



# EXP-09C6402A020

C4000 Fusion Ex

**SAFETY LIGHT CURTAINS**

**SICK**  
Sensor Intelligence.



### Ordering information

Resolution	Scanning range	Protective field height	System part	Type	Part no.
30 mm	17.6 m	900 mm	Pair	EXP-09C6402A020	1097727

Sensor pre-assembled in explosion-proof enclosure including connecting cable (30 m, 12-wire, flying leads) and an enclosed connection cable for configuration and diagnostics. Depending on national regulations and requirements, a cable gland may have to be installed. The cable gland is available as an accessory.

Other models and accessories → [www.sick.com/C4000\\_Fusion\\_Ex](http://www.sick.com/C4000_Fusion_Ex)

Illustration may differ



### Detailed technical data

#### Features

<b>Application</b>	Explosive areas
<b>Ex-approvals</b>	ATEX for gas: II 2 G Ex db IIB T6 ATEX for dust: II 2 D Ex tb IIIC T56 °C Db IP6X NFPA 70/NEC 500 Class I, Div. 1, Groups C and D NFPA 70/NEC 500 Class II, Div. 1, Groups E, F and G NFPA 70/NEC 500 Class III, Div. 1
<b>System part</b>	Pair
<b>Resolution</b>	30 mm
<b>Protective field height</b>	900 mm
<b>Scanning range</b>	17.6 m
<b>Synchronization</b>	Optical synchronization

#### Safety-related parameters

<b>Type</b>	Type 4 (IEC 61496-1)
<b>Safety integrity level</b>	SIL 3 (IEC 61508)
<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>	$15 \times 10^{-9}$ (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>Protective operation</b>	✓	
<b>Restart interlock</b>	✓	External
<b>External device monitoring (EDM)</b>	✓	Deactivated

	Functions	Delivery status
Beam coding	✓	Uncoded
Configurable scanning range	✓	
Reduced resolution	✓	Deactivated
Fixed blanking	✓	Deactivated
Floating blanking	✓	Deactivated
Dynamic blanking for object pattern recognition	✓	
Self-teaching dynamic blanking for goods detection	✓	
Self-teaching dynamic blanking for pallet detection	✓	
Multiple sampling	✓	2x evaluation
Direction monitoring	✓	
Virtual photoelectric switches	✓	
Sensor gap monitoring	✓	
Sequence monitoring	✓	
Object entry monitoring	✓	
Detection of geometrically even objects	✓	
Safe SICK device communication via EFI	✓	

#### Functions in combination with UE402

Bypass	✓
Operating mode switching	✓

#### Interfaces

<b>System connection</b>	Connecting cable (30 m) with flying leads, 12-wire
Cable diameter	10 mm
Conductor cross section	0.75 mm <sup>2</sup>
<b>Configuration connection</b>	Female connector M8, 4-pin
<b>Configuration method</b>	PC with CDS (Configuration and Diagnostic Software)
<b>Display elements</b>	7-segment display

#### Electrical data

<b>Protection class</b>	III (IEC 61140)
<b>Supply voltage <math>V_S</math></b>	24 V DC (19.2 V ... 28.8 V) <sup>1)</sup>
<b>Residual ripple</b>	≤ 10 % <sup>2)</sup>
<b>Output signal switching devices (OSSDs)</b>	
Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>3)</sup>
ON state, switching voltage HIGH	24 V DC ( $V_S - 2.25$ V DC ... $V_S$ )
OFF state, switching voltage LOW	≤ 3.5 V DC

<sup>1)</sup> The external voltage supply must be capable of buffering brief mains voltage failures of 20 ms as specified in EN 60204-1. Suitable power supplies are available as accessories from SICK.

<sup>2)</sup> Within the limits of  $V_S$ .

<sup>3)</sup> Applies to the voltage range between -30 V and +30 V.

Current-carrying capacity per OSSD	≤ 500 mA
<b>Application diagnostic output (ADO)</b>	
Type of output	PNP semiconductor, short-circuit protected <sup>3)</sup>
Output voltage HIGH (active)	24 V DC ( $V_S - 4.2 \text{ V DC} \dots V_S$ )
Output voltage LOW (deactivated)	High resistance
Output current HIGH (active)	≤ 100 mA

<sup>1)</sup> The external voltage supply must be capable of buffering brief mains voltage failures of 20 ms as specified in EN 60204-1. Suitable power supplies are available as accessories from SICK.

<sup>2)</sup> Within the limits of  $V_S$ .

<sup>3)</sup> Applies to the voltage range between -30 V and +30 V.

### Mechanical data

<b>Dimensions</b>	See dimensional drawing
<b>Housing cross-section</b>	161.8 mm x 142.1 mm
<b>Housing material</b>	Aluminum cast/AlSi7Mg0.6

### Ambient data

<b>Enclosure rating</b>	IP65 (EN 60529) IP66 (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>	850 nm
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### Classifications

<b>ECLASS 5.0</b>	27272704
<b>ECLASS 5.1.4</b>	27272704
<b>ECLASS 6.0</b>	27272704
<b>ECLASS 6.2</b>	27272704
<b>ECLASS 7.0</b>	27272704
<b>ECLASS 8.0</b>	27272704
<b>ECLASS 8.1</b>	27272704
<b>ECLASS 9.0</b>	27272704
<b>ECLASS 10.0</b>	27272704
<b>ECLASS 11.0</b>	27272704
<b>ECLASS 12.0</b>	27272704
<b>ETIM 5.0</b>	EC002549
<b>ETIM 6.0</b>	EC002549
<b>ETIM 7.0</b>	EC002549
<b>ETIM 8.0</b>	EC002549
<b>UNSPSC 16.0901</b>	46171620

## Recommended accessories

Other models and accessories → [www.sick.com/C4000\\_Fusion\\_Ex](http://www.sick.com/C4000_Fusion_Ex)

	Brief description	Type	Part no.
EFI gateways			
	PROFINET PROFIsafe	UE4740-22H0000	1046978
Alignment aids			
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!, 19 mm x 67.3 mm x 66.9 mm	AR60	1015741
Optics cloths			
	Cloth for cleaning optical surfaces	Lens cloth	4003353
Test and monitoring tools			
	30 mm diameter, 250 mm length	Test rod 30 mm	2022602
Terminal and alignment brackets			
	2 pieces, alignment bracket for explosion-proof enclosure	BEF-1SHABRST2	2072525
	<ul style="list-style-type: none"> <li><b>Description:</b> Cable gland for the European market</li> <li><b>Note:</b> Suitable for deTec4 Core Ex, C4000 Advanced Ex and C4000 Fusion Ex safety light curtains</li> </ul>	Cable gland	5329002

## 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)