



# S31A-7011CA

S3000 Cold Store

SAFETY LASER SCANNERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
S31A-7011CA	1041648

Other models and accessories → [www.sick.com/S3000\\_Cold\\_Store](http://www.sick.com/S3000_Cold_Store)

Illustration may differ



### Detailed technical data

#### Features

<b>Application</b>	Indoor
<b>Protective field range</b>	7 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>	4
<b>Number of fields</b>	12
<b>Number of monitoring cases</b>	4
<b>Scanning angle</b>	180°
<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>	120 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)
<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></b> (mean probability of a dangerous failure per hour)	8.0 x 10 <sup>-8</sup>
<b>T<sub>M</sub></b> (mission time)	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>Multiple sampling</b>	✓
<b>Monitoring case switching</b>	✓
<b>Simultaneous monitoring</b>	✓
<b>Static protective field switching</b>	✓
<b>Contour as a reference</b>	✓
<b>Measured data output</b>	None
<b>Safe SICK device communication via EFI</b>	✓

### Interfaces

<b>Connection type</b>	System plug
<b>Inputs</b>	
Static control inputs	2
Static control inputs with EFI	5 <sup>1)</sup>
<b>Outputs</b>	
OSSD pairs	1
Application diagnostic outputs	2 <sup>2)</sup>
<b>Configuration method</b>	PC with CDS (Configuration and Diagnostic Software)
<b>Configuration and diagnostics interface</b>	RS-232
Transmission rate	9.6 kBaud, 19.2 kBaud, 38.4 kBaud
<b>Safe SICK device communication via EFI</b>	
Transmission rate	≤ 500 kBaud
Length of cable	≤ 50 m
Conductor cross section	0.34 mm <sup>2</sup>

<sup>1)</sup> In combination with an EFI device (Flexi Soft or EFI gateway) five static control inputs are available. Otherwise two.

<sup>2)</sup> Freely programmable, e.g. warning field, contamination, reset required.

### Electrical data

<b>Protection class</b>	II (EN 50178)
<b>Supply voltage V<sub>s</sub></b>	
Scanner	24 V DC (17.5 V DC ... 28.8 V DC)
Heating	24 V DC (16.8 V DC ... 28.8 V DC)
<b>Power consumption</b>	
Scanner	≤ 0.8 A <sup>1)</sup>
	≤ 2.3 A <sup>2)</sup>
Heating	≤ 6 A, cyclical

<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.

<b>Outputs</b>	
Output signal switching devices (OSSDs)	2 x 500 mA
Application diagnostic outputs	2 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>	351 mm x 265 mm x 221 mm
<b>Weight</b>	9 kg
<b>Material</b>	
Back panel, plug	Aluminum die cast
Cover	Polyurethane
<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) IP67 (EN 60529)
<b>Ambient operating temperature</b>	-30 °C ... +50 °C
<b>Storage temperature</b>	-30 °C ... +50 °C
<b>Vibration resistance</b>	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)
<b>Shock resistance</b>	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/s <sup>2</sup> , 11 ms 100 m/s <sup>2</sup> , 16 ms

### Other information

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

### Certificates

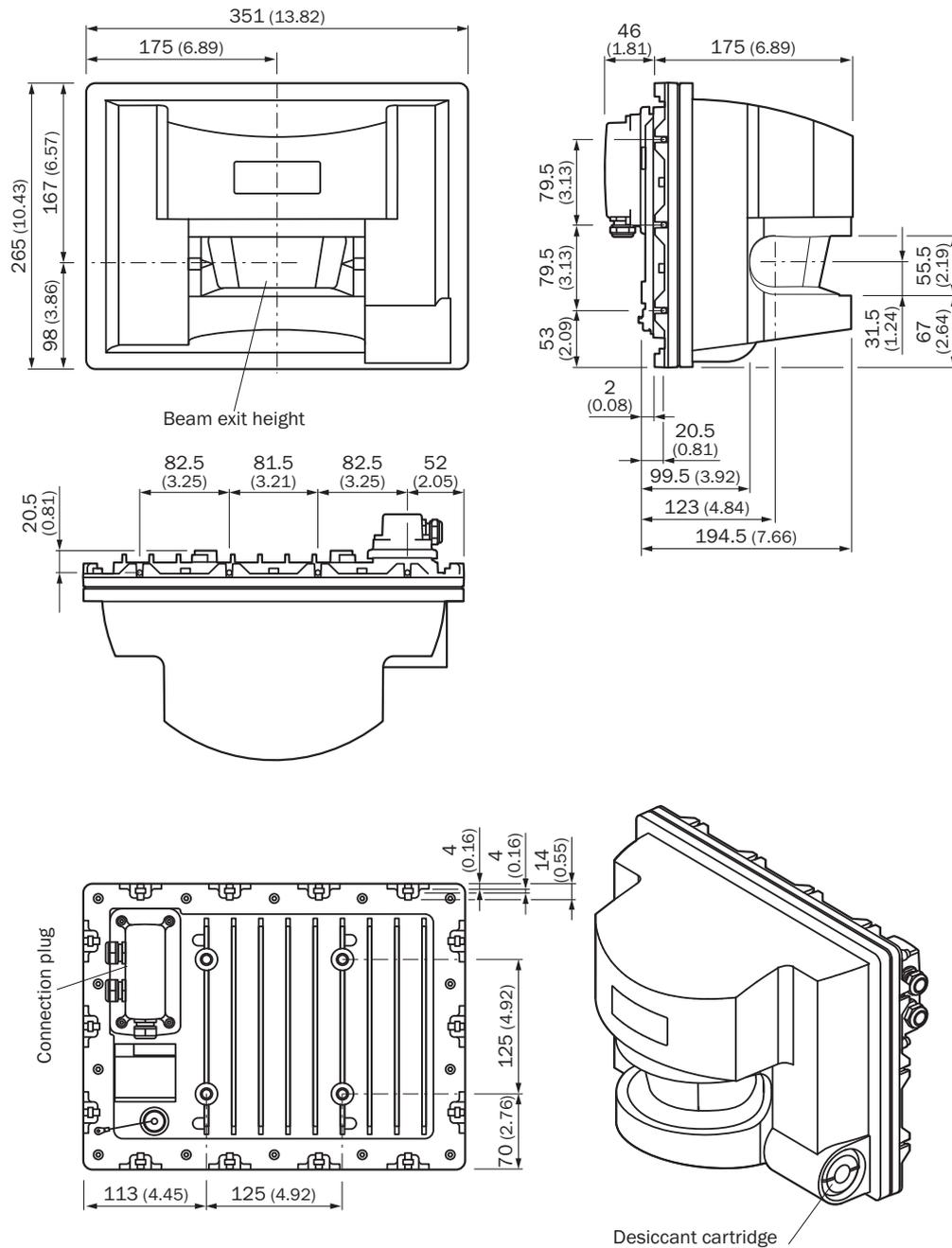
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>China GB certificate</b>	✓
<b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b>	✓

### Classifications

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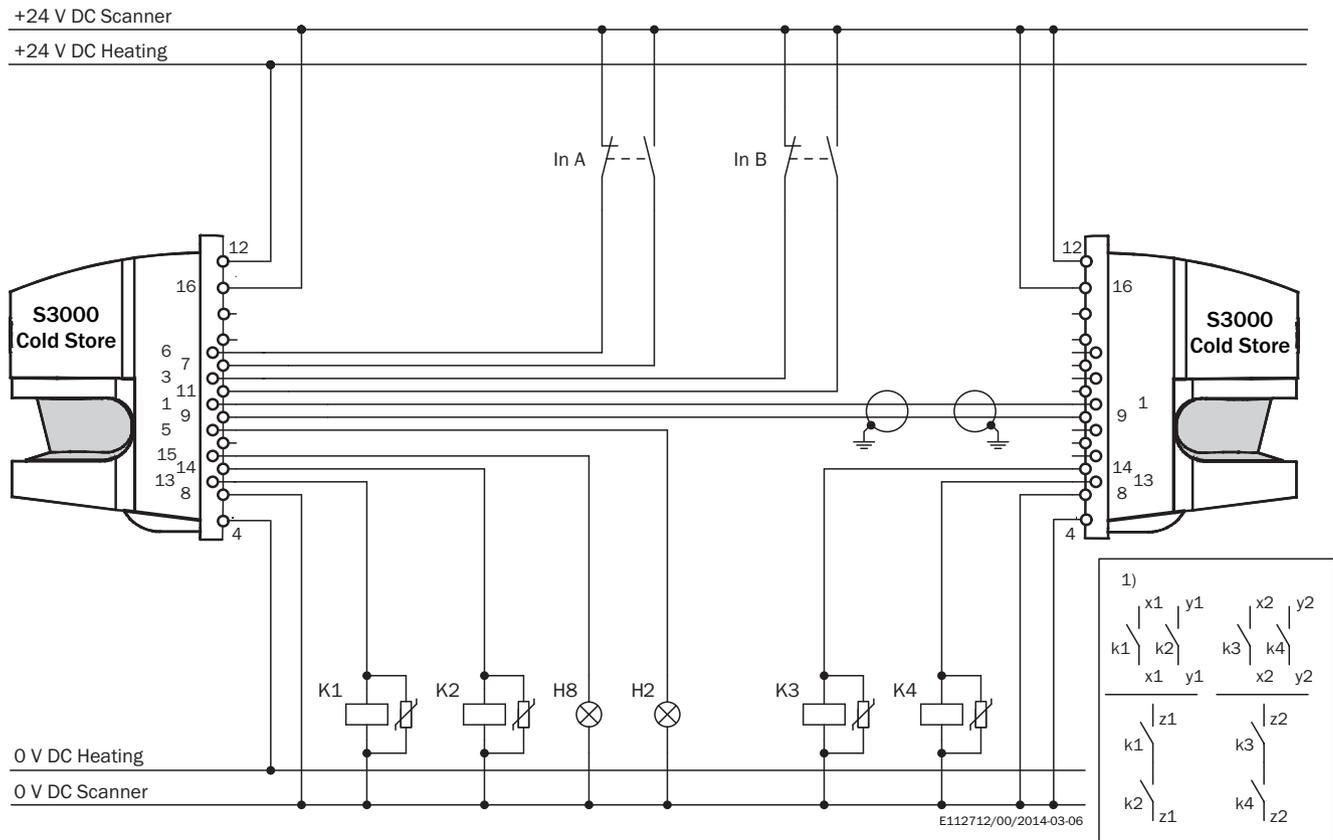
<b>ECLASS 5.1.4</b>	27272705
<b>ECLASS 6.0</b>	27272705
<b>ECLASS 6.2</b>	27272705
<b>ECLASS 7.0</b>	27272705
<b>ECLASS 8.0</b>	27272705
<b>ECLASS 8.1</b>	27272705
<b>ECLASS 9.0</b>	27272705
<b>ECLASS 10.0</b>	27272705
<b>ECLASS 11.0</b>	27272705
<b>ECLASS 12.0</b>	27272705
<b>ETIM 5.0</b>	EC002550
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

### Dimensional drawing



Dimensions in mm (inch)

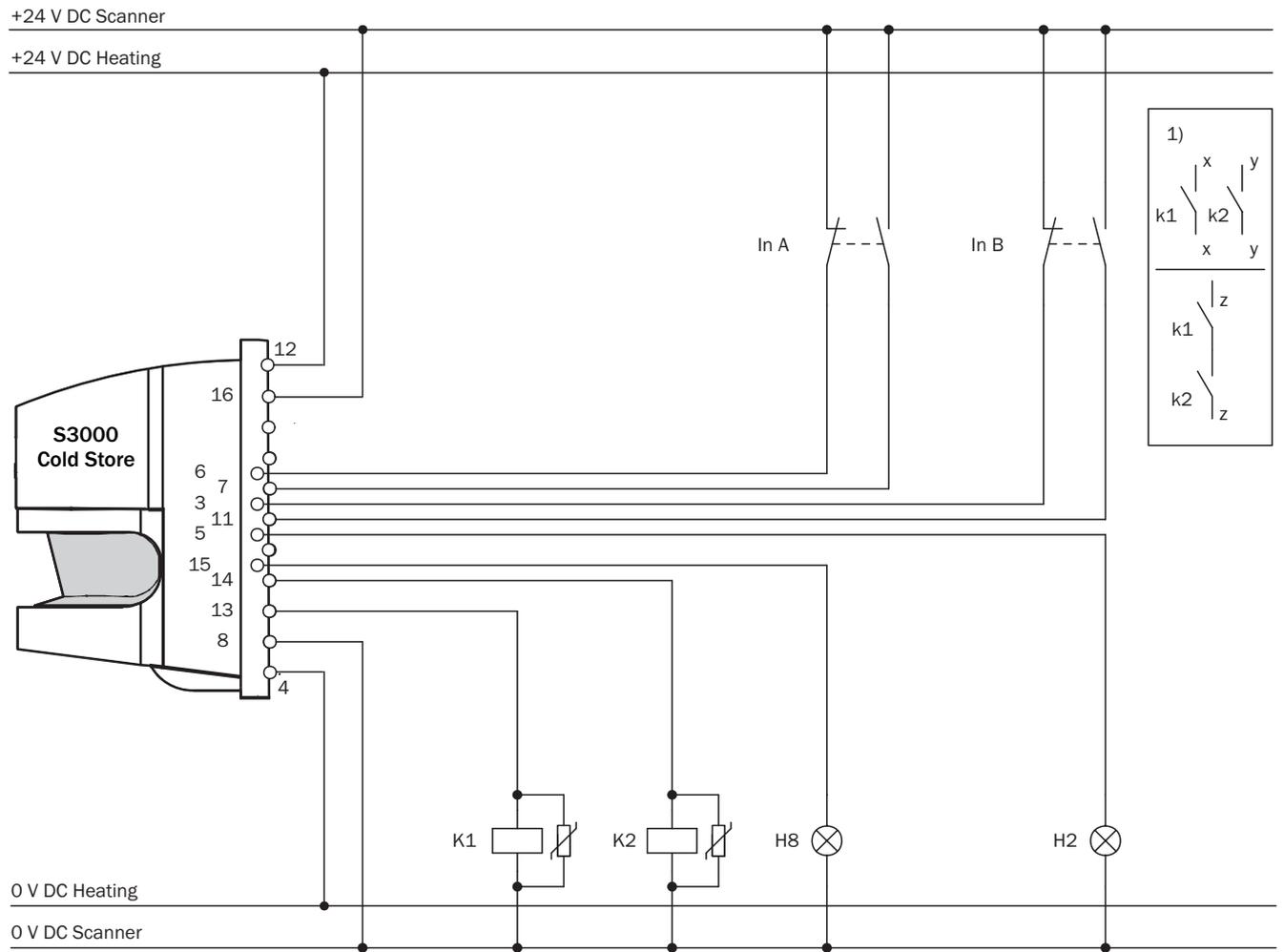
Connection diagram Protective field switching between two S3000 with static inputs



**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.

### Connection diagram Protective field switching with two static inputs



E112711/00/2014-03-06

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### Recommended accessories

Other models and accessories → [www.sick.com/S3000\\_Cold\\_Store](http://www.sick.com/S3000_Cold_Store)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting kit for wall-mounting (adjustment bracket)</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated (1.0330)</li> </ul>	Mounting kit	2018303

	Brief description	Type	part no.
device protection and care			
	<ul style="list-style-type: none"> <li>• <b>Product family:</b> Drying agent</li> <li>• <b>Description:</b> Dry cartridge</li> </ul>	Drying agent cartridge with screw thread M36 x 1.5	5306179
connectors and cables			
	<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>Items supplied:</b> By the meter</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 EFL connections</li> </ul>	EFL 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>Items supplied:</b> By the meter</li> <li>• <b>Cable:</b> 13-wire, AWG20, PVC</li> <li>• <b>Description:</b> Unshielded</li> </ul>	Connecting cable	6025729
	<ul style="list-style-type: none"> <li>• <b>Signal type:</b> RS-232, RS-422</li> <li>• <b>Cable:</b> 5 m</li> <li>• <b>Description:</b> RS-232, unshielded, RS-422</li> <li>• <b>Note:</b> Configuration cable pre-assembled for RS-232, for the connection of PCs/power supply</li> </ul>	Service cable	2019561
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, 16-pin</li> <li>• <b>Description:</b> Unshielded</li> </ul>	16-pin female connector	2018301

## 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)