



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

Illustration may differ



Detailed technical data

Features

Application	Indoor
Protective field range	7 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	4
Number of fields	12
Number of monitoring cases	4
Scanning angle	180°
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	120 ms ²⁾
Protective field supplement	100 mm
Number of multiple samplings	2 ... 16, configurable
Delay of automatic reset	2 s ... 60 s, configurable

¹⁾ 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.

²⁾ 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 x 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

Multiple sampling	✓
Monitoring case switching	✓
Simultaneous monitoring	✓
Static protective field switching	✓
Contour as a reference	✓
Measured data output	None
Safe SICK device communication via EFI	✓

Interfaces

Connection type	System plug
Inputs	
Static control inputs	2
Static control inputs with EFI	5 ¹⁾
Outputs	
OSSD pairs	1
Application diagnostic outputs	2 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
Safe SICK device communication via EFI	
Transmission rate	≤ 500 kBaud
Length of cable	≤ 50 m
Conductor cross section	0.34 mm ²

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

²⁾ Freely programmable, e.g. warning field, contamination, reset required.

Electrical data

Protection class	II (EN 50178)
Supply voltage V_s	
Scanner	24 V DC (17.5 V DC ... 28.8 V DC)
Heating	24 V DC (16.8 V DC ... 28.8 V DC)
Power consumption	
Scanner	≤ 0.8 A ¹⁾ ≤ 2.3 A ²⁾
Heating	≤ 6 A, cyclical
Outputs	

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.

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

Other information

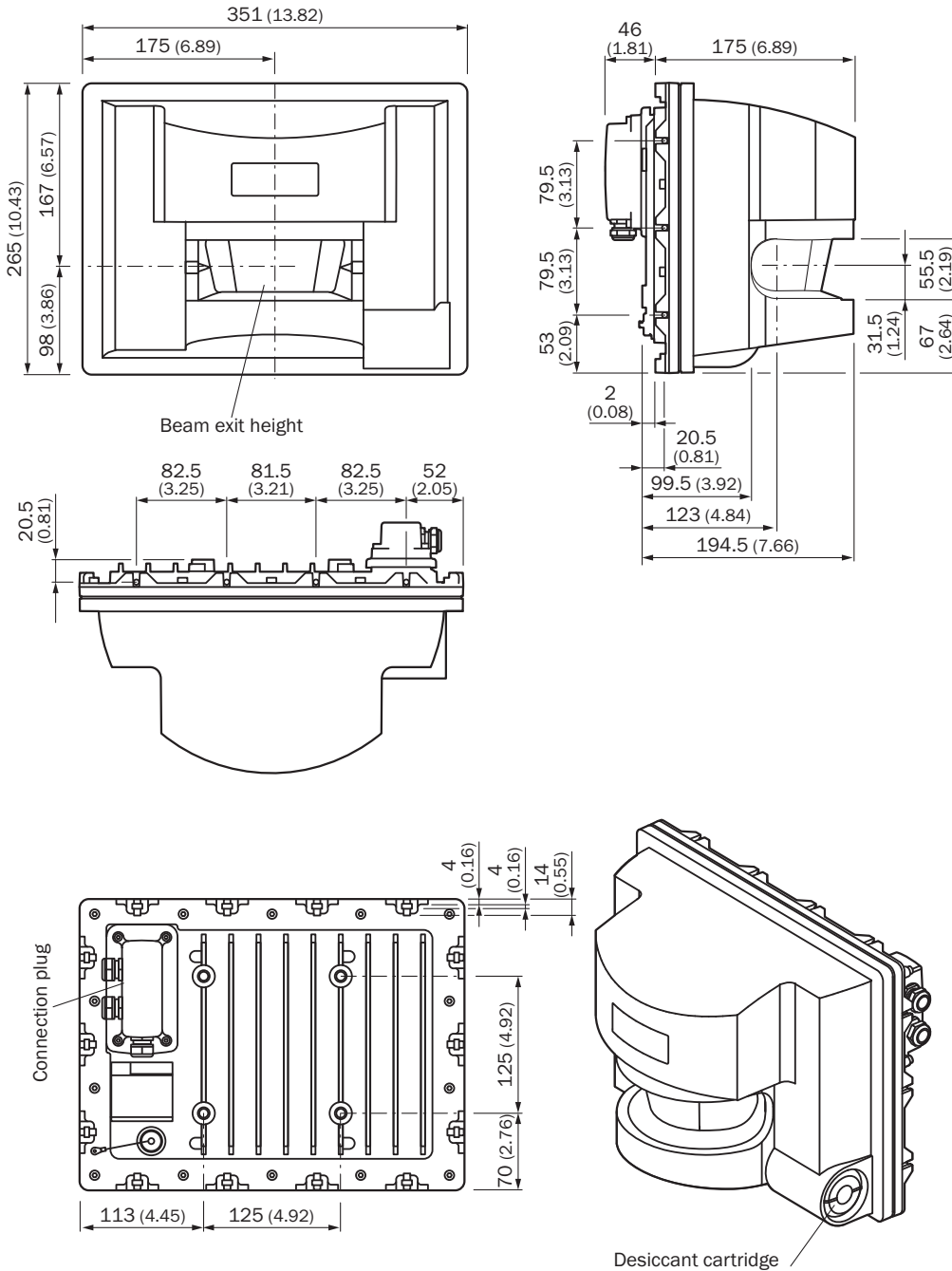
Type of light	Pulsed laser diode
Wave length	905 nm
Detectable remission factor	1.8 % ... > 1,000 %, reflectors
Laser class	1 (21 CFR 1040.10 and 1040.11, IEC 60825-1)

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

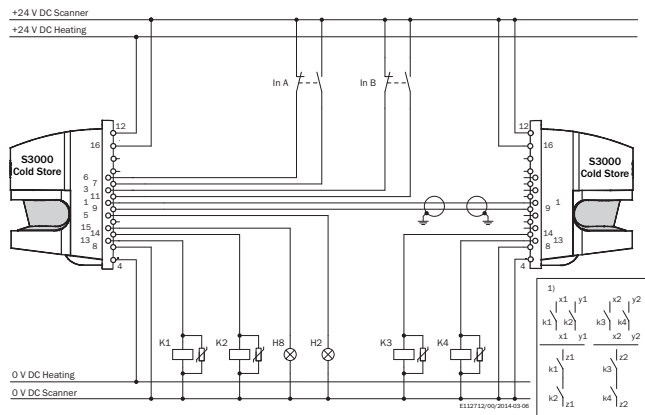
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))



Connection diagram

Protective field switching between two S3000 with static inputs



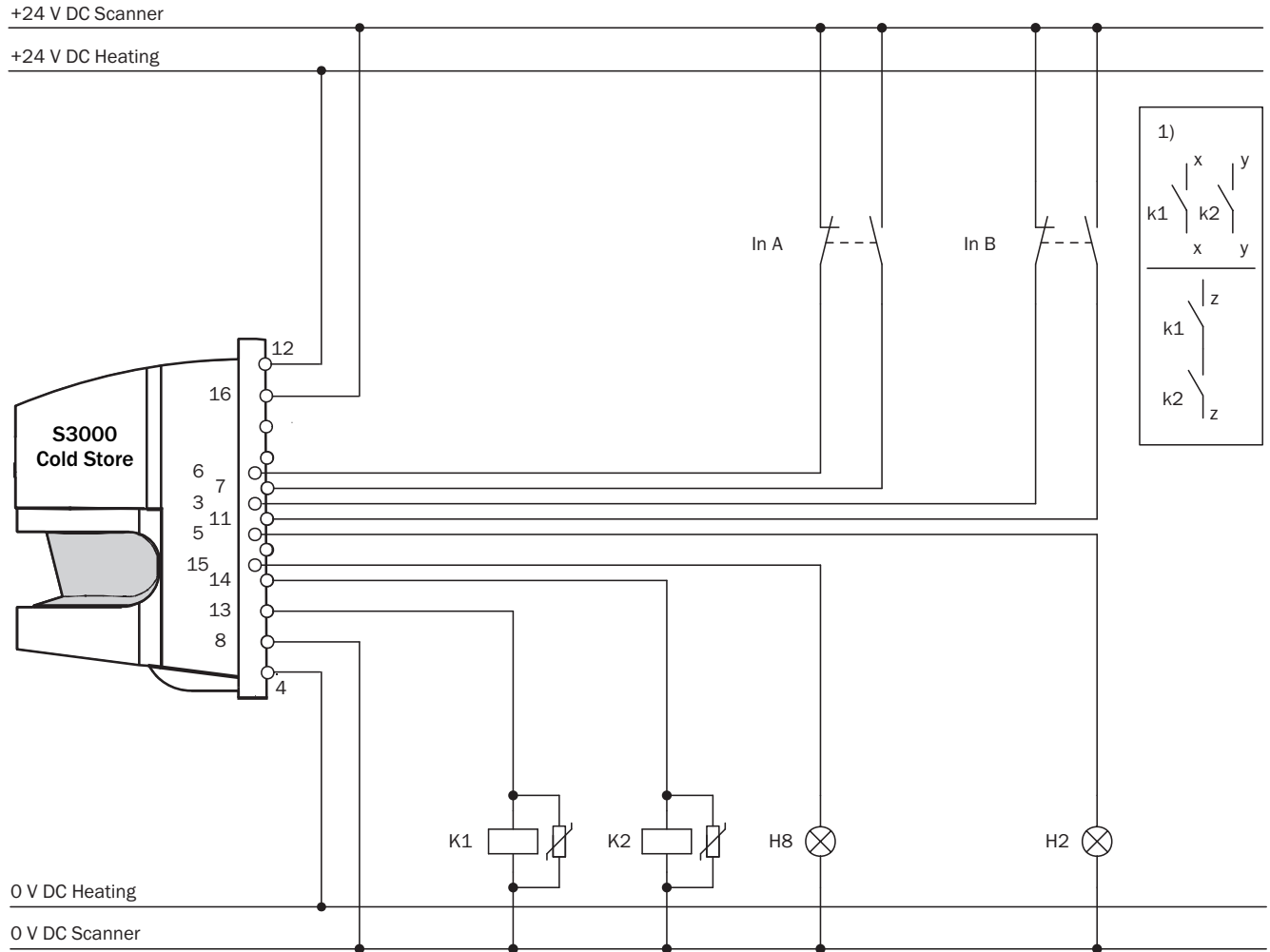
S3000 Cold Store with S3000 Cold Store in conjunction with relays/contactors

Protective field switching by means of control input A and control input B on separate OSSD pairs (simultaneous monitoring)

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.

Protective field switching with two static inputs



E112711/00/2014-03-06


S3000 Cold Store in conjunction with relays/contactors
Protective field switching by means of control inputs A and B

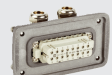




Comments

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.

Recommended accessories

Other models and accessories → www.sick.com/S3000_Cold_Store

	Brief description	Type	Part no.
Drying agent cartridges			
	Dry cartridge	Drying agent cartridge with screw thread M36 x 1.5	5306179

Brief description	Type	Part no.
Plug connectors and cables		
 <ul style="list-style-type: none"> • Connection type head A: Female connector, 16-pin • Description: Unshielded 	16-pin female connector	2018301
Mounting brackets and plates		
 <p>Mounting kit for wall-mounting (adjustment bracket), Steel, zinc coated (1.0330)</p>	Mounting kit	2018303
 <ul style="list-style-type: none"> • Connection type head A: Flying leads • Connection type head B: Flying leads • Cable: 13-wire, AWG20, PVC • Description: Unshielded 	Connecting cable	6025729
 <ul style="list-style-type: none"> • Connection type head A: Flying leads • Connection type head B: Flying leads • Cable: 2-wire, twisted pair, 120 Ohm, PVC • Description: Shielded • Note: Fitting for EFI connections 	EFI connecting cable	6029448
 <ul style="list-style-type: none"> • Signal type: RS-232, RS-422 • Cable: 5 m • Description: RS-232, RS-422, unshielded • Note: Configuration cable pre-assembled for RS-232, for the connection of PCs/ power supply 	Service cable	2019561

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:

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