

# C4C-SA12010A10000

deTec

**SAFETY LIGHT CURTAINS** 





# Ordering information

## deTec4 Core

Resolution	Scanning range	Protective field height	System part	Туре	Part no.
14 mm	10 m	1,200 mm	Sender	C4C- SA12010A10000	1211478

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

Illustration may differ



#### Detailed technical data

#### **Features**

Sub product family	deTec4 Core
Application	Normal industrial environment
System part	Sender
Compatible receiver	1211479
Resolution	14 mm
Scanning range	10 m
Protective field height	1,200 mm
No blind zones	Yes
Synchronization	Optical synchronisation
Items supplied	Sender

## Safety-related parameters

Туре	Type 4 (IEC 61496-1)
Safety integrity level	SIL 3 (IEC 61508)
Category	Category 4 (ISO 13849-1)
Performance level	PL e (ISO 13849-1)
$\ensuremath{PFH_D}$ (mean probability of a dangerous failure per hour)	$3.7 \times 10^{-9}$
T <sub>M</sub> (mission time)	20 years (ISO 13849-1)
Safe state in the event of a fault	At least one OSSD is in the OFF state.

#### **Functions**

Protective operation	✓
Automatic calibration of the protective field width	✓

#### Interfaces

System connection	Male connector M12, 5-pin
Length of cable	150 mm
Cable diameter	4.3 mm
Cable bend radius	
Stationary position	> 12 x cable diameter
Flexible use	> 15 x cable diameter
Display elements	LEDs

#### Electrical data

Protection class	III (IEC 61140)
Supply voltage $V_S$	24 V DC (19.2 V 28.8 V)
Ripple	≤ 10 %
Power consumption typical	1.68 W (DC)

## Mechanical data

Dimensions	See dimensional drawing
Housing material	Aluminum extruded profile

#### Ambient data

Enclosure rating	IP65 (IEC 60529) IP67 (IEC 60529)
Ambient operating temperature	-30 °C +55 °C
Storage temperature	-30 °C +70 °C
Air humidity	15 % 95 %, Non-condensing
Vibration resistance	5 g, 10 Hz 55 Hz (IEC 60068-2-6)
Shock resistance	10 g, 16 ms (IEC 60068-2-27)

## Other information

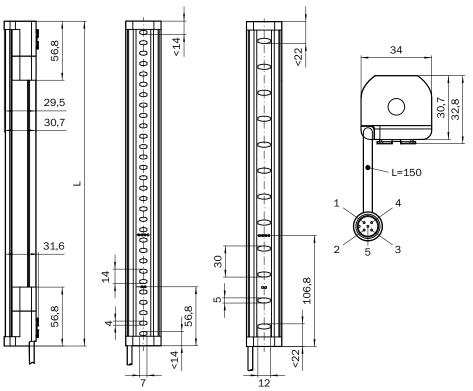
Wave length	850 nm
Type of light	Near-infrared (NIR), invisible

## Classifications

ECLASS 5.0	27272704
ECLASS 5.1.4	27272704
ECLASS 6.0	27272704
ECLASS 6.2	27272704
ECLASS 7.0	27272704
ECLASS 8.0	27272704
ECLASS 8.1	27272704
ECLASS 9.0	27272704
ECLASS 10.0	27272704
ECLASS 11.0	27272704
ECLASS 12.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549

ETIM 7.0	EC002549
ETIM 8.0	EC002549
UNSPSC 16.0901	46171620

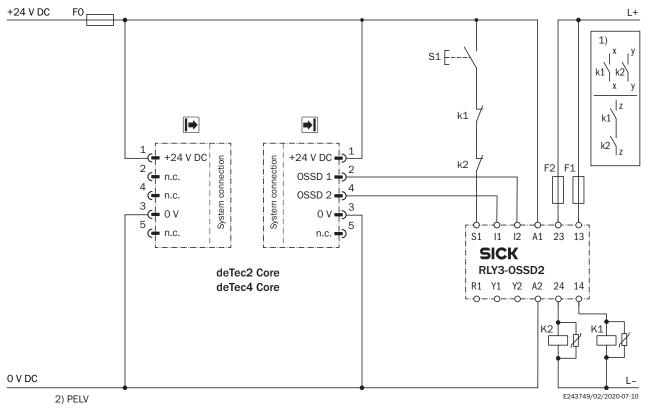
# Dimensional drawing (Dimensions in mm (inch))



Protective field height	L
300 (11.81)	313 (12.32)
450 (17.72)	463 (18.23)
600 (23.62)	613 (24.13)
750 (29.53)	763 (30.04)
900 (35.43)	913 (35.94)
1,050 (41.34)	1,063 (41.85)
1,200 (47.24)	1,213 (47.76)
1,350 (53.15)	1,362 (53.62)
1,500 (59.06)	1,512 (59.53)
1,650 (64.96)	1,662 (65.43)
1,800 (70.87)	1,812 (71.34)
1,950 (76.77)	1,962 (77.24)
2,100 (82.68)	2,112 (83.15)

#### Connection diagram

deTec4 Core safety light curtain to RLY3-OSSD2 safety relay



#### Task

Connection of a deTec4 Core safety light curtain to RLY3-OSSD2.

Operating mode: with restart interlock and external device monitoring.

#### **Function**

When the protective field is clear, the OSSD1 and OSSD2 outputs carry voltage. The system can be switched on when K1 and K2 are in a fault-free de-energized position. The RLY3-OSSD2 is switched on by pressing S1 (pushbutton is pressed and released). The outputs (contacts 13-14 and 23-24) switch the K1 and K2 contactors on. When the protective field is interrupted, the OSSD1 and OSSD2 outputs switch the RLY3-OSSD2 off. Contactors K1 and K2 are switched off.

#### **Fault analysis**

Cross-circuits and short-circuits of the OSSDs are recognized and lead to the locking status (lock-out). A malfunction with one of the K1 or K2 contactors is detected. The switch-off function is retained. In the event of manipulation (e.g., jamming) of the S1 pushbutton, the RLY3-OSSD2 will not re-enable the output current circuits.

#### **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, the integration must be dual-channel (x/y paths). Single-channel integration in the control (z path) is only possible with a single-channel control and by taking the risk analysis into account.

These contacts must be incorporated into the control such that the dangerous state is brought to an end if the output circuit is open. For categories 4 and 3, they must be incorporated on dual-channels (x, y paths). Single-channel incorporation into the control (z path) is only possible with a singlechannel control and taking the risk analysis into account.

<sup>&</sup>lt;sup>2)</sup> SELV/PELV safety extra-low voltage.

#### Recommended accessories

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

	Brief description	Туре	Part no.
est and mor	nitoring tools		
1	14 mm diameter, 250 mm length	Test rod 14 mm	2022599
Distributors			
See.	<ul> <li>Connection type head A: Female connector, M12, 5-pin, A-coded</li> <li>Connection type head B: Male connector, M12, 5-pin, A-coded</li> <li>Connection type head C: Female connector, M12, 5-pin, A-coded</li> <li>Description: T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver</li> <li>Note: 5-pin</li> </ul>	DSC-1205T000025KM0	6030664
Plug connect	ors and cables		
	<ul> <li>Connection type head A: Female connector, M12, 5-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 2 m, 5-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A15-020UB5XLEAX	2095617
	<ul> <li>Connection type head A: Female connector, M12, 5-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 5-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A15-050UB5XLEAX	2095618
	<ul> <li>Connection type head A: Female connector, M12, 5-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 10 m, 5-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A15-100UB5XLEAX	2095619
	<ul> <li>Connection type head A: Female connector, M12, 5-pin, straight, A-coded</li> <li>Connection type head B: Male connector, M12, 5-pin, straight, A-coded</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 2 m, 5-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A15-020UB5M2A15	2096009
	<ul> <li>Connection type head A: Female connector, M12, 5-pin, straight, A-coded</li> <li>Connection type head B: Male connector, M12, 5-pin, straight, A-coded</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 5-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A15-050UB5M2A15	2096010
	<ul> <li>Connection type head A: Female connector, M12, 5-pin, straight, A-coded</li> <li>Connection type head B: Male connector, M12, 5-pin, straight, A-coded</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 10 m, 5-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A15-100UB5M2A15	2096011
Terminal and	alignment brackets		
CA	4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned $\pm$ 15°, including M5 screw, plastic	BEF-1SHABPKU4	2066614

	Brief description	Туре	Part no.		
· W	4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic	BEF-3SHABPKU4	2098710		
Safety switching amplifier					
	<ul> <li>Applications: Evaluation unit</li> <li>Compatible sensor types: Safety sensors with OSSDs</li> <li>Connection type: Front connector with spring terminals</li> <li>Restart interlock: yes</li> <li>External device monitoring (EDM): Integrated</li> <li>Outputs: 2 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe)</li> <li>Housing width: 18 mm</li> </ul>	RLY3-OSSD200	1085344		
	<ul> <li>Applications: Evaluation unit</li> <li>Compatible sensor types: Safety sensors with OSSDs</li> <li>Connection type: Front connector with spring terminals</li> <li>Restart interlock: yes</li> <li>External device monitoring (EDM): Integrated</li> <li>Outputs: 3 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe)</li> <li>Housing width: 18 mm</li> </ul>	RLY3-OSSD300	1099969		

# SICK AT A GLANCE

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