

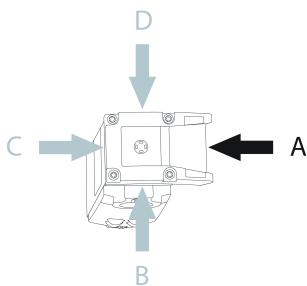
CET3-AR-CRA-AH-50X-SH-110103 (Order no. 110103)

Non-contact safety switch CET-AR-..., RC18

- ▶ Safety switch with guard locking and integrated evaluation electronics
- ▶ Locking force up to 6500 N
- ▶ Up to 20 switches in series
- ▶ Short circuit monitoring
- ▶ 2 safety outputs (semiconductor outputs)
- ▶ Category 4 / PL e according to EN ISO 13849-1
- ▶ With plug connector M23 (RC18)
- ▶ Unicode
- ▶ Door monitoring output
- ▶ Teach-in input
- ▶ Approach direction A (delivery state)



Approach direction



Horizontal

Can be adjusted in 90° steps

Safety switch

The device may be operated only in conjunction with the actuator CET-A-....

Important: The actuator must be ordered separately.

Unicode evaluation

Each actuator is highly coded (unicode). The switch detects only taught-in actuators. Additional actuators can be taught-in. Only the last actuator taught-in is detected.

Solenoid operating voltage

- ▶ DC 24 V +10%, -15%

Guard locking type

CET3 Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the guard locking solenoid. The door position is also monitored. The door monitoring output OUT D is

set to HIGH as soon as the actuator is above the extended plunger (state: door closed, guard locking not active). The output OUT D also remains set when guard locking is active.

LED function display

State LED Status LED

DIA LED Diagnostics LED

LED 1 rd freely configurable

LED 2 gn freely configurable

Additional connections

OUT Monitoring output (semiconductor)

OUT D Door monitoring output

RST Reset input

J Teach-in input

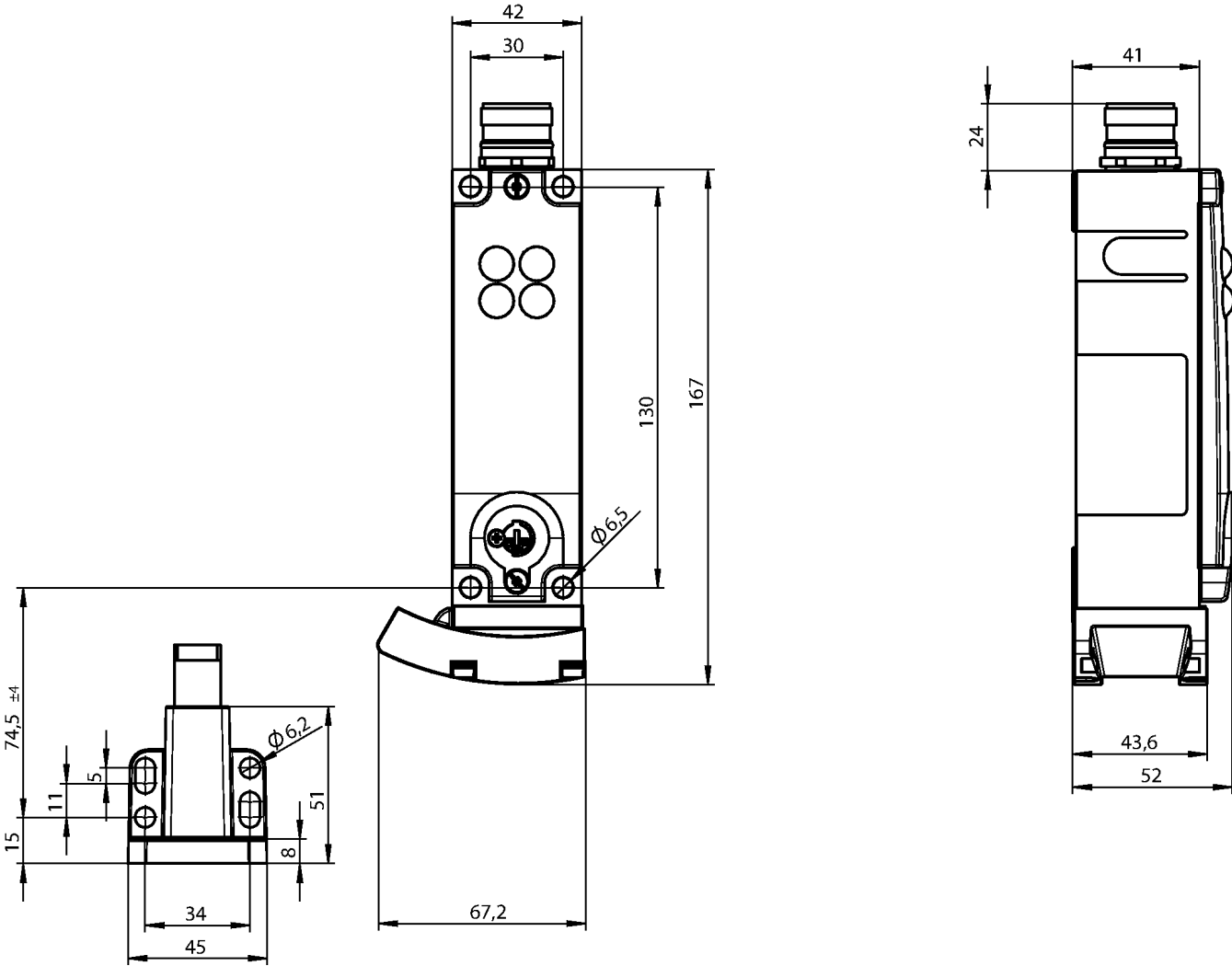
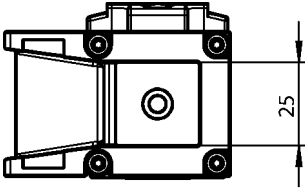
Category according to EN ISO 13849-1

Due to two redundantly designed semiconductor outputs (safety outputs) with internal monitoring suitable for:

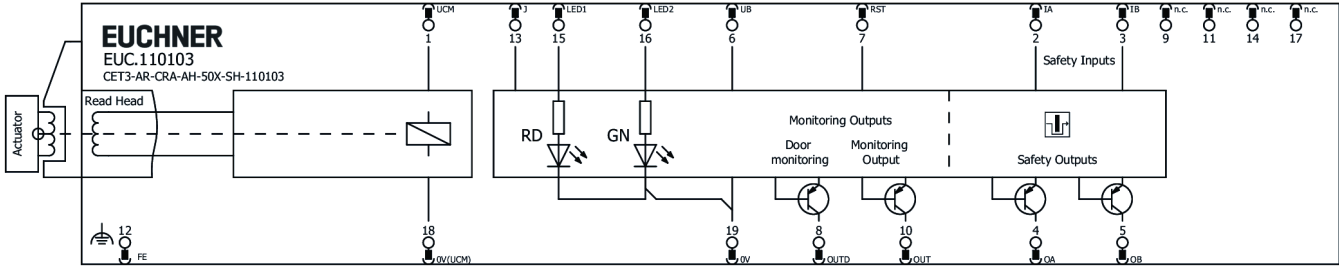
- ▶ Category 4 / PL e according to EN ISO 13849-1
- ▶ The stated safety characteristics apply to any installation orientations of the safety switch.

Important: To achieve the stated category in accordance with EN ISO 13849-1, both safety outputs (OA and OB) must be evaluated.

Dimensional drawings



Connection examples



Technical data

Approvals



Workspace

Repeat accuracy R	
	according to EN 60947-5-2 10 %

Electrical connection values

Fuse	
external (operating voltage U_B)	0.25 ... 8 A
external (solenoid operating voltage U_{CM})	0.5 ... 8 A

Power consumption	
	Solenoid 11 W

Connecting cable	30V DC, 2A (for UL requirement UL category code (CYJV2/CYJV8) or (CYJV/CYJV7))
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Operating voltage DC	
	U_B 24 V DC -15% ... +15% reverse polarity protected, regulated, residual ripple < 5%, PELV
	LED 24 V DC -15% V DC ... +10% V DC

EMC protection requirements	Acc. to EN IEC 60947-5-3
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Utilization category	
	DC-13 24 V 200 mA (Caution: outputs must be protected with a free-wheeling diode in case of inductive loads)

Solenoid operating voltage DC	
	U_{CM} 24 V DC -15% ... +10% reverse polarity protected, regulated, residual ripple < 5%, PELV

Solenoid duty cycle	100 %
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Risk time according to EN 60947-5-3	max. 400 ms
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Risk time according to EN 60947-5-3, max. 5 ms
 extension for each additional device

Switching load

according to UL 24V DC, Class 2
 (For alternatives, see operating instructions)

Safety class

EN IEC 61140 III

Current consumption

I_B 80 mA

I_{CM} 450 mA

Test pulse duration max. 1 ms

Degree of contamination (external, according to EN 60947-1) 3

Teach-in input

Input voltage

HIGH 15 ... 27.6 V DC

LOW 0 ... 1 V DC

Monitoring output OUT D

Output type p-switching, short circuit-proof

Output voltage

OUT D 0.8xUB ... UB V DC

Switching current

OUT D 1 ... 50 mA

Switching delay from state change max. 700 ms

Monitoring output OUT

Output type p-switching, short circuit-proof

Output voltage

OUT 0.8xUB ... UB V DC

Switching current

OUT 1 ... 50 mA

Switching delay from state change max. 400 ms

Safety outputs OA / OB

Output type 2 semiconductor outputs, p-switching, short circuit-proof

Output voltage

HIGH U(OA,OB) $U_B - 1.5V \dots U_B V DC$

LOW U(OA,OB) $0 \dots 1 V DC$

Discrepancy time

both safety outputs max. 10 ms

Turn-on time 400 ms

Off-state current I_r max. 0.25 mA

Risk time according to EN 60947-5-3

Single device

Switching current

per safety output OA / OB 1 ... 200 mA

Mechanical values and environment

Approach speed max. 20 m/min

Connection type 1 plug connector M23, 19-pin, RC18

Ready delay 10 s

Installation orientation any
(preferably head downward)

Switching frequency max. 0.5 Hz

Degree of freedom X ± 5 mm

Degree of freedom Y ± 5 mm

Degree of freedom Z ± 4 mm

Mechanical life 2×10^6

Shock and vibration resistance Acc. to EN IEC 60947-5-3

Degree of protection IP65/IP67
(screwed tight plug connector/mating component)

Ambient temperature

at $U_B = 24 V DC$ $-20 \dots +55 \text{ }^\circ C$

Material

Ramp Stainless steel

Safety switch housing Die-cast aluminum

Locking force F_{max} 6500 N

Locking force F_{Zh} 5000 N $F_{Zh} = F_{MAX}/1.3$

Guard locking principle

Closed-circuit current principle

Characteristic values according to EN ISO 13849-1 and EN IEC 62061

	PL	Maximum SIL	PFH _D	Category	Mission time
Monitoring of guard locking	PL e	–	3.1x10 ⁻⁹	4	20 y

	PL	Maximum SIL	Category	Mission time
Control of guard locking	Depending on external control of guard locking			20 y

Miscellaneous

The following applies to the approval according to UL

Operation only with UL Class 2 power supply or equivalent measures; see operating instructions

Downloads

All documentation for this material can be found on our website:

<https://www.euchner.de/en-us/a/110103/?#downloads-tab>

Ordering data

Ordernumber	110103
Item designation	CET3-AR-CRA-AH-50X-SH-110103
Gross weight	1,29kg
European Article Number (EAN)	4047048007222
Customs tariff number	85365019000
ECLASS	27-27-24-05 Safety-related transponder switch with guardlocking

Accessories

Actuator

Actuator CET-A-BWK-50X



096327
CET-A-BWK-50X

- ▶ Actuator for read head/safety switch CET
- ▶ Transponder coding
- ▶ Four safety screws M5x16 included

Actuator CET-A-BWR-50X-170115



170115
CET-A-BWR-50X-170115

- ▶ Actuator for read head/safety switch CET
- ▶ Transponder coding
- ▶ Improved properties for use in a harsh environment (contamination, chips)
- ▶ Four safety screws M5x16 included

Connection material

Connecting cable with plug connector M23 with option C1825, 1.5 m, angled



092906
C-M23F19-19XDIFPU01,5-MA-092906

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 1.5 m
- ▶ With flying lead
- ▶ Cores color-coded



092907
C-M23F19-19XDIFPU01,5-MA-092907

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 1.5 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 1.5 m, straight



092761
C-M23F19-19XDIFPU01,5-MA-092761

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 1.5 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 10 m, angled



092901
C-M23F19-19XDIFPU10,0-MA-092901

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead
- ▶ Cores color-coded



092902

C-M23F19-19XDIFPU10,0-MA-092902

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 10 m, straight



092898

C-M23F19-19XDIFPU10,0-MA-092898

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 15 m, angled



077020

C-M23F19-19XDIFPU15,0-MA-077020

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 15 m
- ▶ With flying lead
- ▶ Cores color-coded



085196

C-M23F19-19XDIFPU15,0-MA-085196

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 15 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 15 m, straight



077016

C-M23F19-19XDIFPU15,0-MA-077016

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 15 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 20 m, angled



092910

C-M23F19-19XDIFPU20,0-MA-092910

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead
- ▶ Cores color-coded



092911

C-M23F19-19XDIFPU20,0-MA-092911

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 20 m, straight



092726

C-M23F19-19XDIFPU20,0-MA-092726

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 25 m, angled



092912

C-M23F19-19XDIFPU25,0-MA-092912

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 25 m
- ▶ With flying lead
- ▶ Cores color-coded



092913

C-M23F19-19XDIFPU25,0-MA-092913

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 25 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 25 m, straight



092727

C-M23F19-19XDIFPU25,0-MA-092727

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 25 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 3 m, angled



092908

C-M23F19-19XDIFPU03,0-MA-092908

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 3 m
- ▶ With flying lead
- ▶ Cores color-coded



092909

C-M23F19-19XDIFPU03,0-MA-092909

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 3 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 3 m, straight



092816

C-M23F19-19XDIFPU03,0-MA-092816

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 3 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 30 m, straight



095993

C-M23F19-19XDIFPU30,0-MA-095993

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 30 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 40 m, straight



102490

C-M23F19-19XDIFPU40,0-MA-102490

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 40 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 6 m, angled



077018

C-M23F19-19XDIFPU06,0-MA-077018

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 6 m
- ▶ With flying lead
- ▶ Cores color-coded



085194

C-M23F19-19XDIFPU06,0-MA-085194

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 6 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 6 m, straight



077014

C-M23F19-19XDIFPU06,0-MA-077014

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 6 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 8 m, angled



077019

C-M23F19-19XDIFPU08,0-MA-077019

- ▶ RC18 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable
- ▶ Cable length 8 m
- ▶ With flying lead
- ▶ Cores color-coded



085195

C-M23F19-19XDIFPU08,0-MA-085195

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit A (right)
- ▶ PUR cable
- ▶ Cable length 8 m
- ▶ With flying lead
- ▶ Cores color-coded

Connecting cable with plug connector M23 with option C1825, 8 m, straight



077015

C-M23F19-19XDIFPU08,0-MA-077015

- ▶ M23 plug connector, 18-pin + PE
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 8 m
- ▶ With flying lead
- ▶ Cores color-coded

Plug connector M23 with option C1825, angled



167836

AC-PC-M23F19W-C1825-167836

- ▶ Female plug M23, with union nut, angled
- ▶ Number of pins: 18-pin + PE (with shield spring)
- ▶ Conductor cross-section: 16 x 0.14...0.56 mm² + 3 x 0.5...1.0 mm²
- ▶ Cable diameter: 9...15 mm
- ▶ for self-assembly
- ▶ Crimp contacts included

Plug connector M23 with option C1825, straight



167838

AC-PC-M23F19G-C1825-167838

- ▶ Female plug M23, with union nut, straight
- ▶ Number of pins: 18-pin + PE (with shield spring)
- ▶ Conductor cross-section: 16 x 0.14...0.56 mm² + 3 x 0.5...1.0 mm²
- ▶ Cable diameter: 9...15 mm
- ▶ for self-assembly
- ▶ Crimp contacts included

Plug connector M23, angled



167837
AC-PC-M23F19W-167837

- ▶ Female plug M23, with union nut, angled
- ▶ Number of pins: 18-pin + PE (with shield spring)
- ▶ Conductor cross-section: 0.5...1.0 mm²
- ▶ Cable diameter: 10...14 mm
- ▶ for self-assembly
- ▶ Crimp contacts included

Plug connector M23, straight



167839
AC-PC-M23F19G-167839

- ▶ Female plug M23, with union nut, straight
- ▶ Number of pins: 18-pin + PE (with shield spring)
- ▶ Conductor cross-section: 0.5...1.0 mm²
- ▶ Cable diameter: 9...15 mm
- ▶ for self-assembly
- ▶ Crimp contacts included

Function expansion

Cover for actuator CET



124979
AM-C-124979

- ▶ Horizontal and vertical mounting option on the actuator
- ▶ Mounting using 4 screws M5x16 (included with the actuator)

Cover for read head and actuator CET



098807
CET ABDECKUNG LINKS

- ▶ Cover for read heads / safety switches CET and actuators CET
- ▶ For approach direction C



098808
CET ABDECKUNG RECHTS

- ▶ Cover for read heads / safety switches CET and actuators CET
- ▶ For approach direction A

Double ramp for safety switch/read head CET



114091
CET-DR

Emergency release for CET



103714
AE-M-CET-103714



159080
AE-M-CET-159080

Holder for lockout bar for CET actuator



156338
AY-CHN-A1-156338

- ▶ Holder (incl. wire rope) for lockout bar CET

Lockout bar and holder for CET actuator



155865
AE-SET-LCHN-A1-155865

- ▶ Prevents unintentional closing of the door
- ▶ Can be secured with padlocks

Lockout bar for CET actuator



122609
AE-L-CET-122609

- ▶ Prevents unintentional closing of the door
- ▶ Can be secured with padlocks
- ▶ Not suitable in combination with cover AM-C for actuator CET



156429
AE-L-CET-156429

- ▶ Prevents unintentional closing of the door
- ▶ Can be secured with padlocks

Teach-in adapter for CET 1/3



122748
AC-TA-A1-SH-122748

- ▶ Teach-in adapter
- ▶ Optional accessory for teaching-in a new actuator for safety switch with M23 plug connector.

Metal bolt

Bolt for safety switch CET



104309
RIEGEL CET-A-C

- ▶ Bolt for switch family CET
- ▶ Steel bolt
- ▶ For doors hinged on the left or right
- ▶ With door stop
- ▶ Suitable for a door gap of approx. 15 mm



109672
RIEGEL CET-A-C-C2308

- ▶ Bolt for switch family CET
- ▶ Steel bolt
- ▶ For doors hinged on the left or right
- ▶ Without door stop
- ▶ Suitable for a door gap of 15 mm

Mounting accessories

Efficient protection against tampering for safety switch mounting



161344
AM-C-SW4-V3-161344

- ▶ Plastic inserts for hexagon socket screws a/f 4
- ▶ Efficient protection against tampering for safety switch mounting
- ▶ The packaging includes inserts for 18 screws



161348
AM-C-SW5-V3-161348

- ▶ Plastic inserts for hexagon socket screws a/f 5
- ▶ Efficient protection against tampering for safety switch mounting
- ▶ The packaging includes inserts for 18 screws

Mounting plate EM-P actuator for safety switch CET



126400
AM-P-126400

- ▶ Mounting plate for CET actuator
- ▶ Suitable for mounting on aluminum profiles of width 30/40/50 mm
- ▶ Suitable for the mounting plates AM-P-126399 and AM-P-126398

Mounting plate EM-P handle for safety switch CET and CTS



126398
AM-P-126398

- ▶ Mounting plate with handle (handle included) for hinged or sliding doors
- ▶ Horizontal and vertical mounting possible
- ▶ Suitable for aluminum profiles of width 30/40/50 mm
- ▶ Suitable for the CET mounting plates AM-P-126399 and AM-P-126400
- ▶ Suitable for the CTS mounting plates AM-P-171775 and AM-B-171776

Mounting plate EM-P switch for safety switch CET



126399
AM-P-126399

- ▶ Mounting plate for CET read heads/switches
- ▶ Direct mounting on aluminum profiles of width 30/40/50 mm
- ▶ Suitable for the mounting plates AM-P-126400 and AM-P-126398

Mounting plate EMP-B-... for actuator CET



106694
EMP-B-CET

- ▶ Mounting plate for actuator CET for hinged or sliding doors
- ▶ Suitable for aluminum profiles 40 ... 45 mm
- ▶ Horizontal and vertical mounting
- ▶ Made of aluminum

Mounting plate EMP-L-... for CET read heads/switches



106695
EMP-L-CET

- ▶ Mounting plate for CET read heads/switches for hinged or sliding doors
- ▶ Suitable for aluminum profiles 40 ... 45 mm
- ▶ Horizontal and vertical mounting
- ▶ Suitable for CET with escape release