Online data sheet

S30A-6011GB

S3000 Expert

SAFETY LASER SCANNERS

SICK
Sensor Intelligence.

system plug not supplied with delivery

Ordering information

Type	Part no.
S30A-6011GB	1052108

The system plug has to be ordered separately. For details, see “Accessories”.

Other models and accessories ➜ www.sick.com/S3000_Expert

Detailed technical data

Features

Protective field range	5.5 m
Warning field range	49 m (20 m at 20 % reflectivity)
Distance measuring range	49 m
Number of simultaneously monitored protective fields	≤ 4 [1]
Type of field set	Triple field sets, dual field sets
Number of field sets	32 [2]
Number of fields	64
Number of monitoring cases	32 [3]
Scanning angle	190°
Resolution (can be configured)	30 mm, 40 mm, 50 mm, 70 mm, 150 mm
Angular resolution	0.5°, 0.25°, depending on range and resolution
Response time	60 ms [4]
Protective field supplement	100 mm
Number of multiple samplings	2 ... 16, configurable
Delay of automatic reset	2 s ... 60 s, configurable

[1] If more than one protective field is monitored simultaneously, then the safe output signals must be routed to safe outputs of a Flexi Soft safety controller, or via a safe EFI gateway.
[2] In dual field mode 32, in triple field mode 21 field sets.
[3] In combination with an additional static input via EFI or using the dynamic inputs on the device. Otherwise 16.
[4] Depending on basic response time and multiple sampling.

Safety-related parameters

Type	Type 3 (IEC 61496)
Safety integrity level	SIL2 (IEC 61508) SILCL2 (EN 62061)
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} (EN ISO 13849)
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	✓
Contour as a reference	✓
Integrated configuration memory	✓
Measured data output	✓
Extended measured data output (CMS)	✓
Safe SICK device communication via EFI	✓

Electrical data

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	
Safety outputs (OSSD)	2 x 500 mA
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.

Mechanical data

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	Polycarbonat
Front screen surface finish	Outside with scratch-resistant coating

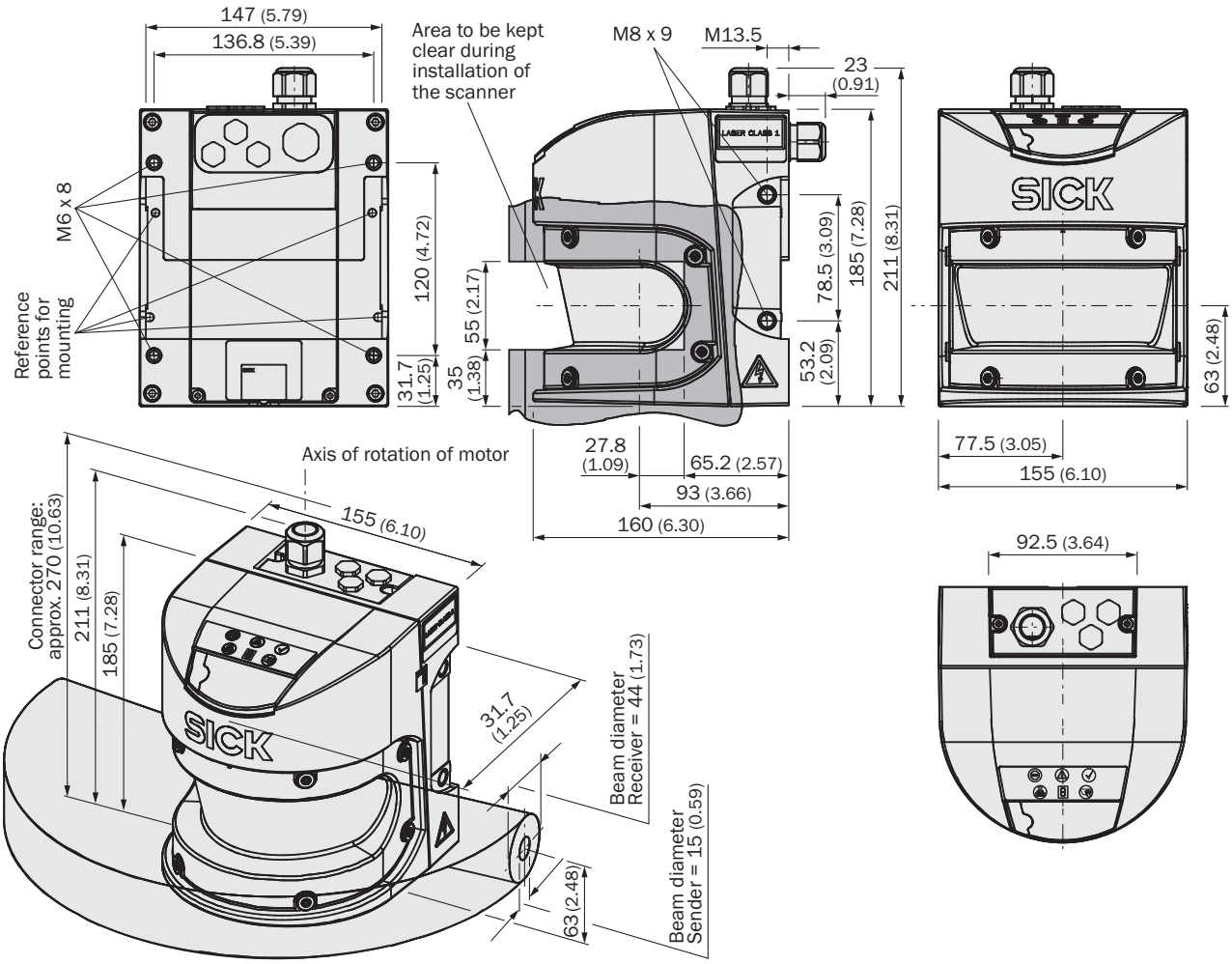
Ambient data

Enclosure rating	IP65 (EN 60529)
Ambient operating temperature	–10 °C ... +50 °C
Storage temperature	–25 °C ... +50 °C
Vibration resistance	5 g, 10 Hz ... 150 Hz (IEC 61496-1, IEC 61496-3)
Shock resistance	10 g, 16 ms (IEC 61496-1, IEC 61496-3)

Other information

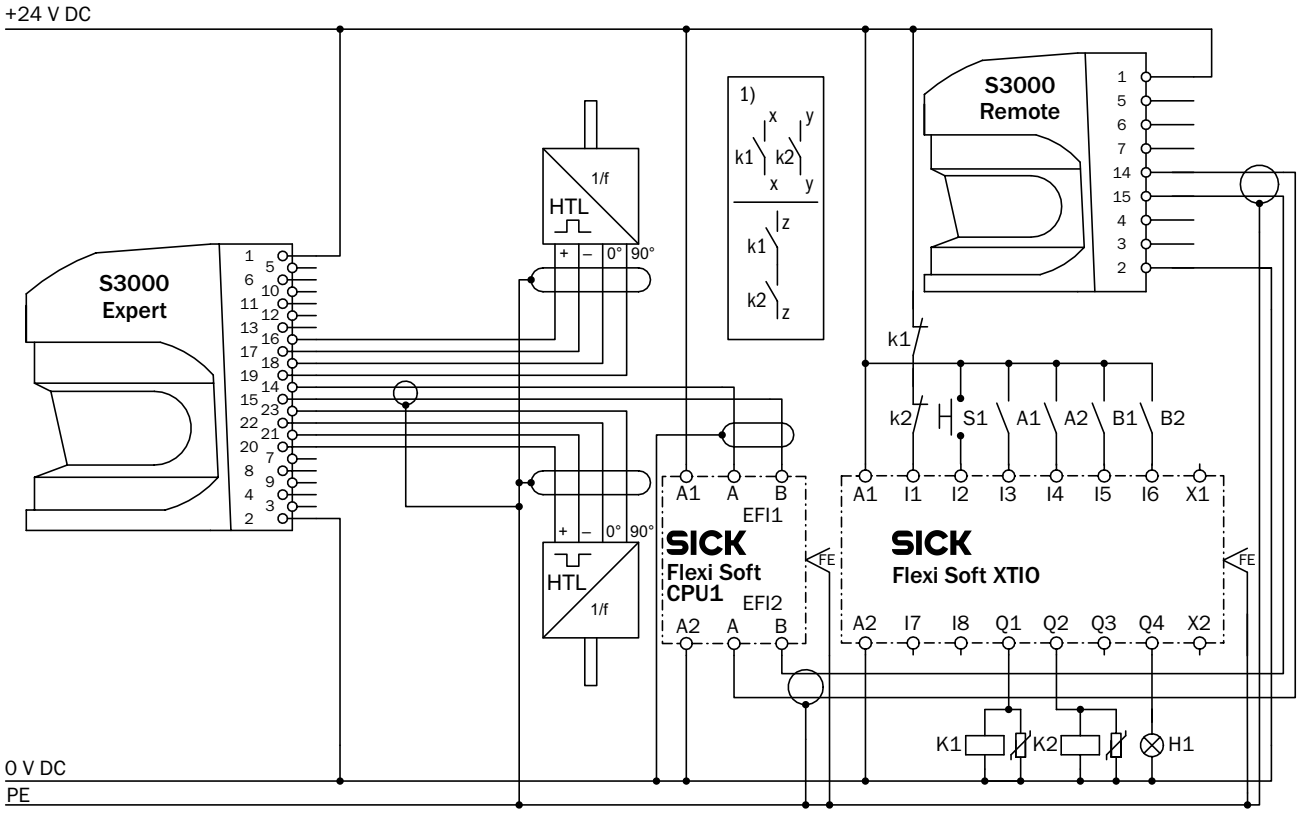
Type of light	Pulsed laser diode
Wave length	905 nm
Detectable remission	1.8 % ... > 1,000 %, reflectors
Laser class	1 (21 CFR 1040.10 and 1040.11, IEC 60825-1)

Dimensional drawing (Dimensions in mm (inch))



Connection diagram

Protective field switching between two S3000 scanners with static and dynamic inputs



E112713/00/2014-03-06

Combination of safety laser scanners and incremental encoders with Flexi Soft safety controller
S3000 Expert with incremental encoders (x 2) for safe protective field switching based on dynamic input signals of the incremental encoders (speed)
Protective field switching with static and dynamic inputs of two scanners in combination with a Flexi Soft safety controller via EFI (Enhanced Function Interface)
Speed signals are transferred from scanner 1 to scanner 2 via EFI and Flexi Soft

Comments

[1] Output circuits: These contacts are to be connected to the controller such that, with the output circuit open, the dangerous state is disabled. For categories 4 and 3, this integration must be dual-channel (x/y paths). Single-channel insertion in the control (z path) is only possible with a single-channel control and by taking the risk analysis into account.

S3000 Expert with S300 Mini Remote in an EFI system with relays/contactors
Operating mode: without restart interlock, with external device monitoring
Static protective field switching by the S3000 control inputs IN A to D. The protective fields affect the OSSDs on the S3000 Expert.

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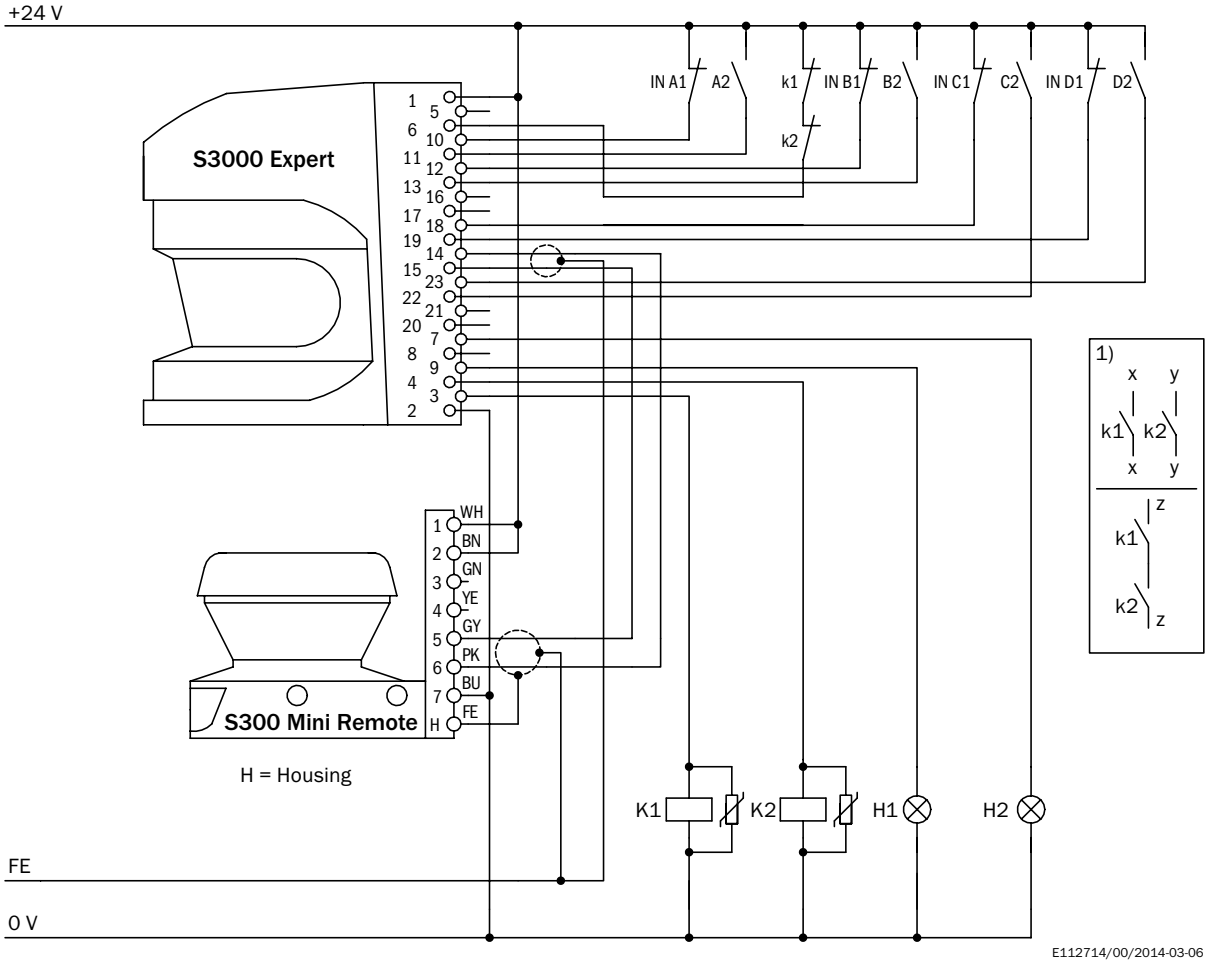
Protective field switching between an S3000 Expert and an S300 Mini Remote with static inputs



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Recommended accessories

Other models and accessories ➜ www.sick.com/S3000_Expert

	Brief description	Type	Part no.
Mounting brackets and plates			
	1 piece, Visor for heavy duty mounting kit (2080350), steel, painted (RAL 1021)	Heavy duty sight	2083733
	1 piece, 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., steel, painted (RAL 1021)	Heavy-duty mounting kit	2080350
	1 piece, mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable	Mounting kit 1	2015623
	1 piece, mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623)	Mounting kit 2	2015624
	1 piece, 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)	Mounting kit 3	2015625
Plug connectors and cables			
	Head A: cable Head B: cable Cable: PVC, unshielded	Connecting cable Connecting cable	6025729 6025730
	Head A: cable Head B: cable Cable: PVC, shielded Fitting for EFI connections	EFI connecting cable	6029448
	Head A: male connector, M8, 4-pin, straight Head B: male connector, USB-A, straight Cable: PVC, unshielded, 2 m	DSL-8U04G02M025KM1	6034574
	Head A: male connector, M8, 4-pin, straight Head B: male connector, USB-A, straight Cable: PVC, unshielded, 10 m	DSL-8U04G10M025KM1	6034575
	Head A: system plug Cable: without cable Not for use of incremental encoders, integrated configuration storage	SX0A-A0000B	2023797
	Head A: system plug Cable: without cable For use of incremental encoders, integrated configuration storage	SX0A-A0000D	2023310
	Head A: system plug Cable: pre-assembled, For use of incremental encoders, integrated configuration storage, PVC, unshielded, 5 m	SX0A-B1305D	2027176
	Head A: system plug Cable: pre-assembled, For use of incremental encoders, integrated configuration storage, PVC, unshielded, 10 m	SX0A-B1310D	2027177
	Head A: system plug Cable: pre-assembled, Not for use of incremental encoders, integrated configuration storage, PVC, unshielded, 5 m	SX0A-B1705B	2027174
	Head A: system plug Cable: pre-assembled, Not for use of incremental encoders, integrated configuration storage, PVC, unshielded, 10 m	SX0A-B1710B	2027175

	Brief description	Type	Part no.
	Head A: system plug Cable: pre-assembled, Not for use of incremental encoders, integrated configuration storage, PVC, unshielded, 20 m	SX0A-B1720B	2027816

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com