.</li> <li><b>Duration:</b> Additional work will be invoiced separately</li> </ul> | Commissioning Lector6xx | 1608206  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Type                                                           | Part no. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------|
| Maintenance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> Image-based code readers</li> <li>• <b>Range of services:</b> Inspection, analysis and restoring of defined functions, Inspection and adaptation of previously defined functions of possible Lector6xx illumination, code configuration, trigger and digital inputs, interfaces and digital outputs as well as data processing</li> <li>• <b>Duration:</b> Additional work will be invoiced separately</li> <li>• <b>Travel expenses:</b> The prices do not include travel costs such as hotel, flight, travel time and expenses.</li> </ul> | Maintenance Lector6xx                                          | 1611421  |
| Performance check                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> Image-based code readers</li> <li>• <b>Range of services:</b> Inspection of defined functions, e.g., reading performance</li> <li>• <b>Travel expenses:</b> The prices do not include travel costs such as hotel, flight, travel time and expenses.</li> <li>• <b>Duration:</b> Additional work will be invoiced separately</li> </ul>                                                                                                                                                                                                       | Performance check Lector6xx                                    | 1608207  |
| Warranty extensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                |          |
| <ul style="list-style-type: none"> <li>• <b>Product area:</b> Identification solutions, machine vision, Distance sensors, Detection and ranging solutions</li> <li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase)</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  |

## 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)