

# C20S-090103D41

C2000 Eco

**SAFETY LIGHT CURTAINS**

**SICK**  
Sensor Intelligence.



## Ordering information

| Type           | Part no. |
|----------------|----------|
| C20S-090103D41 | 1041587  |

1.) Concerns installation as a replacement part for previous type 2 device in machine: Regarding Machinery Directive 2006/42/EC, Article 1, Paragraph (2a) this type 2 device may only be used as a replacement part for identical PL d / SIL2 devices within the EU if the machine was put into circulation before 2015-05-10. Keep this note with your machine documentation. If the machine is sold on, this note and the information it contains must be passed on to every subsequent buyer. 2.) Concerns installation on new machines: Due to the amendment to the EN/IEC 61496-1 standard, this type 2 device may only be installed on new machines up to PL c / SIL1 as of 2015-05-10.

Other models and accessories → [www.sick.com/C2000\\_Eco](http://www.sick.com/C2000_Eco)



## Detailed technical data

## Features

|                                |                         |
|--------------------------------|-------------------------|
| <b>Resolution</b>              | 30 mm                   |
| <b>Protective field height</b> | 900 mm                  |
| <b>Scanning range</b>          | 0 m ... 6 m             |
| <b>Synchronization</b>         | Optical synchronisation |

## Safety-related parameters

|   |  |
|---|--|
| <b>Type</b>   | Type 2 (IEC 61496-1)                               |
| <b>Safety integrity level</b>   | SIL1 (IEC 61508)<br>SILCL1 (EN 62061)              |
| <b>Category</b>   | Category 2 (EN ISO 13849)                          |
| <b>Test rate (internal test)</b>  | 13 /s (EN ISO 13849) <sup>1)</sup>                 |
| <b>Maximum demand rate</b>  | ≤ 8 min <sup>-1</sup> (EN ISO 13849) <sup>2)</sup> |
| <b>Performance level</b>  | PL c (EN ISO 13849)                                |
| <b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b> | 2.2 x 10 <sup>-8</sup> (EN ISO 13849)              |
| <b>T<sub>M</sub> (mission time)</b>                                       | 20 years (EN ISO 13849)                            |
| <b>Safe state in the event of a fault</b>                                 | At least one OSSD is in the OFF state.             |

<sup>1)</sup> Internal test. The test rate may not be exceeded if an external test is performed.

<sup>2)</sup> Between two requirements on a safety-related response of the device, at least 100 internal or external tests must be carried out.

## Interfaces

|                             |                           |
|-----------------------------|---------------------------|
| <b>System connection</b>    |                           |
| Connection type             | Male connector M12, 5-pin |
| Permitted cable length      | ≤ 15 m <sup>1)</sup>      |
| Conductor cross-section     | 0.25 mm <sup>2</sup>      |
| <b>Configuration method</b> | None                      |

<sup>1)</sup> The length of the connecting cable is limited, because wire resistance max. 4 Ohm.

<sup>2)</sup> For additional information on Flexi Soft -> [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft).

|  |   |
|--|---|
| <b>Display elements</b>                      | LED   |
| <b>Fieldbus, industrial network</b>          |   |
| Integration via Flexi Soft safety controller | CANopen, DeviceNet™, EtherCAT®, EtherNet/IP™, Modbus TCP, PROFIBUS DP, PROFINET <sup>2)</sup> |

<sup>1)</sup> The length of the connecting cable is limited, because wire resistance max. 4 Ohm.

<sup>2)</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 (EN 50178) |
|-------------------------|----------------|

## Ambient data

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| <b>Enclosure rating</b>              | IP54 (EN 60529)                   |
| <b>Ambient operating temperature</b> | 0 °C ... +55 °C                   |
| <b>Storage temperature</b>           | -25 °C ... +70 °C                 |
| <b>Air humidity</b>                  | 15 % ... 95 %, Non-condensing     |
| <b>Vibration resistance</b>          | 5 g, 10 Hz ... 55 Hz (IEC 68-2-6) |
| <b>Shock resistance</b>              | 10 g, 16 ms (EN 60068-2-29)       |

## Other information

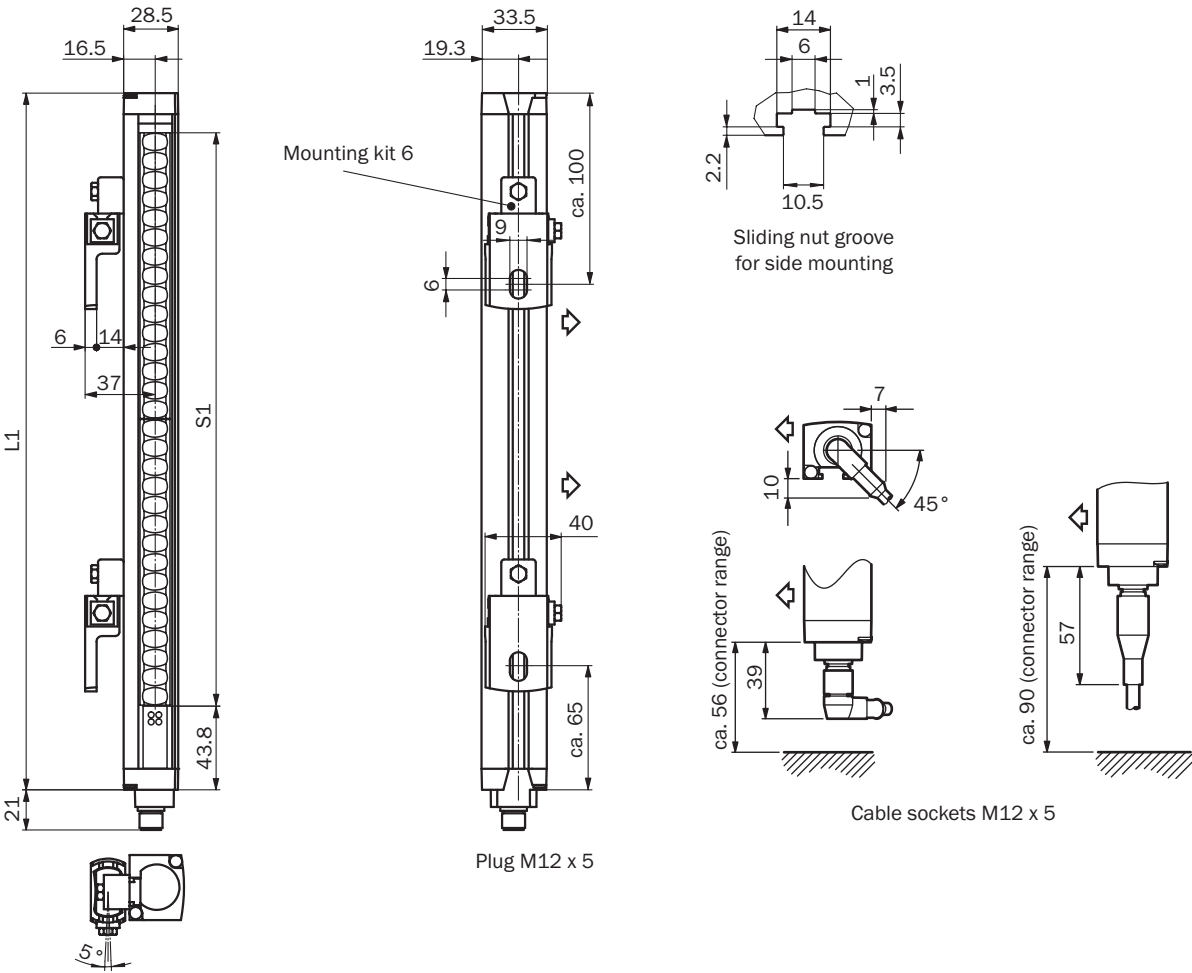
|                    |        |
|--------------------|--------|
| <b>Wave length</b> | 950 nm |
|--------------------|--------|

## 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>ETIM 5.0</b>       | EC002549 |
| <b>ETIM 6.0</b>       | EC002549 |
| <b>UNSPSC 16.0901</b> | 46171620 |

Dimensional drawing (Dimensions in mm (inch))




Illustration sender (receiver mirror image)



| S1            | L1            |
|---------------|---------------|
| 150 (5.91)    | 246 (9.69)    |
| 300 (11.81)   | 364 (14.33)   |
| 450 (17.72)   | 515 (20.28)   |
| 600 (23.62)   | 666 (26.22)   |
| 750 (29.53)   | 816 (32.13)   |
| 900 (35.43)   | 967 (38.07)   |
| 1,050 (41.34) | 1,117 (43.98) |
| 1,200 (47.24) | 1,266 (49.84) |

## Recommended accessories

Other models and accessories → [www.sick.com/C2000\\_Eco](http://www.sick.com/C2000_Eco)

|   | Brief description  | Type               | Part no. |
|---|--|--------------------|----------|
| Terminal and alignment brackets   |  |                    |          |
|  | 4 pieces, Mounting kit 6, side bracket, rotatable, Zinc diecast  | BEF-1SHABAZN4      | 2019506  |
| Plug connectors and cables  |  |                    |          |
|  | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: male connector, M12, 5-pin, straight, A-coded<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m | YF2A15-020UB5M2A15 | 2096009  |
| Alignment aids  |  |                    |          |
|  | Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!   | AR60               | 1015741  |

## 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)