



# M4C-EA03400A10

deTem

**MULTIPLE LIGHT BEAM SAFETY DEVICES**

**SICK**  
Sensor Intelligence.



### Ordering information

| Number of beams | Beam separation | System part | Type           | Part no. |
|-----------------|-----------------|-------------|----------------|----------|
| 3               | 400 mm          | Receiver    | M4C-EA03400A10 | 1082689  |

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

Illustration may differ



### Detailed technical data

#### Features

|                             |  |
|-----------------------------|--|
| <b>Application</b>          | Normal industrial environment  |
| <b>Functional principle</b> | Sender/receiver system   |
| <b>System part</b>          | Receiver   |
| <b>Number of beams</b>      | 3  |
| <b>Beam separation</b>      | 400 mm   |
| <b>Response time</b>        | 20 ms  |
| <b>Synchronization</b>      | Optical synchronisation  |
| <b>Items supplied</b>       | Receiver<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> | $3 \times 10^{-9}$                     |
| <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. |

#### Interfaces

|  |                           |
|--|---------------------------|
| <b>System connection</b>                 | Male connector M12, 5-pin |
| Flexi Loop compatible M12 male connector | ✓                         |
| Permitted cable length                   | 50 m                      |
| <b>Display elements</b>                  | LEDs                      |

<sup>1)</sup> For additional information on Flexi Soft -> [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft).

|  |   |
|--|---|
| <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) <sup>1)</sup>  |
| <b>Supply voltage V<sub>S</sub></b>            | 24 V DC (19.2 V DC ... 28.8 V DC) <sup>2)</sup>                                      |
| <b>Residual ripple</b>                         | ≤ 10 % <sup>3)</sup>   |
| <b>Power consumption</b>                       | ≤ 150 mA   |
| <b>Power consumption</b>                       | ≤ 4.32 W (DC)  |
| <b>Output signal switching devices (OSSDs)</b> | 2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>4)</sup> |
| ON state, switching voltage HIGH               | 24 V DC (V <sub>S</sub> - 2.25 V DC ... V <sub>S</sub> )                             |
| OFF state, switching voltage LOW               | ≤ 2 V DC   |
| Current-carrying capacity per OSSD             | ≤ 300 mA   |

<sup>1)</sup> SELV/PELV safety/protective extra-low voltage.

<sup>2)</sup> The external voltage supply must be capable of buffering brief mains voltage failures of 20 ms as specified in EN 60204-1. Suitable power supplies are available as accessories from SICK.

<sup>3)</sup> Within the limits of V<sub>S</sub>.

<sup>4)</sup> Applies to the voltage range between -30 V and +30 V.

### Mechanical data

|                              |  |
|------------------------------|--|
| <b>Dimensions</b>            | See dimensional drawing                  |
| <b>Housing cross-section</b> | 31 mm x 34 mm                            |
| <b>Material</b>              |  |
| Housing                      | Aluminum extruded profile                |
| Front screen                 | Polycarbonate, scratch-resistant coating |
| <b>Weight</b>                | 800 g (± 50 g)                           |
| <b>Bending radius</b>        |  |
| Stationary position          | > 12 x cable diameter                    |
| Flexible use                 | > 15 x cable diameter                    |

### Ambient data

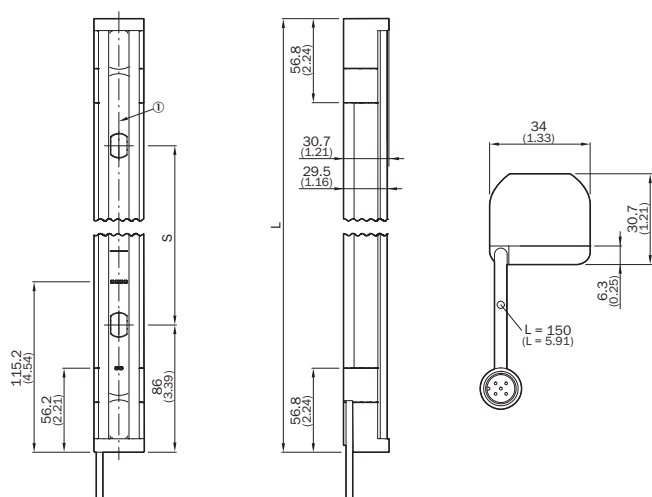
|                                      |                                      |
|--------------------------------------|--------------------------------------|
| <b>Enclosure rating</b>              | IP65 (IEC 60529)<br>IP67 (IEC 60529) |
| <b>Ambient operating temperature</b> | -30 °C ... +55 °C                    |
| <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>ECl@ss 5.0</b> | 27272703 |
|-------------------|----------|

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 5.1.4</b>   | 27272703 |
| <b>ECl@ss 6.0</b>     | 27272703 |
| <b>ECl@ss 6.2</b>     | 27272703 |
| <b>ECl@ss 7.0</b>     | 27272703 |
| <b>ECl@ss 8.0</b>     | 27272703 |
| <b>ECl@ss 8.1</b>     | 27272703 |
| <b>ECl@ss 9.0</b>     | 27272703 |
| <b>ECl@ss 10.0</b>    | 27272703 |
| <b>ECl@ss 11.0</b>    | 27272703 |
| <b>ETIM 5.0</b>       | EC001832 |
| <b>ETIM 6.0</b>       | EC001832 |
| <b>ETIM 7.0</b>       | EC001832 |
| <b>UNSPSC 16.0901</b> | 46171620 |

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







① Optical axis

| Number of beams | Beam separation S | Length L     |
|-----------------|-------------------|--------------|
| 2               | 500 (19.69)       | 672 (26.46)  |
| 3               | 400 (15.75)       | 972 (38.27)  |
| 4               | 300 (11.81)       | 1,072 (42.2) |

## Recommended accessories

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

|   | 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>Plug connectors and cables</b>   |   |                    |          |
|  | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m                                   | YF2A15-020UB5XLEAX | 2095617  |
|   | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m                                   | YF2A15-050UB5XLEAX | 2095618  |
|   | Head A: female connector, M12, 5-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m                                  | YF2A15-100UB5XLEAX | 2095619  |
|  | 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  |
|   | 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, 5 m  | YF2A15-050UB5M2A15 | 2096010  |
|   | 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, 10 m | YF2A15-100UB5M2A15 | 2096011  |

## 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)