



C4MT-02414ABB03DB0

miniTwin

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | part no. |
|--------------------|----------|
| C4MT-02414ABB03DB0 | 1048756 |

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

Detailed technical data

Features

| | |
|--------------------------------|--|
| System part | 2 Twin-Sticks |
| Usage | miniTwin4 as a standalone device |
| Mounting system type | O-fix bracket |
| Resolution | 14 mm |
| Scanning range | Minimum |
| | Typical |
| | 0 m ... 4 m |
| | 0 m ... 5 m |
| Protective field height | 240 mm |
| Response time | ≤ 14 ms ¹⁾ |
| Synchronization | Optical, without separate synchronization |
| Items supplied | Twin stick System plug O-Fix bracket, 2 pieces 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 4 (IEC 61496-1) |
| Safety integrity level | SIL 3 (IEC 61508) |
| Category | Category 4 (EN ISO 13849) |
| Performance level | PL e (EN ISO 13849) |
| PFH_D (mean probability of a dangerous failure per hour) | Standalone system: 4.3 x 10 ⁻⁹ (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. |

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 | 350 mm | |
| Conductor cross section | 0.34 mm ² | |
| Permitted cable length | ≤ 20 m ¹⁾ | |
| 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 ALMGS1 0.5 | |
| Weight | 95 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 | |
|--------------------|--------|--|

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 |
| 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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