



# MICS3-CBUZ40PZ1

outdoorScan3

SAFETY LASER SCANNERS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
MICS3-CBUZ40PZ1	1094473

Other models and accessories → [www.sick.com/outdoorScan3](http://www.sick.com/outdoorScan3)

### Detailed technical data

#### Features

<b>Product version</b>	outdoorScan3 Pro - PROFINET
<b>Model</b>	Sensor without system plug
<b>Application</b>	1) Outdoor
<b>Compressed air cleaning</b>	Not possible
<b>Protective field range</b>	4 m
<b>Warning field range</b>	40 m
<b>Number of simultaneously monitored fields</b>	≤ 8 <sup>2)</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>	50 mm 70 mm
<b>Angular resolution</b>	0.39°
<b>Response time</b>	115 ms
<b>Protective field supplement</b>	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

<b>Type</b>	Type 3 (IEC 61496)
<b>Safety integrity level</b>	SIL 2 (IEC 61508)
<b>Category</b>	Category 3 (EN ISO 13849)

<b>Performance level</b>	PL d (EN ISO 13849)
<b>Performance class SRS/SRSS</b>	Performance class D (IEC/TS 62998)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	8.0 x 10 <sup>-8</sup>
<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>Integrated configuration memory</b>	✓
<b>Measured data output</b>	Via Ethernet

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>	PROFINET
Protocol	PROFIsafe
Supported protocol versions	PROFINET specification V2.3
	PROFIsafe profile in accordance with specification V2.6.1
	PROFIsafe profile in accordance with specification V2.4
GSDML	According to GSDML specification V2.33
Cycle time	1 ms, 2 ms, 4 ms, 8 ms, 16 ms ...
Conformance	Conformance Class C
Network management	SNMP
	MIB-2
	LLDP in accordance with IEEE 802.1AB
	MRP client support
Net load	Net load class III in accordance with security level 1 test
Switch properties	2 port real-time switch compliant with IEEE 802
Port properties	100Base-TX
	Auto-negotiation
	Auto-crossover (MDIX)
	Auto-polarity
Diagnostics	I&M data sets 0 ... 5

Additional services	PROFINET alarms
	PROFenergy
	F_iPar_CRC
	Acyclic read-/write services for communication via TCI
	SNTP (client and server)
<b>Display elements</b>	Graphic color display, LEDs

### Electronics

<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 typical</b>	7.2 W

### Mechanics

<b>Dimensions (W x H x D)</b>	114.6 mm x 150.7 mm x 114.6 mm
<b>Housing material</b>	Aluminum
<b>Housing color</b>	RAL 2004 (pure orange), 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>	Halogen light	12,000 lx (IEC 61496-3)
	Sunlight	40,000 lx (IEC 61496-3)
<b>Ambient operating temperature</b>	-25 °C ... +50 °C	
<b>Storage temperature</b>	-25 °C ... +70 °C	
<b>Ambient conditions</b>	Rain	10 mm/h <sup>1)</sup>
	Snowfall	3 mm/h SWE, Snow Water Equivalent <sup>1)</sup>
	Fog	50 m (MOR, Meteorological Optical Range) <sup>1)</sup>
<b>Vibration resistance</b>	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) 3M4 (IEC TR 60721-4-3)
<b>Shock resistance</b>	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) 3M4 (IEC TR 60721-4-3)
	Continuous shock	100 m/s <sup>2</sup> , 16 ms
		150 m/s <sup>2</sup> , 6 ms
<b>EMC</b>	IEC 61496-1, IEC 61000-6-2, IEC 61000-6-4	

<sup>1)</sup> More detailed data can be found in the operating instructions, chapter "Project planning".

### Other information

<b>Type of light</b>	Pulsed laser diode
<b>Wave length</b>	845 nm

<b>Detectable remission factor</b>	1.8% to several 1000%
<b>Laser class</b>	1 (21 CFR 1040.10 and 1040.11, IEC 60825-1)

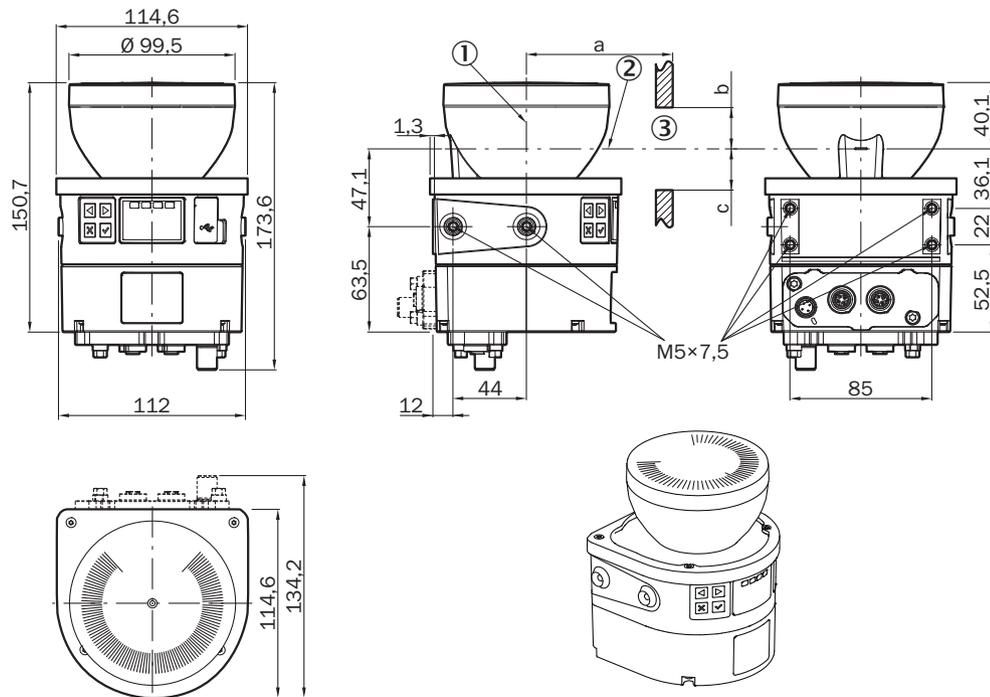
### Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Profinet certificate</b>	✓
<b>PROFIsafe certificate</b>	✓
<b>EC-Type-Examination approval</b>	✓
<b>PROFInergy certificate</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

### Classifications

<b>ECLASS 5.0</b>	27272705
<b>ECLASS 5.1.4</b>	27272705
<b>ECLASS 6.0</b>	27272705
<b>ECLASS 6.2</b>	27272705
<b>ECLASS 7.0</b>	27272705
<b>ECLASS 8.0</b>	27272705
<b>ECLASS 8.1</b>	27272705
<b>ECLASS 9.0</b>	27272705
<b>ECLASS 10.0</b>	27272705
<b>ECLASS 11.0</b>	27272705
<b>ECLASS 12.0</b>	27272705
<b>ETIM 5.0</b>	EC002550
<b>ETIM 6.0</b>	EC002550
<b>ETIM 7.0</b>	EC002550
<b>ETIM 8.0</b>	EC002550
<b>UNSPSC 16.0901</b>	39121528

### Dimensional drawing



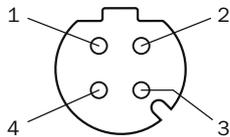
Dimensions in mm (inch)

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.)

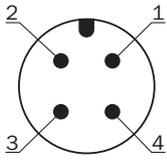
### Pinouts Ethernet (XF1, XF2)



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

Pinouts 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](http://www.sick.com/outdoorScan3)

	Brief description	Type	part no.
<b>Mounting systems</b>			
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A</li> <li><b>Color:</b> RAL 9005 (black)</li> <li><b>Packing unit:</b> 1 piece</li> </ul>	Mounting kit 1a	2073851
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket with protection of optics hood</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A</li> <li><b>Color:</b> RAL 9005 (black)</li> <li><b>Packing unit:</b> 1 piece</li> </ul>	1b mounting kit	2074242
	<ul style="list-style-type: none"> <li><b>Description:</b> 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)</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A</li> <li><b>Color:</b> RAL 9005 (black)</li> <li><b>Packing unit:</b> 1 piece</li> </ul>	Mounting kit 2a	2073852
	<ul style="list-style-type: none"> <li><b>Description:</b> 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)</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A</li> <li><b>Color:</b> RAL 9005 (black)</li> <li><b>Packing unit:</b> 1 piece</li> </ul>	Mounting kit 2b	2074184
	<ul style="list-style-type: none"> <li><b>Description:</b> Alignment bracket with protection for the optics cover, alignment with cross-wise axis and depth axis possible</li> <li><b>Packing unit:</b> 1 piece</li> </ul>	Mounting kit 3	2103049
	<ul style="list-style-type: none"> <li><b>Description:</b> For loosening and tightening M12 plug connectors to the system plug with defined torque (0,4 Nm)</li> </ul>	Torque screwdriver with attachment for M12 plug connector	2081618
<b>device protection and care</b>			
	<ul style="list-style-type: none"> <li><b>Description:</b> Weather hood (only in conjunction with mounting kit 3)</li> </ul>	Weather hood	2103050
	<ul style="list-style-type: none"> <li><b>Description:</b> Splash guard, only in conjunction with mounting kit 3 (2103049)</li> </ul>	Splash guard	2123205

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, cold bending resistant, seawater resistant, cold bending resistant</li> </ul>	YG2A64-020UE1XLEAX	2108122
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 4-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, cold bending resistant, seawater resistant, cold bending resistant</li> </ul>	YG2A64-100UE1XLEAX	2108123
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li>• <b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li>• <b>Signal type:</b> Ethernet, PROFINET</li> <li>• <b>Cable:</b> 2 m, 4-wire, CAT5, PUR, halogen-free</li> <li>• <b>Description:</b> Ethernet, shielded, PROFINET</li> <li>• <b>Application:</b> Cold bending resistant, Outdoor, Zones with oils and lubricants, seawater resistant</li> </ul>	YN2D34-020P-N4MRJA4	2108116
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, angled, D-coded</li> <li>• <b>Connection type head B:</b> Male connector, RJ45, 4-pin, straight</li> <li>• <b>Signal type:</b> Ethernet, PROFINET</li> <li>• <b>Cable:</b> 10 m, 4-wire, CAT5, PUR, halogen-free</li> <li>• <b>Description:</b> Ethernet, shielded, PROFINET</li> <li>• <b>Application:</b> Cold bending resistant, Outdoor, Zones with oils and lubricants, seawater resistant</li> </ul>	YN2D34-100P-N4MRJA4	2108141

## 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)