



# C40S-1502FY010

C4000 Fusion

SAFETY LIGHT CURTAINS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
C40S-1502FY010	1043194

Other models and accessories → [www.sick.com/C4000\\_Fusion](http://www.sick.com/C4000_Fusion)



## Detailed technical data

## Features

<b>Resolution</b>	20 mm
<b>Protective field height</b>	1,500 mm
<b>Scanning range</b>	1.5 m ... 21 m, configurable
<b>Synchronization</b>	Optical synchronisation

## Safety-related parameters

<b>Type</b>	Type 4 (IEC 61496-1)
<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (EN 62061)
<b>Category</b>	Category 4 (EN ISO 13849)
<b>Performance level</b>	PL e (EN ISO 13849)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$1.5 \times 10^{-8}$ (EN ISO 13849)
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

## Functions

	Functions	Delivery status
<b>Restart interlock</b>	✓	Internal
<b>External device monitoring (EDM)</b>	✓	Deactivated
<b>Beam coding</b>	✓	Code 1
<b>Configurable scanning range</b>	✓	
<b>Multiple sampling</b>	✓	2x evaluation
<b>Direction monitoring</b>	✓	
<b>Reduced resolution</b>	✓	Deactivated
<b>Sensor gap monitoring</b>	✓	
<b>Sequence monitoring</b>	✓	
<b>Fixed blanking</b>	✓	
<b>Object pattern recognition</b>	✓	

<sup>1)</sup> Only in case when blanking of a single object is configured .

	Functions	Delivery status
<b>Goods detection</b>	✓	
Object size monitoring	✓ <sup>1)</sup>	
Teach-in of individual objects	✓	
Object gap suppression	✓ <sup>1)</sup>	
<b>Palett detection</b>	✓	
<b>Object entry monitoring</b>	✓	
<b>Detection of geometrically even objects</b>	✓	
<b>Safe SICK device communication via EFI</b>	✓	

<sup>1)</sup> Only in case when blanking of a single object is configured .

## Interfaces

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

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

<sup>2)</sup> For additional information on Flexi Soft -> [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft).

## Electrical data

<b>Protection class</b>	III (IEC 61140)
<b>Power consumption</b>	1 A

## Mechanical data

<b>Housing cross-section</b>	48 mm x 40 mm
<b>Weight</b>	3,110 g

## Ambient data

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

## Other information

<b>Wave length</b>	950 nm
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<b>Integrated laser alignment aid</b>	✓
Light source	LED
Laser class	1 (IEC 60825-1), eye-safe
Type of light	Visible red light

### Classifications

<b>ECl@ss 5.0</b>	27272704
<b>ECl@ss 5.1.4</b>	27272704
<b>ECl@ss 6.0</b>	27272704
<b>ECl@ss 6.2</b>	27272704
<b>ECl@ss 7.0</b>	27272704
<b>ECl@ss 8.0</b>	27272704
<b>ECl@ss 8.1</b>	27272704
<b>ECl@ss 9.0</b>	27272704
<b>ETIM 5.0</b>	EC002549
<b>ETIM 6.0</b>	EC002549
<b>UNSPSC 16.0901</b>	46171620

## Dimensional drawing (Dimensions in mm (inch))

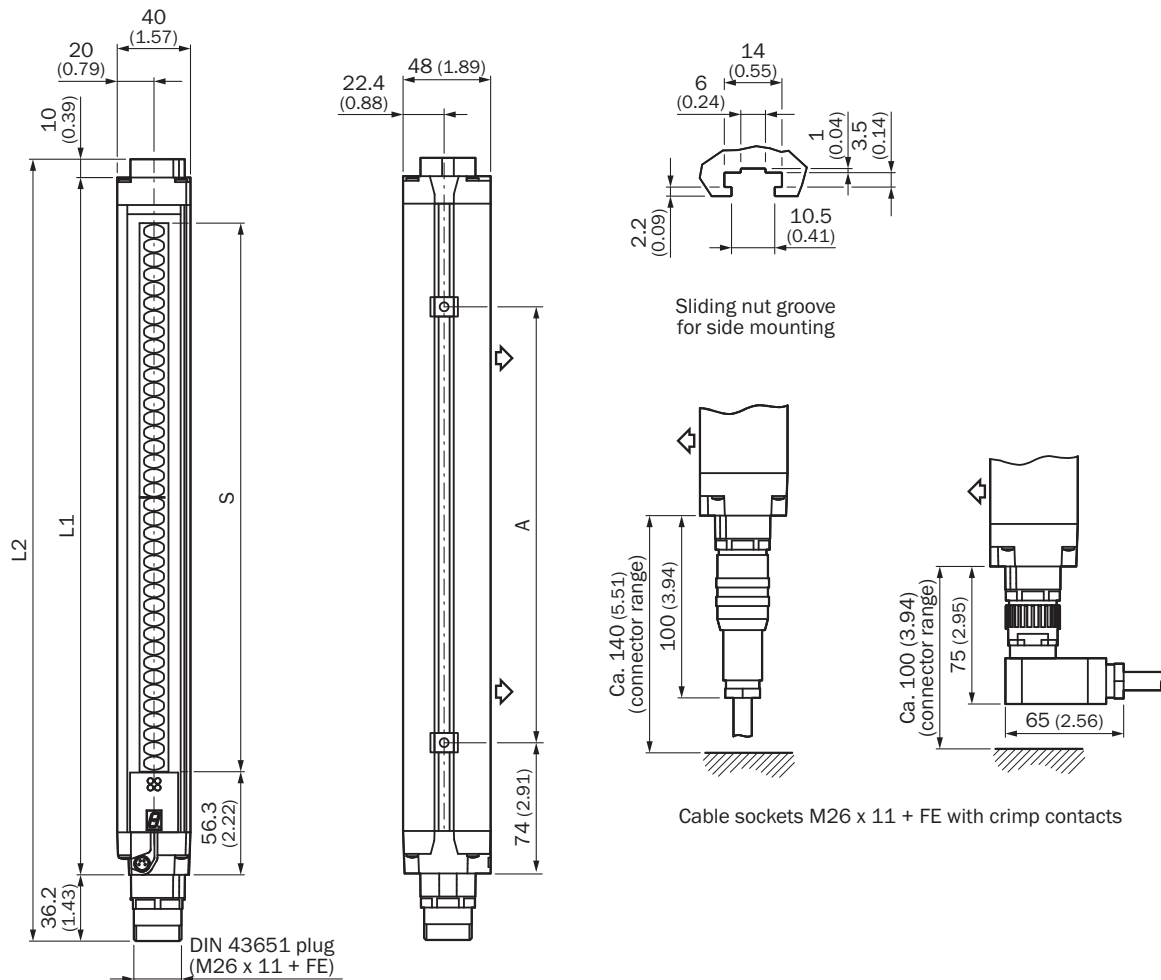
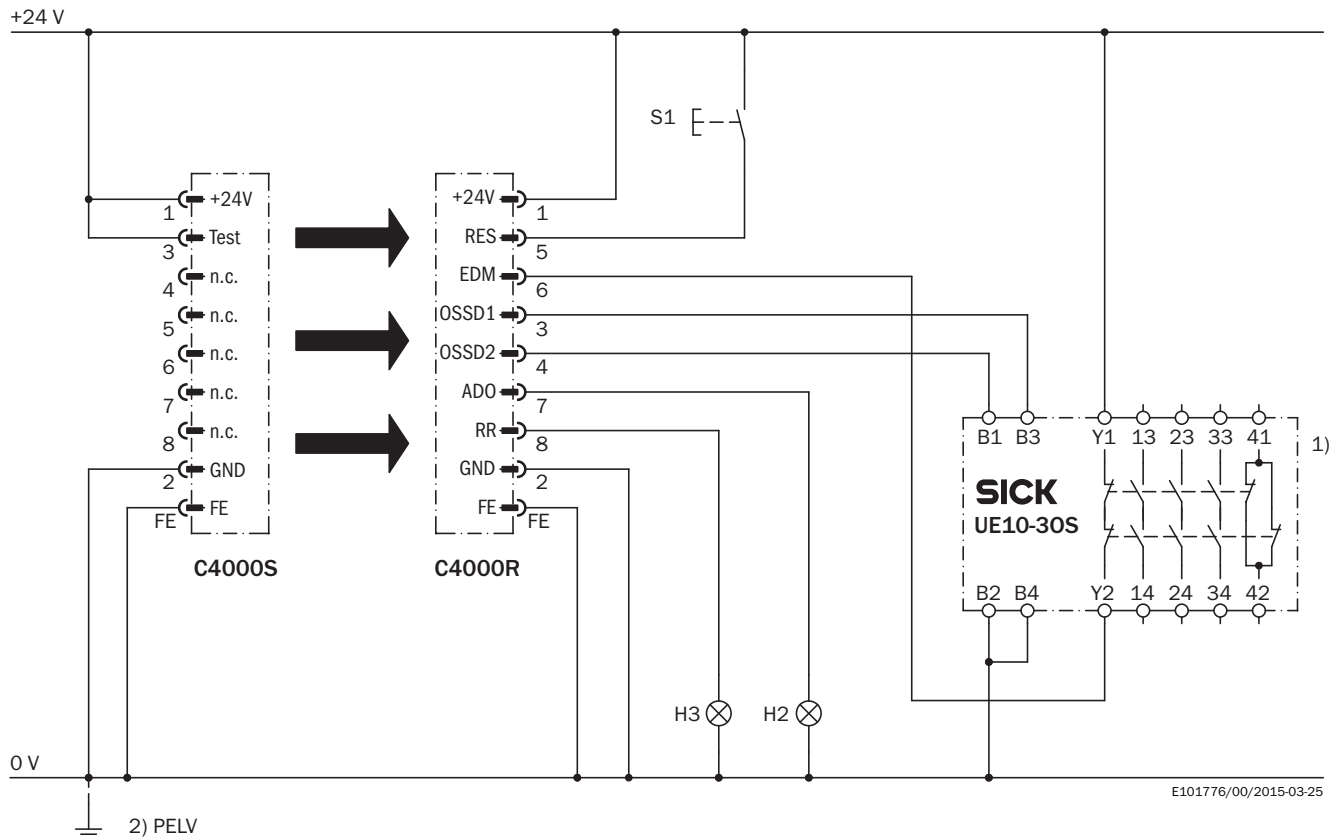


Illustration sender (receiver mirror image)

Protective field height S	L1	L2	A
300	381	427	224
450	532	578	374
600	682	728	524
750	833	879	674
900	984	1.030	824
1.050	1.134	1.180	974
1.200	1.283	1.329	1.124
1.350	1.435	1.481	1.274
1.500	1.586	1.632	1.424
1.650	1.736	1.782	1.574
1.800	1.887	1.933	1.724

### 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







<sup>1)</sup> 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.

<sup>2)</sup> 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](http://www.sick.com/C4000_Fusion)

	Brief description	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
Plug connectors and cables				
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads Cable: PVC, unshielded, 5 m Without EFI: Pin 9 and 10 not connected		DOL-0610G05M075KM1	2046888
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads 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: Flying leads Cable: PVC, unshielded, 5 m		DOL-0612G05M075KM0	2022545
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads Cable: PVC, unshielded, 10 m		DOL-0612G10M075KM0	2022547
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads Cable: PVC, unshielded, 15 m		DOL-0612G15M075KM0	2022548
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads Cable: PVC, unshielded, 20 m		DOL-0612G20M075KM0	2022549

	Brief description	Description	Type	Part no.
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads 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
Switching amplifiers				
		UE402	UE402	1023577



## 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](http://www.sick.com)