



C2MT-01824BBC03BE0

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 | 24 mm | 160 mm | 180 mm | C2MT-01824BBC03BE0 | 1207823 |

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



Detailed technical data

Features

| | |
|--------------------------------|---|
| System part | 1 Twin-Stick |
| Usage | miniTwin2 as a standalone device miniTwin2 as last guest for 2- or 3-device cascade |
| Mounting system type | C-fix or L-fix bracket |
| Resolution | 24 mm |
| Scanning range | <div>Minimum</div> <div>Typical</div> <div>0 m ... 6 m</div> <div>0 m ... 8 m</div> |
| Protective field height | 180 mm |
| Response time | ≤ 13 ms ¹⁾ |
| Synchronization | Optical, without separate synchronization |
| Items supplied | 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 |

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

Safety-related parameters

| | |
|-------------------------------|---------------------------------------|
| Type | Type 2 (IEC 61496-1) |
| Safety integrity level | SIL1 (IEC 61508) SILCL1 (EN 62061) |
| Category | Category 2 (EN ISO 13849) |

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

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

| | |
|---|--|
| Test rate (internal test) | 58 /s |
| Maximum demand rate | $\leq 34 \text{ min}^{-1}$ (EN ISO 13849) ¹⁾ |
| Performance level | PL c (EN ISO 13849), Pay attention to optical characteristics! ²⁾ |
| PFH_D (mean probability of a dangerous failure per hour) | Standalone system: 2.4×10^{-8} (EN ISO 13849) |
| T_M (mission time) | 20 years (EN ISO 13849) |
| Safe state in the event of a fault | At least one OSSD is in the OFF state. |

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

²⁾ 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 |
|---|-----------|-----------------|
| Restart interlock | ✓ | Deactivated |
| External device monitoring (EDM) | ✓ | Deactivated |
| Beam coding | Automatic | |

Interfaces

| | |
|--|---|
| System connection | Male connector M12, 5-pin |
| Length of cable | 160 mm |
| Conductor cross-section | 0.34 mm ² |
| Permitted cable length | $\leq 20 \text{ m}$ ¹⁾ |
| Configuration method | Hard wired |
| Display elements | LEDs |
| Fieldbus, industrial network | |
| Integration via Flexi Soft safety controller | CANopen ²⁾ DeviceNet™ EtherCAT® EtherNet/IP™ Modbus TCP PROFIBUS DP PROFINET |

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

²⁾ For additional information on Flexi Soft -> www.sick.com/Flexi_Soft.

Electrical data

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

¹⁾ Within the limits of V_S.

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

³⁾ Applies to the voltage range between -30 V and +30 V.

| | |
|------------------------------------|----------|
| Current-carrying capacity per OSSD | ≤ 300 mA |
|------------------------------------|----------|

1) Within the limits of V_S .

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

3) Applies to the voltage range between -30 V and +30 V.

Mechanical data

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

Ambient data

| | |
|--------------------------------------|-------------------------------------|
| Enclosure rating | IP65 (EN 60529) |
| Ambient operating temperature | -20 °C ... +55 °C |
| Storage temperature | -25 °C ... +70 °C |
| Air humidity | 15 % ... 95 %, Non-condensing |
| Vibration resistance | 5 g, 10 Hz ... 55 Hz (EN 60068-2-6) |
| Shock resistance | 10 g, 16 ms (EN 60068-2-27) |

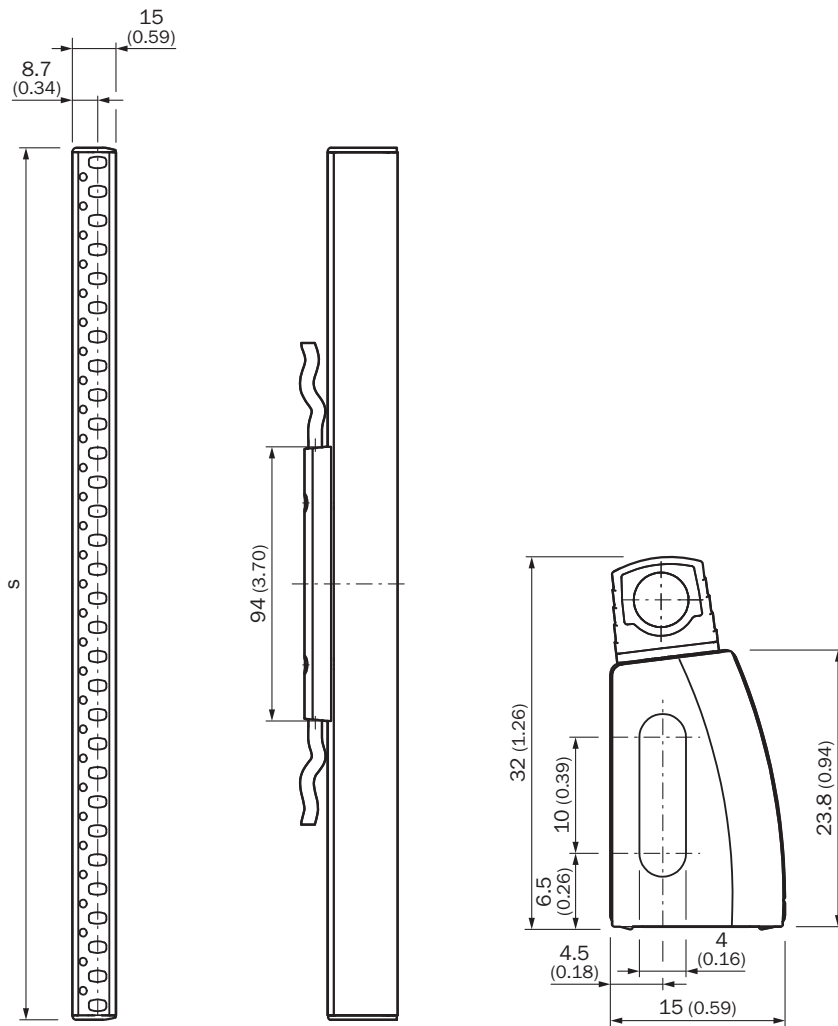
Other information

| | |
|--------------------|--------|
| Wave length | 850 nm |
|--------------------|--------|

Classifications

| | |
|-----------------------|----------|
| ECl@ss 5.0 | 27272704 |
| ECl@ss 5.1.4 | 27272704 |
| ECl@ss 6.0 | 27272704 |
| ECl@ss 6.2 | 27272704 |
| ECl@ss 7.0 | 27272704 |
| ECl@ss 8.0 | 27272704 |
| ECl@ss 8.1 | 27272704 |
| ECl@ss 9.0 | 27272704 |
| ECl@ss 10.0 | 27272704 |
| ECl@ss 11.0 | 27272704 |
| ECl@ss 12.0 | 27272704 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| UNSPSC 16.0901 | 46171620 |



Dimensional drawing (Dimensions in mm (inch))




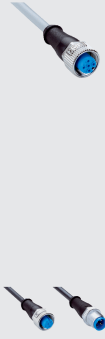





S = protective field height = housing length

Recommended accessories

Other models and accessories → 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. |
|---|--|-------------------------|----------|
| Test and monitoring tools | | | |
|  | 24 mm diameter | Test rod 24 mm | 2045592 |
| Mounting brackets and plates | | | |
|  | 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 |
| Plug connectors and cables | | | |
|  | 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.”

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