Data sheet



C2MT-10214BBC04FE0

miniTwin

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
C2MT-10214BBC04FE0	1207881

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	
Minimum	0 m ... 6 m
Typical	0 m ... 8 m
Protective field height	1,020 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.

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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	360 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

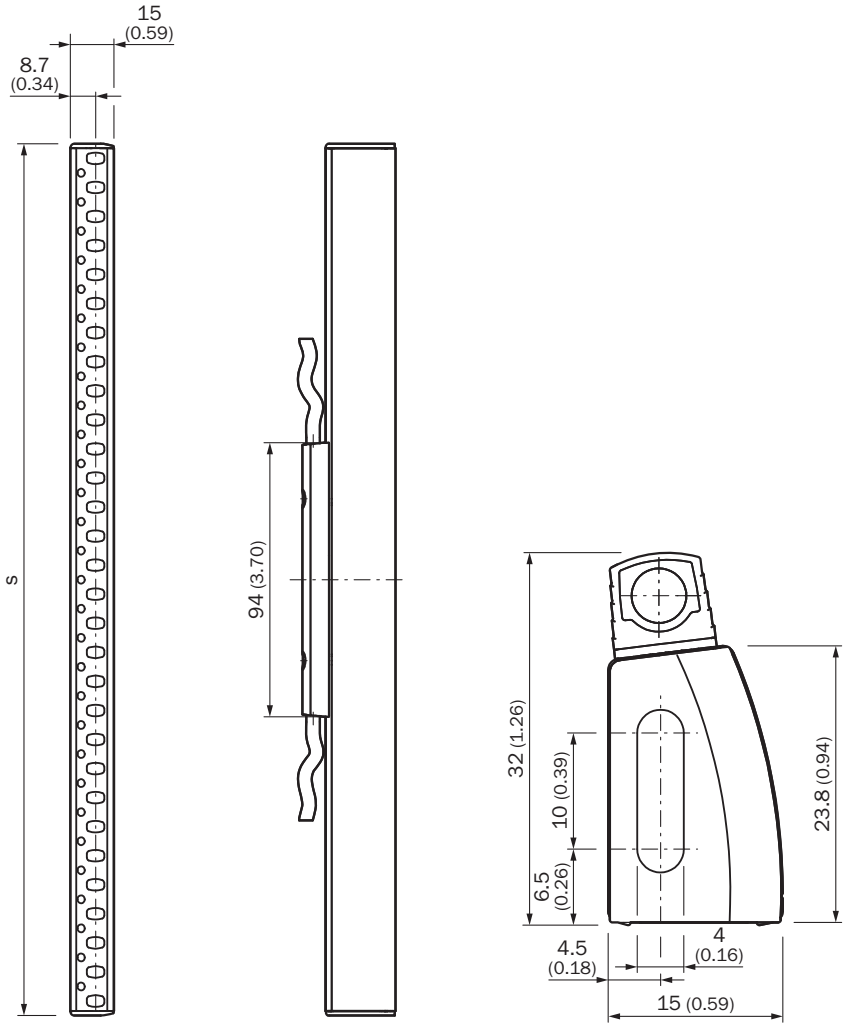
Certificates

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	✓

Classifications

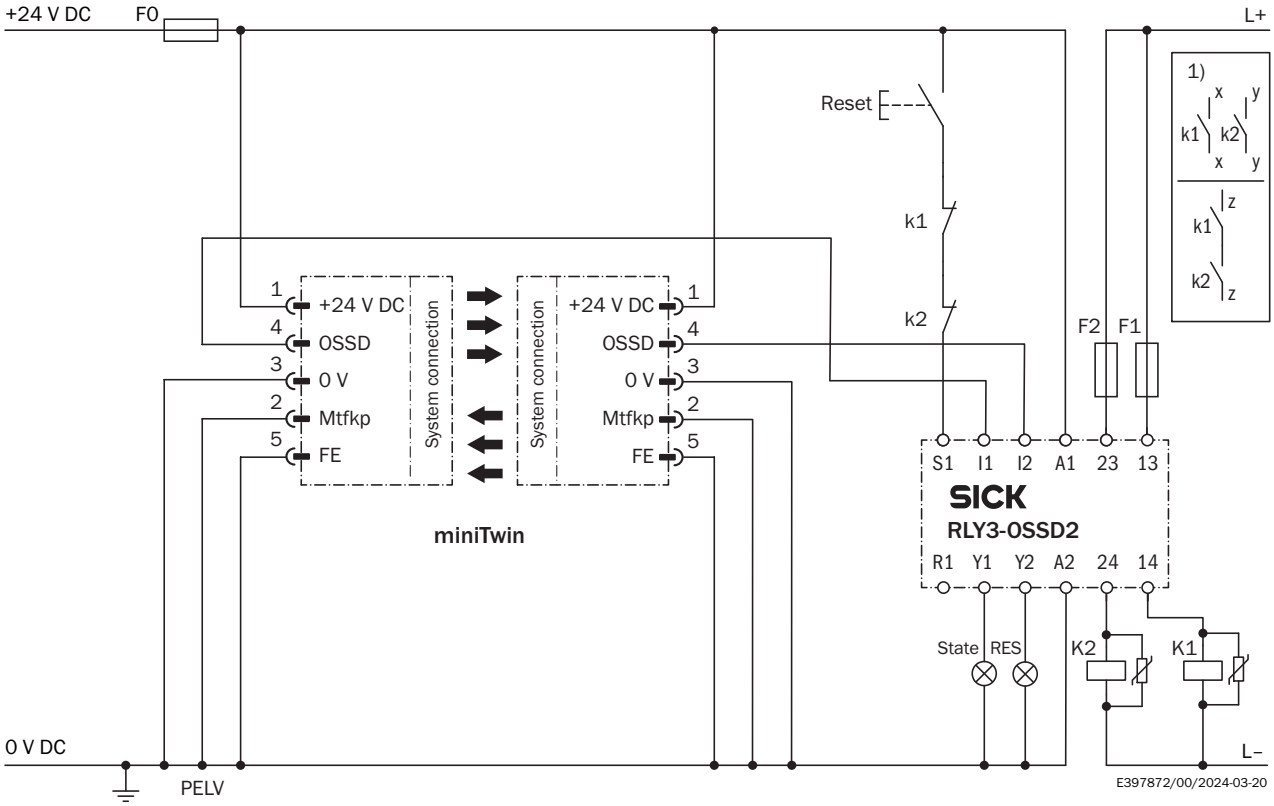
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ECLASS 6.0	27272704
ECLASS 6.2	27272704
ECLASS 7.0	27272704
ECLASS 8.0	27272704
ECLASS 8.1	27272704
ECLASS 9.0	27272704
ECLASS 10.0	27272704
ECLASS 11.0	27272704
ECLASS 12.0	27272704
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
UNSPSC 16.0901	46171620

Dimensional drawing



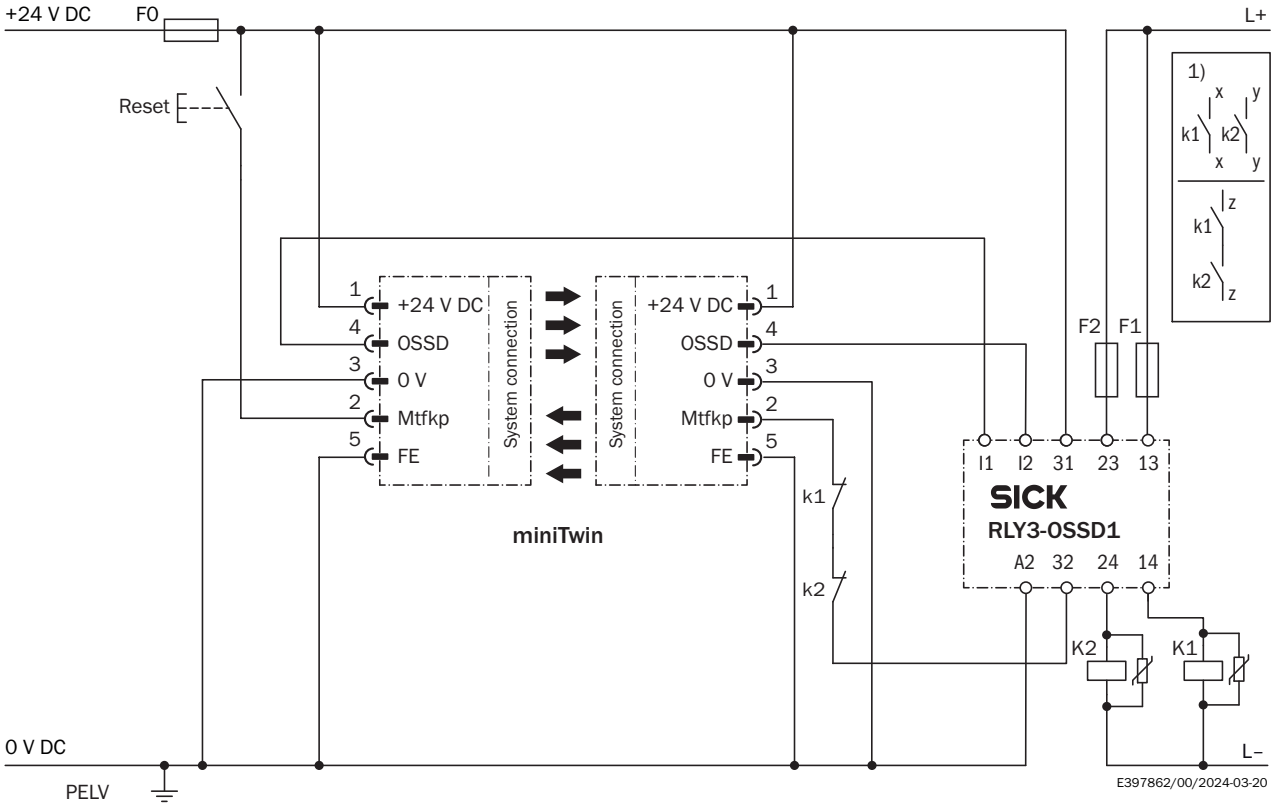
Dimensions in mm (inch)
S = protective field height = housing length

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) • **Packing unit:** 2 pieces	BE-F-3AAA0MKU2S04	2045843
	• **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			
	• **Product:** Alignment aids • **Description:** Adapter AR60 for miniTwin4 and miniTwin2	AR60 adapter, miniTwin	4064710
	• **Product:** Alignment aids • **Dimensions (W x H x L):** 19 mm 67.3 mm 66.9 mm • **Description:** Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!	AR60	1015741
	• **Product:** Test equipment • **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 • **Description:** Unshielded • **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
	• **Connection type head A:** Male connector, M12, 5-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Note:** For field bus technology	STE-1205-G	6022083
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	DOS-1205-G	6009719
	• **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 • **Description:** Sensor/actuator cable, unshielded • **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 • **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 • **Description:** Sensor/actuator cable, unshielded • **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 • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-050VB5XLEAX	2096240
	• **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 • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-100VB5XLEAX	2096241
	• **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 • **Description:** Sensor/actuator cable, unshielded • **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

SICK AT A GLANCE

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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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