



C2MT-12014BBC04FE0

miniTwin

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------------|----------|
| C2MT-12014BBC04FE0 | 1207884 |

Other models and accessories → www.sick.com/miniTwin

Detailed technical data

Features

| | | | | | |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|---------|-------------|
| System part | 1 Twin-Stick | | | | |
| Usage | miniTwin2 as host for 2- or 3-device cascade miniTwin2 as middle guest for 3-device cascade | | | | |
| Mounting system type | C-fix or L-fix bracket | | | | |
| Resolution | 14 mm | | | | |
| Scanning range | <table border="0"> <tr> <td>Minimum</td> <td>0 m ... 6 m</td> </tr> <tr> <td>Typical</td> <td>0 m ... 8 m</td> </tr> </table> | Minimum | 0 m ... 6 m | Typical | 0 m ... 8 m |
| Minimum | 0 m ... 6 m | | | | |
| Typical | 0 m ... 8 m | | | | |
| Protective field height | 1,200 mm | | | | |
| Response time | ≤ 17 ms ¹⁾ | | | | |
| Synchronization | Optical, without separate synchronization | | | | |
| Items supplied | Twin stick System plug C-Fix 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 | SIL 1 (IEC 61508) |
| Category | Category 2 (EN ISO 13849) |
| Test rate (internal test) | 47 /s |

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.

| | |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Maximum demand rate | 28 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) | Cascaded systems: 5.2 x 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 | 700 mm |
| Conductor cross section | 0.34 mm ² |
| Permitted cable length | ≤ 20 m ¹⁾ |
| Extension connection | Female connector M12, 5-pin |
| Length of cable | 700 mm |
| Configuration method | Hard wired |
| Display elements | LEDs |

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

Electronics

| | |
|------------------------------------------------|------------------------------------------------------------------------------------|
| Protection class | III (EN 61140) |
| Supply voltage V_S | 24 V DC (19.2 V DC ... 28.8 V DC) |
| Ripple | ≤ 10 % ¹⁾ |
| Power consumption | ≤ 3 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 | ≤ 2 V DC |
| 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.

Mechanics

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

| | |
|---------------|-------|
| Weight | 420 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 ... 150 Hz, 3,5 mm / 1 g (EN 60068-2-6) |
| Shock resistance | 15 g / 6 ms (EN 60068-2-27) |
| Class | 3M4 (IEC TR 60721-4-3) |

Other information

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

Certificates

| | |
|------------------------------------------------------------------------------|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| UK-Type-Examination approval | ✓ |
| ULus approval | ✓ |
| cUL approval | ✓ |
| EC-Type-Examination approval | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27272704 |
| ECLASS 5.1.4 | 27272704 |
| ECLASS 6.0 | 27272704 |
| ECLASS 6.2 | 27272704 |
| ECLASS 7.0 | 27272704 |
| ECLASS 8.0 | 27272704 |
| ECLASS 8.1 | 27272704 |
| ECLASS 9.0 | 27272704 |
| ECLASS 10.0 | 27272704 |
| ECLASS 11.0 | 27272704 |
| ECLASS 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

Connection diagram miniTwin safety light curtain to RLY3-OSSD2 safety relay with restart interlock and external device monitoring



① 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.

Connection diagram miniTwin safety light curtain to RLY3-OSSD1 safety relay with restart interlock and external device monitoring



① 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/miniTwin

| | Brief description | Type | part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: 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) Packing unit: 2 pieces | BE-F-3AAA0MKU2S04 | 2045843 |
|  | <ul style="list-style-type: none"> Description: O-Fix bracket, 2 pieces, for all sizes, for all protective field heights Packing unit: 2 pieces | BEF-3SHAEMKU2 | 2045835 |

| | Brief description | Type | part no. |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------|
| Commissioning aids and test equipment | | | |
|  | <ul style="list-style-type: none"> Product: Alignment aids Description: Adapter AR60 for miniTwin4 and miniTwin2 | AR60 adapter, miniTwin | 4064710 |
|  | <ul style="list-style-type: none"> Product: Alignment aids Dimensions (W x H x L): 19 mm x 67.3 mm x 66.9 mm Description: Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam! | AR60 | 1015741 |
|  | <ul style="list-style-type: none"> Product: Test equipment Description: 14 mm diameter, 250 mm length | Test rod 14 mm | 2022599 |
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² Note: Test voltage 1.0 kV eff/60 s, insulation group C to VDE 0110 | DOS-1205-GX | 6047950 |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Male connector, M12, 5-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² Note: For field bus technology | STE-1205-G | 6022083 |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² | DOS-1205-G | 6009719 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 1 m, 5-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A15-010UB5M2A15 | 2096007 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Male connector, M12, 5-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF2A15-020UB5M2A15 | 2096009 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PVC Application: Uncontaminated zones, Zones with chemicals | YF2A15-050VB5XLEAX | 2096240 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PVC Application: Uncontaminated zones, Zones with chemicals | YF2A15-100VB5XLEAX | 2096241 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 15 m, 5-wire, PVC Application: Uncontaminated zones, Zones with chemicals | YF2A15-150VB5XLEAX | 2096242 |

| | Brief description | Type | part no. |
|-----------------------------------------------------------------------------------|-------------------|-------------------------|----------|
| system plugs and extension modules | | | |
|  | | Cascade system plug | 2046452 |
|  | | Cascade system plug | 2046454 |
|  | | Cascade system plug | 2046456 |
|  | | Stand-alone system plug | 2051290 |

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