



DATA SHEET

C4C-EC12030A10000

C4-RD
Safety light curtains

SICK

Sensor Intelligence



Illustration may differ

SAFETY LIGHT CURTAINS

C4C-EC12030A10000

ORDERING INFORMATION

Type	part no.
C4C-EC12030A10000	1113222

Further device versions and accessories at www.sick.com/C4-RD



DETAILED TECHNICAL DATA

FEATURES

System part	Receiver
Compatible sender	1113245
Resolution	30 mm
Scanning range	4.5 m
Protective field height	1,200 mm
Response time	12 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 _d (mean probability of a dangerous failure per hour)	3.7 x 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	✓
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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	$\leq 10\%$ ¹⁾
Power consumption typical	2.67 W (DC)
Output signal switching devices (OSSDs)	
Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored ²⁾
ON state, switching voltage HIGH	24 V DC ($V_s - 2.25\text{ V DC} \dots V_s$)
OFF state, switching voltage LOW	$\leq 2\text{ V DC}$
Current-carrying capacity per OSSD	$\leq 300\text{ mA}$

¹⁾ Within the limits of V_s .

²⁾ Applies to the voltage range between -30 V and +30 V.

MECHANICS

Dimensions	See dimensional drawing
Housing material	Aluminum extruded profile
Weight	1,067 g ($\pm 50\text{ g}$)

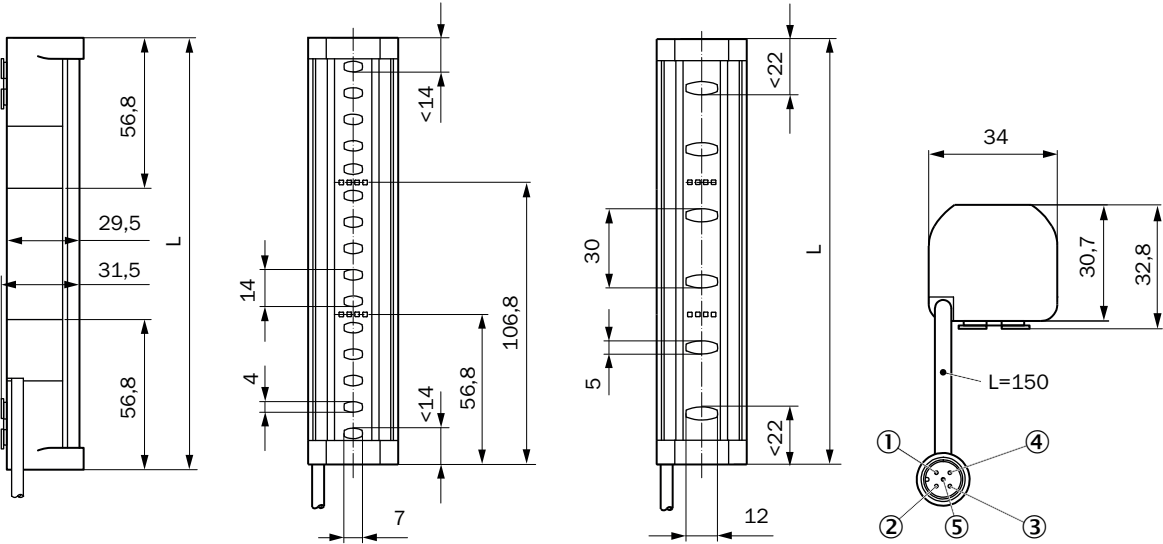
AMBIENT DATA

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

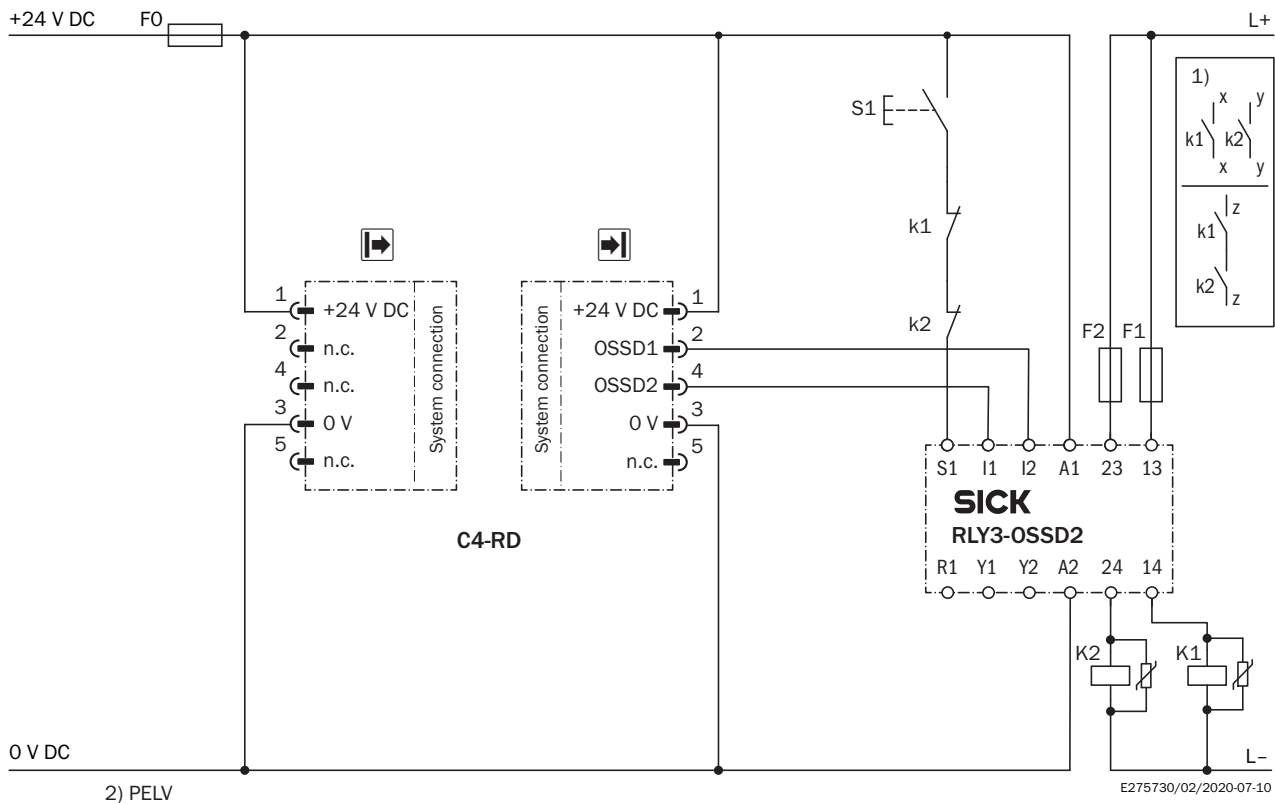


Dimensions in mm (inch)

- 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/1113222



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SICK AT A GLANCE

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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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