



# EXS-12D6813A020

deTec

**SAFETY LIGHT CURTAINS**

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type            | part no. |
|-----------------|----------|
| EXS-12D6813A020 | 1097714  |

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

## Detailed technical data

### Features

|                                       |                                                                                                                                                                                                                                        |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product version</b>                | deTec4 Ex                                                                                                                                                                                                                              |
| <b>Application</b>                    | Explosive areas                                                                                                                                                                                                                        |
| <b>Ex-approvals</b>                   | ATEX for gas: II 2 G Ex db IIB T6 Gb<br>ATEX for dust: II 2 D Ex tb IIIC T56 °C Db IP6X<br>NFPA 70/NEC 500 Class I, Div. 1, Groups C and D<br>NFPA 70/NEC 500 Class II, Div. 1, Groups E, F and G<br>NFPA 70/NEC 500 Class III, Div. 1 |
| <b>System part</b>                    | Sender                                                                                                                                                                                                                                 |
| <b>Resolution</b>                     | 30 mm                                                                                                                                                                                                                                  |
| <b>Scanning range</b>                 | 25.2 m                                                                                                                                                                                                                                 |
| <b>Protective field height</b>        | 1,500 mm                                                                                                                                                                                                                               |
| <b>Synchronization</b>                | Optical synchronization                                                                                                                                                                                                                |
| <b>Integrated laser alignment aid</b> | ✓                                                                                                                                                                                                                                      |
| <b>Items supplied</b>                 | Sender in explosion-proof enclosure with connecting cable, 30 m<br>2 handles including screws                                                                                                                                          |

### Safety-related parameters

|                                                                           |                                        |
|---------------------------------------------------------------------------|----------------------------------------|
| <b>Type</b>                                                               | Type 4 (IEC 61496-1)                   |
| <b>Safety integrity level</b>                                             | SIL 3 (IEC 61508)                      |
| <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> | 15.3 x 10 <sup>-9</sup>                |
| <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>                                         | ✓ |

## Interfaces

|                             |                                             |
|-----------------------------|---------------------------------------------|
| <b>System connection</b>    | Connecting cable, 30 m, flying lead, 8-wire |
| Cable diameter              | 5.8 mm                                      |
| Conductor cross section     | 0.25 mm <sup>2</sup>                        |
| <b>Extension connection</b> | –                                           |
| <b>Configuration method</b> | DIP switch on system plug                   |
| <b>Display elements</b>     | LEDs                                        |

## Electronics

|                                     |                             |
|-------------------------------------|-----------------------------|
| <b>Protection class</b>             | III (IEC 61140)             |
| <b>Supply voltage V<sub>s</sub></b> | 24 V DC (19.2 V ... 28.8 V) |
| <b>Ripple</b>                       | ≤ 10 %                      |
| <b>Power consumption typical</b>    | 1.82 W (DC)                 |

## Mechanics

|                              |                          |
|------------------------------|--------------------------|
| <b>Dimensions</b>            | See dimensional drawing  |
| <b>Housing cross-section</b> | 161.8 mm x 142.1 mm      |
| <b>Housing material</b>      | Aluminum cast/AlSi7Mg0.6 |

## Ambient data

|                                      |                                           |
|--------------------------------------|-------------------------------------------|
| <b>Enclosure rating</b>              | IP65 (IEC 60529)<br>IP66 (IEC 60529)      |
| <b>Ambient operating temperature</b> | –20 °C ... +55 °C                         |
| <b>Storage temperature</b>           | –30 °C ... +70 °C                         |
| <b>Air humidity</b>                  | 15 % ... 95 %, Non-condensing             |
| <b>Vibration resistance</b>          | 5 ... 150 Hz, 3,5 mm / 1 g (EN 60068-2-6) |
| <b>Shock resistance</b>              | 15 g / 6 ms (EN 60068-2-27)               |
| <b>Class</b>                         | 3M4 (IEC TR 60721-4-3)                    |

## Other information

|                                       |                                |
|---------------------------------------|--------------------------------|
| <b>Wave length</b>                    | 850 nm                         |
| <b>Type of light</b>                  | Near-infrared (NIR), invisible |
| <b>Integrated laser alignment aid</b> | ✓                              |
| Laser class                           | 1                              |
| Wave length                           | 650 nm                         |
| Type of light                         | Visible red light              |

## Certificates

|                                     |   |
|-------------------------------------|---|
| <b>EU declaration of conformity</b> | ✓ |
| <b>China RoHS</b>                   | ✓ |
| <b>ATEX certificate</b>             | ✓ |

|                   |   |
|-------------------|---|
| IECEX certificate | ✓ |
| cULus 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 |

### Recommended accessories

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

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Type         | part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|
| Safety relays                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |          |
|  | <ul style="list-style-type: none"> <li><b>Applications:</b> Output expansion module for OSSDs</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> no</li> <li><b>External device monitoring (EDM):</b> Via path</li> <li><b>Outputs:</b> 2 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe)</li> <li><b>Housing width:</b> 18 mm</li> </ul>                                      | RLY3-OSSD100 | 1085343  |
|  | <ul style="list-style-type: none"> <li><b>Applications:</b> Output expansion module for OSSDs</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> no</li> <li><b>External device monitoring (EDM):</b> Via path</li> <li><b>Outputs:</b> 4 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe), 1 signaling current path (not safe)</li> <li><b>Housing width:</b> 28 mm</li> </ul> | RLY3-OSSD400 | 1099971  |

|                                                                                   | Brief description                                                                                                                                                                                                                                                                  | Type           | part no. |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|
| Commissioning aids and test equipment                                             |                                                                                                                                                                                                                                                                                    |                |          |
|  | <ul style="list-style-type: none"> <li><b>Product:</b> Test equipment</li> <li><b>Description:</b> 30 mm diameter, 250 mm length</li> </ul>                                                                                                                                        | Test rod 30 mm | 2022602  |
|  | <ul style="list-style-type: none"> <li><b>Product:</b> Alignment aids</li> <li><b>Dimensions (W x H x L):</b> 19 mm<br/>67.3 mm<br/>66.9 mm</li> <li><b>Description:</b> Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!</li> </ul> | AR60           | 1015741  |
| Mounting systems                                                                  |                                                                                                                                                                                                                                                                                    |                |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Alignment bracket for explosion-proof enclosure</li> <li><b>Packing unit:</b> 2 pieces</li> </ul>                                                                                                                       | BEF-1SHABRST2  | 2072525  |

## 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)