SICK.COM

DATA SHEET

S30A-7021EK

S3000 Anti Collision
Safety laser scanners

SICK Sensor Intelligence

Illustration may differ

SAFETY LASER SCANNERS

S30A-7021EK

ORDERING INFORMATION

Type	part no.
S30A-7021EK	1071544

Further device versions and accessories at 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]

[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.

	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

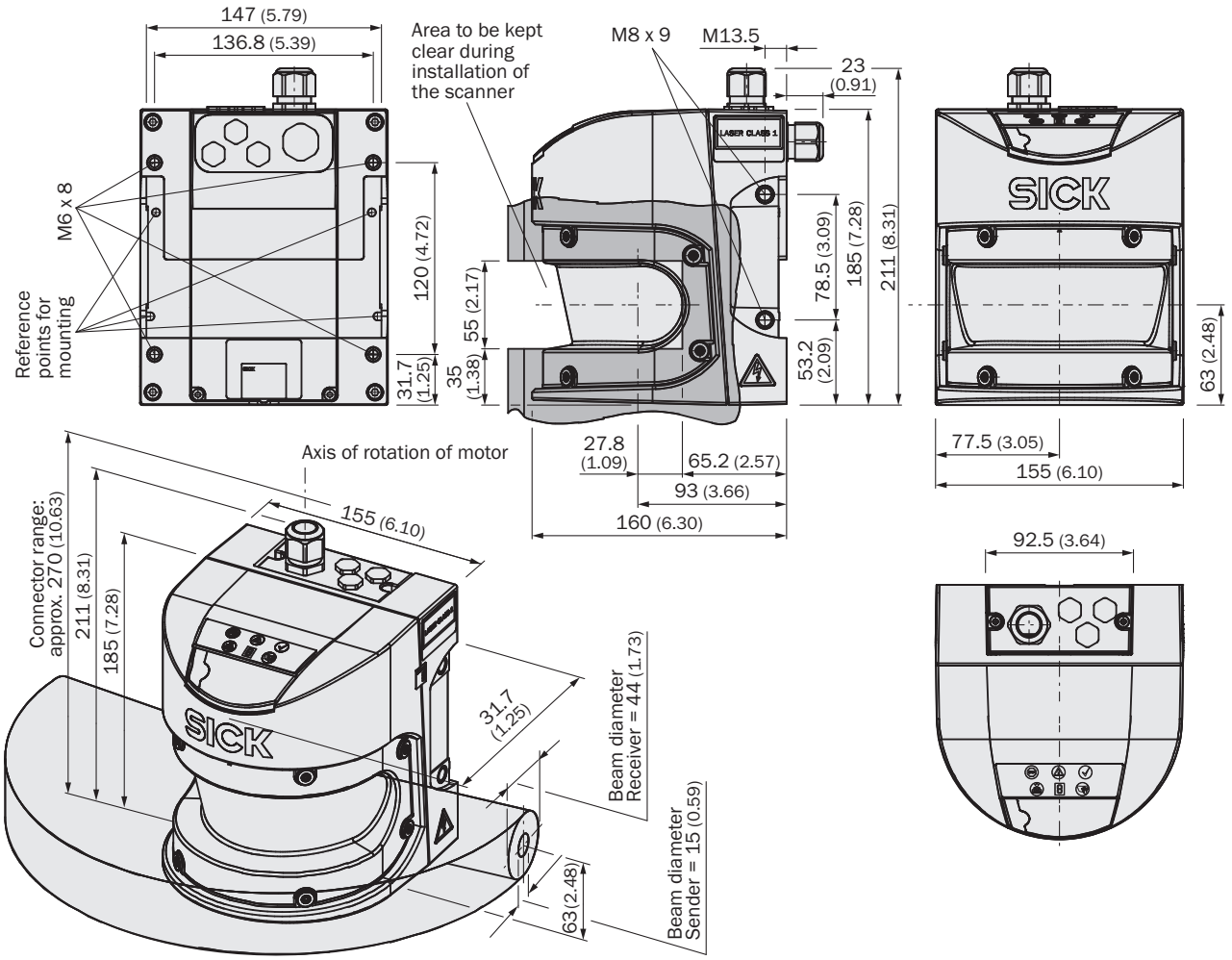
OTHER INFORMATION

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

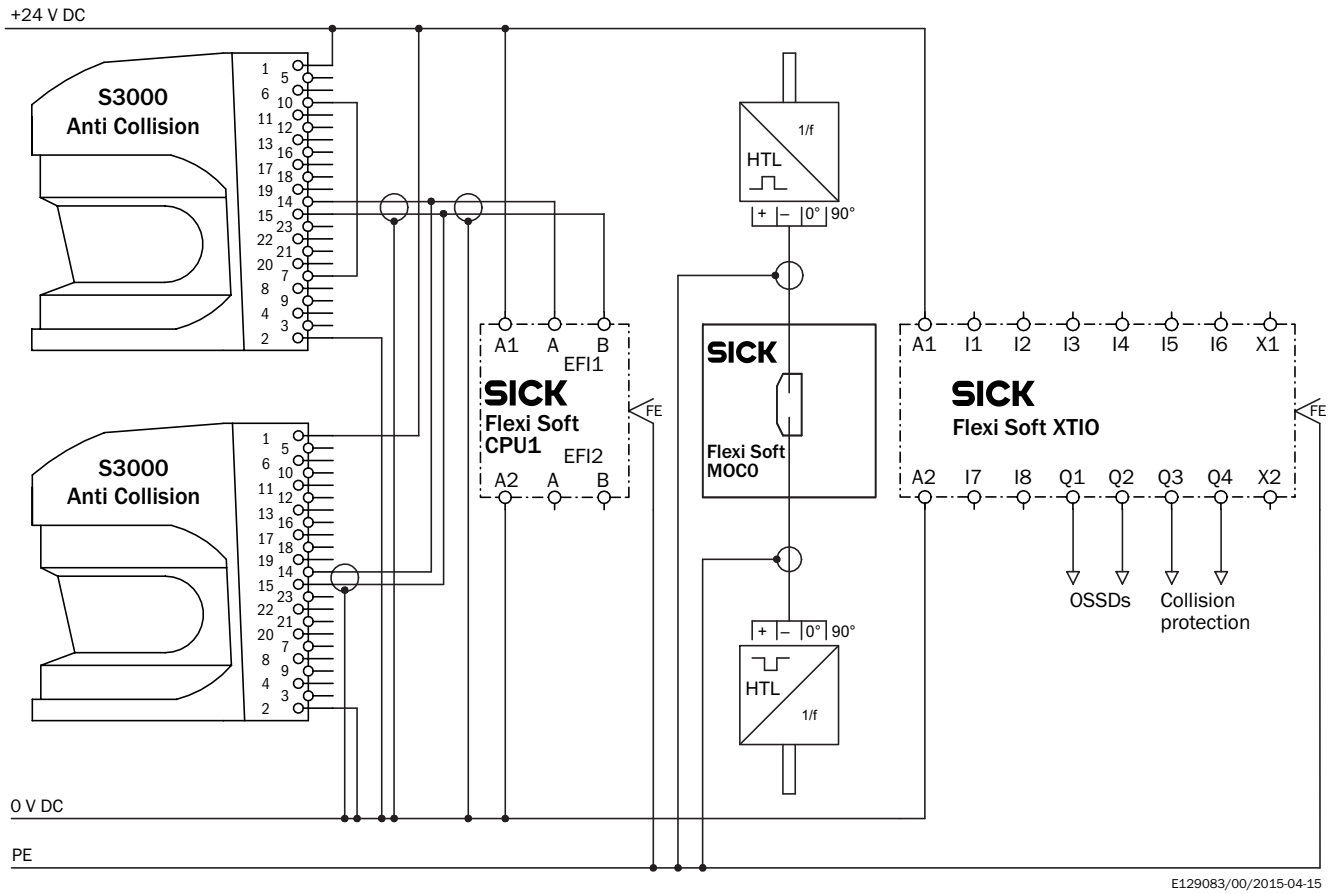
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
EC-Type-Examination approval	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING

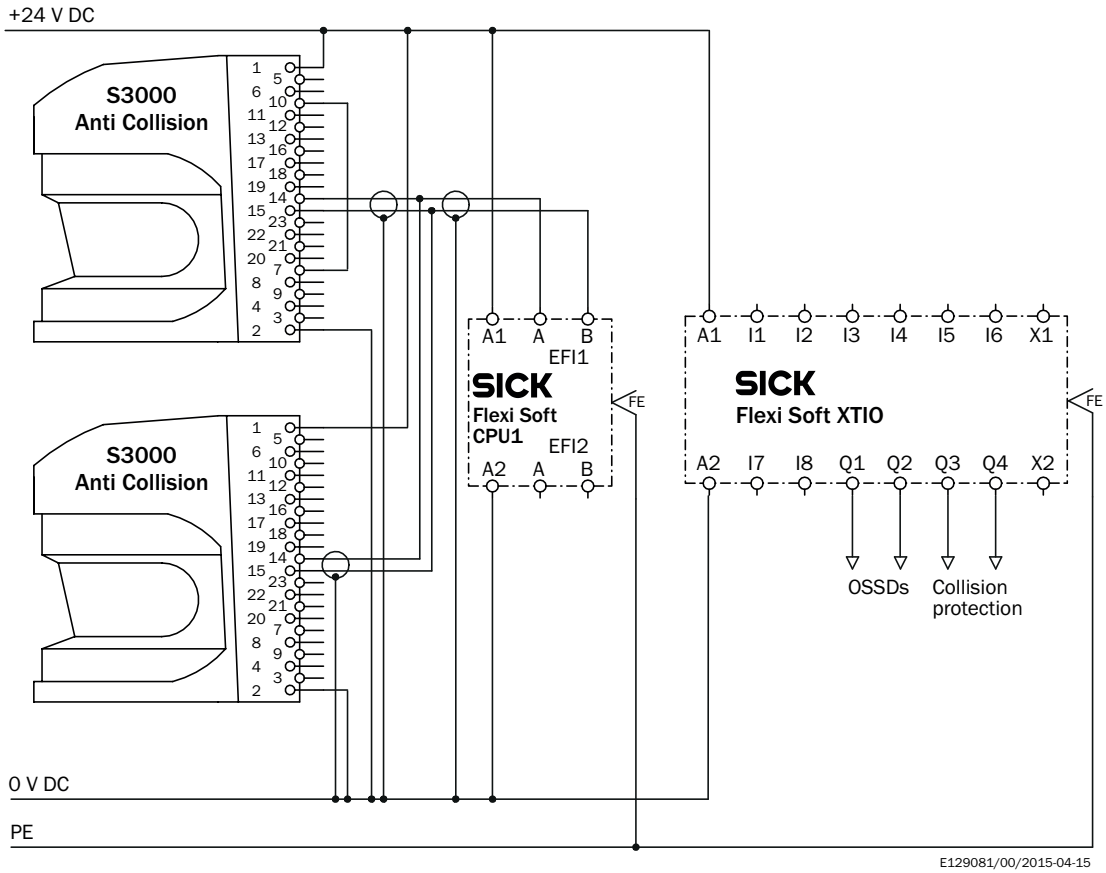


Dimensions in mm (inch)

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



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/1071544

SICK AG
WALDKIRCH
GERMANY
SICK.COM

SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK

Sensor Intelligence