Data sheet

S30A-7021EK

S3000 Anti Collision

SAFETY LASER SCANNERS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
S30A-7021EK	1071544

Other models and accessories ➜ www.sick.com/S3000_Anti_Collision

Detailed technical data

Features

Usage	Can only be used in the EFI system network, e.g., with a Flexi Soft safety controller
Application	Indoor
Protective field range	7 m
Collision protection field range	15 m (on reference target) [1]
Distance measuring range	49 m
Number of simultaneously monitored protective fields	2 [1]
Type of field set	Triple field sets, dual field sets
Number of field sets	16 [2]
Number of fields	32
Number of monitoring cases	32
Scanning angle	190°
Resolution (can be configured)	30 mm, 40 mm, 50 mm, 70 mm, 150 mm
Angular resolution	0.25°
Response time	120 ms [3]
Protective field supplement	100 mm
Number of multiple samplings	2 ... 16, configurable
Delay of automatic reset	2 s ... 60 s, configurable

[1] The shut-off signals must be connected to safe outputs on a Flexi Soft safety controller or routed via a safe EFI gateway.
[2] In dual field mode 16, in triple field mode 10 field sets.
[3] Depending on basic response time and multiple sampling.

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	✓
Dynamic protective field switching	✓
Collision protection field	✓
Integrated configuration memory	✓
Measured data output	Expanded (CMS), via RS-422
Safe SICK device communication via EFI	✓

Interfaces

Connection type	System plug with or without connecting cable
Inputs	
External device monitoring (EDM)	1
Reset/restart	1
Static control inputs with EFI	5 [1]
Outputs	
OSSD pairs	1
Application diagnostic outputs	3 [2]
Configuration method	PC with CDS (Configuration and Diagnostic Software)
Configuration and diagnostics interface	RS-232
Transmission rate	9.6 kBaud, 19.2 kBaud, 38.4 kBaud
Data interface	RS-422
Transmission rate	≤ 500 kBaud
Safe SICK device communication via EFI	
Transmission rate	≤ 500 kBaud
Length of cable	≤ 50 m
Conductor cross section	0.34 mm²

[1] Can only be used in the EFI system network, e.g., with a Flexi Soft safety controller.
[2] Freely programmable, e.g. warning field, contamination, reset required.

Electronics

Protection class	II (EN 50178)
Supply voltage V_s	24 V DC (16.8 V DC ... 28.8 V DC)
Power consumption	0.8 A [1] 2.3 A [2]
Outputs	
Output signal switching devices (OSSDs)	2 x 500 mA
Application diagnostic outputs	3 x 100 mA [3]

[1] At 24 V DC without output load.
[2] At 24 V DC including maximum output load.
[3] Freely programmable, e.g. warning field, contamination, reset required.

Mechanics

Dimensions (W x H x D)	155 mm x 185 mm x 160 mm
Weight	3.3 kg
Housing material	Aluminum die cast
Housing color	RAL 1021 (yellow)
Front screen material	Polycarbonate
Front screen surface finish	Outside with scratch-resistant coating

Ambient data

Enclosure rating	IP65 (EN 60529)
Ambient operating temperature	–10 °C ... +50 °C
Storage temperature	–25 °C ... +50 °C
Vibration resistance	IEC 60068-2-6, IEC 60068-2-64, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3
Class	5M1 (IEC 60721-3-5)
Shock resistance	IEC 60068-2-27, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3
Class	5M1 (IEC 60721-3-5)
Continuous shock	50 m/s², 11 ms
	100 m/s², 16 ms

Other information

Type of light	Pulsed laser diode
Wave length	905 nm
Detectable remission factor	1.8 % ... > 1,000 %, reflectors
Laser class	1 (21 CFR 1040.10 and 1040.11, IEC 60825-1)

Certificates

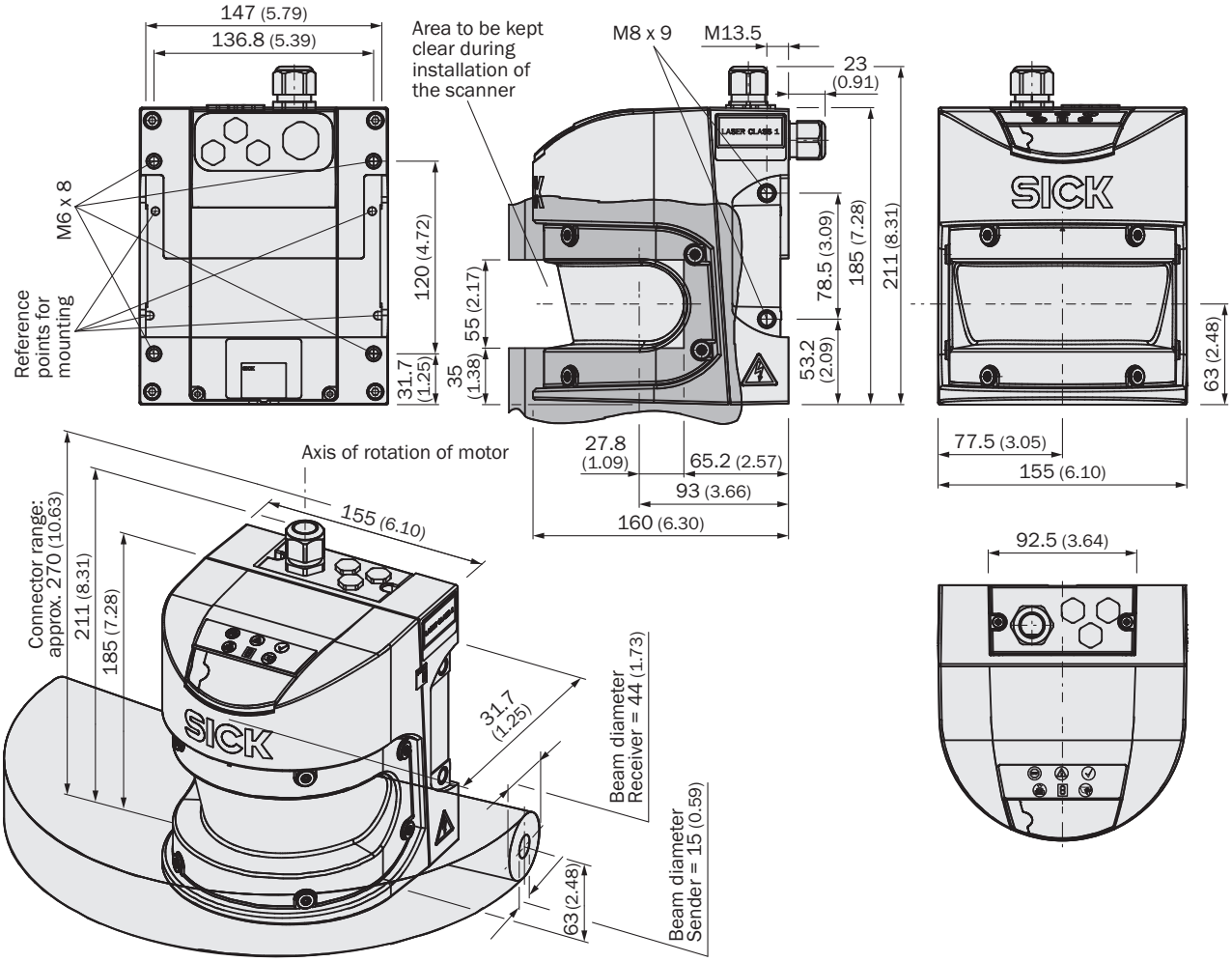
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
EC-Type-Examination approval	✓
China GB certificate	✓

Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

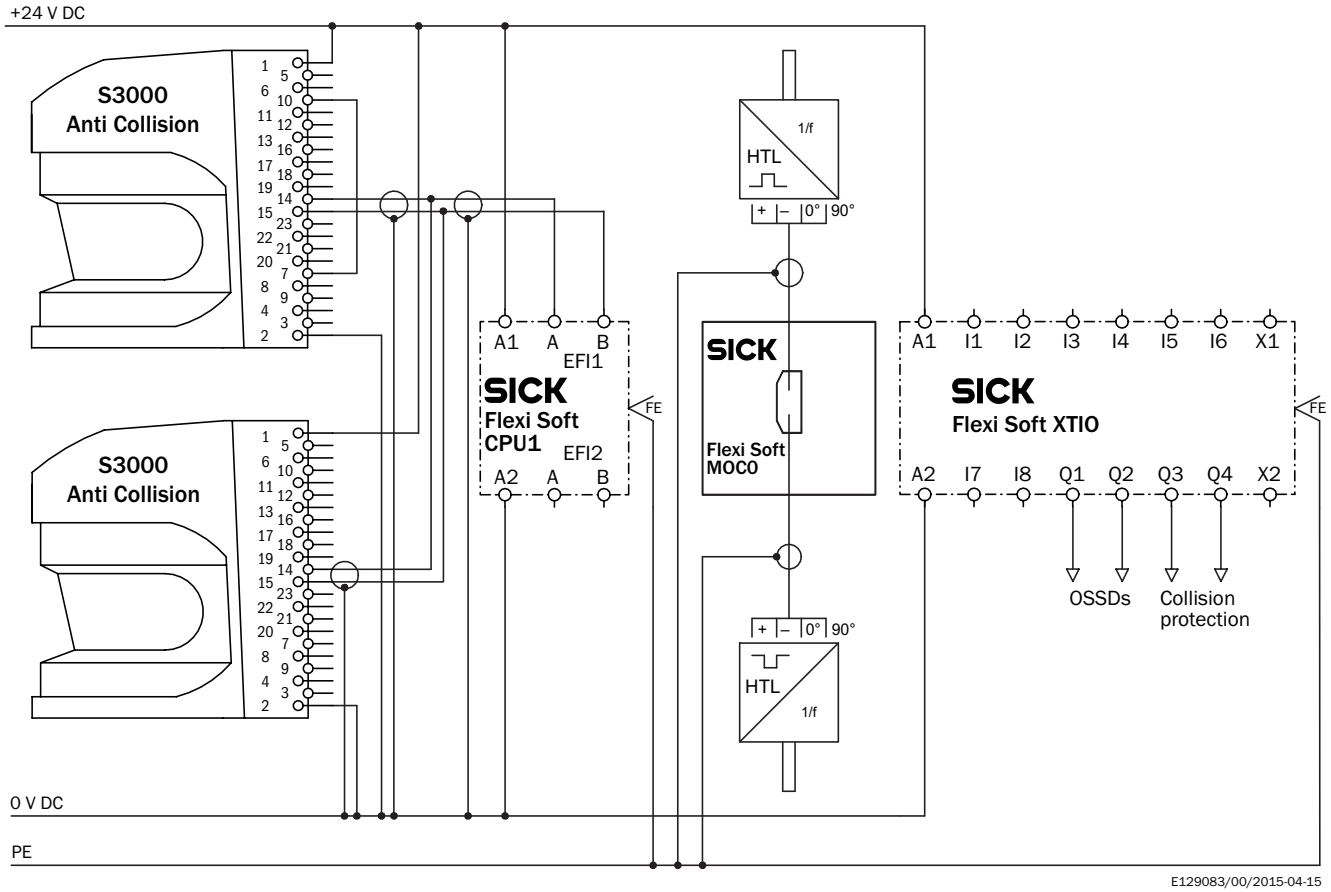
ECLASS 5.0	27272705
ECLASS 5.1.4	27272705
ECLASS 6.0	27272705
ECLASS 6.2	27272705
ECLASS 7.0	27272705
ECLASS 8.0	27272705
ECLASS 8.1	27272705
ECLASS 9.0	27272705
ECLASS 10.0	27272705
ECLASS 11.0	27272705
ECLASS 12.0	27272705
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC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

Dimensional drawing

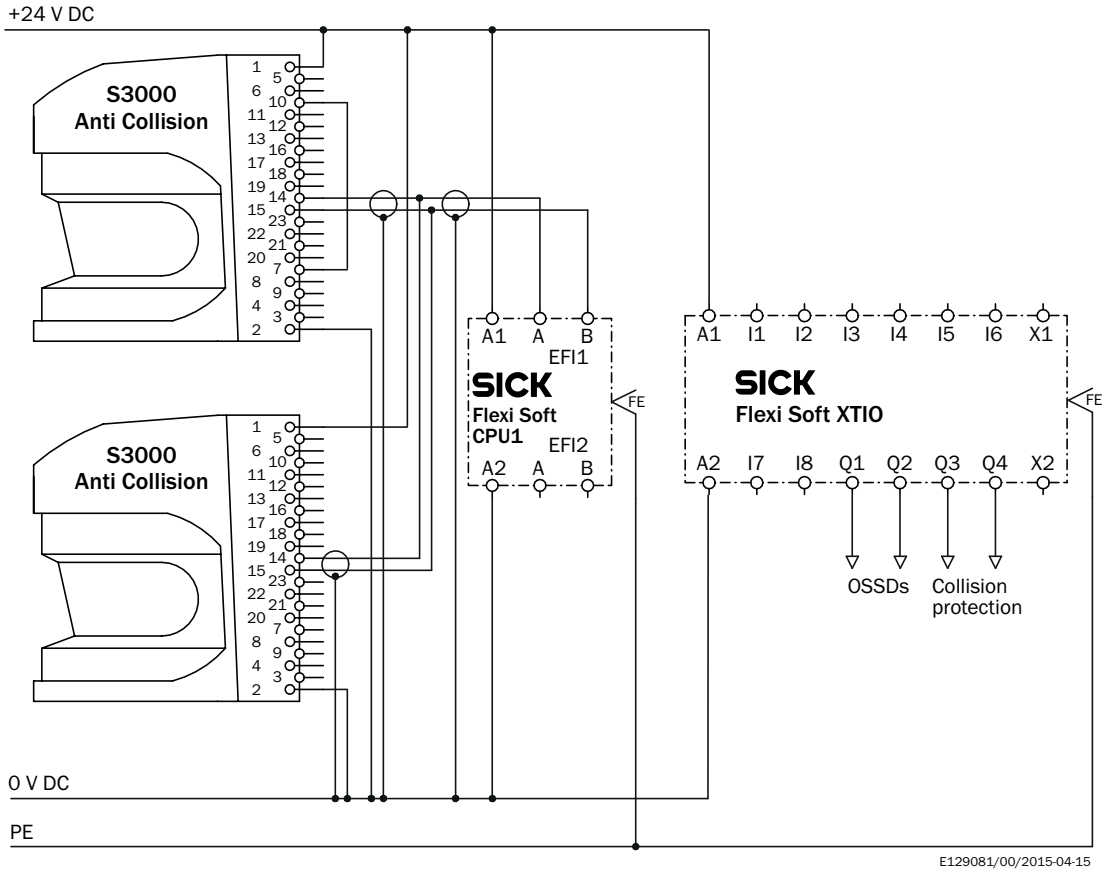


Dimensions in mm (inch)

Connection diagram Host-Guest network with two S3000 Anti Collision and Flexi Soft modular safety controller with Flexi Soft Drive Monitor



Connection diagram Host-Guest network with two S3000 Anti Collision and Flexi Soft modular safety controller



Recommended accessories

Other models and accessories ➜ www.sick.com/S3000_Anti_Collision

	Brief description	Type	part no.
Commissioning aids and test equipment			
	• **Product:** Test equipment • **Description:** For aligning the reference target and setting up the collision protection function	Test equipment for collision protection	2078657

	Brief description	Type	part no.
reflectors and optics			
	• **Description:** 6 pieces reflective tape, standard, 100 mm x 100 mm	Reference target for collision protection	2078643
	• **Description:** 20 pieces reflective tape, standard, 100 mm x 100 mm	Reference target for collision protection	2082134
Safety controllers			
		FX3-CPU130002	1043784
		FX3-XTI084002	1044125

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Visor for heavy duty mounting kit (2080350) • **Material:** Steel • **Details:** Steel, painted (RAL 1021) • **Packing unit:** 1 piece	Heavy duty sight	2083733
	• **Description:** Mounting bracket, heavy-duty version, with protection cover, for floor mounting, adjustable longitudinal and lateral axes via alignment plate, height adjustment possible. Tilt angle ± 5°. Additional mounting brackets are not required. • **Material:** Steel • **Details:** Steel, painted (RAL 1021) • **Color:** RAL 1021 (yellow) • **Packing unit:** 1 piece	Heavy-duty mounting kit	2080350
	• **Description:** Mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable • **Material:** Aluminum • **Details:** Aluminum • **Packing unit:** 1 piece	Mounting kit 1	2015623
	• **Description:** Mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623) • **Material:** Aluminum • **Details:** Aluminum • **Packing unit:** 1 piece	Mounting kit 2	2015624
	• **Description:** Mounting bracket for rear mounting on wall, floor, or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623) and 2 (2015624) • **Material:** Aluminum • **Details:** Aluminum • **Packing unit:** 1 piece	Mounting kit 3	2015625
connectors and cables			
	• **Connection type head A:** Male connector, M8, 4-pin, straight • **Connection type head B:** Male connector, USB-A, straight • **Cable:** 10 m, 4-wire, PVC • **Description:** Unshielded	DSL-8U04G10M025KM1	6034575
	• **Connection type head A:** Male connector, M8, 4-pin, straight • **Connection type head B:** Male connector, USB-A, straight • **Cable:** 2 m, 4-wire, PVC • **Description:** Unshielded	DSL-8U04G02M025KM1	6034574
	• **Connection type head A:** Flying leads • **Connection type head B:** Flying leads • **Items supplied:** By the meter • **Cable:** 2-wire, twisted pair, 120 Ohm, PVC • **Description:** Shielded • **Note:** Fitting for EFI connections	EFI connecting cable	6029448

	Brief description	Type	part no.
system plugs and extension modules			
	• **Description:** Without cable, For S3000 Standard, Advanced, Remote, Professional and ExpertNot for use of incremental encoders, integrated configuration storage	SX0A-A0000B	2023797
	• **Cable:** 5 m, 9-wire, PVC • **Description:** Pre-assembled, unshielded, For S3000 Standard and RemoteNot for use of incremental encoders, integrated configuration storage • **Connection systems:** Flying leads	SX0A-B0905B	2027170
	• **Cable:** 5 m, 9-wire, PVC • **Description:** Pre-assembled, cable connection at the rear, unshielded, For S3000 Standard and RemoteNot for use of incremental encoders, integrated configuration storage • **Connection systems:** Flying leads	SX0A-B0905G	2049222
	• **Cable:** 10 m, 9-wire, PVC • **Description:** Pre-assembled, unshielded, For S3000 Standard and RemoteNot for use of incremental encoders, integrated configuration storage • **Connection systems:** Flying leads	SX0A-B0910B	2027171
	• **Cable:** 20 m, 9-wire, PVC • **Description:** Pre-assembled, unshielded, For S3000 Standard and RemoteNot for use of incremental encoders, integrated configuration storage • **Connection systems:** Flying leads	SX0A-B0920B	2027814

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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Contacts and other locations –www.sick.com

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