Data sheet



# C4P-EA0603S001

deTec

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Illustration may differ

## Ordering information

| Type | part no. |
|---|---|
| C4P-EA0603S001 | 1081266 |

Other models and accessories ➜ www.sick.com/deTec

## Detailed technical data

### Features

| | |
|---|---|
| **Product version** | deTec4 Prime |
| **Application** | Normal industrial environment |
| **System part** | Receiver |
| **Resolution** | 30 mm |
| **Scanning range** | 30 m |
| **Protective field height** | 600 mm |
| **Response time** | 10 ms (Uncoded)<br>15 ms (code 1 or code 2) |
| **No blind zones** | Yes |
| **Synchronization** | Optical synchronization |
| **Items supplied** | Receiver with preassembled system plug M12, 5-pin<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

| | |
|---|---|
| **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) |
| **$PFH_D$ (mean probability of a dangerous failure per hour)** | |
| Single device | $9.6 \times 10^{-9}$ |
| Cascade with one guest | $1.9 \times 10^{-8}$ |
| Cascade with two guest devices | $2.9 \times 10^{-8}$ |
| **$T_M$ (mission time)** | 20 years (ISO 13849-1) |
| **Safe state in the event of a fault** | At least one OSSD is in the OFF state. |

## Functions

| | |
|---|---|
| **Protective operation** | ✓ |
| **Automatic calibration of the protective field width** | ✓ |
| **Beam coding** | ✓ |
| **Restart interlock** | ✓ |
| **External device monitoring (EDM)** | ✓ |
| **Cascading** | ✓ |

## Interfaces

| | |
|---|---|
| **System connection** | Plug, M12, 5-pin |
| **Extension connection** | – |
| **Configuration method** | DIP switch on system plug |
| **Display elements** | LEDs |
| **Application diagnostic output (ADO)** | ✓ |

## Electronics

| | |
|---|---|
| **Protection class** | III (IEC 61140) |
| **Supply voltage $V_S$** | 24 V DC (19.2 V ... 28.8 V) |
| **Ripple** | ≤ 10 % |
| **Power consumption typical** | 3.36 W (DC) |
| **Output signal switching devices (OSSDs)** | |
| Type of output | 2 PNP semiconductors, short-circuit protected, cross-circuit monitored [1] |
| 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 |
| **Application diagnostic output (ADO)** | |
| Type of output | PNP semiconductor, short-circuit protected [1] |
| Output voltage HIGH (active) | ≥ $V_s$ – 3 V |
| Output voltage LOW (deactivated) | High resistance |
| Output current HIGH (active) | ≤ 100 mA |

[1] Applies to the voltage range between –30 V and +30 V.

## Mechanics

| | |
|---|---|
| **Dimensions** | See dimensional drawing |
| **Housing material** | Aluminum extruded profile |

## Ambient data

| | |
|---|---|
| **Enclosure rating** | IP65 (IEC 60529)<br>IP67 (IEC 60529) |
| **Ambient operating temperature** | –30 °C ... +55 °C |
| **Storage temperature** | –30 °C ... +70 °C |
| **Air humidity** | 15 % ... 95 %, Non-condensing |
| **Vibration resistance** | 5 g, 10 Hz ... 55 Hz (IEC 60068-2-6) |
| **Shock resistance** | 10 g, 16 ms (IEC 60068-2-27) |

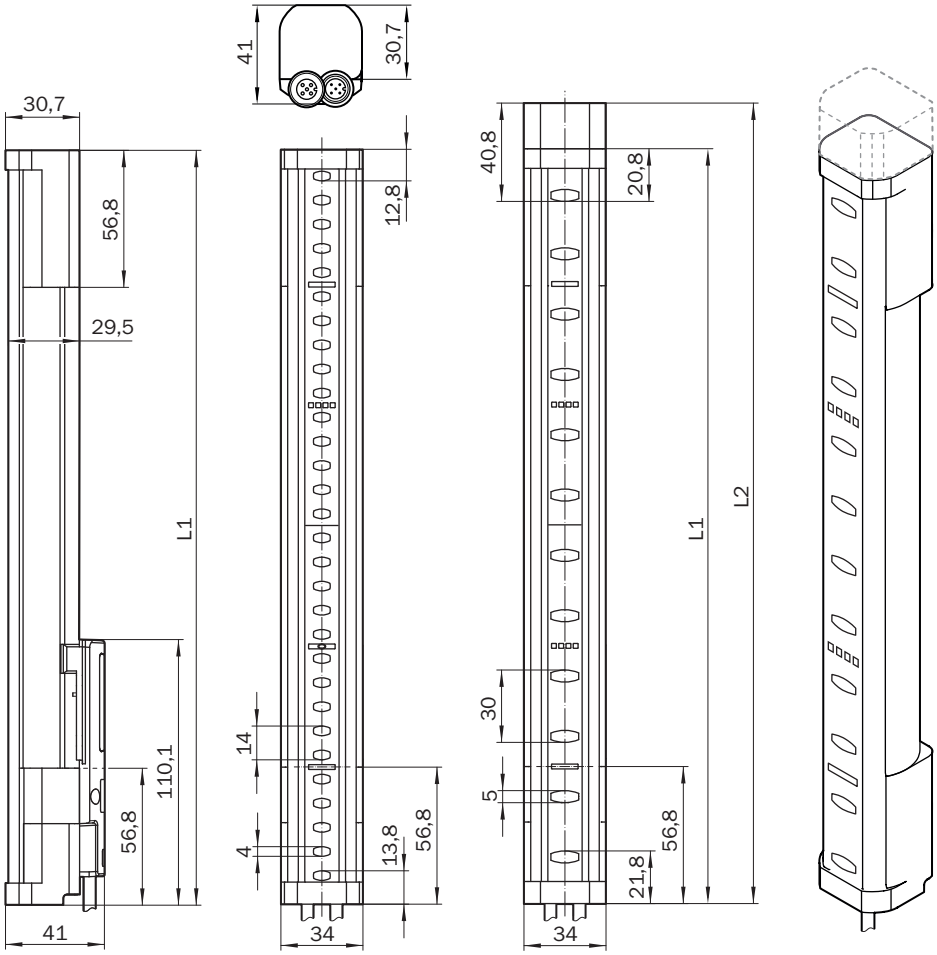
## Certificates

| | |
|---|---|
| **ACMA declaration of conformity** | ✓ |
| **Moroccan declaration of conformity** | ✓ |
| **China-RoHS** | ✓ |
| **KCs certificate** | ✓ |
| **ULus approval** | ✓ |
| **cUL approval** | ✓ |
| **Japan Press Safety certificate** | ✓ |
| **China GB/T certificate** | ✓ |

## Classifications

| | |
|---|---|
| **ECLASS 5.0** | 27272704 |
| **ECLASS 5.1.4** | 27272704 |
| **ECLASS 6.0** | 27272704 |
| **ECLASS 6.2** | 27272704 |
| **ECLASS 7.0** | 27272704 |
| **ECLASS 8.0** | 27272704 |
| **ECLASS 8.1** | 27272704 |
| **ECLASS 9.0** | 27272704 |
| **ECLASS 10.0** | 27272704 |
| **ECLASS 11.0** | 27272704 |
| **ECLASS 12.0** | 27272704 |
| **ETIM 5.0** | EC002549 |
| **ETIM 6.0** | EC002549 |
| **ETIM 7.0** | EC002549 |
| **ETIM 8.0** | EC002549 |
| **UNSPSC 16.0901** | 46171620 |

## Dimensional drawing



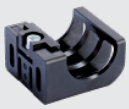

Dimensions in mm (inch)

| 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

| | Brief description | Type | part no. |
|---|---|---|---|
| system plugs and extension modules | | | |
|  | • **Function range:** SP1<br>• **System connection:** Plug, M12, 5-pin<br>• **Extension connection:** Without extension connection | SP1-1000 | 2076832 |
|  | • **Function range:** SP1<br>• **System connection:** Plug, M12, 5-pin<br>• **Extension connection:** Female connector M12, 5-pin | SP1-1100 | 2076833 |
|  | • **Function range:** SP1<br>• **System connection:** Male connector M12, 8-pin<br>• **Extension connection:** Without extension connection | SP1-1200 | 2076834 |
|  | • **Function range:** SP1<br>• **System connection:** Male connector M12, 8-pin<br>• **Extension connection:** Female connector M12, 5-pin | SP1-1300 | 2076835 |
| network devices | | | |
|  | | IOLA2US-01101<br>(SiLink2 Master) | 1061790 |
|  | | SIG200-0A0G12200 | 1102605 |
|  | | SIG200-0A0412200 | 1089794 |
|  | | SIG200-0A0512200 | 1089796 |

| | Brief description | Type | part no. |
|---|---|---|---|
| connectors and cables | | | |
|  | | IO-Link connector | 2092757 |
|  | • **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 2 m, 8-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A18-020UA5XLEAX | 2095652 |
|  | • **Connection type head A:** Female connector, M12, 5-pin, A-coded<br>• **Connection type head B:** Female connector, M12, 5-pin, A-coded<br>• **Connection type head C:** Male connector, M12, 5-pin, A-coded<br>• **Description:** Unshielded | DSC-1205T000025KM0 | 6030664 |
| Safety relays | | | |
|  | • **Applications:** Output expansion module for OSSDs<br>• **Compatible sensor types:** Safety sensors with OSSDs<br>• **Connection type:** Front connector with spring terminals<br>• **Restart interlock:** no<br>• **External device monitoring (EDM):** Via path<br>• **Outputs:** 2 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe)<br>• **Housing width:** 18 mm | RLY3-OSSD100 | 1085343 |
|  | • **Applications:** Output expansion module for OSSDs<br>• **Compatible sensor types:** Safety sensors with OSSDs<br>• **Connection type:** Front connector with spring terminals<br>• **Restart interlock:** no<br>• **External device monitoring (EDM):** Via path<br>• **Outputs:** 4 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe), 1 signaling current path (not safe)<br>• **Housing width:** 28 mm | RLY3-OSSD400 | 1099971 |
| Mounting systems | | | |
|  | • **Description:** FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned ± 15°, including M5 screw<br>• **Material:** Plastic<br>• **Details:** Plastic<br>• **Packing unit:** 4 pieces | BEF-1SHABPKU4 | 2066614 |
|  | • **Description:** QuickFix bracket for 2 devices (e.g. sender and receiver)<br>• **Material:** Plastic<br>• **Details:** Plastic<br>• **Packing unit:** 4 pieces | BEF-3SHABPKU4 | 2098710 |

# SICK AT A GLANCE

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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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