Data sheet

# C4MT-12014ABB03FE0

miniTwin

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.

Illustration may differ

## Ordering information

| Type | part no. |
|---|---|
| C4MT-12014ABB03FE0 | 1207114 |

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

## Detailed technical data

### Features

| | |
|---|---|
| **System part** | 1 Twin-Stick |
| **Usage** | miniTwin4 as a standalone device<br>miniTwin4 as last guest for 2- or 3-device cascade |
| **Mounting system type** | C-fix or L-fix bracket |
| **Resolution** | 14 mm |
| **Scanning range** | |
| Minimum | 0 m ... 4 m |
| Typical | 0 m ... 5 m |
| **Protective field height** | 1,200 mm |
| **Response time** | ≤ 17 ms [1] |
| **Synchronization** | Optical, without separate synchronization |
| **Items supplied** | Twin stick<br>System plug<br>C-Fix and L-Fix bracket, 2 pieces each<br>Test rod with diameter corresponding to the resolution of the safety light curtain<br>Safety instruction<br>Mounting instructions<br>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 | 700 mm |
| Conductor cross section | 0.34 mm² |
| 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 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 |

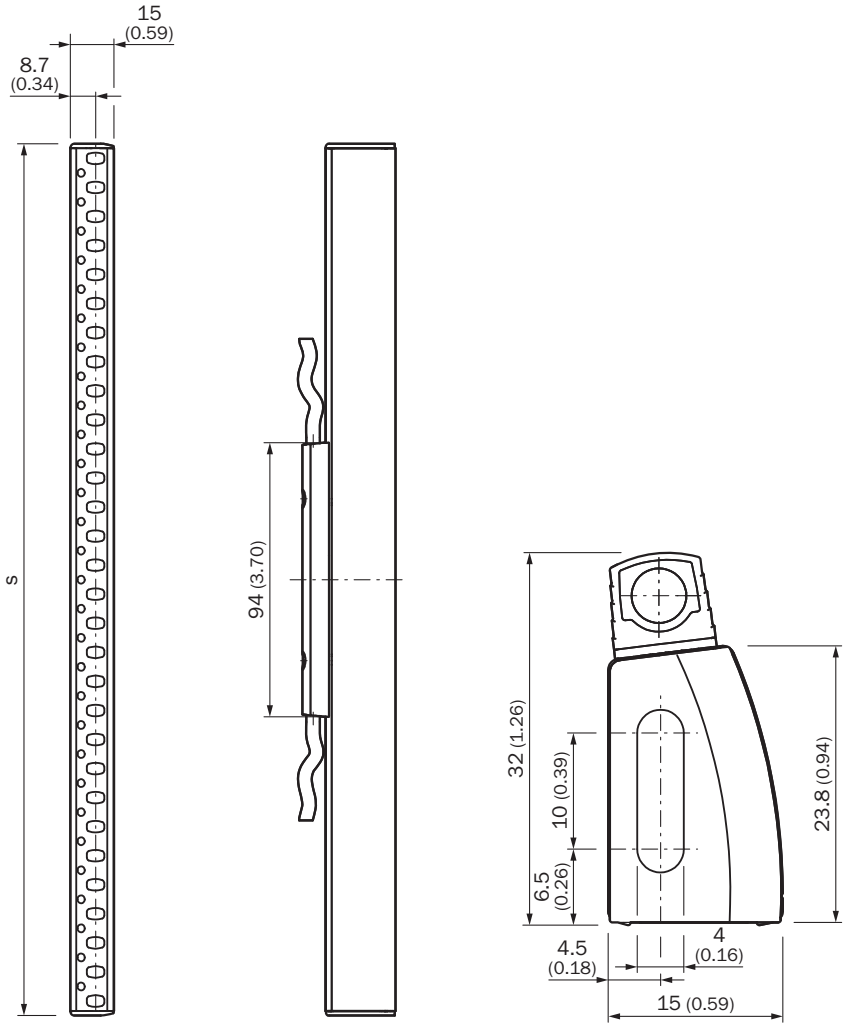
## Certificates

| | |
|---|---|
| **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** | ✓ |
| **Taiwan OSHA certificate** | ✓ |
| **EC-Type-Examination approval** | ✓ |
| **Information according to Art. 3 of Data Act (Regulation EU 2023/2854)** | ✓ |

## Classifications

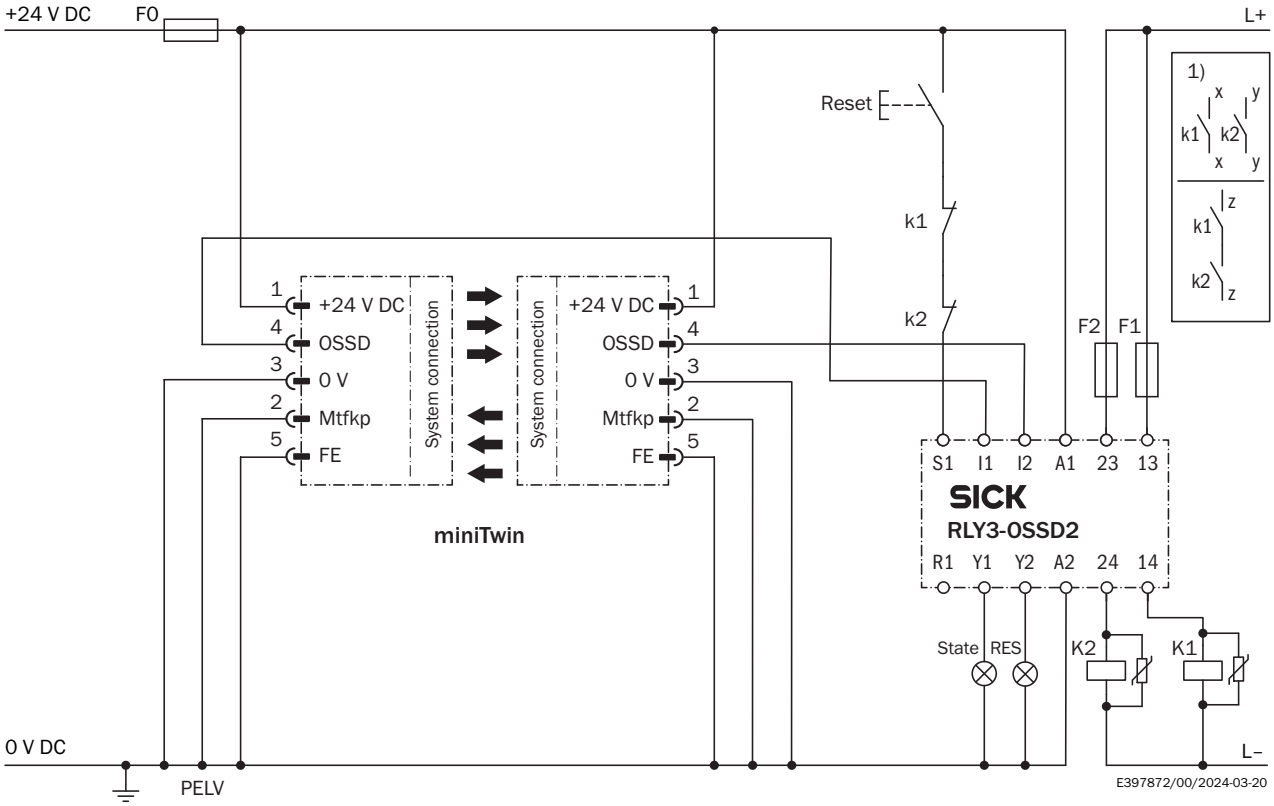
| | |
|---|---|
| **ECLASS 5.0** | 27272704 |
| **ECLASS 5.1.4** | 27272704 |
| **ECLASS 6.0** | 27272704 |
| **ECLASS 6.2** | 27272704 |
| **ECLASS 7.0** | 27272704 |
| **ECLASS 8.0** | 27272704 |
| **ECLASS 8.1** | 27272704 |
| **ECLASS 9.0** | 27272704 |
| **ECLASS 10.0** | 27272704 |
| **ECLASS 11.0**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



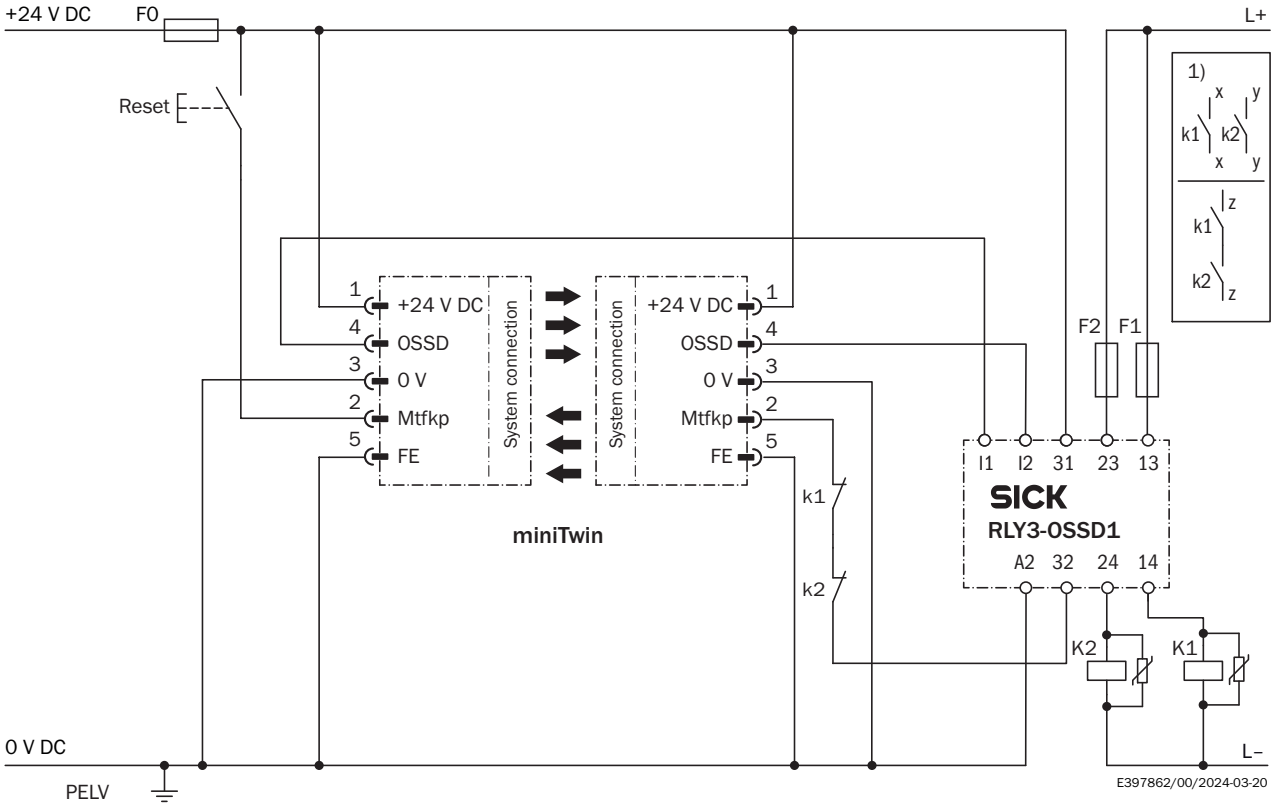

Dimensions in mm (inch)
S = protective field height = housing length

## 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 | | | |
| | • **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)<br>• **Packing unit:** 2 pieces | BE-F-3AAA0MKU2S04 | 2045843 |
| | • **Description:** O-Fix bracket, 2 pieces, for all sizes, for all protective field heights<br>• **Packing unit:** 2 pieces | BEF-3SHAEMKU2 | 2045835 |

| | Brief description | Type | part no. |
|---|---|---|---|
| **Commissioning aids and test equipment** | | | |
| | • **Product:** Alignment aids<br>• **Description:** Adapter AR60 for miniTwin4 and miniTwin2 | AR60 adapter, miniTwin | 4064710 |
| | • **Product:** Alignment aids<br>• **Dimensions (W x H x L):** 19 mm<br>67.3 mm<br>66.9 mm<br>• **Description:** Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam! | AR60 | 1015741 |
| | • **Product:** Test equipment<br>• **Description:** 14 mm diameter, 250 mm length | Test rod 14 mm | 2022599 |
| **connectors and cables** | | | |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **Permitted cross-section:** ≤ 0.75 mm²<br>• **Note:** Test voltage 1.0 kV eff/60 s, insulation group C to VDE 0110 | DOS-1205-GX | 6047950 |
| | • **Connection type head A:** Male connector, M12, 5-pin, straight, A-coded<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **Permitted cross-section:** ≤ 0.75 mm²<br>• **Note:** For field bus technology | STE-1205-G | 6022083 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **Permitted cross-section:** ≤ 0.75 mm² | DOS-1205-G | 6009719 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Male connector, M12, 5-pin, straight, A-coded<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 1 m, 5-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A15-010UB5M2A15 | 2096007 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Male connector, M12, 5-pin, straight, A-coded<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 2 m, 5-wire, PUR, halogen-free<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A15-020UB5M2A15 | 2096009 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 5-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Zones with chemicals, Uncontaminated zones | YF2A15-050VB5XLEAX | 2096240 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 10 m, 5-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Zones with chemicals, Uncontaminated zones | YF2A15-100VB5XLEAX | 2096241 |
| | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 15 m, 5-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Zones with chemicals, Uncontaminated zones | YF2A15-150VB5XLEAX | 2096242 |

| | Brief description | Type | part no. |
|---|---|---|---|
| system plugs and extension modules | | | |
| | • **Description:** miniTwin system plug for cascade, system connection: Cable with M12 male connector, 5-pin, extension connection: Cable with M12 female connector, 5-pin, length of cable: 160 mm each | Cascade system plug | 2046452 |
| | • **Description:** miniTwin system plug for cascade, system connection: Cable with M12 male connector, 5-pin, extension connection: Cable with M12 female connector, 5-pin, length of cable: 350 mm each | Cascade system plug | 2046454 |
| | • **Description:** miniTwin system plug for cascade, system connection: Cable with M12 male connector, 5-pin, extension connection: Cable with M12 female connector, 5-pin, length of cable: 700 mm each | Cascade system plug | 2046456 |
| | • **Description:** miniTwin system plug for standalone, system connection: Cable, flying leads, 5-wire, length of cable: 10 m | Stand-alone system plug | 2051290 |

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