Data sheet



C4C-EB16510A10000

deTec

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
C4C-EB16510A10000	1219549

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

Detailed technical data

Features

Product version	deTec4 Core IP69K
Application	Areas with special hygiene requirements
System part	Receiver
Compatible sender	1219548
Resolution	14 mm
Scanning range	8.5 m
Protective field height	1,650 mm
Response time	19 ms
No blind zones	Yes
Synchronization	Optical synchronization
Items supplied	Receiver in IP69K protective housing with connecting cable, 15 m Test rod with diameter corresponding to the resolution of the safety light curtain Safety instruction Mounting instructions Operating instructions for download

Safety-related parameters

Type	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)
PFH_D (mean probability of a dangerous failure per hour)	3.7×10^{-9}

T_M (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	Connecting cable, 15 m, flying leads, 5-wire
Length of cable	15 m
Cable diameter	5 mm
Cable material	PUR, halogen-free
Conductor cross section	0.34 mm²
Display elements	LEDs

Electronics

Protection class	III (IEC 61140)
Supply voltage V_S	24 V DC (19.2 V ... 28.8 V)
Ripple	≤ 10 %
Power consumption typical	4.08 W (DC)
Output signal switching devices (OSSDs)	
Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored [1)]
ON state, switching voltage HIGH	24 V DC (V_S – 2.25 V DC ... V_S)
OFF state, switching voltage LOW	≤ 2 V DC
Current-carrying capacity per OSSD	≤ 300 mA

[1)] Applies to the voltage range between –30 V and +30 V.

Mechanics

Dimensions	See dimensional drawing
Material	
Protective housing	PMMA
End caps	Stainless steel 1.4404
Cable glands	Stainless steel 1.4404 including silicone seal
Compensating element (membrane)	PA 6

Ambient data

Enclosure rating	IP65 (IEC 60529) IP66 (IEC 60529) IP67 (IEC 60529) IP69K (ISO 20653)
Ambient operating temperature	–30 °C ... +55 °C
Storage temperature	–30 °C ... +70 °C
Air humidity	15 % ... 95 %, Non-condensing
Vibration resistance	5 ... 150 Hz, 3,5 mm / 1 g (EN 60068-2-6)
Shock resistance	15 g / 6 ms (EN 60068-2-27)
Class	3M4 (IEC TR 60721-4-3)

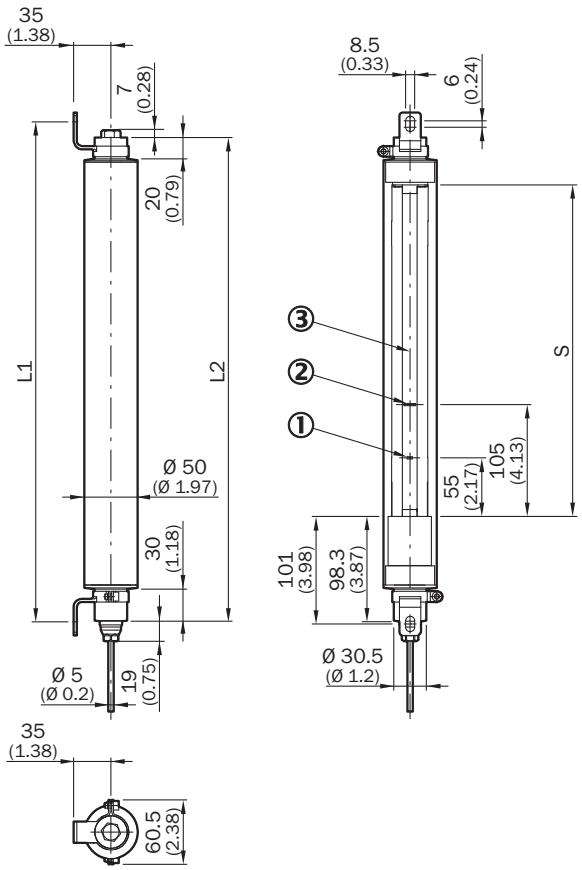
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
ECOLAB certificate	✓
ULus approval	✓
cUL approval	✓
diversey certificate	✓
Taiwan OSHA certificate	✓
Japan Press Safety certificate	✓
EC-Type-Examination approval	✓
China GB/T certificate	✓

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

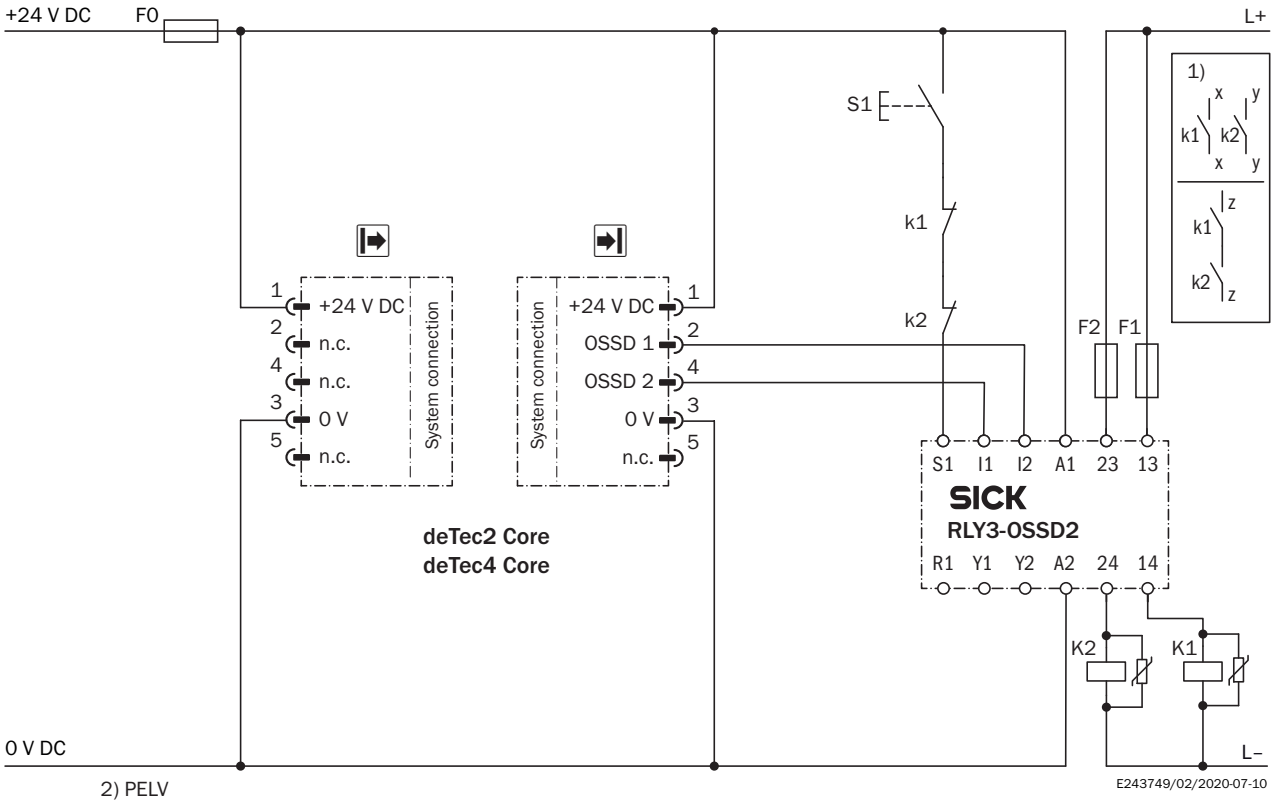
Dimensional drawing



Dimensions in mm (inch)
① Operating indicator
② Alignment indicator
③ Optical axis

	S	L1	L2
300	311	469	454
450	461	619	604
600	611	769	754
750	761	919	904
900	911	1,069	1,054
1,050	1,061	1,219	1,204
1,200	1,211	1,369	1,354
1,350	1,361	1,519	1,504
1,500	1,511	1,669	1,654
1,650	1,661	1,819	1,804
1,800	1,811	1,969	1,954

DeTec4 Core IP69K safety light curtain to RLY3-OSSD2 safety relay



Task

Connection of a deTec4 Core IP69K or deTec2 Core IP69K 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

[1] Output circuits: 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). Type 2 devices are suitable for use up to PL c. Single-channel incorporation into the control (z path) is only possible with a singlechannel control and taking the risk analysis into account.

[2] SELV/PELV safety extra-low voltage.

Connection	Color-coded connecting cable	Sender	Receiver
1	Brown	+24 V DC	+24 V DC
2	White	Reserved	OSSD 1
3	Blue	0 V DC	0 V DC
4	Black	Reserved	OSSD 2
5	Gray	-	-

Recommended accessories

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

	Brief description	Type	part no.
Safety relays			
	• **Applications:** Evaluation unit • **Compatible sensor types:** Safety sensors with OSSDs • **Connection type:** Front connector with spring terminals • **Restart interlock:** yes • **External device monitoring (EDM):** Integrated • **Outputs:** 3 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) • **Housing width:** 18 mm	RLY3-0SSD300	1099969
	• **Applications:** Evaluation unit • **Compatible sensor types:** Safety sensors with OSSDs • **Connection type:** Front connector with spring terminals • **Restart interlock:** yes • **External device monitoring (EDM):** Integrated • **Outputs:** 2 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) • **Housing width:** 18 mm	RLY3-0SSD200	1085344
Mounting systems			
	• **Description:** Stainless steel bracket, rotatable • **Material:** Stainless steel • **Details:** Stainless steel 1.4350, stainless steel 1.4301 • **Packing unit:** 4 pieces	BEF-2SMMEAES4	2023708
	• **Description:** Stainless steel support bracket • **Material:** Stainless steel • **Details:** Stainless steel 1.4350 • **Packing unit:** 2 pieces	BEF-2AAAADES2	2026849
	• **Description:** Reinforced stainless steel bracket, rotatable • **Material:** Stainless steel • **Details:** Stainless steel 1.4350, stainless steel 1.4301 • **Packing unit:** 4 pieces	BEF-2SMMVAES4	2026850
	• **Description:** Reinforced stainless steel bracket, rotatable • **Material:** Stainless steel • **Details:** Stainless steel 1.4350, stainless steel 1.4301 • **Packing unit:** 2 pieces	BEF-2SMMVAES2	2048373

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.”

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