

MICS3-AAAZ55AZ1P01

microScan3

SAFETY LASER SCANNERS





Ordering information

Туре	part no.
MICS3-AAAZ55AZ1P01	1075843

Other models and accessories → www.sick.com/microScan3

Illustration may differ



Detailed technical data

Features

i catules		
Product version	microScan3 Core I/O	
Model	Sensor including system plug	
Application	Indoor	
Protective field range	5.5 m	
Warning field range	40 m	
Number of simultaneously monitored fields	≤ 4 ^{1) 2)}	
Number of fields	8 ³⁾	
Number of monitoring cases	2	
Scanning angle	275°	
Resolution (can be configured)	30 mm 40 mm 50 mm 70 mm 150 mm 200 mm	
Angular resolution	0.39°	
Response time	70 ms	
Protective field supplement	65 mm	

 $^{^{1)}}$ Protection, warning or contour detection fields.

Safety-related parameters

y	
Туре	Type 3 (IEC 61496)
Safety integrity level	SIL 2 (IEC 61508)
Category	Category 3 (EN ISO 13849)

 $^{^{2)}}$ Please note the number of available OSSD pairs.

 $^{^{}m 3)}$ Please note the number of available inputs and OSSD pairs.

Performance level	PL d (EN ISO 13849)
$\ensuremath{PFH_D}$ (mean probability of a dangerous failure per hour)	8.0 x 10 ⁻⁸
T _M (mission time)	20 years (EN ISO 13849)
Safe state in the event of a fault	At least one OSSD is in the OFF state.

Functions

Restart interlock	✓
External device monitoring (EDM)	✓
Multiple sampling	√
Monitoring case switching	✓
Simultaneous monitoring	✓
Static protective field switching	✓
Safe contour detection	✓
Contour as a reference	✓
Integrated configuration memory	✓
Measured data output	None

Interfaces

Connection type	Male connector, M12, 8 pin, A-coded (common male connector for power supply and inputs and outputs)
Universal I/Os	3
Outputs	
OSSD pairs	1
Configuration method	PC with Safety Designer (Configuration and Diagnostic Software)
Configuration and diagnostics interface	USB 2.0, Mini-USB
Display elements	Graphic color display, LEDs

Electronics

Protection class	III (EN 61140)
Supply voltage $V_{\rm s}$	24 V DC (16.8 V DC 30 V DC)
Power consumption typical	7 W (without output load)

Mechanics

Dimensions (W x H x D)	112 mm x 135.1 mm x 111.1 mm
Weight	1.15 kg
Housing material	Aluminum
Housing color	RAL 1021 (yellow), 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	≤ 40 klx (IEC 61496-3) 1)

 $^{^{(1)}}$ Typical ambient light immunity, for ambient light sources directly in the scan plane in accordance with IEC 61496-3: \leq 3 klx.

Ambient operating temperature		-10 °C +50 °C
Storage temperature		-25 °C +70 °C
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)
		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)	
		3M4 (IEC TR 60721-4-3)
Continuous	shock	100 m/s², 16 ms
		150 m/s², 6 ms
EMC		IEC 61496-1, IEC 61000-6-2, IEC 61000-6-4

 $^{^{1)}}$ Typical ambient light immunity, for ambient light sources directly in the scan plane in accordance with IEC 61496-3: \leq 3 klx.

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)

Certificates

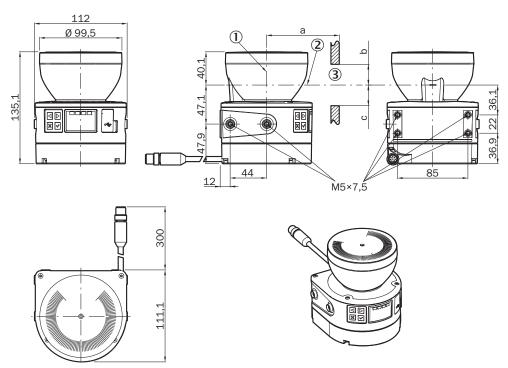
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
S Mark certificate	✓
EC-Type-Examination approval	✓
China GB certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

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

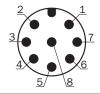
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC 16.0901	39121528

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.)

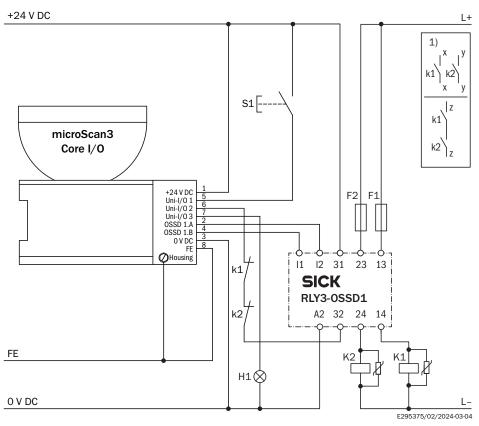
Pinouts



Pin	Designation	Description
1	+24 V DC	Supply voltage +24 V DC
2	OSSD 1.A	OSSD pair 1, OSSD A
3	0 V DC	Supply voltage 0 V DC
4	OSSD 1.B	OSSD pair 1, OSSD B

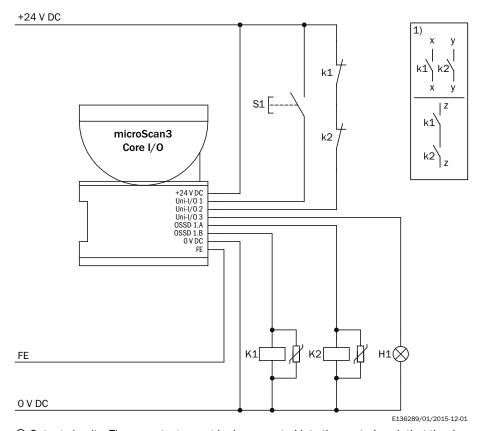
Pin	Designation	Description
5	Uni-I/0 01	Universal I/O 1, configurable
6	Uni-I/0 02	Universal I/O 2, configurable
7	Uni-I/0 03	Universal I/O 3, configurable
8	FE	Functional earth/shielding
	For details see operating instructions	

Connection diagram microScan3 Core I/O with restart interlock and external device monitoring at RLY3-OSSD1 safety relay



① Output circuits: These contacts must be incorporated into the control such that the dangerous state is brought to an end if the output circuit is open. For categories 4 and 3, they must be incorporated on dual-channels (x, y paths). Single-channel incorporation into the control (z path) is only possible with a single-channel control and taking the risk analysis into account.

Connection diagram microScan3 Core I/O with restart interlock and external device monitoring



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Recommended accessories

Other models and accessories → www.sick.com/microScan3

	Brief description	Туре	part no.	
Mounting syst	Mounting systems			
	 Description: Mounting bracket, heavy-duty version, with protection cover, for floor mounting, height adjustment possible from 90 310 mm, scanner tilt angle: ± 5°. Additional mounting brackets are not required. Dimensions (W x H x L): 200 mm x 366 mm x 269 mm Material: Steel Details: Steel, painted (RAL 1021) Color: RAL 1021 (yellow) Packing unit: 1 piece 	Heavy-duty mounting kit for floor mounting	2102289	
	 Description: Mounting bracket with protection of optics hood Material: Stainless steel Details: Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A Color: RAL 9005 (black) Packing unit: 1 piece 	1b mounting kit	2074242	
1	 Description: Mounting bracket Material: Stainless steel Details: Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A Color: RAL 9005 (black) Packing unit: 1 piece 	Mounting kit 1a	2073851	
	Description: 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) Material: Stainless steel Details: Stainless steel V2A (1.4301), powder-coated IGP-DURA face 5803A Color: RAL 9005 (black) Packing unit: 1 piece	Mounting kit 2a	2073852	
	Description: Mounting bracket 150 mm for floor mounting of microScan3 Material: Stainless steel Details: Stainless steel Color: Uncoated Packing unit: 1 piece Items supplied: Bracket and 4 x M5 screws for attaching the microScan3	Mounting brack- et 150 mm for floor mounting of microScan3	2112950	
	 Description: Mounting bracket 300 mm for floor mounting of microScan3 Material: Stainless steel Details: Stainless steel Color: Uncoated Packing unit: 1 piece Items supplied: Bracket and 4 x M5 screws for attaching the microScan3 	Mounting brack- et 300 mm for floor mounting of microScan3	2112951	

	Brief description	Туре	part no.
connectors and cables			
	 Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Application: Zones with oils and lubricants, Drag chain operation 	DOL-1208G02MD25KM:	2079314
	 Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Application: Zones with oils and lubricants, Drag chain operation 	DOL-1208G05MD25KM:	2079315
	 Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Application: Zones with oils and lubricants, Drag chain operation 	DOL-1208G10MD25KM:	2079316
	 Connection type head A: Male connector, USB-A, straight Connection type head B: Male connector, Mini-USB, straight Signal type: USB Cable: 3 m, 4-wire Description: USB, shielded Note: For connecting the configuration connection to the USB interface on the PC 	Connection ca- ble (male connec- tor-male connector)	6042517
	Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 20 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Application: Zones with oils and lubricants, Drag chain operation	DOL-1208G20MD25KM:	2092105
	 Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 30 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Application: Zones with oils and lubricants, Drag chain operation 	DOL-1208G30MD25KM:	2092106
	Connection type head A: Male connector, USB-A, straight Connection type head B: Male connector, Mini-USB, straight Signal type: USB Cable: 5 m, 4-wire Description: USB, shielded Note: For connecting the configuration connection to the USB interface on the PC	Connection ca- ble (male connec- tor-male connector)	6053566

SICK AT A GLANCE

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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.

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For us, that is "Sensor Intelligence."

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