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DATA SHEET

MICS3-AAAZ55AZ1P01

microScan3
Safety laser scanners

SICK Sensor Intelligence



Illustration may differ

SAFETY LASER SCANNERS

MICS3-AAAZ55AZ1P01

ORDERING INFORMATION

Type	part no.
MICS3-AAAZ55AZ1P01	1075843

Further device versions and accessories at www.sick.com/microScan3

DETAILED TECHNICAL DATA

FEATURES

Product version	microScan3 Core I/O
Model	Sensor (1067875) including system plug (2073156)
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.

[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	
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_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]
Ambient operating temperature	–10 °C ... +50 °C

[1] Typical ambient light immunity, for ambient light sources directly in the scan plane in accordance with IEC 61496-3: ≤ 3 klx.

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: ≤ 3 klx.

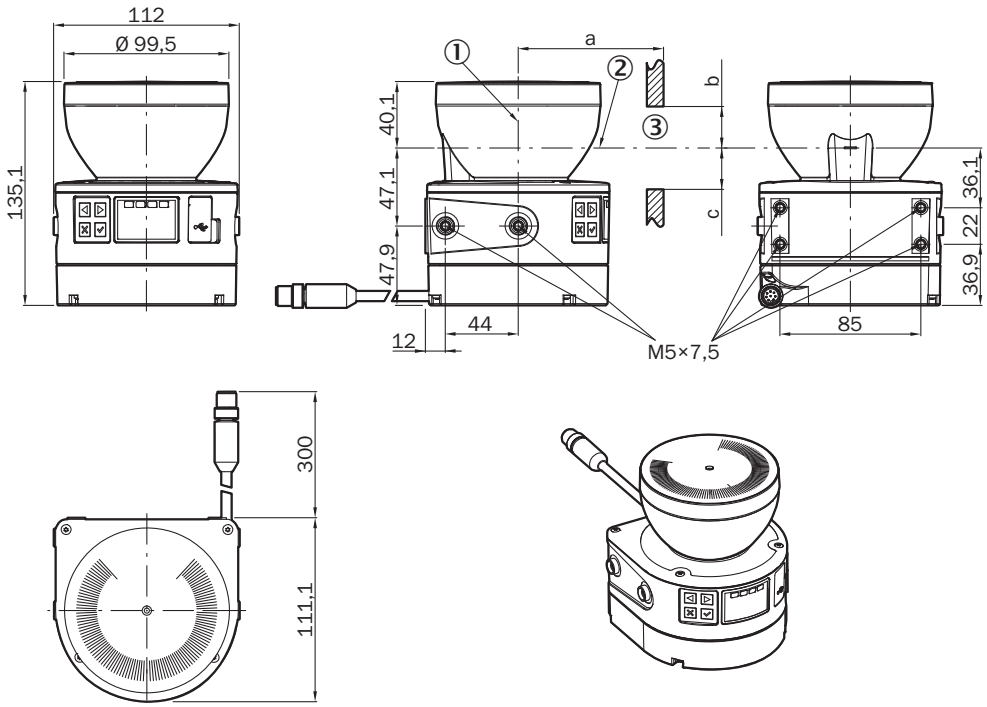
OTHER INFORMATION

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

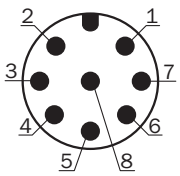
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
S Mark certificate	✓
EC-Type-Examination approval	✓
China GB certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING



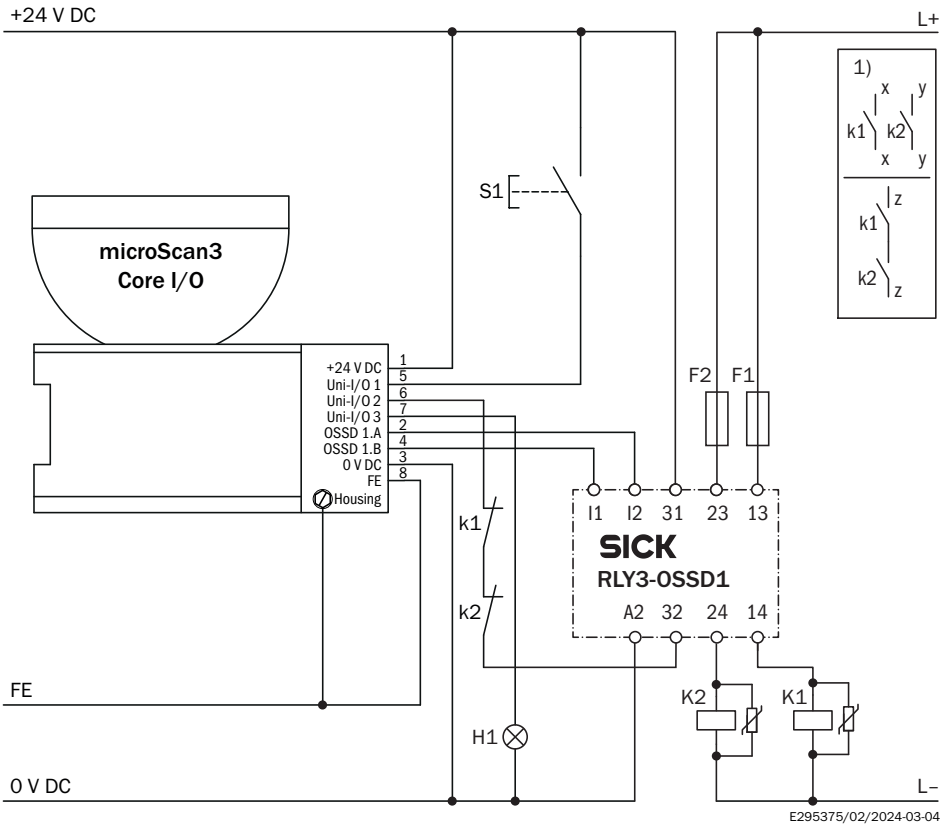
Dimensions in mm (inch)
① mirror axis of rotation
② scan plane
③ required viewing slit (a: length of the viewing slit, b: minimum height above the scan plane, c: minimum height below the scan plane. See the operating instructions for details.)

PINOUTS



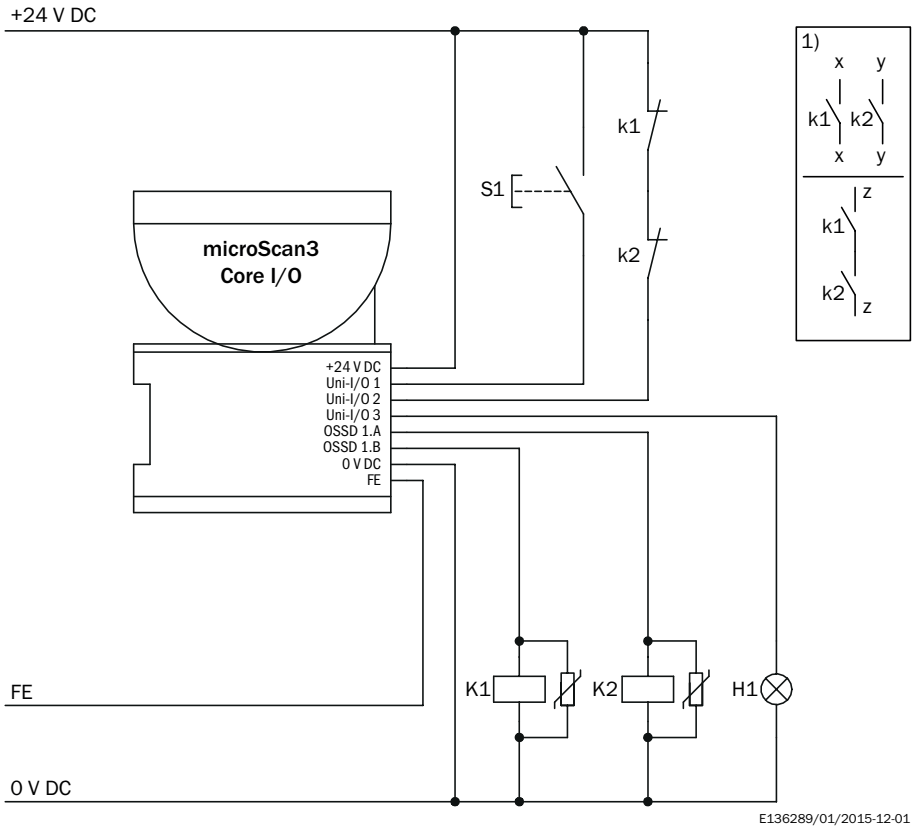
Pin	Designation	Description
1	+24 V DC	Supply voltage +24 V DC
2	OSSD 1.A	OSSD pair 1, OSSD A
3	0 V DC	Supply voltage 0 V DC
4	OSSD 1.B	OSSD pair 1, OSSD B
5	Uni-I/O 01	Universal I/O 1, configurable
6	Uni-I/O 02	Universal I/O 2, configurable
7	Uni-I/O 03	Universal I/O 3, configurable
8	FE	Functional 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



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.

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1075843

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SICK AT A GLANCE

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