# MICS3-CBUZ40IZ1
outdoorScan3

**SAFETY LASER SCANNERS**

SICK
Sensor Intelligence.

# MICS3-CBUZ40IZ1 | outdoorScan3

## SAFETY LASER SCANNERS



Illustration may differ

## Ordering information

| Type | Part no. |
|------|----------|
| MICS3-CBUZ40IZ1 | 1094471 |

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

Replacement sensor for 1094472

Other models and accessories ➜ www.sick.com/outdoorScan3

## Detailed technical data

### Features

| | |
|------|------|
| **Sub product family** | outdoorScan3 Pro - EtherNet/IP |
| **Model** | Sensor without system plug |
| **Application** | Outdoor [1] |
| **Compressed air cleaning** | Not possible |
| **Protective field range** | 4 m |
| **Warning field range** | 40 m |
| **Number of simultaneously monitored fields** | ≤ 8 [2] |
| **Number of fields** | 128 |
| **Number of monitoring cases** | 128 |
| **Scanning angle** | 275° |
| **Resolution (can be configured)** | 50 mm<br>70 mm |
| **Angular resolution** | 0.39° |
| **Response time** | 115 ms |
| **Protective field supplement** | 65 mm |

[1] The safety laser scanner is suitable for use in industrial environments (indoors and outdoors).

[2] Protection or warning fields.

### Safety-related parameters

| | |
|------|------|
| **Type** | Type 3 (IEC 61496) |
| **Safety integrity level** | SIL 2 (IEC 61508) |
| **Category** | Category 3 (EN ISO 13849) |
| **Performance level** | PL d (EN ISO 13849) |
| **Performance class SRS/SRSS** | Performance class D (IEC/TS 62998) |

| | |
|---|---|
| **$PFH_D$ (mean probability of a dangerous failure per hour)** | $8.0 \times 10^{-8}$ |
| **$T_M$ (mission time)** | 20 years (EN ISO 13849) |
| **Safe state in the event of a fault** | The safety outputs via the network are logic 0. |

## Functions

| | |
|---|---|
| **Restart interlock** | ✓ |
| **Multiple sampling** | ✓ |
| **Monitoring case switching** | ✓ |
| **Simultaneous monitoring** | ✓ |
| **Static protective field switching** | ✓ |
| **Integrated configuration memory** | ✓ |
| **Measured data output** | Via Ethernet |

## Interfaces

| | |
|---|---|
| **Connection type** | |
| Voltage supply | 1 x male connector, M12, 4-pin, A-coded |
| Fieldbus, industrial network | 2 x M12 female connectors, 4-pin, D-coded |
| **Outputs** | |
| OSSD pairs | 0 |
| Safety outputs via network | 8 |
| **Configuration method** | PC with Safety Designer (Configuration and Diagnostic Software) |
| **Configuration and diagnostics interface** | USB 2.0, Mini-USB, Ethernet |
| **Fieldbus, industrial network** | EtherNet/IP™ |
| Supported protocol versions | Common Industrial Protocol: The CIP Networks Library Volume 1, Edition 3.20<br>EtherNet/IP™: The CIP Networks Library Volume 2, Edition 1.26<br>CIP Safety™: The CIP Networks Library Volume 5, Edition 2.13 |
| Topology support | DLR (Device Level Ring) |
| **Display elements** | Graphic color display, LEDs |

## Electrical data

| | |
|---|---|
| **Protection class** | III (EN 61140) |
| **Supply voltage $V_s$** | 24 V DC (16.8 V DC … 30 V DC) |
| **Power consumption typical** | 7.2 W |

## Mechanical data

| | |
|---|---|
| **Dimensions (W x H x D)** | 114.6 mm x 150.7 mm x 114.6 mm |
| **Housing material** | Aluminum |
| **Housing color** | RAL 2004 (pure orange), RAL 9005 (black) |
| **Optics cover material** | Polycarbonate |
| **Optics cover surface finish** | Outside with scratch-resistant coating |

## Ambient data

| | |
|---|---|
| **Enclosure rating** | IP65 (IEC 60529) |
| **Ambient light immunity** | |

[1] More detailed data can be found in the operating instructions, chapter "Project planning".

| | | |
|---|---|---|
| Halogen light | 12,000 lx (IEC 61496-3) | |
| Sunlight | 40,000 lx (IEC 61496-3) | |
| **Ambient operating temperature** | –25 °C … +50 °C | |
| **Storage temperature** | –25 °C … +70 °C | |
| **Ambient conditions** | | |
| Rain | 10 mm/h [1] | |
| Snowfall | 3 mm/h SWE, Snow Water Equivalent [1] | |
| Fog | 50 m (MOR, Meteorological Optical Range) [1] | |
| **Vibration resistance** | IEC 60068-2-6, IEC 60068-2-64, IEC 60721-3-5, IEC TR 60721-4-3, IEC 61496-1, IEC 61496-3 | |
| Class | 5M1 (IEC 60721-3-5)<br>3M4 (IEC TR 60721-4-3) | |
| **Shock resistance** | IEC 60068-2-27, IEC 60721-3-5, IEC TR 60721-4-3, IEC 61496-1, IEC 61496-3 | |
| Class | 5M1 (IEC 60721-3-5)<br>3M4 (IEC TR 60721-4-3) | |
| Continuous shock | 100 m/s², 16 ms<br>150 m/s², 6 ms | |
| **EMC** | IEC 61496-1, IEC 61000-6-2, IEC 61000-6-4 | |

[1] More detailed data can be found in the operating instructions, chapter "Project planning".

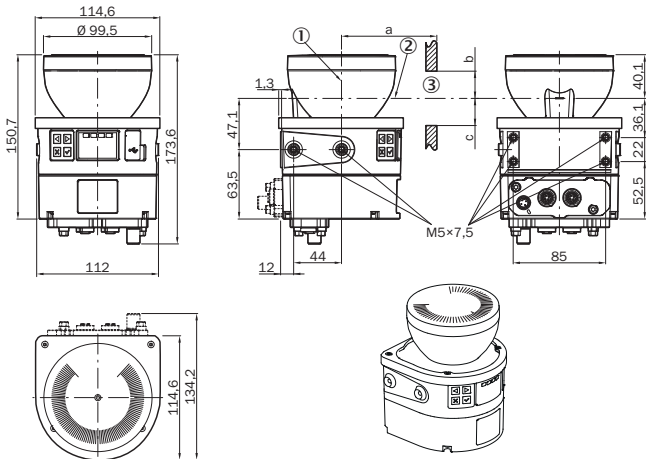## Other information

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

## Classifications

| | |
|---|---|
| **ECLASS 5.0** | 27272705 |
| **ECLASS 5.1.4** | 27272705 |
| **ECLASS 6.0** | 27272705 |
| **ECLASS 6.2** | 27272705 |
| **ECLASS 7.0** | 27272705 |
| **ECLASS 8.0** | 27272705 |
| **ECLASS 8.1** | 27272705 |
| **ECLASS 9.0** | 27272705 |
| **ECLASS 10.0** | 27272705 |
| **ECLASS 11.0** | 27272705 |
| **ECLASS 12.0** | 27272705 |
| **ETIM 5.0** | EC002550 |
| **ETIM 6.0** | EC002550 |
| **ETIM 7.0** | EC002550 |
| **ETIM 8.0** | EC002550 |
| **UNSPSC 16.0901** | 39121528 |

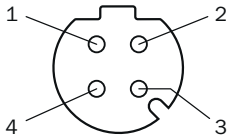## Dimensional drawing (Dimensions in mm (inch))

① Mirror axis of rotation
② Scan plane
③ Required viewing slit (a: length of the viewing slit, b: minimum height above the scan plane, c: minimum height below the scan plane. See the operating instructions for details.)
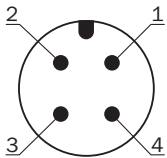
## Pinouts

Ethernet (XF1, XF2)

| Pin | Designation | Description |
|---|---|---|
| 1 | TX+ | Send data + |
| 2 | RX+ | Receive data + |
| 3 | TX- | Send data - |
| 4 | RX- | Receive data - |
| Thread | SH | Shielding |
| For details see operating instructions | | |

Voltage supply (XD1)

| Pin | Designation | Description |
|---|---|---|
| 1 | +24 V DC | Supply voltage +24 V DC |
| 2 | n.c. | Not connected |
| 3 | 0 V DC | Supply voltage 0 V DC |
| 4 | FE | Functional earth/shielding |
| For details see operating instructions | | |

## Recommended accessories

Other models and accessories ➜ www.sick.com/outdoorScan3

| | Brief description | Type | Part no. |
|---|---|---|---|
| **Device protection (mechanical)** | | | |
| | 1 piece, Splash guard, only in conjunction with mounting kit 3 (2103049) | Splash guard | 2123205 |
| | 1 piece, weather hood (only in conjunction with mounting kit 3) | Weather hood | 2103050 |
| **Mounting brackets and plates** | | | |
| | 1 piece, mounting bracket with protection of optics hood, Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A | 1b mounting kit | 2074242 |
| | 1 piece, mounting bracket, Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A | Mounting kit 1a | 2073851 |
| | 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 |
| | 1 piece, Alignment bracket with protection for the optics cover, alignment with cross-wise axis and depth axis possible | Mounting kit 3 | 2103049 |
| **Other mounting accessories** | | | |
| | For loosening and tightening M12 plug connectors to the system plug with defined torque (0,4 Nm) | Torque screwdriver with attachment for M12 plug connector | 2081618 |
| **Others** | | | |
| | • **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 2 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, shielded<br>• **Application:** Zones with oils and lubricants, Outdoor, seawater resistant, cold bending resistant | YG2A64-020UE1XLEAX | 2108122 |
| | • **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 10 m, 4-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, shielded<br>• **Application:** Zones with oils and lubricants, Outdoor, seawater resistant, cold bending resistant | YG2A64-100UE1XLEAX | 2108123 |

| | Brief description | Type | Part no. |
|---|---|---|---|
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** PROFINET<br>• **Cable:** 2 m, 4-wire, CAT5, PUR<br>• **Description:** PROFINET, shielded<br>• **Application:** Zones with oils and lubricants, Outdoor, seawater resistant, cold bending resistant | YN2D34-020PN4MRJA4 | 2108116 |
|  | • **Connection type head A:** Male connector, M12, 4-pin, angled, D-coded<br>• **Connection type head B:** Male connector, RJ45, 4-pin, straight<br>• **Signal type:** Ethernet<br>• **Cable:** 10 m, 4-wire, CAT5, PUR<br>• **Description:** Ethernet, shielded<br>• **Application:** Zones with oils and lubricants, Outdoor, seawater resistant, cold bending resistant | YN2D34-100PN4MRJA4 | 2108141 |
|  | • **Brief description:** The software visualizes diagnostic and device information from safety laser scanners in real time, helping to identify error causes faster and reduce maintenance time.<br>• **Supported products:** All microScan3 variants (except for microScan3 Core I/O variants), outdoorScan3 Pro - EtherNet/IP<br>• **Version:** 1.0<br>• **Note:** With purchase, you accept the product description available under Downloads > Documentation in connection with the <a href="https://www.sick.com/tools/tac/en/General-Terms-Conditions-Supply-Software-Products-AVB-Software-SICK.pdf" target="_blank">General Terms and Conditions for the Supply of Software Products (AVB Software SICK)</a>., With purchase, you accept the product description available under Downloads > Documentation in connection with the <a href="https://www.sick.com/tools/tac/en/General-Terms-Conditions-Supply-Software-Products-AVB-Software-SICK.pdf" target="_blank">General Terms and Conditions for the Supply of Software Products (AVB Software SICK)</a>. | SOW/VTL-LI007PCWI0 | 1116788 |
|  | • **Connection type head A:** System plug<br>• **Description:** Integrated configuration memory, System connection; voltage supply: 1 x M12 male connector, 4-pin, A-coded, Ethernet: 2 x M12 female connector, 4-pin, D-coded | MICSX-RANNZZZZ1 | 2102812 |

### AGV Dynamic Weather Assist

| | Brief description | Type | Part no. |
|---|---|---|---|
|  | • **Product type:** Software<br>• **Items supplied:** Software (Safety Designer project file with functional logic) as well as operating instructions | SOW/DWA-FX00402010 | 1615375 |

## Recommended services

Additional services ➜ www.sick.com/outdoorScan3

| | Type | Part no. |
|---|---|---|
| **Retrofit and upgrade services** | | |
| • **Product area:** outdoorScan3<br>• **Range of services:** Upgrading the outdoorScan3 with the airWiper, Firmware and hardware updates, Functional testing | outdoorScan3 Upgrade airWiper | 1615642 |

## 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."**

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