



# deTec2 Core Set 30/450

deTec

SAFETY LIGHT CURTAINS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

deTec2 Core

| Resolution | Scanning range | Protective field height | System part | Type                   | Part no. |
|------------|----------------|-------------------------|-------------|------------------------|----------|
| 30 mm      | 15 m           | 450 mm                  | Set         | deTec2 Core Set 30/450 | 1070783  |

**Included in delivery:** C2C-EA04530A10000 (1), C2C-SA04530A10000 (1), BEF-1SHABPKU4 (1), BEF-3SHABPKU4 (1), RLY3-OSSD200 (1), YF2A15-050UB5XLEAX (2)

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



### Detailed technical data

#### Features

|                                |  |
|--------------------------------|--|
| <b>Sub product family</b>      | deTec2 Core  |
| <b>Application</b>             | Normal industrial environment  |
| <b>System part</b>             | Set  |
| <b>Resolution</b>              | 30 mm  |
| <b>Scanning range</b>          | 15 m   |
| <b>Protective field height</b> | 450 mm   |
| <b>No blind zones</b>          | Yes  |
| <b>Synchronization</b>         | Optical synchronisation  |
| <b>Items supplied</b>          | Sender<br>Receiver<br>4 FlexFix brackets<br>4 QuickFix brackets<br>2 connecting cables, 5 m<br>Test rod with diameter corresponding to the resolution of the safety light curtain<br>RLY3-OSSD2 safety relay<br>Safety instruction<br>Mounting instructions<br>Operating instructions for download |

#### Safety-related parameters

|   |  |
|---|--|
| <b>Type</b>   | Type 2 (IEC 61496-1)                   |
| <b>Safety integrity level</b>   | SIL 1 (IEC 61508)                      |
| <b>Category</b>   | Category 2 (ISO 13849-1)               |
| <b>Performance level</b>  | PL c (ISO 13849-1)                     |
| <b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b> | $31 \times 10^{-9}$                    |
| <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> | ✓ |
|--|---|

## Interfaces

|                          |                           |
|--------------------------|---------------------------|
| <b>System connection</b> | Male connector M12, 5-pin |
| Length of cable          | 150 mm                    |
| Cable diameter           | 4.3 mm                    |
| <b>Cable bend radius</b> |                           |
| Stationary position      | > 12 x cable diameter     |
| Flexible use             | > 15 x cable diameter     |
| <b>Display elements</b>  | LEDs                      |

## 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>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             | ≤ 300 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)         |

## Other information

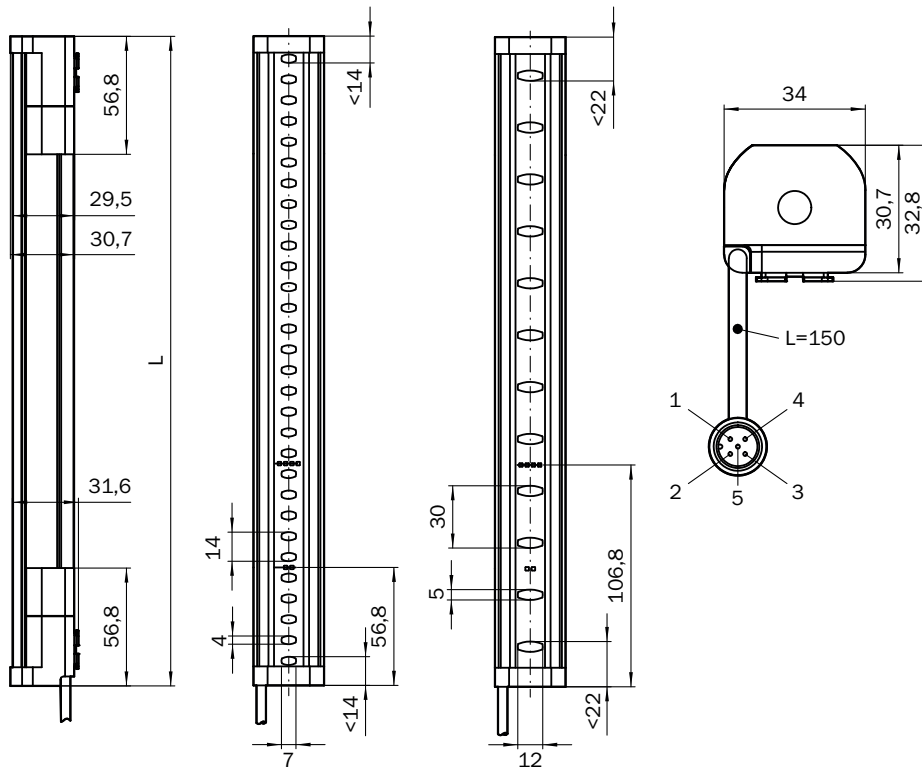
|                      |                                |
|----------------------|--------------------------------|
| <b>Wave length</b>   | 850 nm                         |
| <b>Type of light</b> | Near-infrared (NIR), invisible |

## Classifications

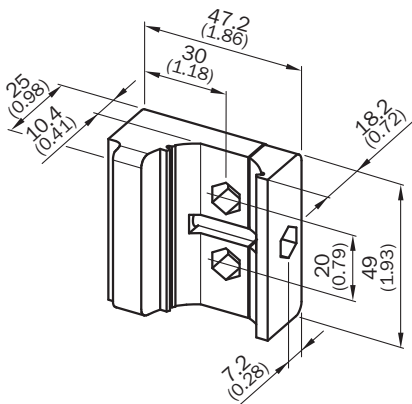
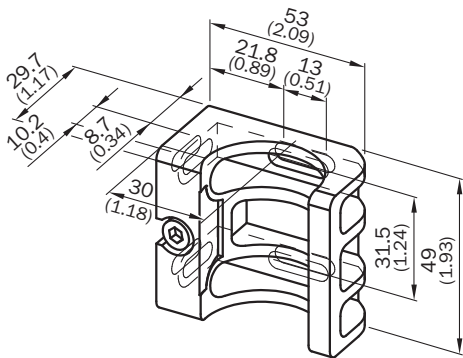
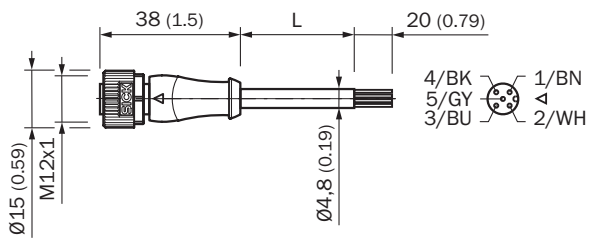
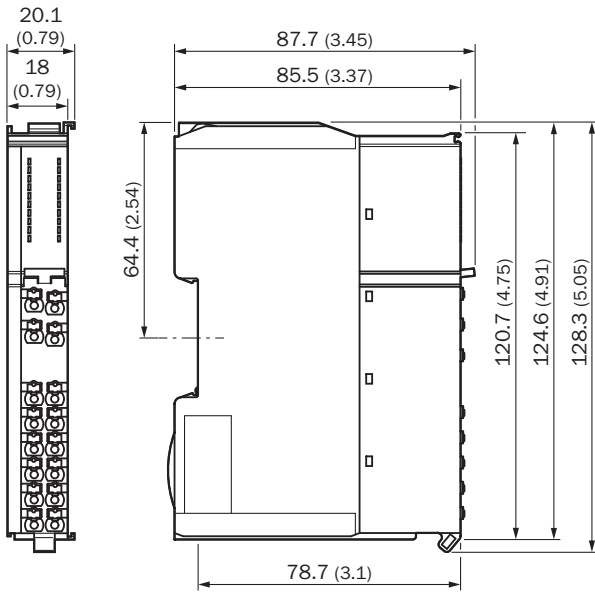
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27272704 |
| <b>ECLASS 5.1.4</b> | 27272704 |
| <b>ECLASS 6.0</b>   | 27272704 |
| <b>ECLASS 6.2</b>   | 27272704 |
| <b>ECLASS 7.0</b>   | 27272704 |
| <b>ECLASS 8.0</b>   | 27272704 |

|                       |          |
|-----------------------|----------|
| <b>ECLASS 8.1</b>     | 27272704 |
| <b>ECLASS 9.0</b>     | 27272704 |
| <b>ECLASS 10.0</b>    | 27272704 |
| <b>ECLASS 11.0</b>    | 27272704 |
| <b>ECLASS 12.0</b>    | 27272704 |
| <b>ETIM 5.0</b>       | EC002549 |
| <b>ETIM 6.0</b>       | EC002549 |
| <b>ETIM 7.0</b>       | EC002549 |
| <b>ETIM 8.0</b>       | EC002549 |
| <b>UNSPSC 16.0901</b> | 46171620 |

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








EMSS1, HAND1, OSSD1, OSSD2, TIME1









| Protective field height | L             |
|-------------------------|---------------|
| 300 (11.81)             | 313 (12.32)   |
| 450 (17.72)             | 463 (18.23)   |
| 600 (23.62)             | 613 (24.13)   |
| 750 (29.53)             | 763 (30.04)   |
| 900 (35.43)             | 913 (35.94)   |
| 1,050 (41.34)           | 1,063 (41.85) |
| 1,200 (47.24)           | 1,213 (47.76) |
| 1,350 (53.15)           | 1,362 (53.62) |
| 1,500 (59.06)           | 1,512 (59.53) |
| 1,650 (64.96)           | 1,662 (65.43) |
| 1,800 (70.87)           | 1,812 (71.34) |
| 1,950 (76.77)           | 1,962 (77.24) |
| 2,100 (82.68)           | 2,112 (83.15) |

### Recommended accessories

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

|   | Brief description   | Type               | Part no. |
|---|---|--------------------|----------|
| <b>Terminal and alignment brackets</b>  |   |                    |          |
|  | 4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned ± 15°, including M5 screw, plastic   | BEF-1SHABPKU4      | 2066614  |
|  | 4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic  | BEF-3SHABPKU4      | 2098710  |
| <b>Others</b>   |   |                    |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, A-coded</li> <li><b>Connection type head C:</b> Female connector, M12, 5-pin, A-coded</li> <li><b>Description:</b> T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver</li> <li><b>Note:</b> 5-pin</li> </ul>              | DSC-1205T000025KM0 | 6030664  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul> | YF2A15-020UB5M2A15 | 2096009  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 5-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>                                  | YF2A15-020UB5XLEAX | 2095617  |

|   | Brief description   | Type               | Part no. |
|---|---|--------------------|----------|
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>                           | YF2A15-050UB5M2A15 | 2096010  |
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>  | YF2A15-050UB5XLEAX | 2095618  |
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>                          | YF2A15-100UB5M2A15 | 2096011  |
|    | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 5-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>   | YF2A15-100UB5XLEAX | 2095619  |
| Safety switching amplifier  |   |                    |          |
|   | <ul style="list-style-type: none"> <li>• <b>Applications:</b> Evaluation unit</li> <li>• <b>Compatible sensor types:</b> Safety sensors with OSSDs</li> <li>• <b>Connection type:</b> Front connector with spring terminals</li> <li>• <b>Restart interlock:</b> yes</li> <li>• <b>External device monitoring (EDM):</b> Integrated</li> <li>• <b>Outputs:</b> 2 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe)</li> <li>• <b>Housing width:</b> 18 mm</li> </ul> | RLY3-OSSD200       | 1085344  |
|  | <ul style="list-style-type: none"> <li>• <b>Applications:</b> Evaluation unit</li> <li>• <b>Compatible sensor types:</b> Safety sensors with OSSDs</li> <li>• <b>Connection type:</b> Front connector with spring terminals</li> <li>• <b>Restart interlock:</b> yes</li> <li>• <b>External device monitoring (EDM):</b> Integrated</li> <li>• <b>Outputs:</b> 3 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe)</li> <li>• <b>Housing width:</b> 18 mm</li> </ul> | RLY3-OSSD300       | 1099969  |

## SICK AT A GLANCE

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