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DATA SHEET

# M4C-SA0340HA10, M4C-EA03400A10

deTem
Safety multibeam sensors

SICK Sensor Intelligence

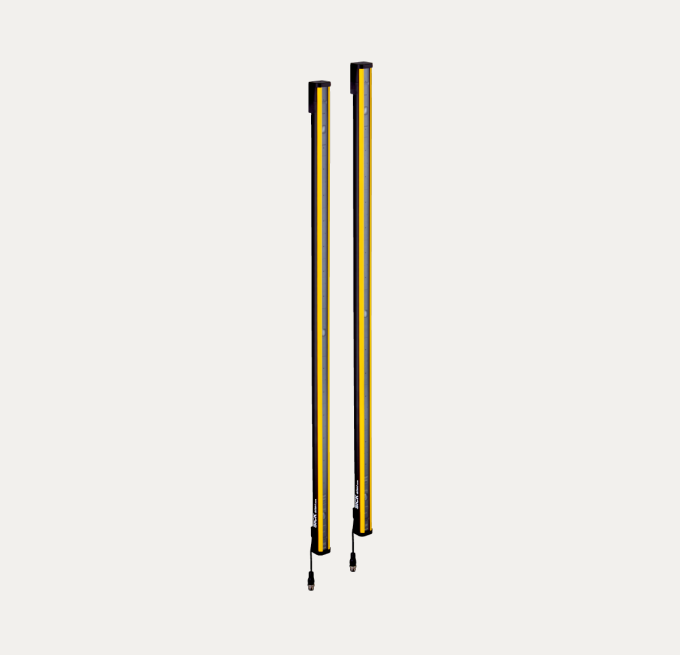


Illustration may differ

## SAFETY MULTIBEAM SENSORS

# M4C-SA0340HA10, M4C-EA03400A10

### ORDERING INFORMATION

| System part | Type | part no. |
|---|---|---|
| sender | M4C-SA0340HA10 | 1082688 |
| receiver | M4C-EA03400A10 | 1082689 |

Further device versions and accessories at www.sick.com/deTem

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Product version | deTem4 Core |
| Application | Normal industrial environment |
| Functional principle | Sender/receiver |
| System part | Pair |
| Scanning range category | Great scanning range |
| Scanning range | 90 m |
| Dimension of the light path | |
| Minimum | 10 m ... 70 m |
| Typical | 10 m ... 90 m |
| Number of beams | 3 |
| Beam separation | 400 mm |
| Response time | 20 ms |
| Synchronization | Optical synchronization |
| Items supplied | Sender<br>Receiver<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) | $3 \times 10^{-9}$ |
| $T_M$ (mission time) | 20 years (ISO 13849-1) |
| Safe state in the event of a fault | At least one OSSD is in the OFF state. |

## INTERFACES

| | |
|---|---|
| System connection | Plug, M12, 5-pin |
| Flexi Loop compatible M12 male connector | ✓ |
| Permitted cable length | 50 m |
| Display elements | LEDs |

## ELECTRONICS

| | |
|---|---|
| Protection class | III (IEC 61140) [1] |
| Supply voltage $V_S$ | 24 V DC (19.2 V DC ... 28.8 V DC) [2] |
| Residual ripple | ≤ 10 % [3] |
| Output signal switching devices (OSSDs) | 2 PNP semiconductors, short-circuit protected, cross-circuit monitored [4] |
| 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 |

[1] SELV/PELV safety/protective extra-low voltage.

[2] 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.

[3] Within the limits of $V_S$.

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

## MECHANICS

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

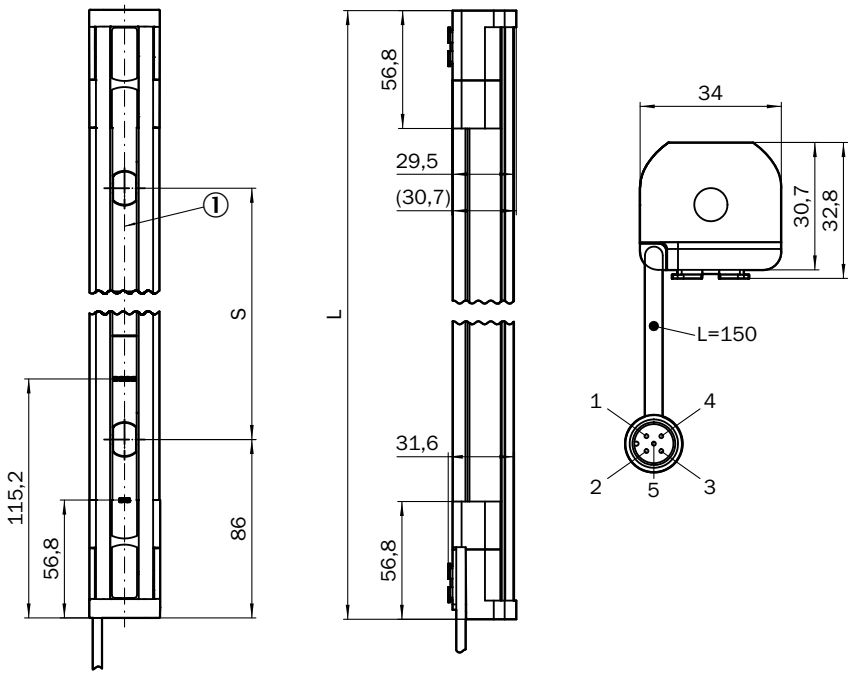
## AMBIENT DATA

| | |
|---|---|
| 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 ... 150 Hz, 3,5 mm / 1 g (EN 60068-2-6) |
| Shock resistance | 15 g / 6 ms (EN 60068-2-27) |
| Class | 3M4 (IEC TR 60721-4-3) |

## OTHER INFORMATION

| | |
|---|---|
| Type of light | Near-infrared (NIR), invisible |

**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) |

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1082688

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