



C40S-1202FY010

C4000 Fusion

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
C40S-1202FY010	1043190

Other models and accessories → www.sick.com/C4000_Fusion

Detailed technical data

Features

Resolution	20 mm
Protective field height	1,200 mm
Scanning range	0.5 m ... 19 m, configurable
Synchronization	Optical synchronisation

Safety-related parameters

Type	Type 4 (IEC 61496)
Safety integrity level	SIL3 (IEC 61508) SILCL3 (EN 62061)
Category	Category 4 (EN ISO 13849)
Performance level	PL e (EN ISO 13849)
PFH_D (mean probability of a dangerous failure per hour)	1.5 x 10 ⁻⁸ (EN ISO 13849)
T_M (mission time)	20 years (EN ISO 13849)
Safe state in the event of a fault	At least one OSSD is in the OFF state.

Functions

	Functions	Delivery status
Restart interlock	✓	Internal
External device monitoring (EDM)	✓	Deactivated
Beam coding	✓	Code 1
Configurable scanning range	✓	1.5 m ... 6 m
Multiple sampling	✓	2x evaluation
Direction monitoring	✓	
Reduced resolution	✓	Deactivated
Sensor gap monitoring	✓	
Sequence monitoring	✓	
Fixed blanking	✓	
Object pattern recognition	✓	
Goods detection	✓	
Object size monitoring	✓ ¹⁾	
Teach-in of individual objects	✓	

¹⁾ Only in case when blanking of a single object is configured .

	Functions	Delivery status
Object gap suppression	✓ ¹⁾	
Palett detection	✓	
Object entry monitoring	✓	
Detection of geometrically even objects	✓	
Safe SICK device communication via EFI	✓	

¹⁾ Only in case when blanking of a single object is configured .

Interfaces

System connection	
Connection type	Hirschmann male connector M26, 12-pin
Permitted cable length	≤ 50 m
Conductor cross-section	0.75 mm ²
Configuration connection	
Connection type	Female connector M8, 4-pin
Configuration method	PC with CDS (Configuration and Diagnostic Software)
SDL interface	✓
Display elements	7-segment display
Fieldbus, industrial network	
Integration via EFI gateways	CANopen, Ethernet, PROFIBUS DP, PROFIBUS PROFI-safe, PROFINET PROFI-safe ¹⁾
Integration via Flexi Soft safety controller	CANopen, DeviceNet™, EtherCAT®, EtherNet/IP™, Modbus TCP, PROFIBUS DP, PROFINET ²⁾

¹⁾ For a suitable EFI-gateway see modules and gateways in the accessory section of connection systems.

²⁾ For additional information on Flexi Soft -> www.sick.com/Flexi_Soft.

Electrical data

Protection class	III (EN 50178)
Power consumption	≤ 1 A

Mechanical data

Housing cross-section	48 mm x 40 mm
Weight	2,530 g

Ambient data

Enclosure rating	IP65 (EN 60529)
Ambient operating temperature	0 °C ... +55 °C
Storage temperature	-25 °C ... +70 °C
Air humidity	15 % ... 95 %, Non-condensing
Vibration resistance	5 g, 10 Hz ... 55 Hz (EN 60068-2-6)
Shock resistance	10 g, 16 ms (EN 60068-2-27)

Other information

Wave length	950 nm
Integrated laser alignment aid	✓
Light source	LED
Laser class	1 (IEC 60825-1), eye-safe

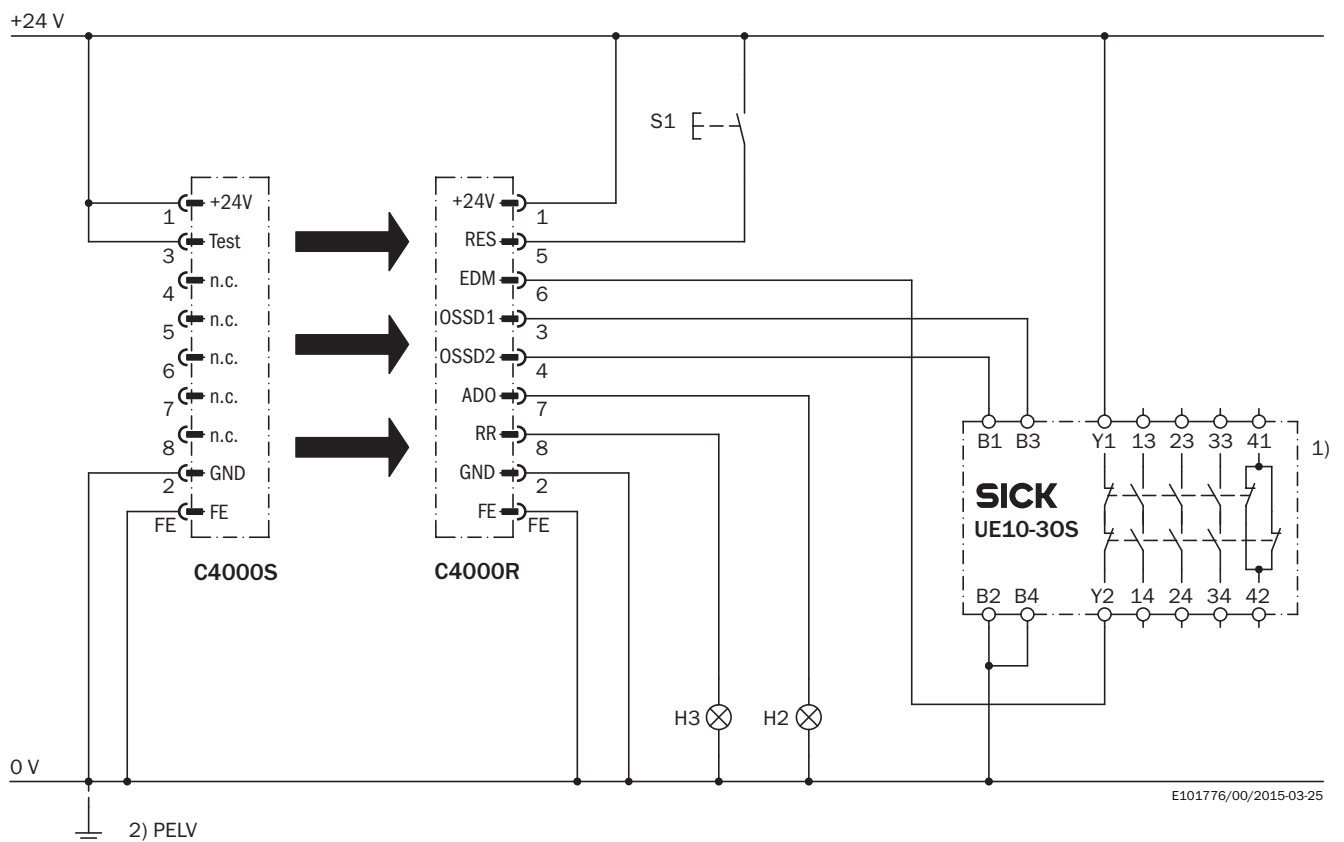
Type of light	Visible red light
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Classifications

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
ETIM 5.0	EC002549
ETIM 6.0	EC002549
UNSPSC 16.0901	46171620

Connection diagram

C4000 safety light curtain to UE10-30S safety relay



Task

Connection of a C4000 Standard/Advanced/Palletizer/Fusion safety light curtain to UE10-30S. Operating mode with restart interlock and external device monitoring.

Function

When the light path is clear and the UE10-30S is de-energized and functioning correctly, the yellow LED on the receiver and the H3 lamp flash. The system is ready to be switched on. The system is enabled by pressing S1 (button is pressed and released).

The OSSD1 and OSSD2 outputs are live, and the UE10-30S is switched on. Upon the interruption of one of the light beams, the UE10-30S is deactivated by the OSSD1 and OSSD2 outputs.

Possible faults

Cross-circuits and short-circuits of the OSSDs are detected and lead to the inhibited state (lock-out). The incorrect functioning of the UE10-30S will be detected, but will not result in the loss of the shutdown function. Jamming of the S1 button prevents the output circuit from enabling. H2 lamp is illuminated if there is contamination (adjustable parameter).

Comments








¹⁾ 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, this 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 taking the risk analysis into account.

²⁾ PELV as required in EN 60204-1 / 6.4

The related operating instructions for the integrated devices must be observed.

Recommended accessories

Other models and accessories → www.sick.com/C4000_Fusion

	Brief description	Type	Part no.
Mounting brackets and plates			
	4 pieces, Mounting kit 1, mounting bracket, rigid, L-shaped, including fixing screws and washers	BEF-3WNGBAST4	7021352
Other mounting accessories			
	2 pieces, Floor stands for the horizontal mounting of the safety light curtains C4000 Fusion, Entry/Exit, Palletizer, as well as the multi-beam safety light curtain M4000 Area, for mounting heights of between 70 mm and 780 mm., Includes mounting bracket	BEF-3HHOCAST2	2041661
Terminal and alignment brackets			
	4 pieces, Mounting kit 6, side bracket, rotatable, Zinc diecast	BEF-1SHABAZN4	2019506
	4 pieces, Omega bracket, rotatable, fixable with only one screw, for mounting on the swivel mount	BEF-2SMMEAAL4	2044847
	4 pieces, Mounting kit 2, rotatable, swivel mount, Polyamide PA6	BEF-2SMMEAUK4	2019659
	4 pieces, Reinforced stainless steel bracket, rotatable, stainless steel 1.4350, stainless steel 1.4301	BEF-2SMMVAES4	2026850
Switching amplifiers			
	Expands C4000 Standard, Advanced, Palletizer, Entry/Exit and Fusion with the functions described in the technical data, e.g., bypass, operating mode switching or in addition PSDI mode on C4000 Standard, Advanced.	UE402	1023577
Plug connectors and cables			
	Head A: female connector, M26, 12-pin, straight Head B: open cable ends Cable: PVC, unshielded, 5 m Without EFL: Pin 9 and 10 not connected	DOL-0610G05M075KM1	2046888

Brief description		Type	Part no.
	Head A: female connector, M26, 12-pin, straight Head B: open cable ends Cable: PVC, unshielded, 10 m Without EFI: Pin 9 and 10 not connected	DOL-0610G10M075KM1	2046889
	Head A: female connector, M26, 12-pin, straight Head B: open cable ends Cable: PVC, unshielded, 5 m	DOL-0612G05M075KM0	2022545
	Head A: female connector, M26, 12-pin, straight Head B: open cable ends Cable: PVC, unshielded, 10 m	DOL-0612G10M075KM0	2022547
	Head A: female connector, M26, 12-pin, straight Head B: open cable ends Cable: PVC, unshielded, 15 m	DOL-0612G15M075KM0	2022548
	Head A: female connector, M26, 12-pin, straight Head B: open cable ends Cable: PVC, unshielded, 20 m	DOL-0612G20M075KM0	2022549
	Head A: female connector, M26, 12-pin, straight Head B: open cable ends Cable: PVC, unshielded, 50 m	DOL-0612G50M075KM0	2033548
	Head A: male connector, M8, 4-pin, straight Head B: male connector, USB-A, straight Cable: PVC, unshielded, 2 m	DSL-8U04G02M025KM1	6034574
	Head A: male connector, M8, 4-pin, straight Head B: male connector, USB-A, straight Cable: PVC, unshielded, 10 m	DSL-8U04G10M025KM1	6034575
	Head A: female connector, M26, 12-pin, straight Cable: unshielded 12 crimping contacts enclosed	DOS-0612G000GA3KM0	6020757
	Head A: female connector, M26, 12-pin, angled Cable: unshielded 12 crimping contacts enclosed	DOS-0612W000GA3KM0	6020758
	Head A: male connector, M26, 12-pin, straight Cable: unshielded 12 crimping contacts enclosed	STE-0612G000GA3KM0	6021191
	Head A: male connector, M26, 12-pin, angled Cable: unshielded 12 crimping contacts enclosed	STE-0612W000GA3KM0	6021192
Alignment aids			
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!	AR60	1015741
	Adapter AR60 for housing cross-section 48 mm x 40 mm	AR60 adapter, 48x40	4032461
	Adapter AR60 for housing cross-section 48 mm x 40 mm in PU3H device column	AR60 adapter, 48x40, PU3H	4056731
Test and monitoring tools			
	20 mm diameter	Test rod 20 mm	2022600

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com