



# S30A-6011DA

S3000 Professional

SAFETY LASER SCANNERS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
S30A-6011DA	1019600

The system plug has to be ordered separately. For details, see "Accessories, plug connectors and cables".

Other models and accessories → [www.sick.com/S3000\\_Professional](http://www.sick.com/S3000_Professional)

### Detailed technical data

#### Features

<b>Model</b>	Sensor without system plug
<b>Application</b>	Indoor
<b>Protective field range</b>	5.5 m
<b>Warning field range</b>	49 m (20 m at 20 % reflectivity)
<b>Distance measuring range</b>	49 m
<b>Number of simultaneously monitored protective fields</b>	≤ 4 <sup>1)</sup>
<b>Type of field set</b>	Triple field sets, dual field sets
<b>Number of field sets</b>	8
<b>Number of fields</b>	24
<b>Number of monitoring cases</b>	16
<b>Scanning angle</b>	190°
<b>Resolution (can be configured)</b>	30 mm, 40 mm, 50 mm, 70 mm, 150 mm
<b>Angular resolution</b>	0.5°, 0.25°, depending on range and resolution
<b>Response time</b>	60 ms <sup>2)</sup>
<b>Protective field supplement</b>	100 mm
<b>Number of multiple samplings</b>	2 ... 16, configurable
<b>Delay of automatic reset</b>	2 s ... 60 s, configurable

<sup>1)</sup> If several protective fields are monitored simultaneously, the shut-off signals must be connected to safe outputs on a Flexi Soft safety controller or routed via a safe EFI gateway.

<sup>2)</sup> Depending on basic response time and multiple sampling.

#### Safety-related parameters

<b>Type</b>	Type 3 (IEC 61496)
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<b>Safety integrity level</b>	SIL 2 (IEC 61508)
<b>Category</b>	Category 3 (EN ISO 13849)
<b>Performance level</b>	PL d (EN ISO 13849)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$8.0 \times 10^{-8}$
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

## Functions

<b>Restart interlock</b>	✓
<b>External device monitoring (EDM)</b>	✓
<b>Multiple sampling</b>	✓
<b>Monitoring case switching</b>	✓
<b>Simultaneous monitoring</b>	✓
<b>Static protective field switching</b>	✓
<b>Dynamic protective field switching</b>	✓
<b>Contour as a reference</b>	✓
<b>Integrated configuration memory</b>	✓
<b>Measured data output</b>	Via RS-422
<b>Safe SICK device communication via EFI</b>	✓

## Electrical data

<b>Protection class</b>	II (EN 50178)
<b>Supply voltage V<sub>s</sub></b>	24 V DC (16.8 V DC ... 28.8 V DC)
<b>Power consumption</b>	$\leq 0.8 \text{ A}^{1)}$ $\leq 2.3 \text{ A}^{2)}$
<b>Outputs</b>	
Output signal switching devices (OSSDs)	2 x 500 mA
Application diagnostic outputs	3 x 100 mA <sup>3)</sup>

<sup>1)</sup> At 24 V DC without output load.

<sup>2)</sup> At 24 V DC including maximum output load.

<sup>3)</sup> Freely programmable, e.g. warning field, contamination, reset required.

## Mechanical data

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

## Ambient data

<b>Enclosure rating</b>	IP65 (EN 60529)
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Storage temperature</b>	-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

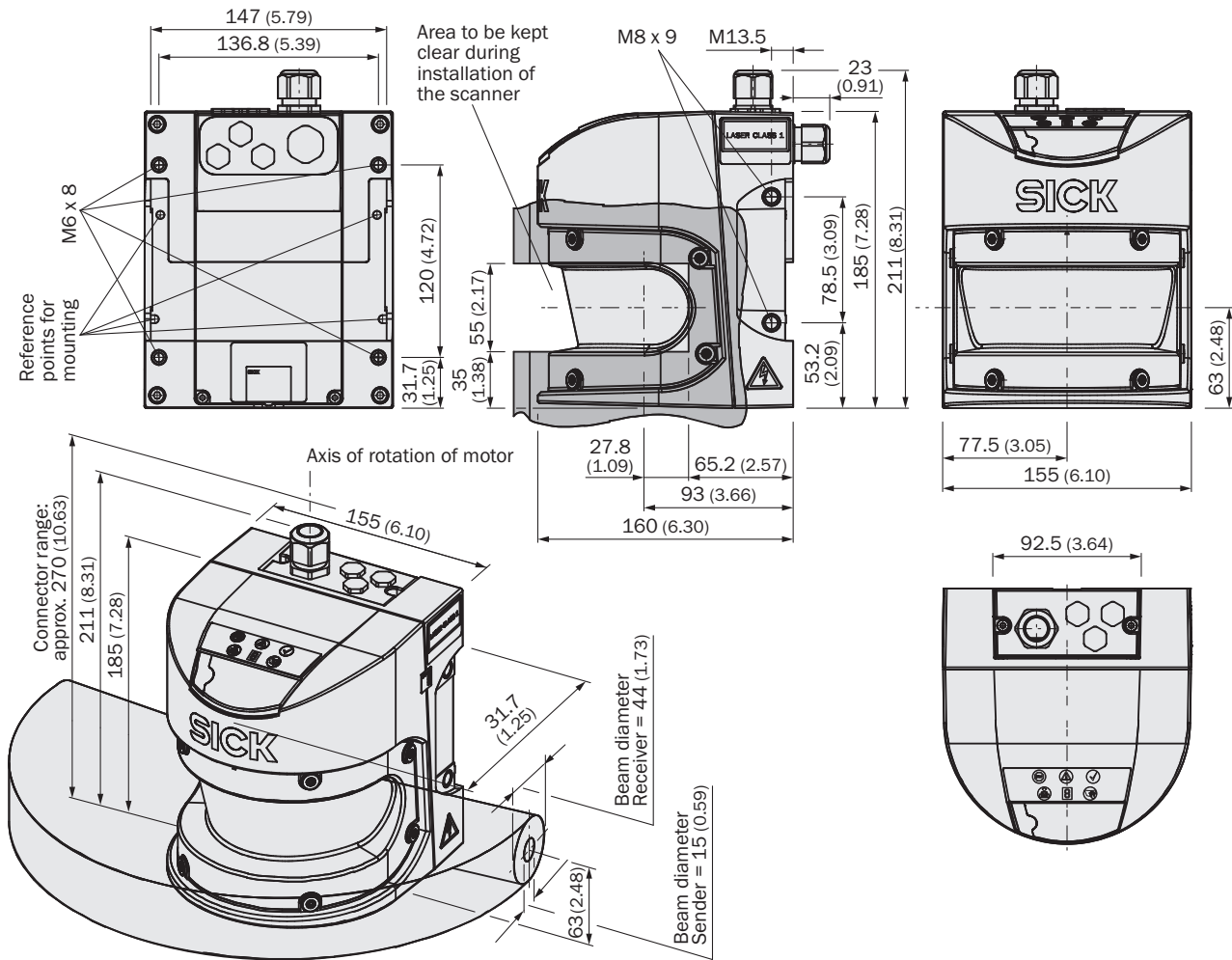
Other information

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)

Classifications

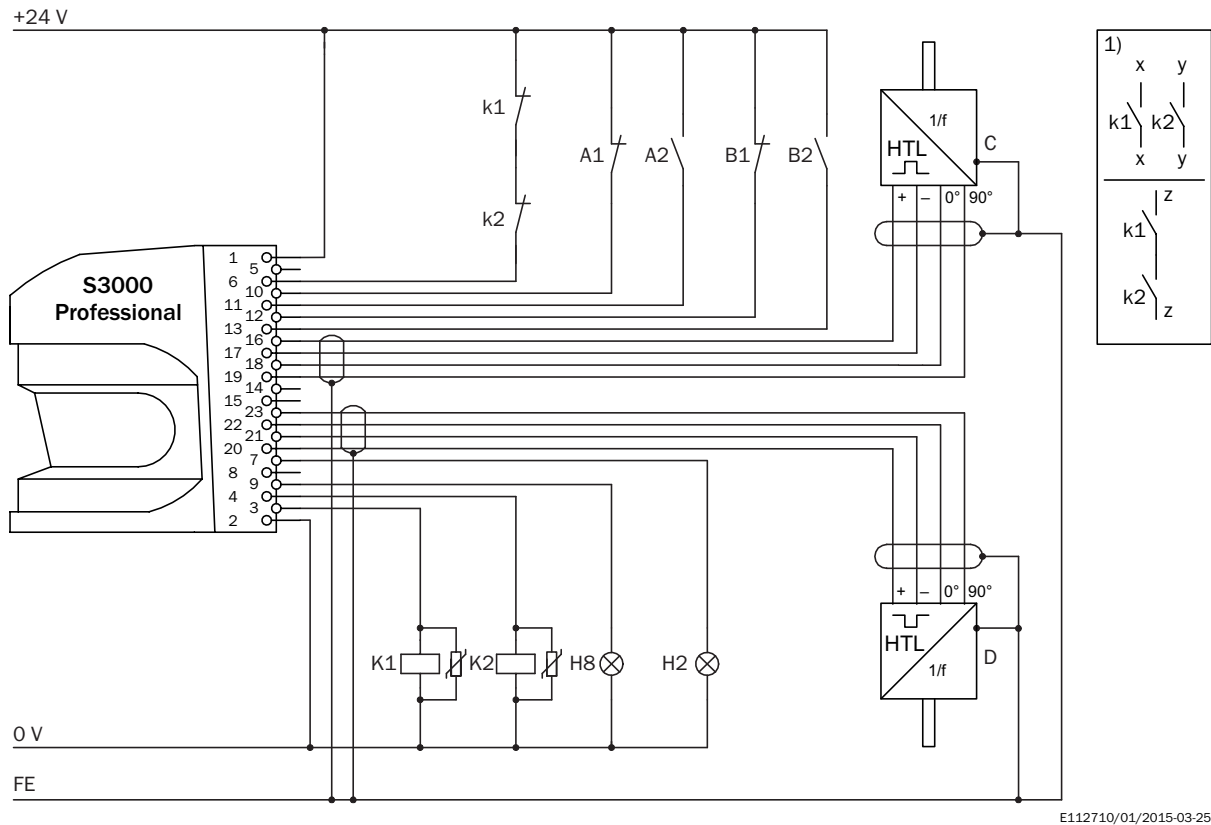
ECLASS 5.0	27272705
ECLASS 5.1.4	27272705
ECLASS 6.0	27272705
ECLASS 6.2	27272705
ECLASS 7.0	27272705
ECLASS 8.0	27272705
ECLASS 8.1	27272705
ECLASS 9.0	27272705
ECLASS 10.0	27272705
ECLASS 11.0	27272705
ECLASS 12.0	27272705
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC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

## Dimensional drawing (Dimensions in mm (inch))



### Connection diagram

Protective field switching with static and dynamic inputs



E112710/01/2015-03-25

S3000 Professional in conjunction with relays/contactors

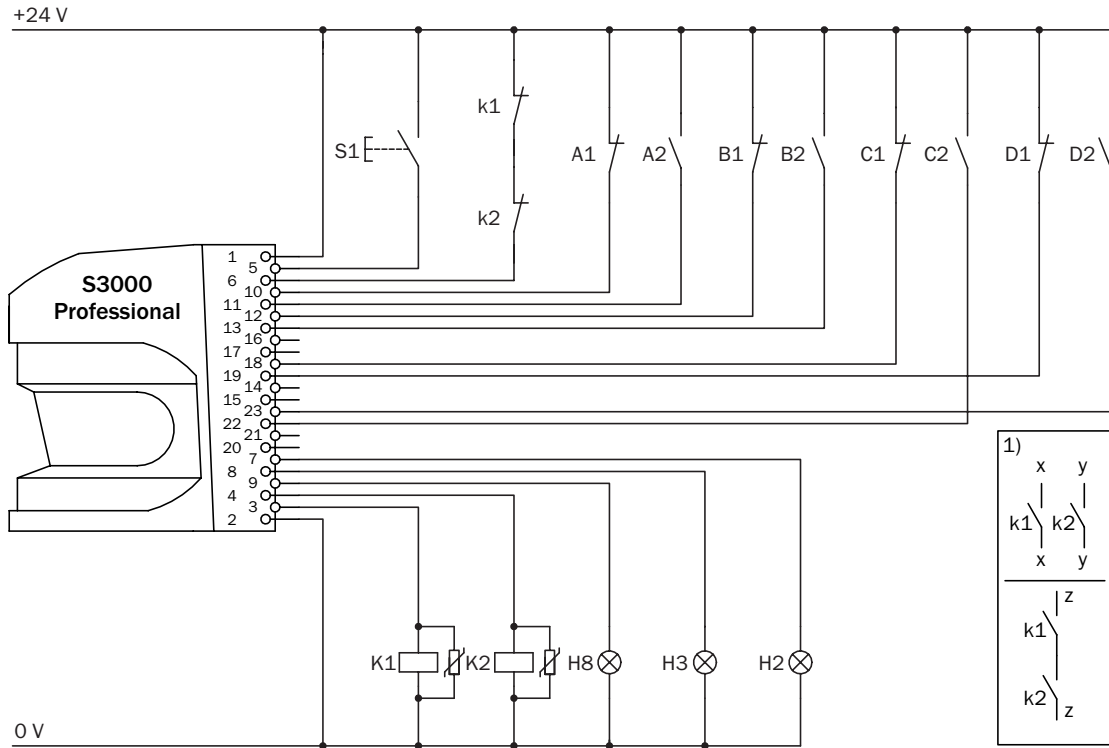
Operating mode: without restart interlock with external device monitoring (EDM)

Dynamic protective field switching using B1 and B2 as well as static protective field switching using the control inputs A and B

#### Comments

<sup>1)</sup> 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.

## Protective field switching with four static inputs



E112709/00/2014-03-06

S3000 Professional in conjunction with relays/contactors

Operating mode: with restart interlock and external device monitoring




Static protective field switching by means of the control inputs A, B, C and D

**Comments**

<sup>1)</sup> 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.




## Recommended accessories

Other models and accessories → [www.sick.com/S3000\\_Professional](http://www.sick.com/S3000_Professional)

	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, Aluminum	Mounting kit 1	2015623

	Brief description	Type	Part no.
	1 piece, mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623), Aluminum	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), Aluminum	Mounting kit 3	2015625
Others			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight</li> <li>• <b>Connection type head B:</b> Male connector, USB-A, straight</li> <li>• <b>Cable:</b> 10 m, 4-wire, PVC</li> <li>• <b>Description:</b> Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC</li> </ul>	DSL-8U04G10M025KM1	6034575
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight</li> <li>• <b>Connection type head B:</b> Male connector, USB-A, straight</li> <li>• <b>Cable:</b> 2 m, 4-wire, PVC</li> <li>• <b>Description:</b> Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC</li> </ul>	DSL-8U04G02M025KM1	6034574
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Description:</b> Without cable, Not for use of incremental encoders, integrated configuration storage, For S3000 Standard, Advanced, Remote, Professional and Expert</li> <li>• <b>Items supplied:</b> With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12</li> </ul>	SX0A-A0000B	2023797
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Flying leads</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Cable:</b> 2-wire, twisted pair, 120 Ohm, PVC</li> <li>• <b>Description:</b> Shielded</li> <li>• <b>Note:</b> Fitting for EFI connections</li> <li>• <b>Items supplied:</b> By the meter</li> </ul>	EFI connecting cable	6029448
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Flying leads</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Cable:</b> 13-wire, AWG20, PVC</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Items supplied:</b> By the meter</li> </ul>	Connecting cable	6025729
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Flying leads</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Cable:</b> 17-wire, AWG20, PVC</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Items supplied:</b> By the meter</li> </ul>	Connecting cable	6025730
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Description:</b> Without cable, For use of incremental encoders, integrated configuration storage, For S3000 Professional and Expert</li> <li>• <b>Items supplied:</b> With 1 x cable gland M20, 2 x cable gland M12, 1 x blanking plug M20, 6 x blanking plug M12</li> </ul>	SX0A-A0000D	2023310
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Cable:</b> 5 m, 13-wire, PVC</li> <li>• <b>Description:</b> Pre-assembled, For use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert</li> <li>• <b>Connection systems:</b> Flying leads</li> <li>• <b>Items supplied:</b> With 1 x cable gland M20, 2 x cable gland M12, 1 x blanking plug M20, 6 x blanking plug M12</li> </ul>	SX0A-B1305D	2027176
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Cable:</b> 10 m, 13-wire, PVC</li> <li>• <b>Description:</b> Pre-assembled, For use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert</li> <li>• <b>Connection systems:</b> Flying leads</li> <li>• <b>Items supplied:</b> With 1 x cable gland M20, 2 x cable gland M12, 1 x blanking plug M20, 6 x blanking plug M12</li> </ul>	SX0A-B1310D	2027177



	Brief description	Type	Part no.
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Cable:</b> 5 m, 17-wire, PVC</li> <li>• <b>Description:</b> Pre-assembled, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert</li> <li>• <b>Connection systems:</b> Flying leads</li> <li>• <b>Items supplied:</b> With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12</li> </ul>	SX0A-B1705B	2027174
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Cable:</b> 10 m, 17-wire, PVC</li> <li>• <b>Description:</b> Pre-assembled, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert</li> <li>• <b>Connection systems:</b> Flying leads</li> <li>• <b>Items supplied:</b> With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12</li> </ul>	SX0A-B1710B	2027175
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> System plug</li> <li>• <b>Cable:</b> 20 m, 17-wire, PVC</li> <li>• <b>Description:</b> Pre-assembled, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert</li> <li>• <b>Connection systems:</b> Flying leads</li> <li>• <b>Items supplied:</b> With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12</li> </ul>	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](http://www.sick.com)