



# EXS-12C6603B020

C4000 Advanced Ex

**SAFETY LIGHT CURTAINS**

**SICK**  
Sensor Intelligence.



### Ordering information

Resolution	Scanning range	Protective field height	System part	Type	Part no.
30 mm	16 m	1,200 mm	Sender	EXS-12C6603B020	1068404

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\\_Advanced\\_Ex](http://www.sick.com/C4000_Advanced_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
<b>System part</b>	Sender
<b>Resolution</b>	30 mm
<b>Protective field height</b>	1,200 mm
<b>Scanning range</b>	16 m
<b>Synchronization</b>	Optical synchronisation

#### 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
<b>Beam coding</b>	✓	Uncoded

	Functions	Delivery status
Safe SICK device communication via EFI	✓	

Functions in combination with UE402

Bypass	✓
Operating mode switching	✓
PSDI mode	✓

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>Display elements</b>	7-segment display

Electrical data

<b>Protection class</b>	III (IEC 61140)
<b>Supply voltage V<sub>S</sub></b>	24 V DC (19.2 V ... 28.8 V) <sup>1)</sup>
<b>Residual ripple</b>	≤ 10 % <sup>2)</sup>

<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<sub>S</sub>.

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/AISi7Mg0.6
<b>Weight</b>	44.549 kg

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
<b>Type of light</b>	Near-infrared (NIR), invisible

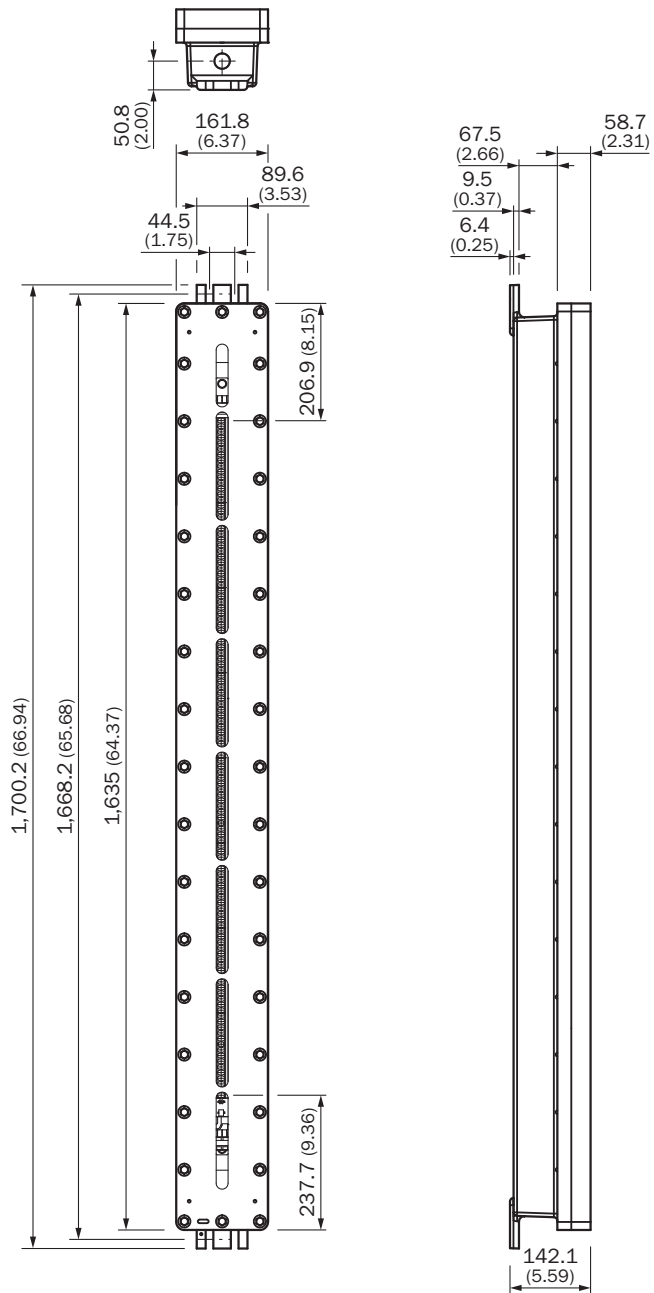
Classifications

<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

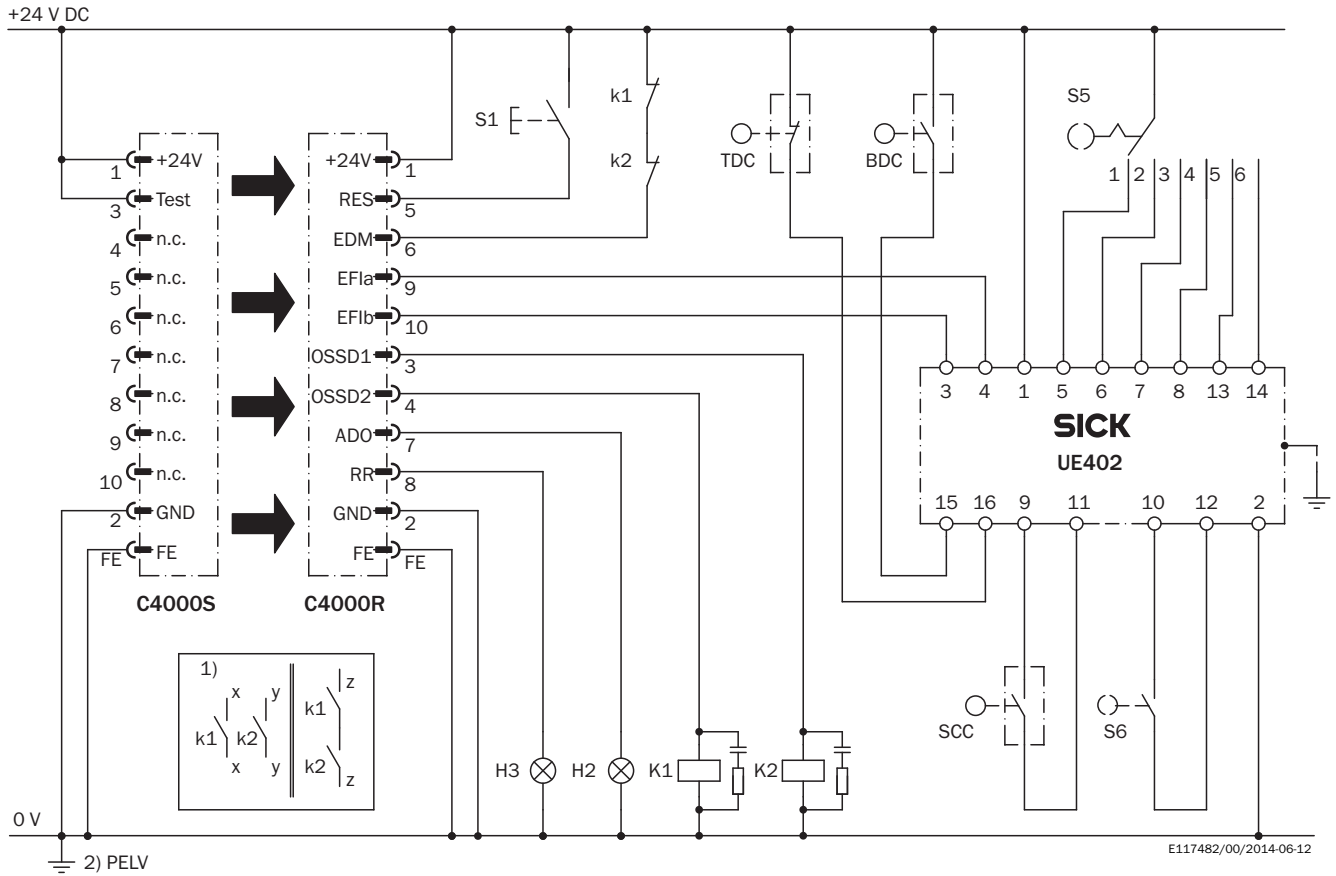
Dimensional drawing (Dimensions in mm (inch))

C4000 Advanced Ex, 1,200 mm



### Connection diagram

C4000 Advanced safety light curtain on UE402 safety switching amplifier



#### Aufgabe

Anbindung eines Sicherheits-Lichtvorhanges C4000 Advanced mit UE402 in eine Steuerung. 6 parametrierbare Betriebsarten mit Wiederanlaufperre und Schützkontrolle. Taktbetrieb mit TDC, BDC, SCC. Ausblendbereiche einlernbar.

#### Wirkungsweise

Wenn kein Gegenstand im aktiven Schutzfeld detektiert wird und die Schütze K1 und K2 sich in Ruhelage befinden blinkt die Lampe H3 als Aufforderung, das Befehlsgerät S1 zu betätigen. Wenn S1 betätigt (Taster wird betätigt und losgelassen) werden die OSSDs eingeschaltet. Diese schalten die Schütze K1 und K2 ein. Bei Detektion eines Gegenstandes im aktiven Schutzfeld schalten die OSSDs die Schütze K1 und K2 ab.

#### Fehlerbetrachtung







Das Fehlverhalten eines der Schütze K1 oder K2 führt nicht zum Verlust der Abschaltfunktion. Querschlüsse und Kurzschlüsse der OSSDs werden erkannt und führen zum Sperrzustand (Lock-Out). Die Manipulation (Festklemmen) des Tasters S1 verhindert die Freigabe der Ausgangskreise.

#### Anmerkungen:

Die Wirkungsweise der parametrierbaren Funktionen ist den jeweiligen Betriebsanleitungen der eingebundenen Geräte zu entnehmen. Die dabei enthaltenen Angaben sind zu beachten.

Recommended accessories

Other models and accessories → [www.sick.com/C4000\\_Advanced\\_Ex](http://www.sick.com/C4000_Advanced_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> Cable gland for the European market</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)