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DATA SHEET

**C4C-EC04010A10000**

C4-RD  
Safety light curtains

**SICK** Sensor Intelligence

## SAFETY LIGHT CURTAINS

C4C-  
EC04010A10000

## ORDERING INFORMATION

Type	part no.
C4C-EC04010A10000	<a href="#">1113207</a>

Further device versions and accessories at [www.sick.com/C4-RD](http://www.sick.com/C4-RD)



Illustration may differ

## DETAILED TECHNICAL DATA

## FEATURES

System part	Receiver
Compatible sender	1112990
Resolution	14 mm
Scanning range	4.5 m
Protective field height	400 mm
Response time	11 ms
No blind zones	Yes
Synchronization	Optical synchronization
Items supplied	Receiver 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 <sub>d</sub> (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	✓
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**INTERFACES**

System connection	Plug, M12, 5-pin
Display elements	LEDs

**ELECTRONICS**

Protection class	III (IEC 61140)
Supply voltage $V_s$	24 V DC (19.2 V ... 28.8 V)
Ripple	$\leq 10\%$ <sup>1)</sup>
Power consumption typical	2.54 W (DC)
Output signal switching devices (OSSDs)	
Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>2)</sup>
ON state, switching voltage HIGH	24 V DC ( $V_s - 2.25$ V DC ... $V_s$ )
OFF state, switching voltage LOW	$\leq 2$ V DC
Current-carrying capacity per OSSD	$\leq 300$ mA

<sup>1)</sup> Within the limits of  $V_s$ .

<sup>2)</sup> Applies to the voltage range between -30 V and +30 V.

**MECHANICS**

Dimensions	See dimensional drawing
Housing material	Aluminum extruded profile
Weight	367 g ( $\pm 50$ g)

**AMBIENT DATA**

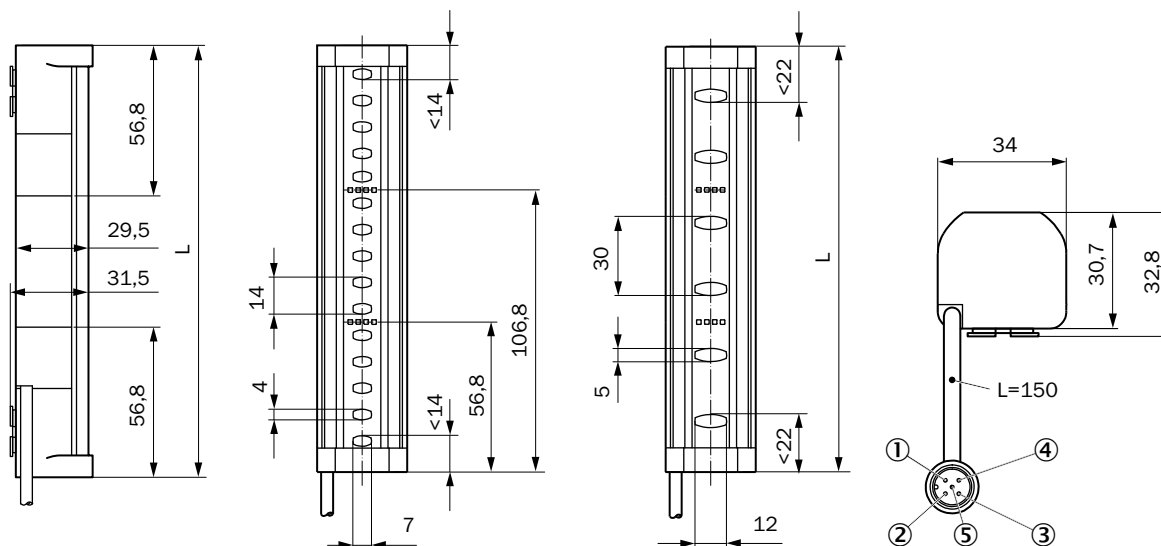
Enclosure rating	IP65 (IEC 60529) IP67 (IEC 60529)
Ambient operating temperature	-30 °C ... +55 °C
Storage temperature	-30 °C ... +70 °C
Air humidity	15 % ... 95 %, Non-condensing
Vibration resistance	5 ... 150 Hz, 3,5 mm / 1 g (EN 60068-2-6)
Shock resistance	15 g / 6 ms (EN 60068-2-27)
Class	3M4 (IEC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

**CERTIFICATES**

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ULus approval	✓
cUL approval	✓
Japan Press Safety certificate	✓
EC-Type-Examination approval	✓

Information according to Art. 3 of Data Act (Regulation EU 2023/2854) ✓

**DIMENSIONAL DRAWING**

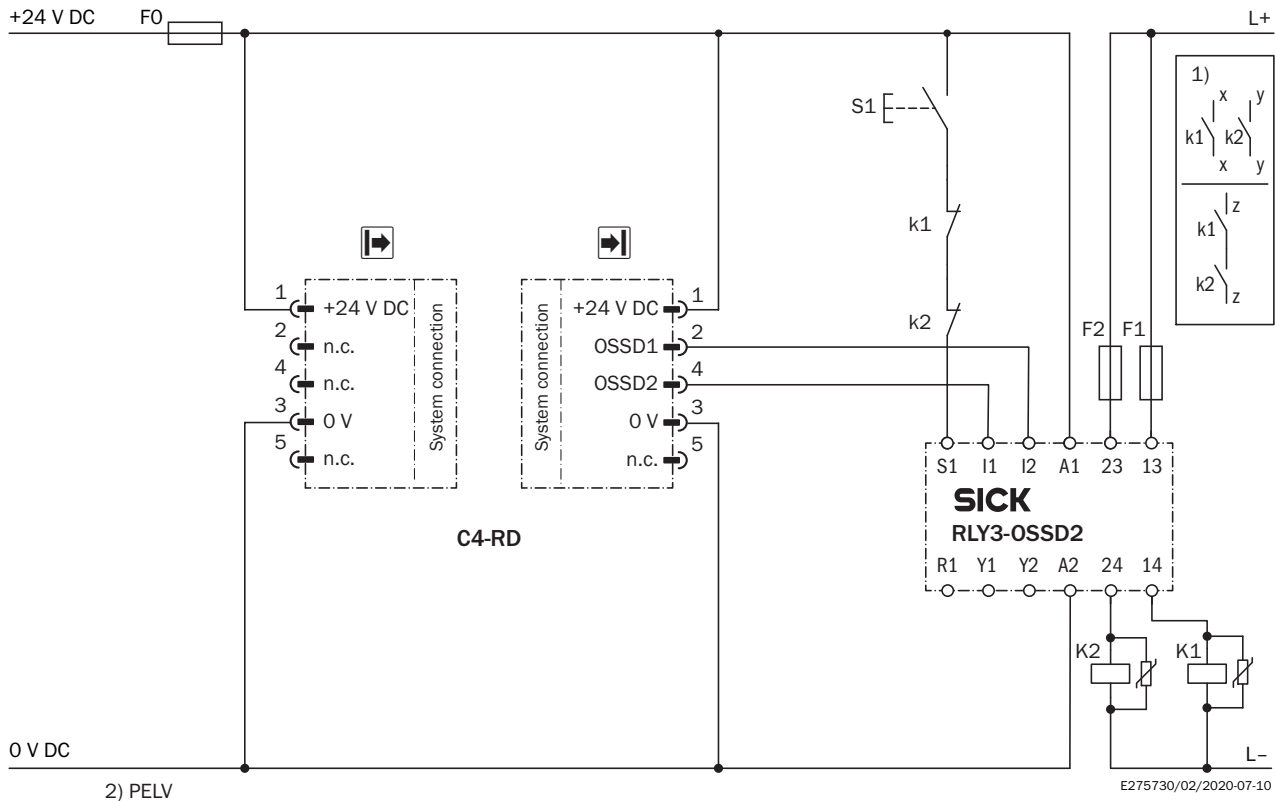


Dimensions in mm (inch)

- ① +24 V DC
- ② Sender: Reserved, receiver: OSSD1
- ③ 0 V DC
- ④ Sender: Reserved, receiver: OSSD2
- ⑤ Not assigned

Protective field height	L
150	163
200	213
250	263
300	313
350	363
400	413
450	463
500	513
550	563
600	613
750	763
900	913
1.050	1.063
1.200	1.213

## CONNECTION DIAGRAM C4-RD SAFETY LIGHT CURTAIN ON RLY3-OSSD200 SAFETY RELAY



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). Single-channel incorporation into the control (z path) is only possible with a single-channel control and taking the risk analysis into account.

② SELV/PELV safety/protective extra-low voltage.

Task

Connection of a C4-RD safety light curtain to a RLY3-OSSD2 safety relay. Operating mode: With restart interlock and external device monitoring.

Mode of operation

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.

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1113207](http://www.sick.com/1113207)



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Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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