



# C4P-EA21030A001200

deTec

**SAFETY LIGHT CURTAINS**

**SICK**  
Sensor Intelligence.



## Ordering information

deTec4 Prime

| Resolution | Scanning range | Protective field height | System part | Type               | Part no. |
|------------|----------------|-------------------------|-------------|--------------------|----------|
| 30 mm      | 30 m           | 2,100 mm                | Receiver    | C4P-EA21030A001200 | 1215830  |

Included in delivery: C4P-EA21030A00 (1), 1200 (1)

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

Illustration may differ



## Detailed technical data

## Features

|                                |                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>             | Normal industrial environment                                                                                                                                                                            |
| <b>System part</b>             | Receiver                                                                                                                                                                                                 |
| <b>Resolution</b>              | 30 mm                                                                                                                                                                                                    |
| <b>Scanning range</b>          | 30 m                                                                                                                                                                                                     |
| <b>Protective field height</b> | 2,100 mm                                                                                                                                                                                                 |
| <b>Response time</b>           | 14 ms (Uncoded)<br>27 ms (code 1 or code 2)                                                                                                                                                              |
| <b>No blind zones</b>          | Yes                                                                                                                                                                                                      |
| <b>Synchronization</b>         | Optical synchronisation                                                                                                                                                                                  |
| <b>Items supplied</b>          | Receiver<br>System plug 1200<br>Test rod with diameter corresponding to the resolution of the safety light curtain<br>Safety instruction<br>Mounting instructions<br>Operating instructions for download |

## Safety-related parameters

|                                                                           |                                        |
|---------------------------------------------------------------------------|----------------------------------------|
| <b>Type</b>                                                               | Type 4 (IEC 61496-1)                   |
| <b>Safety integrity level</b>                                             | SIL3 (IEC 61508)<br>SILCL3 (IEC 62061) |
| <b>Category</b>                                                           | Category 4 (ISO 13849-1)               |
| <b>Performance level</b>                                                  | PL e (ISO 13849-1)                     |
| <b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b> |                                        |
| Single device                                                             | $9.6 \times 10^{-9}$                   |
| Cascade with one guest                                                    | $1.9 \times 10^{-8}$                   |
| Cascade with two guest devices                                            | $2.9 \times 10^{-8}$                   |
| <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. |

## Functions

|                                                            |   |
|------------------------------------------------------------|---|
| <b>Protective operation</b>                                | ✓ |
| <b>Automatic calibration of the protective field width</b> | ✓ |
| <b>Beam coding</b>                                         | ✓ |
| <b>Restart interlock</b>                                   | ✓ |
| <b>External device monitoring (EDM)</b>                    | ✓ |

## Interfaces

|                                              |                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>System connection</b>                     | Male connector M12, 8-pin                                                                                 |
| <b>Configuration method</b>                  | DIP switch on system plug                                                                                 |
| <b>Display elements</b>                      | LEDs                                                                                                      |
| <b>Application diagnostic output (ADO)</b>   | ✓                                                                                                         |
| <b>Fieldbus, industrial network</b>          |                                                                                                           |
| Integration via Flexi Soft safety controller | CANopen <sup>1)</sup><br>DeviceNet™<br>EtherCAT®<br>EtherNet/IP™<br>Modbus TCP<br>PROFIBUS DP<br>PROFINET |

<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 <math>V_S</math></b>         | 24 V DC (19.2 V ... 28.8 V)                                                          |
| <b>Ripple</b>                                  | ≤ 10 %                                                                               |
| <b>Power consumption typical</b>               | 4.02 W (DC)                                                                          |
| <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 ( $V_S - 2.25$ V DC ... $V_S$ )                                              |
| OFF state, switching voltage LOW               | ≤ 2 V DC                                                                             |
| Current-carrying capacity per OSSD             | ≤ 500 mA                                                                             |
| <b>Application diagnostic output (ADO)</b>     |                                                                                      |
| Type of output                                 | PNP semiconductor, short-circuit protected <sup>1)</sup>                             |
| Output voltage HIGH (active)                   | ≥ $V_S - 3$ V                                                                        |
| Output voltage LOW (deactivated)               | High resistance                                                                      |
| Output current HIGH (active)                   | ≤ 100 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

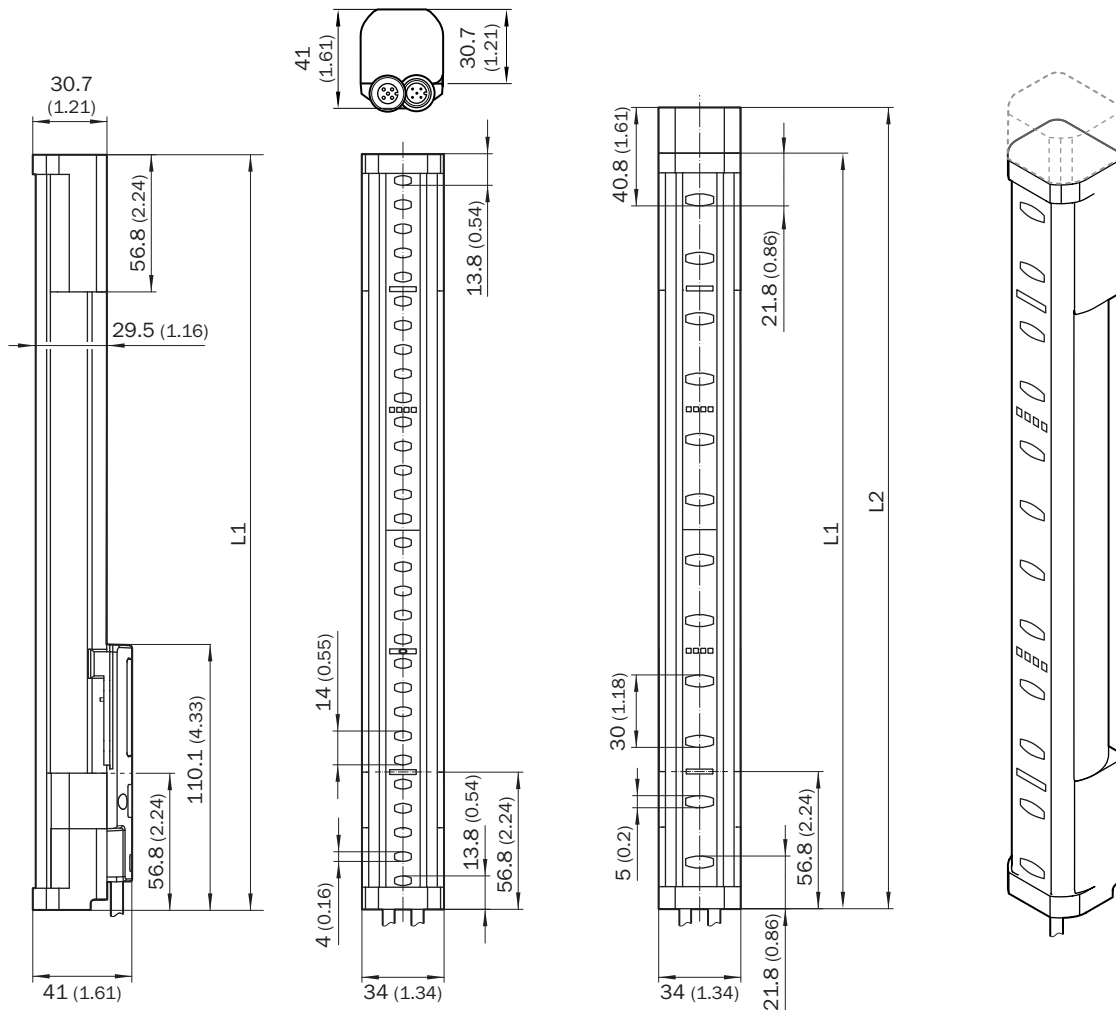
|                         |                                      |
|-------------------------|--------------------------------------|
| <b>Enclosure rating</b> | IP65 (IEC 60529)<br>IP67 (IEC 60529) |
|-------------------------|--------------------------------------|

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| <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</b>          | 5 g, 10 Hz ... 55 Hz (IEC 60068-2-6) |
| <b>Shock resistance</b>              | 10 g, 16 ms (IEC 60068-2-27)         |

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27272704 |
| <b>ECI@ss 5.1.4</b>   | 27272704 |
| <b>ECI@ss 6.0</b>     | 27272704 |
| <b>ECI@ss 6.2</b>     | 27272704 |
| <b>ECI@ss 7.0</b>     | 27272704 |
| <b>ECI@ss 8.0</b>     | 27272704 |
| <b>ECI@ss 8.1</b>     | 27272704 |
| <b>ECI@ss 9.0</b>     | 27272704 |
| <b>ECI@ss 10.0</b>    | 27272704 |
| <b>ECI@ss 11.0</b>    | 27272704 |
| <b>ETIM 5.0</b>       | EC002549 |
| <b>ETIM 6.0</b>       | EC002549 |
| <b>ETIM 7.0</b>       | EC002549 |
| <b>UNSPSC 16.0901</b> | 46171620 |

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



| Protective field height | L1            | L2            |
|-------------------------|---------------|---------------|
| 300 (11.81)             | 313 (12.32)   | 332 (13.07)   |
| 450 (17.72)             | 463 (18.23)   | 482 (18.98)   |
| 600 (23.62)             | 613 (24.13)   | 632 (24.88)   |
| 750 (29.53)             | 763 (30.04)   | 782 (30.79)   |
| 900 (35.43)             | 913 (35.94)   | 932 (36.69)   |
| 1,050 (41.34)           | 1,063 (41.85) | 1,082 (42.6)  |
| 1,200 (47.24)           | 1,213 (47.75) | 1,232 (48.5)  |
| 1,350 (53.15)           | 1,362 (53.62) | 1,381 (54.37) |
| 1,500 (59.06)           | 1,512 (59.53) | 1,531 (60.28) |
| 1,650 (64.96)           | 1,662 (65.43) | 1,681 (66.18) |
| 1,800 (70.87)           | 1,812 (71.34) | 1,831 (72.09) |
| 1,950 (76.77)           | 1,962 (77.24) | 1,981 (77.99) |
| 2,100 (82.68)           | 2,112 (83.15) | 2,131 (83.9)  |

### Recommended accessories

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

|                                                                                     | Brief description                                                                                                                                   | Description                                                                                                                                         | Type                           | Part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------|
| Terminal and alignment brackets                                                     |                                                                                                                                                     |                                                                                                                                                     |                                |          |
|    | 4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned $\pm 15^\circ$ , including M5 screw, plastic                     | 4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned $\pm 15^\circ$ , including M5 screw, plastic                     | BEF-1SHABPKU4                  | 2066614  |
|    | 4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic                                                                        | 4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic                                                                        | BEF-3SHABPKU4                  | 2098710  |
| Others                                                                              |                                                                                                                                                     |                                                                                                                                                     |                                |          |
|    | deTec deTec system plug                                                                                                                             | deTec deTec system plug                                                                                                                             | 1000                           | 2076832  |
|    |                                                                                                                                                     |                                                                                                                                                     | 1100                           | 2076833  |
|    |                                                                                                                                                     |                                                                                                                                                     | 1200                           | 2076834  |
|    |                                                                                                                                                     |                                                                                                                                                     | 1300                           | 2076835  |
|   | IO-Link connector                                                                                                                                   | IO-Link connector                                                                                                                                   | IO-Link connector              | 2092757  |
|  | IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A                                                                     | IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A                                                                     | IOLA2US-01101 (SiLink2 Master) | 1061790  |
|  | SIG200-0A0412200                                                                                                                                    | SIG200-0A0412200                                                                                                                                    | SIG200-0A0412200               | 1089794  |
|  | SIG200-0A0G12200                                                                                                                                    | SIG200-0A0G12200                                                                                                                                    | SIG200-0A0G12200               | 1102605  |
| Distributors                                                                        |                                                                                                                                                     |                                                                                                                                                     |                                |          |
|  | Head A: female connector, M12, 8-pin, A-coded<br>Head B: female connector, M12, 8-pin, A-coded 8-pin                                                | Head A: female connector, M12, 8-pin, A-coded<br>Head B: female connector, M12, 8-pin, A-coded 8-pin                                                | DSC-1208T000025KM0             | 6058647  |
| Plug connectors and cables                                                          |                                                                                                                                                     |                                                                                                                                                     |                                |          |
|  | Head A: female connector, M12, 8-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | Head A: female connector, M12, 8-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF2A18-020UA5XLEAX             | 2095652  |

## 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)