



# C2MT-01814BBC03BE0

miniTwin

SAFETY LIGHT CURTAINS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

miniTwin2 as a standalone device, miniTwin2 as last guest for 2- or 3-device cascade

System connection	Resolution	Length of cable	Protective field height	Type	Part no.
Male connector M12, 5-pin	14 mm	160 mm	180 mm	C2MT-01814BBC03BE0	1207794

This article includes 1 twin stick. Please order 2 for a functioning miniTwin2 system. Important notes: 1.) Concerns installation as a spare part: This type 2 device may be used as per section 1, paragraph (2a) of Machinery Directive 2006/42/EC within the EU as a spare part for identical PL d/SIL2 devices only if the machine was put on the market before 10/5/2015. Keep this note with your machine documentation. If the machine is resold, this note must be passed on to the next buyer. 2.) Concerns installation in new machines: Due to the amendment to the EN/IEC 61496-1 standard, this type 2 device may only be installed on new machines up to PLc/SIL1 as of 5/10/2015.

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



### Detailed technical data

#### Features

<b>System part</b>	1 Twin-Stick
<b>Usage</b>	miniTwin2 as a standalone device miniTwin2 as last guest for 2- or 3-device cascade
<b>Mounting system type</b>	C-fix or L-fix bracket
<b>Resolution</b>	14 mm
<b>Scanning range</b>	Minimum 0 m ... 6 m Typical 0 m ... 8 m
<b>Protective field height</b>	180 mm
<b>Response time</b>	≤ 14 ms <sup>1)</sup>
<b>Synchronization</b>	Optical, without separate synchronization
<b>Items supplied</b>	Twin stick System plug C-Fix bracket and L-Fix bracket, 2 pieces each Test rod with diameter corresponding to the resolution of the safety light curtain Safety instruction Mounting instructions Operating instructions for download

<sup>1)</sup> Standalone devices, no cascaded systems. Other response times can be found in the operating instructions.

#### Safety-related parameters

<b>Type</b>	Type 2 (IEC 61496-1)
<b>Safety integrity level</b>	SIL1 (IEC 61508)
<b>Category</b>	Category 2 (EN ISO 13849)
<b>Test rate (internal test)</b>	58 /s

<sup>1)</sup> Between two requirements on a safety-related response of the device, at least 100 internal or external tests must be carried out.

<sup>2)</sup> The performance level does not include any specific requirements regarding aspects such as optical performance features. For more information, see page xx.

<b>Maximum demand rate</b>	$\leq 34 \text{ min}^{-1}$ (EN ISO 13849) <sup>1)</sup>
<b>Performance level</b>	PL c (EN ISO 13849), Pay attention to optical characteristics! <sup>2)</sup>
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	Standalone system: $2.4 \times 10^{-8}$ (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.

<sup>1)</sup> Between two requirements on a safety-related response of the device, at least 100 internal or external tests must be carried out.

<sup>2)</sup> The performance level does not include any specific requirements regarding aspects such as optical performance features. For more information, see page xx.

## Functions

	Functions	Delivery status
<b>Restart interlock</b>	✓	Deactivated
<b>External device monitoring (EDM)</b>	✓	Deactivated
<b>Beam coding</b>	Automatic	

## Interfaces

<b>System connection</b>	Male connector M12, 5-pin
Length of cable	160 mm
Conductor cross section	0.34 mm <sup>2</sup>
Permitted cable length	$\leq 20 \text{ m}$ <sup>1)</sup>
<b>Configuration method</b>	Hard wired
<b>Display elements</b>	LEDs

<sup>1)</sup> Depending on load, power supply and wire cross-section. The technical specifications must be observed.

## Electrical data

<b>Protection class</b>	III (EN 61140)
<b>Supply voltage V<sub>S</sub></b>	24 V DC (19.2 V DC ... 28.8 V DC)
<b>Ripple</b>	$\leq 10 \%$ <sup>1)</sup>
<b>Power consumption</b>	$\leq 3 \text{ A}$ <sup>2)</sup>
<b>Output signal switching devices (OSSDs)</b>	
Type of output	PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>3)</sup>
ON state, switching voltage HIGH	24 V DC (V <sub>S</sub> - 2.25 V DC ... V <sub>S</sub> )
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<sub>S</sub>.

<sup>2)</sup> Maximum power consumption of a host/guest/guest system with 1,200 mm protective field height and a resolution of 14 mm.

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

## Mechanical data

<b>Housing cross-section (incl. system connection)</b>	15 mm x 32 mm
<b>Housing material</b>	Aluminum alloy ALMGSI 0.5
<b>Weight</b>	75 g

## Ambient data

<b>Enclosure rating</b>	IP65 (EN 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 (EN 60068-2-6)
<b>Shock resistance</b>	10 g, 16 ms (EN 60068-2-27)

## Other information

<b>Wave length</b>	850 nm
--------------------	--------

## 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>eCl@ss 10.0</b>	27272704
<b>eCl@ss 11.0</b>	27272704
<b>eCl@ss 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))












S = protective field height = housing length

Recommended accessories

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

	Brief description	Type	Part no.
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
	Adapter AR60 for miniTwin4 and miniTwin2	AR60 adapter, miniTwin	4064710

	Brief description	Type	Part no.
<b>Test and monitoring tools</b>			
	14 mm diameter	Test rod 14 mm	2022599
<b>Mounting brackets and plates</b>			
	2 pieces, Bracket for miniTwin, for all protective field heights, scope of delivery: 2 C-Fix brackets and 2 L-Fix brackets (suitable for 2 miniTwin devices)	BEF-3AAA0MKU2S04	2045843
	2 pieces, O-Fix bracket, 2 pieces, for all sizes, for all protective field heights	BEF-3SHAEMKU2	2045835
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A15-050VB5XLEAX	2096240
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m	YF2A15-100VB5XLEAX	2096241
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 15 m	YF2A15-150VB5XLEAX	2096242
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 1 m	YF2A15-010UB5M2A15	2096007
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5M2A15	2096009
	Head A: female connector, M12, 5-pin, straight Cable: unshielded	DOS-1205-G	6009719
	Head A: female connector, M12, 5-pin, straight Cable: unshielded Test voltage 1.0 kV eff/60 s, insulation group C to VDE 0110	DOS-1205-GX	6047950
	Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology	STE-1205-G	6022083
	Cable: unshielded, 160 mm	Cascade system plug	2046452
	Cable: unshielded, 350 mm	Cascade system plug	2046454
	Cable: unshielded, 700 mm	Cascade system plug	2046456
	Cable: unshielded, 10 m	Stand-alone system plug	2051290

## 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)