



C4C-SA15030A10000

deTec

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Ordering information

deTec4 Core

Resolution	Scanning range	Protective field height	System part	Type	Part no.
30 mm	15 m	1,500 mm	Sender	C4C-SA15030A10000	1211505

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

Illustration may differ



Detailed technical data

Features

Application	Normal industrial environment
System part	Sender
Compatible receiver	1211506
Resolution	30 mm
Scanning range	15 m
Protective field height	1,500 mm
No blind zones	Yes
Synchronization	Optical synchronisation
Items supplied	Sender

Safety-related parameters

Type	Type 4 (IEC 61496-1)
Safety integrity level	SIL3 (IEC 61508) SILCL3 (IEC 62061)
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	Male connector M12, 5-pin
Display elements	LEDs
Fieldbus, industrial network Integration via Flexi Soft safety controller	CANopen ¹⁾ DeviceNet™ EtherCAT® EtherNet/IP™ Modbus TCP PROFIBUS DP PROFINET

¹⁾ For additional information on Flexi Soft -> www.sick.com/Flexi_Soft.

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	1.2 W (DC)

Mechanical data

Dimensions	See dimensional drawing
Housing material	Aluminum extruded profile
Bending radius	
Stationary position	> 12 x cable diameter
Flexible use	> 15 x cable diameter

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	IEC 60068-2-6
Shock resistance	10 g, 16 ms (IEC 60068-2-27)

Other information

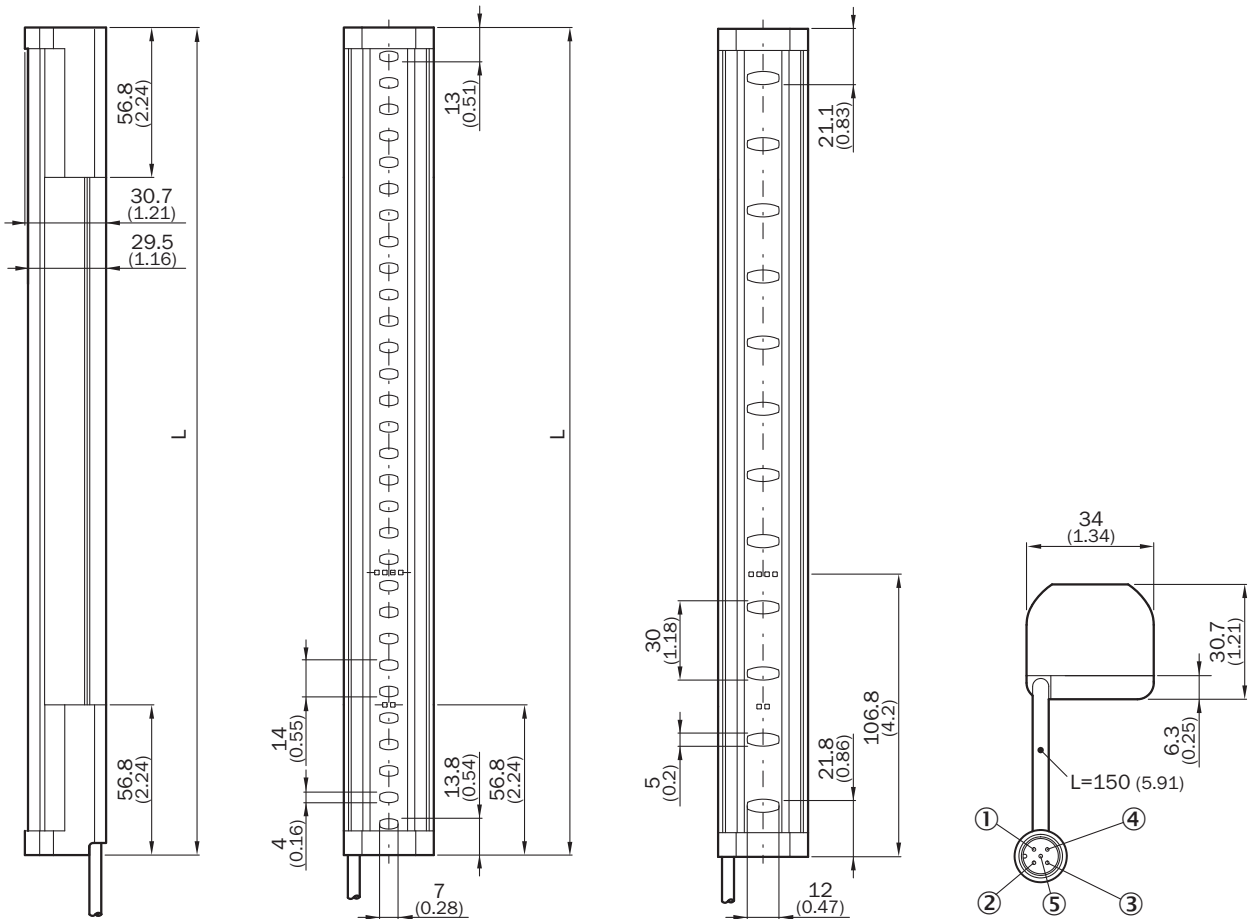
Wave length	850 nm
Type of light	Near-infrared (NIR), invisible

Classifications

ECl@ss 5.0	27272704
ECl@ss 5.1.4	27272704
ECl@ss 6.0	27272704
ECl@ss 6.2	27272704
ECl@ss 7.0	27272704
ECl@ss 8.0	27272704
ECl@ss 8.1	27272704
ECl@ss 9.0	27272704

ECl@ss 10.0	27272704
ECl@ss 11.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
UNSPSC 16.0901	46171620

Dimensional drawing (Dimensions in mm (inch))

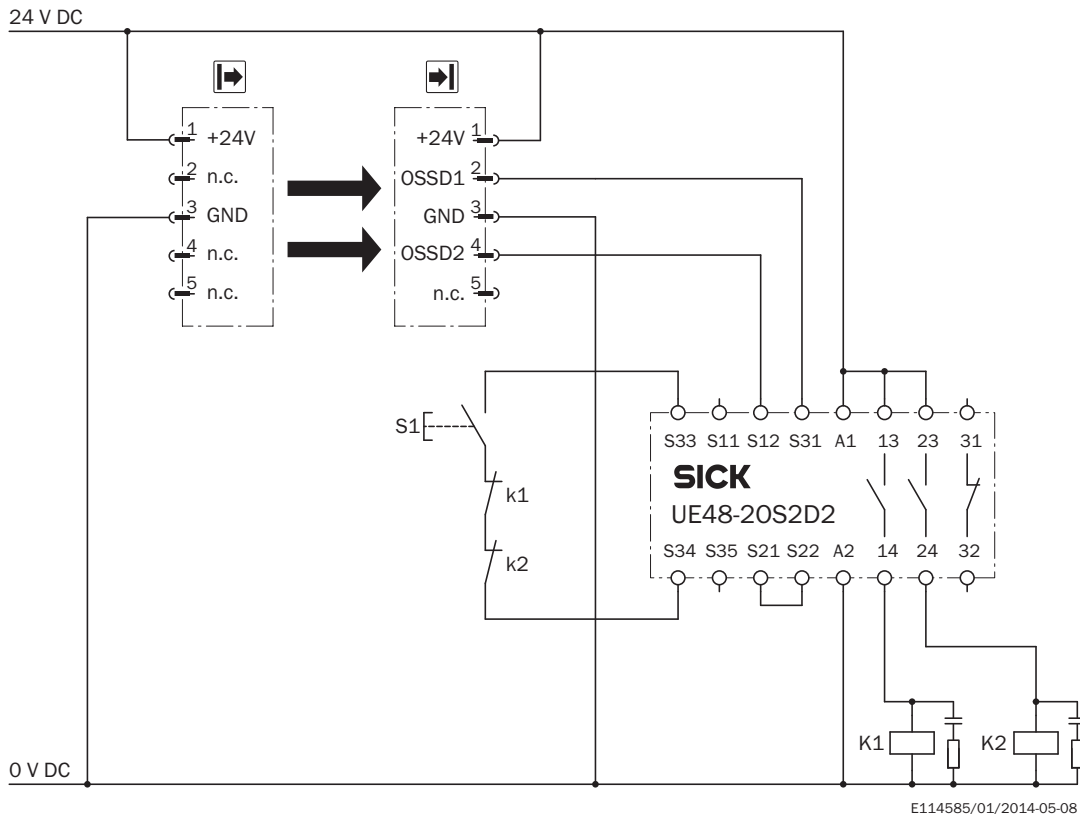


Protective field height	L
300 (11.81)	313 (12.32)
450 (17.72)	463 (18.23)
600 (23.62)	613 (24.13)
750 (29.53)	763 (30.04)
900 (35.43)	913 (35.94)
1,050 (41.34)	1,063 (41.85)
1,200 (47.24)	1,213 (47.76)
1,350 (53.15)	1,362 (53.62)
1,500 (59.06)	1,512 (59.53)

Protective field height	L
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 UE48-20S safety relay



Task

Connection of a deTec4 Core safety light curtain to a UE48-20S.

Operating mode: With restart interlock and external device monitoring

Mode of operation

When the light path is clear, the OSSD1 and OSSD2 outputs carry voltage. When K1 and K2 are in a fault-free de-energized position, the system can be switched on and waits for an input signal/switch-on signal. The UE48-20S is switched on by pressing and then releasing the S1 pushbutton. The outputs (contacts 13 - 14 and 23 - 24) switch the K1 and K2 contactors on. When one or more light beams are interrupted, the OSSD1 and OSSD2 outputs switch off the UE48-20S. Contactors K1 and K2 are switched off.

Fault analysis

Cross-circuits and short-circuits of the OSSDs are recognized and lead to the locking state (lock-out). A malfunction with one of the K1 or K2 contactors is detected. The shut-down function is retained. In the event of manipulation (e.g., jamming) of the S1 pushbutton, the UE48-20S 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 two 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.

Recommended accessories

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

Brief description	Type	Part no.
Terminal and alignment brackets		
 <p>4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned ± 15°, including M5 screw, plastic</p>	BEF-1SHABPKU4	2066614
 <p>4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic</p>	BEF-3SHABPKU4	2098710
Adapters and distributors		
 <p>T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver, 5-pin</p>	DSC-1205T000025KM0	6030664
Plug connectors and cables		
 <p>Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m</p>	YF2A15-020UB5XLEAX	2095617
<p>Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m</p>	YF2A15-050UB5XLEAX	2095618
<p>Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m</p>	YF2A15-100UB5XLEAX	2095619
 <p>Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m</p>	YF2A15-020UB5M2A15	2096009
<p>Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m</p>	YF2A15-050UB5M2A15	2096010
<p>Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m</p>	YF2A15-100UB5M2A15	2096011
Test and monitoring tools		
<p>30 mm diameter</p>	Test rod 30 mm	2022602

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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.

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