



MICS3-AAAZ90AZ1P01

microScan3

SAFETY LASER SCANNERS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
MICS3-AAAZ90AZ1P01	1089492

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

Detailed technical data

Features

Product version	microScan3 Core I/O
Model	Sensor including system plug
Application	Indoor
Protective field range	9 m
Warning field range	64 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 60 mm 70 mm 150 mm 200 mm
Angular resolution	0.1°
Response time	90 ms
Protective field supplement	100 mm

¹⁾ Protection, warning or contour detection fields.

²⁾ Please note the number of available OSSD pairs.

³⁾ Please note the number of available inputs and OSSD pairs.

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)
PFH_D (mean probability of a dangerous failure per hour)	8.0×10^{-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	1
OSSD pairs	
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_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)
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¹⁾ Typical ambient light immunity, for ambient light sources directly in the scan plane in accordance with IEC 61496-3: ≤ 3 klx.

Ambient light immunity	≤ 40 klx (IEC 61496-3) ¹⁾
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/s ² , 16 ms
	150 m/s ² , 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: ≤ 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

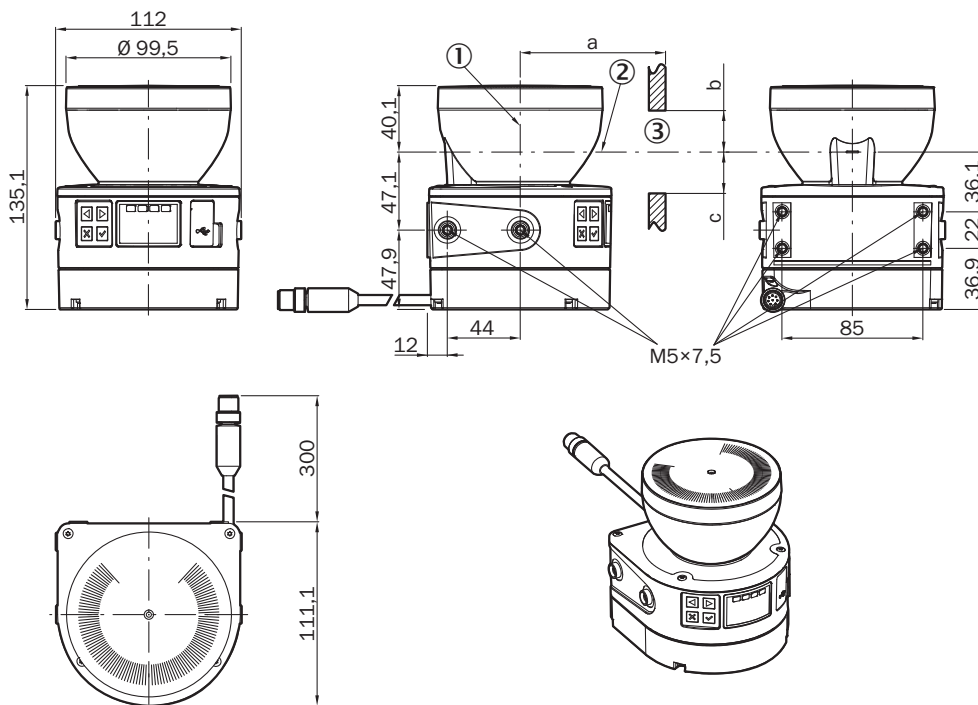
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
S Mark certificate	✓
EC-Type-Examination approval	✓
China GB certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

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

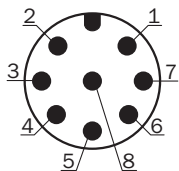
Dimensional drawing



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

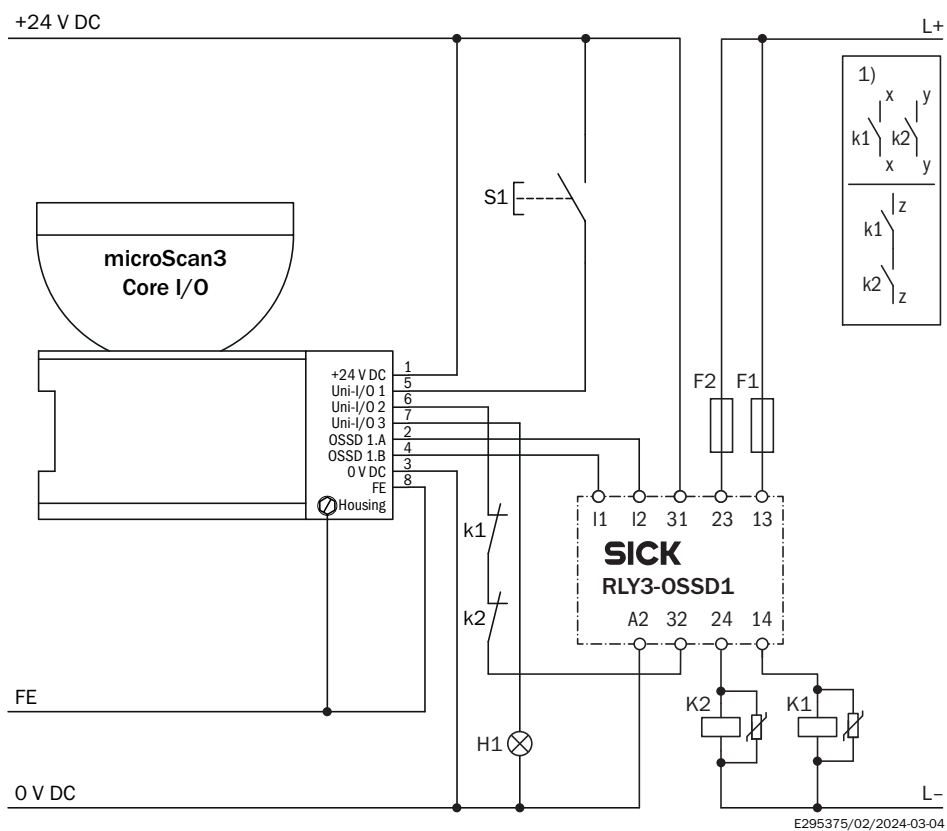


Pin	Designation	Description
1	+24 V DC	Supply voltage +24 V DC
2	OSSD 1.A	OSSD pair 1, OSSD A
3	0 V DC	Supply voltage 0 V DC

Pin	Designation	Description
4	OSSD 1.B	OSSD pair 1, OSSD B
5	Uni-I/O 01	Universal I/O 1, configurable
6	Uni-I/O 02	Universal I/O 2, configurable
7	Uni-I/O 03	Universal I/O 3, configurable
8	FE	Functional earth/shielding

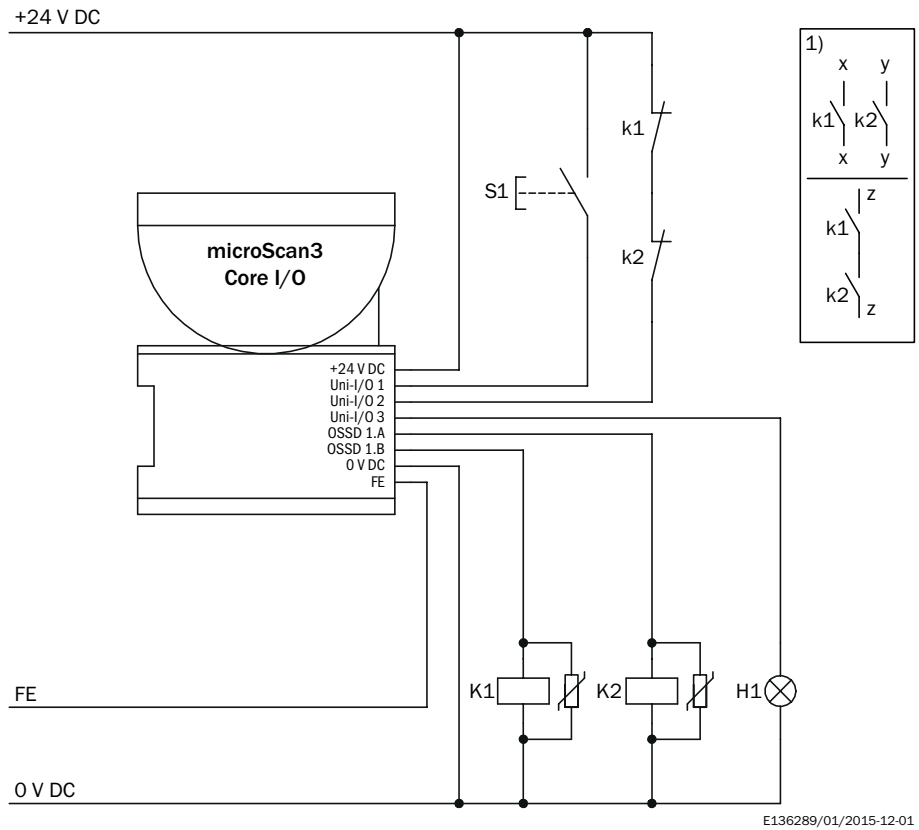
For details see operating instructions

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
















E136289/01/2015-12-01

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Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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 bracket 150 mm for floor mounting of microScan3	2112950
	<ul style="list-style-type: none"> 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 bracket 300 mm for floor mounting of microScan3	2112951

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • 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 • Connection systems: Flying leads • Application: Drag chain operation, Zones with oils and lubricants 	DOL-1208G02MD25KM:	2079314
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • 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 • Connection systems: Flying leads • Application: Drag chain operation, Zones with oils and lubricants 	DOL-1208G05MD25KM:	2079315
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • 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 • Connection systems: Flying leads • Application: Drag chain operation, Zones with oils and lubricants 	DOL-1208G10MD25KM:	2079316
	<ul style="list-style-type: none"> • Description: USB, shielded • 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 • Note: For connecting the configuration connection to the USB interface on the PC 	Connection ca- ble (male connec- tor-male connector)	6042517
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • 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 • Connection systems: Flying leads • Application: Drag chain operation, Zones with oils and lubricants 	DOL-1208G20MD25KM:	2092105
	<ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • 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 • Connection systems: Flying leads • Application: Drag chain operation, Zones with oils and lubricants 	DOL-1208G30MD25KM:	2092106
	<ul style="list-style-type: none"> • Description: USB, shielded • 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 • 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

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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