



DATA SHEET

# C4C-SB12010A10000

deTec  
Safety light curtains

# SICK

Sensor Intelligence



Illustration may differ

# SAFETY LIGHT CURTAINS

## C4C-SB12010A10000

### ORDERING INFORMATION

| Type              | part no. |
|-------------------|----------|
| C4C-SB12010A10000 | 1219542  |

Further device versions and accessories at [www.sick.com/deTec](http://www.sick.com/deTec)



### DETAILED TECHNICAL DATA

#### FEATURES

|                         |                                                                |
|-------------------------|----------------------------------------------------------------|
| Product version         | deTec4 Core IP69K                                              |
| Application             | Areas with special hygiene requirements                        |
| System part             | Sender                                                         |
| Compatible receiver     | 1219543                                                        |
| Resolution              | 14 mm                                                          |
| Scanning range          | 8.5 m                                                          |
| Protective field height | 1,200 mm                                                       |
| No blind zones          | Yes                                                            |
| Synchronization         | Optical synchronization                                        |
| Items supplied          | Sender in IP69K protective housing with connecting cable, 15 m |

#### SAFETY-RELATED PARAMETERS

|                                                                     |                                        |
|---------------------------------------------------------------------|----------------------------------------|
| Type                                                                | Type 4 (IEC 61496-1)                   |
| Safety integrity level                                              | SIL 3 (IEC 61508)                      |
| Category                                                            | Category 4 (ISO 13849-1)               |
| Performance level                                                   | PL e (ISO 13849-1)                     |
| PFH <sub>d</sub> (mean probability of a dangerous failure per hour) | 3.7 x 10 <sup>-9</sup>                 |
| T <sub>m</sub> (mission time)                                       | 20 years (ISO 13849-1)                 |
| Safe state in the event of a fault                                  | At least one OSSD is in the OFF state. |

#### INTERFACES

|                         |                                              |
|-------------------------|----------------------------------------------|
| System connection       | Connecting cable, 15 m, flying leads, 5-wire |
| Length of cable         | 15 m                                         |
| Cable diameter          | 5 mm                                         |
| Cable material          | PUR, halogen-free                            |
| Conductor cross section | 0.34 mm <sup>2</sup>                         |

|                  |      |
|------------------|------|
| Display elements | LEDs |
|------------------|------|

**ELECTRONICS**

|                           |                             |
|---------------------------|-----------------------------|
| Protection class          | III (IEC 61140)             |
| Supply voltage $V_s$      | 24 V DC (19.2 V ... 28.8 V) |
| Ripple                    | $\leq 10 \%$                |
| Power consumption typical | 1.68 W (DC)                 |

**MECHANICS**

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Dimensions                      | See dimensional drawing                        |
| Material                        |                                                |
| Protective housing              | PMMA                                           |
| End caps                        | Stainless steel 1.4404                         |
| Cable glands                    | Stainless steel 1.4404 including silicone seal |
| Compensating element (membrane) | PA 6                                           |

**AMBIENT DATA**

|                               |                                                                               |
|-------------------------------|-------------------------------------------------------------------------------|
| Enclosure rating              | IP65 (IEC 60529)<br>IP66 (IEC 60529)<br>IP67 (IEC 60529)<br>IP69K (ISO 20653) |
| Ambient operating temperature | -30 °C ... +55 °C                                                             |
| Storage temperature           | -30 °C ... +70 °C                                                             |
| Air humidity                  | 15 % ... 95 %, Non-condensing                                                 |
| Vibration resistance          | 5 ... 150 Hz, 3,5 mm / 1 g (EN 60068-2-6)                                     |
| Shock resistance              | 15 g / 6 ms (EN 60068-2-27)                                                   |
| Class                         | 3M4 (IEC TR 60721-4-3)                                                        |

**OTHER INFORMATION**

|               |                                |
|---------------|--------------------------------|
| Wave length   | 850 nm                         |
| Type of light | Near-infrared (NIR), invisible |

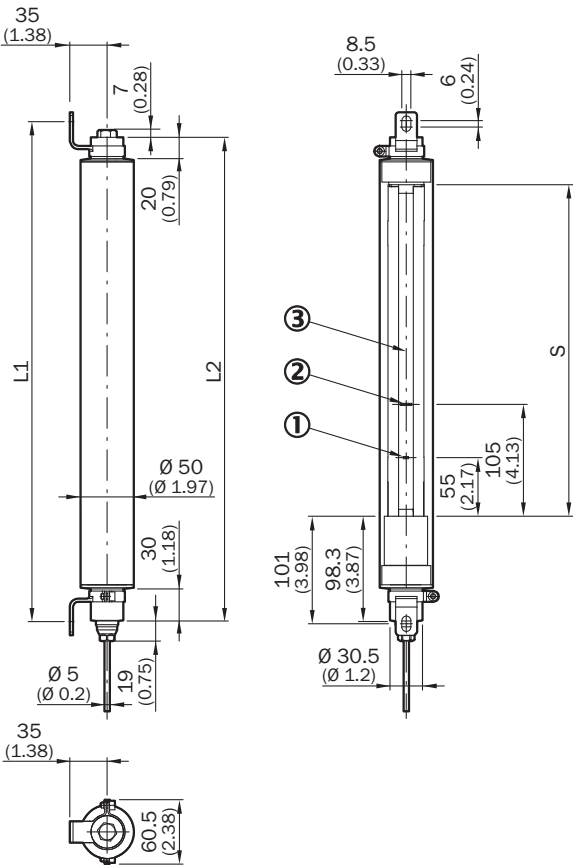
**CERTIFICATES**

|                                    |   |
|------------------------------------|---|
| EU declaration of conformity       | ✓ |
| UK declaration of conformity       | ✓ |
| ACMA declaration of conformity     | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS                         | ✓ |
| ECOLAB certificate                 | ✓ |
| ULus approval                      | ✓ |
| cUL approval                       | ✓ |
| diversey certificate               | ✓ |
| Taiwan OSHA certificate            | ✓ |
| Japan Press Safety certificate     | ✓ |
| EC-Type-Examination approval       | ✓ |
| China GB/T certificate             | ✓ |

Information according to Art. 3 of Data Act (Regulation EU 2023/2854)

✓

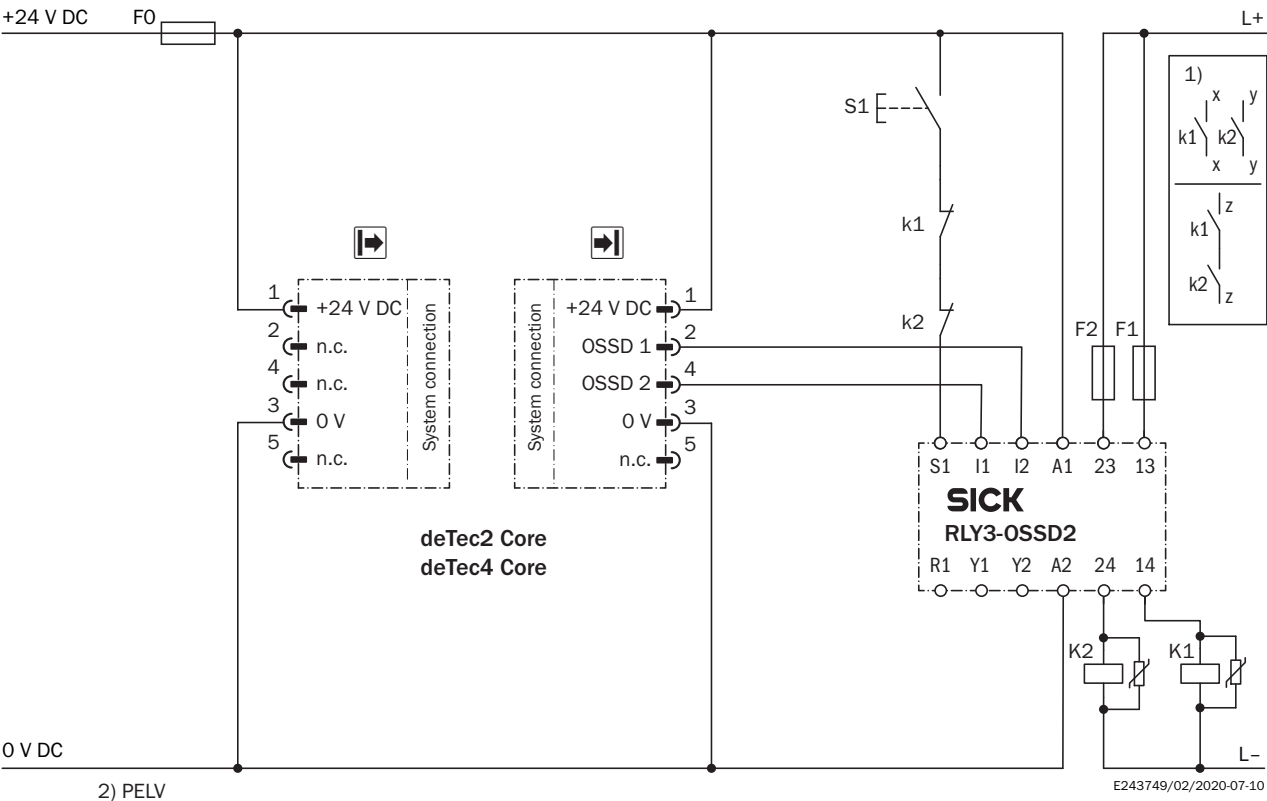
DIMENSIONAL DRAWING



Dimensions in mm (inch)  
① Operating indicator  
② Alignment indicator  
③ Optical axis

|       | S     | L1    | L2    |
|-------|-------|-------|-------|
| 300   | 311   | 469   | 454   |
| 450   | 461   | 619   | 604   |
| 600   | 611   | 769   | 754   |
| 750   | 761   | 919   | 904   |
| 900   | 911   | 1,069 | 1,054 |
| 1,050 | 1,061 | 1,219 | 1,204 |
| 1,200 | 1,211 | 1,369 | 1,354 |
| 1,350 | 1,361 | 1,519 | 1,504 |
| 1,500 | 1,511 | 1,669 | 1,654 |
| 1,650 | 1,661 | 1,819 | 1,804 |
| 1,800 | 1,811 | 1,969 | 1,954 |

DETEC4 CORE IP69K SAFETY LIGHT CURTAIN TO RLY3-OSSD2 SAFETY RELAY



Task

Connection of a deTec4 Core IP69K or deTec2 Core IP69K safety light curtain to RLY3-OSSD2.

Operating mode: with restart interlock and external device monitoring.

Function

When the protective field is clear, the OSSD1 and OSSD2 outputs carry voltage. The system can be switched on when K1 and K2 are in a fault-free de-energized position. The RLY3-OSSD2 is switched on by pressing S1 (pushbutton is pressed and released). The outputs (contacts 13-14 and 23-24) switch the K1 and K2 contactors on. When the protective field is interrupted, the OSSD1 and OSSD2 outputs switch the RLY3-OSSD2 off. Contactors K1 and K2 are switched off.

Fault analysis

Cross-circuits and short-circuits of the OSSDs are recognized and lead to the locking status (lock-out). A malfunction with one of the K1 or K2 contactors is detected. The switch-off function is retained. In the event of manipulation (e.g., jamming) of the S1 pushbutton, the RLY3-OSSD2 will not re-enable the output current circuits.

Comments

<sup>1)</sup> Output circuits: These contacts must be incorporated into the control such that the dangerous state is brought to an end if the output circuit is open. For categories 4 and 3, they must be incorporated on dual-channels (x, y paths). Type 2 devices are suitable for use up to PL c. Single-channel incorporation into the control (z path) is only possible with a singlechannel control and taking the risk analysis into account.

<sup>2)</sup> SELV/PELV safety extra-low voltage.

| Connection | Color-coded connecting cable | Sender   | Receiver |
|------------|------------------------------|----------|----------|
| 1          | Brown                        | +24 V DC | +24 V DC |
| 2          | White                        | Reserved | OSSD 1   |
| 3          | Blue                         | 0 V DC   | 0 V DC   |
| 4          | Black                        | Reserved | OSSD 2   |
| 5          | Gray                         | -        | -        |

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1219542](http://www.sick.com/1219542)



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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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