



# C4IT-04214ABA01KA0

## TWINOX4

SAFETY LIGHT CURTAINS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Resolution	Protective field height	Type	Part no.
14 mm	420 mm	C4IT-04214ABA01KA0	1094834

This article includes 1 twin stick. Please order 2 for a functioning TWINOX4 system.

Other models and accessories → [www.sick.com/TWINOX4](http://www.sick.com/TWINOX4)

### Detailed technical data

#### Features

<b>System part</b>	1 Twin-Stick
<b>Resolution</b>	14 mm
<b>Protective field height</b>	420 mm
<b>Scanning range</b>	4.5 m
<b>Response time</b>	14 ms
<b>Items supplied</b>	1 twin stick with pre-mounted connecting cable, 10 m Test rod with diameter corresponding to the resolution of the safety light curtain Safety instruction Mounting instructions Operating instructions for download

#### 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 (ISO 13849-1)
<b>Performance level</b>	PL e (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$4.3 \times 10^{-9}$
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<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>	✓	Deactivated
<b>External device monitoring (EDM)</b>	✓	Deactivated
<b>Beam coding</b>	✓	Code 1

## Interfaces

<b>System connection</b>	Connection type	Connecting cable (10 m) with flying leads, 5-wire
	Permitted cable length	$\leq 20 \text{ m}^{1)}$
	Permitted cross-section	$\geq 0.34 \text{ mm}^2$
<b>Display elements</b>		LEDs

<sup>1)</sup> The 10 m connecting cable attached to the twin stick can either be shortened as required or extended to a maximum of 20 m. the permissible wire cross-section must be observed.

## 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)
<b>Residual ripple</b>	$\leq 10 \%^{1)}$
<b>Power consumption</b>	Approx. 193 mA
<b>Power consumption typical</b>	3.7 W (DC)
<b>Output signal switching devices (OSSDs)</b>	
Type of output	PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>2)</sup>
ON state, switching voltage HIGH	24 V DC ( $V_S - 2.25 \text{ V DC} \dots V_S$ )
OFF state, switching voltage LOW	$\leq 2 \text{ V DC}$
Current-carrying capacity per OSSD	$\leq 300 \text{ mA}$

<sup>1)</sup> Within the limits of  $V_S$ .

<sup>2)</sup> Applies to the voltage range between -30 V and +30 V.

## Mechanical data

<b>Housing cross-section</b>	40.5 mm x 20 mm
<b>Housing material</b>	Stainless steel V4A (1.4404, 316L)
<b>Average roughness <math>R_a</math></b>	$\leq 0.8 \mu\text{m}$
<b>Front screen material</b>	Chemically prestressed float glass
<b>Material of the end caps</b>	Stainless steel V4A (1.4404, 316L)
<b>Seal material</b>	EPDM
<b>PCB material</b>	Glass fiber reinforced epoxy resin with flame retardant TBBPA
<b>External material of the connecting cable</b>	TPU (PUR)

## Ambient data

<b>Enclosure rating</b>	IP65 (IEC 60529) IP67 (IEC 60529)
<b>Ambient operating temperature</b>	-20 °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 (IEC 60068-2-6)
<b>Shock resistance</b>	10 g, 16 ms (EN 60068-2-27)

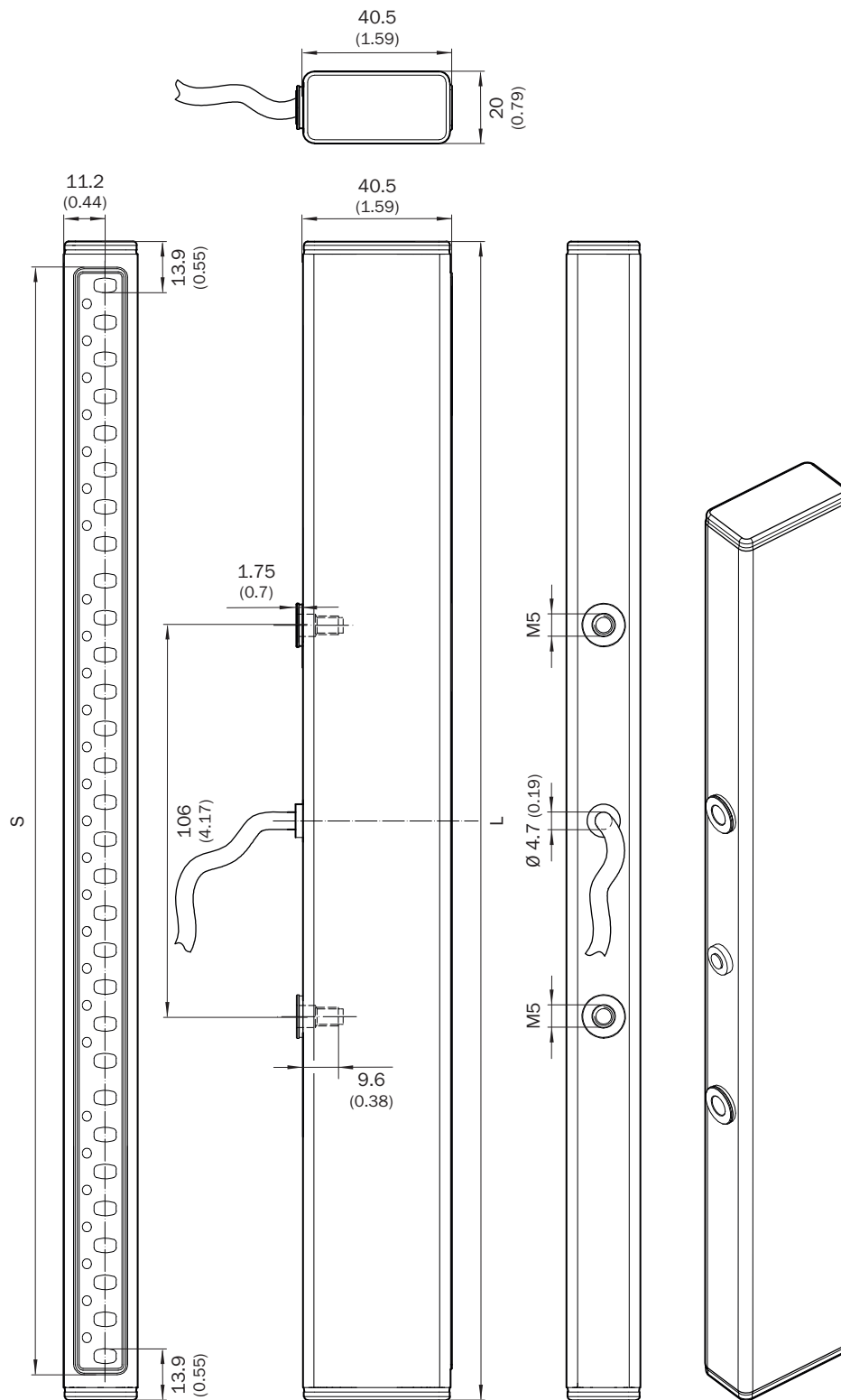
## Other information

<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))

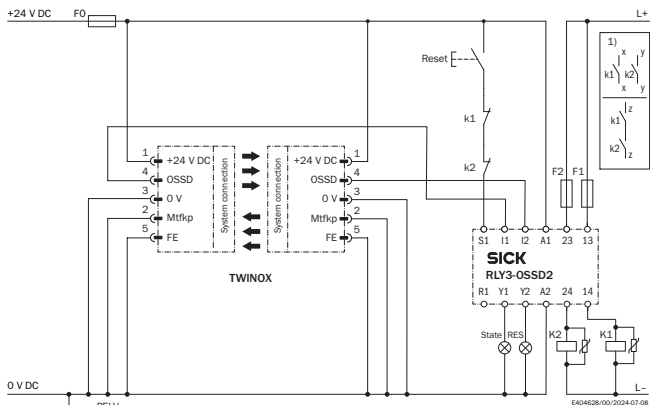


Protective field height	Housing length
300	314
420	434

Protective field height	Housing length
600	614

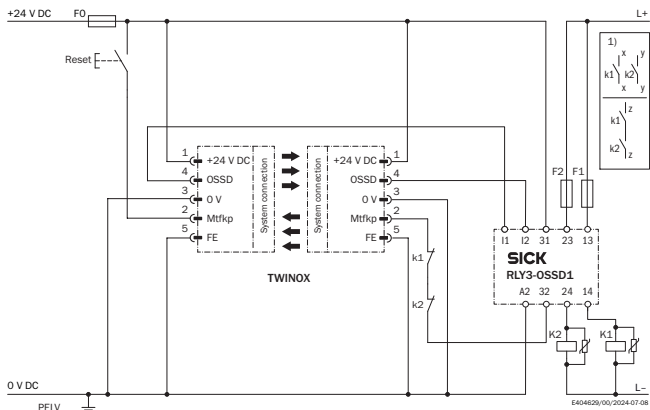
### Connection diagram

TWINOX4 safety light curtain to RLY3-OSSD2 safety relay with restart interlock and external device monitoring



Ⓢ 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 dual-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.


TWINOX4 safety light curtain to RLY3-OSSD1 safety relay with restart interlock and external device monitoring



Ⓢ 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 dual-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/TWINOX4](http://www.sick.com/TWINOX4)

Brief description	Type	Part no.
Terminal and alignment brackets		
 <p>1 piece, TWINOX4 bracket, stainless steel, for 1 twin stick, ± 2° adjustment, Bracket material: stainless steel V4A (1.4404, 316L), Seal material: EPDM</p>	BEF-4SHAHMES1	2101024

## 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)