



# MICS3-CBAZ40ZA1

microScan3

SAFETY LASER SCANNERS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type            | Part no. |
|-----------------|----------|
| MICS3-CBAZ40ZA1 | 1069682  |

Replacement sensor without system plug; only functional in combination with system plug;

Replacement sensor for <https://www.sick.com/1091037> target="\_blank">1091037

Other models and accessories → [www.sick.com/microScan3](https://www.sick.com/microScan3)

## Detailed technical data

### Features

|                                                  |                                                      |
|--------------------------------------------------|------------------------------------------------------|
| <b>Protective field range</b>                    | 4 m                                                  |
| <b>Warning field range</b>                       | 40 m                                                 |
| <b>Number of simultaneously monitored fields</b> | ≤ 8 <sup>1)</sup>                                    |
| <b>Number of fields</b>                          | 128                                                  |
| <b>Number of monitoring cases</b>                | 128                                                  |
| <b>Scanning angle</b>                            | 275 °                                                |
| <b>Resolution (can be configured)</b>            | 30 mm<br>40 mm<br>50 mm<br>70 mm<br>150 mm<br>200 mm |
| <b>Angular resolution</b>                        | 0.39 °                                               |
| <b>Response time</b>                             | ≥ 95 ms                                              |
| <b>Protective field supplement</b>               | 65 mm                                                |

<sup>1)</sup> Protection, warning or contour detection fields.

### Safety-related parameters

|                                                                           |                                       |
|---------------------------------------------------------------------------|---------------------------------------|
| <b>Type</b>                                                               | Type 3 (IEC 61496)                    |
| <b>Safety integrity level</b>                                             | SIL2 (IEC 61508)<br>SILCL2 (EN 62061) |
| <b>Category</b>                                                           | Category 3 (EN ISO 13849)             |
| <b>Performance level</b>                                                  | PL d (EN ISO 13849)                   |
| <b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b> | 8.0 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> | The safety outputs via the network are logic 0. |

## Functions

|                                                   |              |
|---------------------------------------------------|--------------|
| <b>Restart interlock</b>                          | ✓            |
| <b>Multiple sampling</b>                          | ✓            |
| <b>Monitoring case switching</b>                  | ✓            |
| <b>Simultaneous monitoring</b>                    | ✓            |
| <b>Static protective field switching</b>          | ✓            |
| <b>Safe contour detection</b>                     | ✓            |
| <b>Contour as a reference</b>                     | ✓            |
| <b>Integrated configuration memory</b>            | ✓            |
| <b>Measured data output</b>                       | Via Ethernet |
| <b>Safe SICK device communication via EFI-pro</b> | ✓            |

## Interfaces

|                                                |                                                                 |
|------------------------------------------------|-----------------------------------------------------------------|
| <b>Connection type</b>                         |                                                                 |
| Voltage supply                                 | 1 x male connector, M12, 4-pin, A-coded                         |
| Fieldbus, industrial network                   | 2 x M12 female connectors, 4-pin, D-coded                       |
| <b>Outputs</b>                                 |                                                                 |
| OSSD pairs                                     | 0                                                               |
| Safety outputs via network                     | 8                                                               |
| <b>Configuration method</b>                    | PC with Safety Designer (Configuration and Diagnostic Software) |
| <b>Configuration and diagnostics interface</b> | USB 2.0, Mini-USB, Ethernet                                     |
| <b>Fieldbus, industrial network</b>            | EFI-pro                                                         |
| Protocol                                       | CIP Safety™                                                     |
| RPI (requested packet interval)                | 5 ms ... 1,000 ms, multiple of 5 ms                             |
| <b>Display elements</b>                        | Graphic color display, LEDs                                     |

## Electrical data

|                                     |                                 |
|-------------------------------------|---------------------------------|
| <b>Protection class</b>             | III (EN 61140)                  |
| <b>Supply voltage V<sub>s</sub></b> | 24 V DC (16.8 V DC ... 30 V DC) |
| <b>Power consumption</b>            | 7 W (without output load)       |

## Mechanical data

|                                    |                                                    |
|------------------------------------|----------------------------------------------------|
| <b>Dimensions (W x H x D)</b>      | 112 mm x 150.8 mm x 111.1 mm (without system plug) |
| <b>Weight</b>                      | 1.45 kg                                            |
| <b>Housing material</b>            | Aluminum                                           |
| <b>Housing color</b>               | RAL 1021 (yellow), RAL 9005 (black)                |
| <b>Optics cover material</b>       | Polycarbonate                                      |
| <b>Optics cover surface finish</b> | Outside with scratch-resistant coating             |

## Ambient data

|                               |                          |
|-------------------------------|--------------------------|
| <b>Enclosure rating</b>       | IP65 (IEC 60529)         |
| <b>Ambient light immunity</b> | ≤ 3,000 lx (IEC 61496-3) |

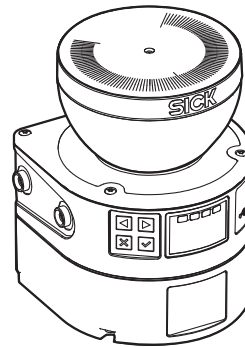
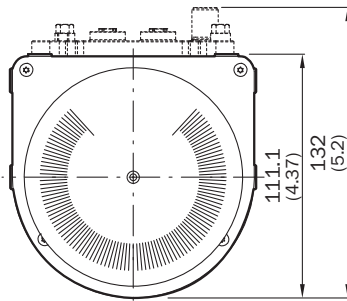
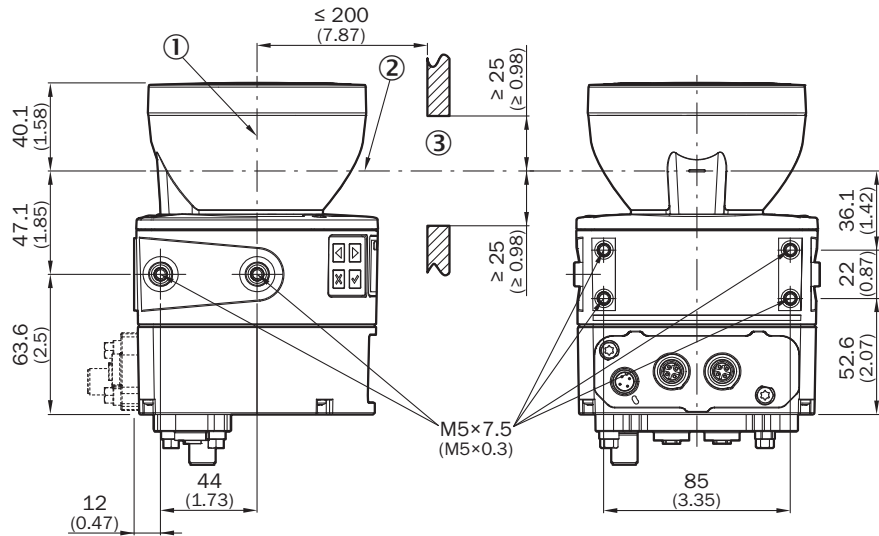
|                                      |                                                                                                                                       |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ambient operating temperature</b> | -10 °C ... +50 °C                                                                                                                     |
| <b>Storage temperature</b>           | -25 °C ... +70 °C                                                                                                                     |
| <b>Vibration resistance</b>          | 0.35 mm, 10 Hz ... 60 Hz (IEC 60068-2-6, IEC 61496-1, IEC 61496-3)<br>5 g, 60 Hz ... 150 Hz (IEC 60068-2-6, IEC 61496-1, IEC 61496-3) |
| <b>Shock resistance</b>              |                                                                                                                                       |
| Continuous shock                     | 10 g, 16 ms (IEC 60068-2-27, IEC 61496-3)                                                                                             |
| <b>EMC</b>                           | IEC 61496-1<br>IEC 61000-6-2<br>IEC 61000-6-4                                                                                         |

#### Other information

|                             |                                              |
|-----------------------------|----------------------------------------------|
| <b>Type of light</b>        | Pulsed laser diode                           |
| <b>Wave length</b>          | 845 nm                                       |
| <b>Detectable remission</b> | 1.8% to several 1000%                        |
| <b>Laser class</b>          | 1M (21 CFR 1040.10 and 1040.11, IEC 60825-1) |

#### Classifications

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 5.0</b>     | 27272705 |
| <b>ECl@ss 5.1.4</b>   | 27272705 |
| <b>ECl@ss 6.0</b>     | 27272705 |
| <b>ECl@ss 6.2</b>     | 27272705 |
| <b>ECl@ss 7.0</b>     | 27272705 |
| <b>ECl@ss 8.0</b>     | 27272705 |
| <b>ECl@ss 8.1</b>     | 27272705 |
| <b>ECl@ss 9.0</b>     | 27272705 |
| <b>ECl@ss 10.0</b>    | 27272705 |
| <b>ECl@ss 11.0</b>    | 27272705 |
| <b>ETIM 5.0</b>       | EC002550 |
| <b>ETIM 6.0</b>       | EC002550 |
| <b>ETIM 7.0</b>       | EC002550 |
| <b>UNSPSC 16.0901</b> | 39121528 |



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|                                                                                     | Brief description                                                                                                                                                                                                                                                              | Type               | Part no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|    | 1 piece, mounting bracket, Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A                                                                                                                                                                                     | Mounting kit 1a    | 2073851  |
|    | 1 piece, mounting bracket with protection of optics hood, Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A                                                                                                                                                      | Mounting kit 1b    | 2074242  |
|    | 1 piece, alignment bracket, alignment with cross-wise axis and depth axis possible, distance between mounting surface and device: 22.3 mm, only in conjunction with mounting kit 1a (2073851) or 1b (2074242), Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A | Mounting kit 2a    | 2073852  |
|    | 1 piece, Alignment bracket, alignment with cross-wise axis and depth axis possible, distance between mounting surface and device: 52.3 mm, only in conjunction with mounting kit 1a (2073851) or 1b (2074242), Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A | Mounting kit 2b    | 2074184  |
| Plug connectors and cables                                                          |                                                                                                                                                                                                                                                                                |                    |          |
|    | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m                                                                                                                            | YF2A14-020UB3XLEAX | 2095607  |
|                                                                                     | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m                                                                                                                            | YF2A14-050UB3XLEAX | 2095608  |
|                                                                                     | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m                                                                                                                           | YF2A14-100UB3XLEAX | 2095609  |
|                                                                                     | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 20 m                                                                                                                           | YF2A14-200UB3XLEAX | 2095611  |
|  | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m                                                                                                                              | YG2A14-020UB3XLEAX | 2095766  |
|                                                                                     | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m                                                                                                                              | YG2A14-050UB3XLEAX | 2095767  |
|                                                                                     | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m                                                                                                                             | YG2A14-100UB3XLEAX | 2095768  |
|                                                                                     | Head A: female connector, M12, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 20 m                                                                                                                             | YG2A14-200UB3XLEAX | 2095770  |
|  | Head A: male connector, M12, 4-pin, straight, D-coded<br>Head B: male connector, RJ45, 8-pin, straight<br>Cable: Ethernet, PUR, halogen-free, shielded, 20 m                                                                                                                   | SSL-2J04-G20ME60   | 6063700  |
|  | Head A: male connector, M12, 4-pin, angled, D-coded<br>Head B: male connector, RJ45, 8-pin, straight<br>Cable: Ethernet, PUR, halogen-free, shielded, 20 m                                                                                                                     | SSL-2J04-H20ME     | 6063701  |

## 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)