



MICS3-CCAZ90PZ1

microScan3

SAFETY LASER SCANNERS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
MICS3-CCAZ90PZ1	1100393

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

Detailed technical data

Features

Product version	microScan3 Pro - PROFINET
Model	Sensor without system plug
Application	Indoor
Protective field range	9 m
Warning field range	64 m
Collision protection field range	19 m (on reference target)
Number of simultaneously monitored fields	≤ 4 ¹⁾
Number of fields	128
Number of monitoring cases	128
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	115 ms
Protective field supplement	100 mm

¹⁾ Protection, warning or contour detection fields.

Safety-related parameters

Type	Type 3 (IEC 61496)
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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 x 10 ⁻⁸
Conformities	Conformance Class C
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	✓
Collision protection field	✓
Safe contour detection	✓
Contour as a reference	✓
Integrated configuration memory	✓
Measured data output	Via Ethernet

Interfaces

Connection type	
Voltage supply	1 x male connector, M12, 5-pin, L-coded
Fieldbus, industrial network	2 x female connector, RJ45 for push-pull male connector (copper)
Outputs	
OSSD pairs	0
Safety outputs via network	4
Configuration method	PC with Safety Designer (Configuration and Diagnostic Software)
Configuration and diagnostics interface	USB 2.0, Mini-USB, Ethernet
Fieldbus, industrial network	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
		PROFINET alarms
	Additional services	PROFenergy
		F_iPar_CRC
		Acyclic read-/write services for communication via TCI
	Additional interfaces	SNTP (client and server)
TCP/IP communication via port 9000		
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	7.2 W

Mechanics

Dimensions (W x H x D)	112 mm x 163.1 mm x 111.1 mm
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	
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)

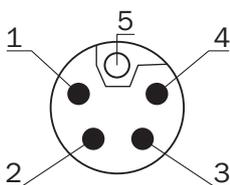
Classifications

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

Certificates

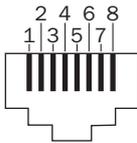
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Profinet certificate	✓
PROFIsafe certificate	✓
EC-Type-Examination approval	✓
China GB certificate	✓
PROFInergy certificate	✓
Information according to Art. 3 of Data Act (Regulation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

Pinouts Voltage supply



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	n.c.	Not connected
5	FE	Functional earth/shielding
For details see operating instructions		

Pinouts Ethernet



Pin	Designation	Description
1	TX+	Send data +
2	TX-	Send data -
3	RX+	Receive data +
4	-	Reserved
5	-	Reserved
6	RX-	Receive data -
7	-	Reserved
8	-	Reserved
Housing	SH	Shielding
For details see operating instructions		

Recommended accessories

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

Brief description	Type	part no.
system plugs and extension modules		
 <ul style="list-style-type: none"> Description: Integrated configuration memory, System connection: voltage supply: 1 x M12 male connector, 5-pin, L-coded; EtherNet: 2 x RJ45 female connector for push-pull male connector (copper) 	MICSX-CPNNZZZ1	2087905

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, L-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2L15-020UH1XLEAX	2099599
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, L-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2L15-100UH1XLEAX	2099627
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight, L-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 20 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2L15-200UH1XLEAX	2099628
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: $\pm 5^\circ$. 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
	<ul style="list-style-type: none"> • Description: 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) • 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 2b	2074184

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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.

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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