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DATA SHEET

S30B-2011GA

S300
Safety laser scanners

SICK Sensor Intelligence



Illustration may differ

SAFETY LASER SCANNERS

S30B-2011GA

ORDERING INFORMATION

Type	part no.
S30B-2011GA	1045353

Further device versions and accessories at www.sick.com/S300

DETAILED TECHNICAL DATA

FEATURES

Protective field range	2 m
Warning field range	8 m (at 30 % reflectivity)
Distance measuring range	30 m
Number of fields	48
Number of monitoring cases	32 [1]
Scanning angle	270°
Resolution	30 mm, 40 mm, 50 mm, 70 mm, configurable
Angular resolution	0.5°
Response time	80 ms [2]
Protective field supplement	100 mm
Number of multiple samplings	2 ... 16, configurable
Delay of automatic reset	2 s ... 60 s, configurable

[1] In combination with an additional static input via EFI or using the dynamic inputs on the device. Otherwise eight.

[2] 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)	8.0×10^{-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	✓
Static protective field switching	✓
Dynamic protective field switching	✓
Contour as a reference	✓
Integrated configuration memory	✓
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	2
Dynamic control inputs (incremental encoder)	2
Standby	1
Outputs	
OSSD pairs	1
Diagnostic outputs	≤ 1 [1]
Configuration method	PC with CDS (Configuration and Diagnostic Software)
Configuration and diagnostics interface	RS-232
Transmission rate	38.4 kBaud
Data interface	RS-422
Transmission rate	≤ 500 kBaud
Safe SICK device communication via EFI	
Transmission rate	≤ 500 kBaud
Cable length	≤ 50 m
Conductor cross-section	0.22 mm²
Fieldbus, industrial network	
Integration via EFI gateways	CANopen, Ethernet TCP/IP, PROFIBUS DP, PROFIBUS PROFIsafe, PROFINET PROFIsafe [2]

[1] Freely programmable, e.g. warning field, contamination, reset required.

[2] For a suitable EFI-gateway see modules and gateways in the accessory section of connection systems.

ELECTRICAL DATA

Protection class	II (EN 50178)
Supply voltage V_s	24 V DC (16.8 V DC ... 30 V DC)
Power consumption	≤ 0.33 A [1] ≤ 1.7 A [2]
Outputs	
Safety outputs (OSSD)	2 x 250 mA
Diagnostic outputs	≤ 1 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)	102 mm x 152 mm x 106 mm
Weight	1.2 kg
Housing material	Aluminum die cast
Housing color	RAL 1021 (yellow)
Optics cover material	Polycarbonat
Optics cover surface finish	Outside with scratch-resistant coating

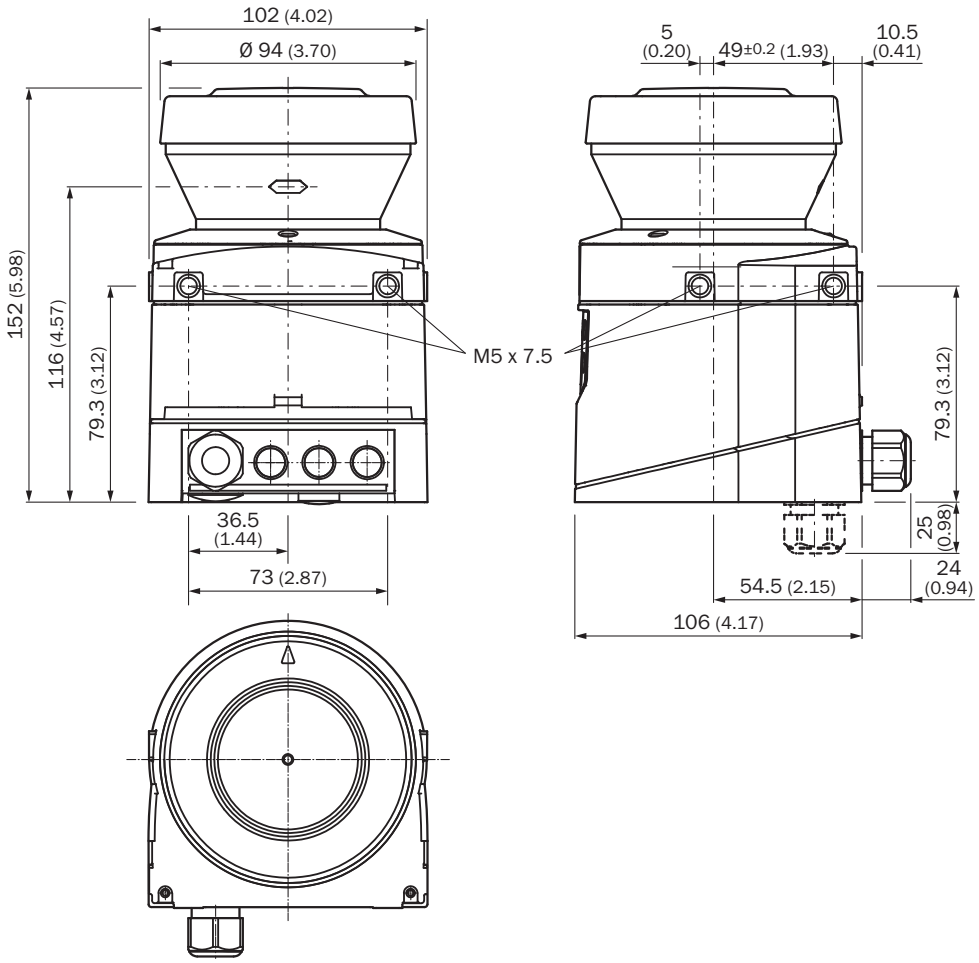
AMBIENT DATA

Enclosure rating	IP 65 (EN 60529)
Ambient operating temperature	–10 °C ... +50 °C
Storage temperature	–25 °C ... +50 °C
Vibration resistance	5 g, 10 Hz ... 150 Hz (EN 61496-1, CLC/TS 61496-3)
Shock resistance	10 g, 16 ms (EN 61496-1, CLC/TS 61496-3)

OTHER INFORMATION

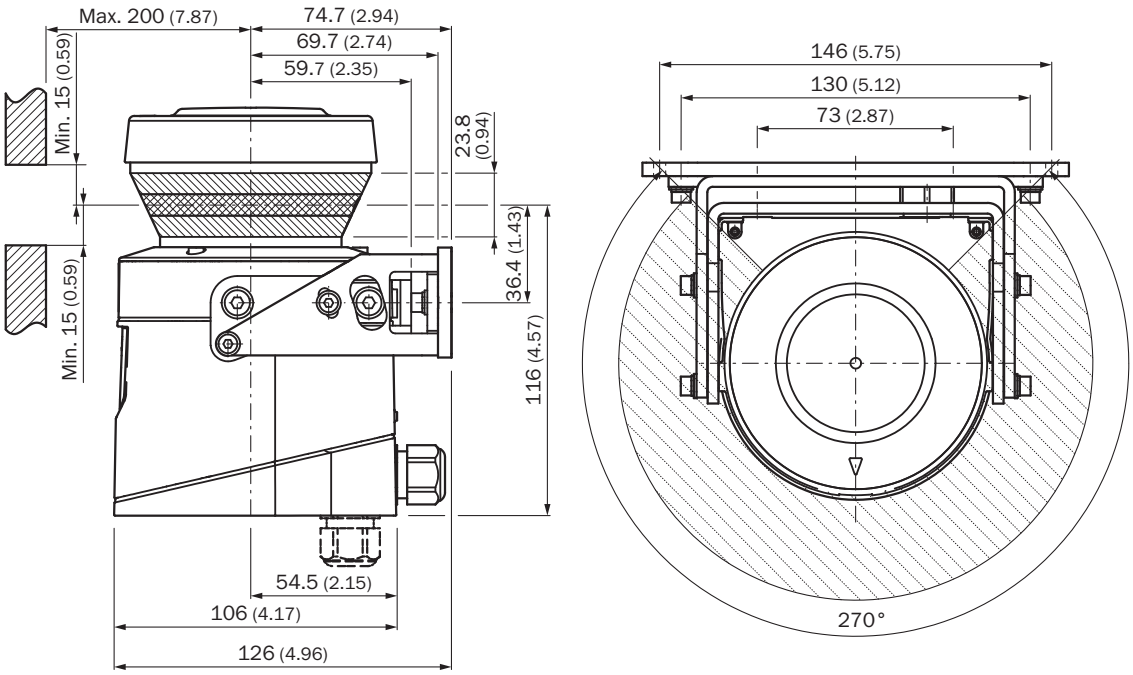
Type of light	Pulsed laser diode
Wave length	905 nm
Detectable remission	1.8 % ... > 1,000 %, reflectors
Laser class	1 (21 CFR 1040.10 and 1040.11, IEC 60825-1)

DIMENSIONAL DRAWING LASER SCANNER



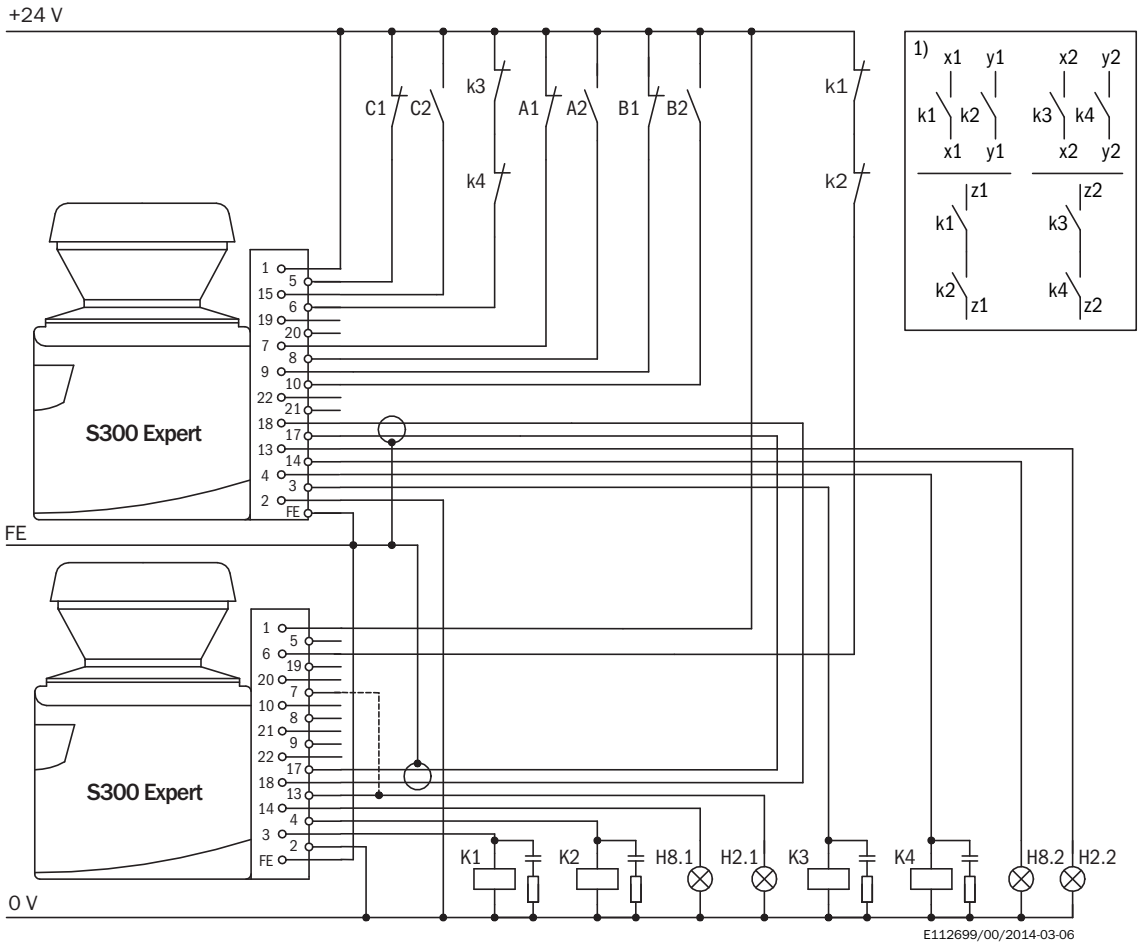
Dimensions in mm (inch)

DIMENSIONAL DRAWING SCAN PLANE ORIGIN



Dimensions in mm (inch)

CONNECTION DIAGRAM S300 EXPERT WITH S300 EXPERT IN HOST/GUEST CONNECTION WITH RELAYS/CONTACTORS



- S300 Expert with S300 Expert in host/guest connection with relays/contactors
- Operating mode: with external device monitoring and without restart interlock
- Static protective field switching using the control inputs A, B and C
- The protective fields affect the related OSSDs on host or guest

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.

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/1045353

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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

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