

## CTP-I1-AP-U-HA-AEC-SA-136595 (ORDER NO. 136595)

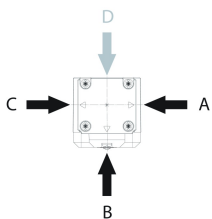
### Transponder-coded safety switch CTP-AP, M12

- ▶ Safety switch with guard locking and integrated evaluation electronics
- ▶ Guard locking suitable for process protection only
- ▶ Short circuit monitoring
- ▶ 2 safety outputs (semiconductor outputs)
- ▶ Up to category 4 / PL e according to EN ISO 13849-1
- ▶ With plug connector M12
- ▶ Unicode
- ▶ With escape release
- ▶ Door monitoring output
- ▶ Approach directions A, B and C (delivery state)



### Description

#### Approach direction



Horizontal

Can be adjusted in 90° steps

#### 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.

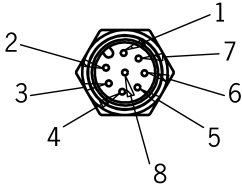
#### Guard locking type

CTP-I1 Guard locking actuated by spring force and power-ON released (closed-circuit current principle). Guard locking suitable for process protection only.

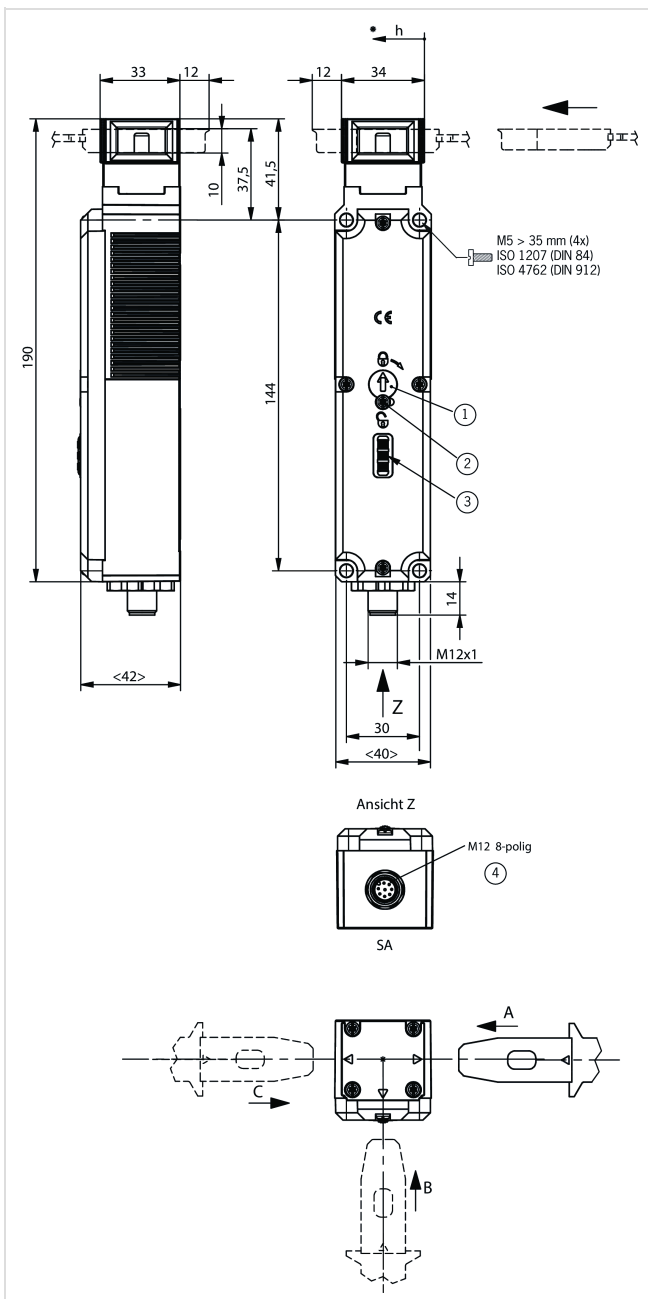
#### Escape release

This is used for manual release of guard locking from the danger zone without tools.

## Connector assignment

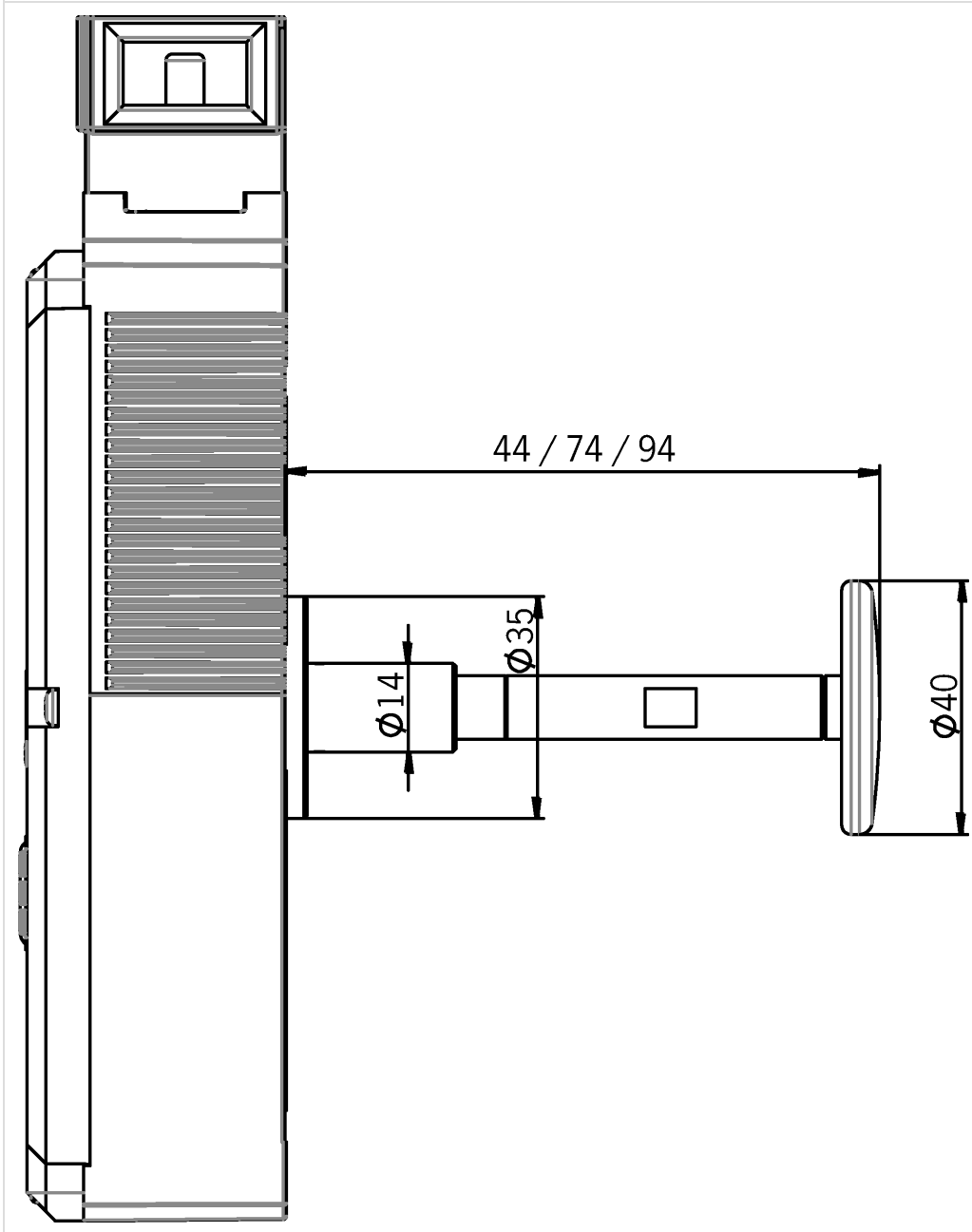
Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	1	IMP	Operating voltage of guard locking solenoid, 24 V DC	WH
	2	UB	Operating voltage of AP electronics, 24 V DC	BN
	3	FO1A	Safety output, channel 1	GN
	4	FO1B	Safety output, channel 2	YE
	5	OI	Diagnostic output	GY
	6	OD	Door monitoring output	PK
	7	OL	Guard lock monitoring output	BU
	8	0 V	Operating voltage AP electronics 0 V / guard locking solenoid 0 V	RD

## Dimension drawings

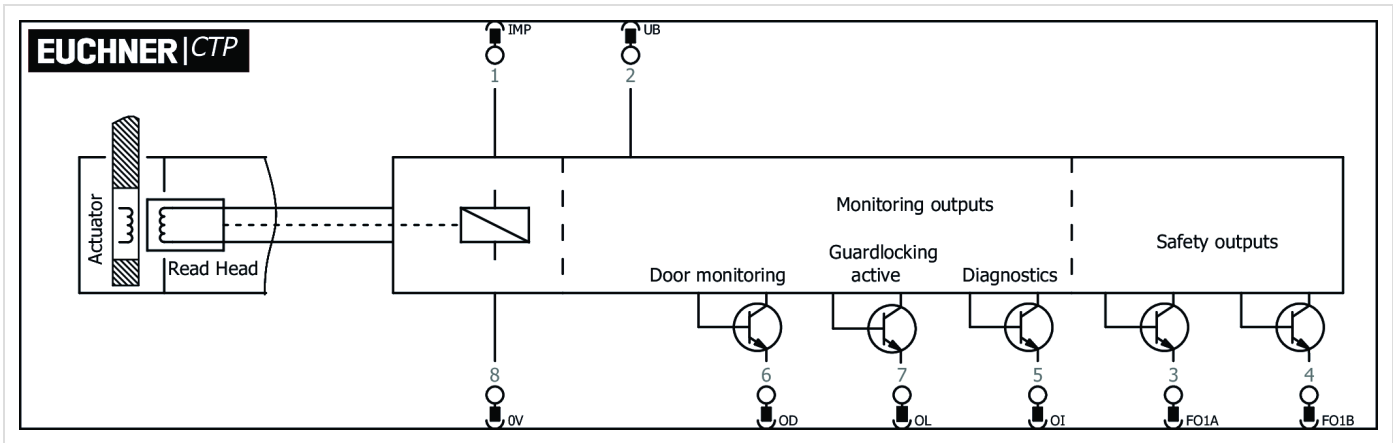


- 1 Auxiliary release
- 2 Locking screw
- 3 LEDs
- 4 Plug connector aligned

## Dimension drawings



## Connection examples



## Technical data

### Approvals



### Work area

Repeat accuracy R

according to EN 60947-5-2 10 %

### Electrical connection ratings

## Current consumption

	IIMP	400 mA
	IUB	40 mA
Degree of contamination (external, according to EN 60947-1)		3
EMC protection requirements		according to EN IEC 60947-5-3
Fusing		
	external (operating voltage UB)	0.25 ... 8 A
	external (solenoid operating voltage IMP)	0.5 ... 8 A
Operating voltage DC		
	UUB	24 V DC -15% ... +15% reverse polarity protected, regulated, residual ripple < 5%, PELV
Power consumption		6 W
Rated impulse withstand voltage $U_{imp}$		0.5 kV
Rated insulation voltage $U_i$		50 V
Safety class		
	EN IEC 61140	III
Solenoid duty cycle		100 %
Solenoid operating voltage DC		
	UIMP	24 V DC -15% ... +10% reverse polarity protected, regulated, residual ripple < 5%, PELV
Switching load		
	according to UL	24V DC, Class 2 (alternatively, see operating instructions)
Test pulse interval		min. 100 ms
Test pulses		max. 0.3 ms (Applies to a load with $C \leq 30$ nF and $R \leq 20$ kohm)
Utilization category		
	DC-13	24V 150mA (Caution: outputs must be protected with a free-wheeling diode in case of inductive loads)
		<b>Monitoring output OD, OI, OL</b>
Output type		p-switching, short circuit-proof
Output voltage		$0.8 \times U_B$ ... $U_B$ V DC
Switching current		1 ... 50 mA
		<b>Safety outputs FO1A / FO1B</b>
Discrepancy time		
	both safety outputs	max. 10 ms according to EN IEC 60947-5-3
Off-state current $I_r$		max. 0.25 mA
Output type		2 semiconductor outputs, p-switching, short circuit-proof
Output voltage		
	LOW U(FO1A) / U(FO1B)	0 ... 1 V DC
	HIGH U(FO1A) / U(FO1B)	$U_B - 1.5$ ... $U_B$ V DC
Switching current		
	per safety output FO1A / FO1B	1 ... 150 mA
Turn-on time		max. 400 ms

## Mechanical values and environment

Actuating force	10 N
Ambient temperature	at UB = 24V DC -20 ... +55 °C
Approach speed	max. 20 m/min
Connection	1 plug connector M12, 8-pin
Degree of protection	IP67/IP69/IP69K (screwed tight plug connector/mating component)
Extraction force	20 N
Guard locking principle	Closed-circuit current principle
Installation orientation	any
Locking force $F_{max}$	3900 N
Locking force $F_{Zh}$	3000 N ( $F_{Zh} = F_{max}/1.3$ , depending on the actuator used)
Material	
	Safety switch housing reinforced thermoplastic
	Switch head cover Die-cast zinc
Mechanical life	$1 \times 10^6$
Overtravel	5 mm
Ready delay	max. 1 s
Retention force	20 N
Shock and vibration resistance	according to EN 60947-5-3
Switching frequency	max. 0.5 Hz

### Reliability values according to EN ISO 13849-1

Category	4
Mission time	20 y
Performance Level	PL e
PFHd	$4.1 \times 10^{-9}$

### Miscellaneous

Additional feature	Escape release actuated by pushing
The following applies to the approval according to UL	Operation only with UL Class 2 power supply or equivalent measures; see operating instructions

### Accessories

#### Actuator

## Bent actuator for safety switch CTP/CTA

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122668  
A-C-H-W-SST-122668

- ▶ Bent actuator, bottom
- ▶ Two safety screws included



122667  
A-C-H-W-SST-122667

- ▶ Actuator bent at top
- ▶ Two safety screws included

## Hinged actuator for safety switch CTP/CTA

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122672  
A-C-H-RR-LS-122672

- ▶ Hinged actuator for doors hinged on the right
- ▶ Two safety screws included



122675  
A-C-H-RO-LS-122675

- ▶ Hinged actuator for top-hinged doors
- ▶ Two safety screws included



122671  
A-C-H-RL-LS-122671

- ▶ Hinged actuator for doors hinged on the left
- ▶ Two safety screws included



122676  
A-C-H-RU-LS-122676

- ▶ Hinged actuator for bottom-hinged doors
- ▶ Two safety screws included

## Straight actuator for safety switch CTP/CTA

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126015  
A-C-H-G-SST-126015

- ▶ Straight actuator
- ▶ Two safety screws included

## Connection material

### Connecting cable with angled plug connector M12, 8-pin, 10 m

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113189  
C-M12F08-08X025PU10,0-MA-113189

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet C (left)
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead

### Connecting cable with angled plug connector M12, 8-pin, 10m

### Connecting cable with angled plug connector M12, 8-pin, 10m



**113188**  
C-M12F08-08X025PU10,0-MA-113188

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet A (right)
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead

### Connecting cable with angled plug connector M12, 8-pin, 20 m



**120999**  
C-M12F08-08X025PU20,0-MA-120999

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet C (left)
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead

### Connecting cable with angled plug connector M12, 8-pin, 20m



**120998**  
C-M12F08-08X025PU20,0-MA-120998

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet A (right)
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead

### Connecting cable with plug connector M12, 8-pin, 10 m



**115113**  
C-M12F08-08X025PU10,0-MA-115113

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead



**100178**  
C-M12F08-08X025PV10,0-MA-100178

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 10 m
- ▶ With flying lead

### Connecting cable with plug connector M12, 8-pin, 20 m



**100179**  
C-M12F08-08X025PV20,0-MA-100179

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 20 m
- ▶ With flying lead



**115114**  
C-M12F08-08X025PU20,0-MA-115114

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead

### Connecting cable with plug connector M12, 8-pin, 30 m



**115257**  
C-M12F08-08X025PU30,0-MA-115257

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 30 m
- ▶ With flying lead





**115116**  
C-M12F08-08X025PV30,0-MA-115116

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 30 m
- ▶ With flying lead

### Connecting cable with plug connector M12, 8-pin, 5 m

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**100177**  
C-M12F08-08X025PV05,0-MA-100177

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 5 m
- ▶ With flying lead



**115112**  
C-M12F08-08X025PU05,0-MA-115112

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 5 m
- ▶ With flying lead

### Function expansion

#### Emergency release for safety switch CTP/CTA/TP/STP/MGB2

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**099877**  
AE-M-A1-99877

#### Handle for wire front release (bowden)

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**124204**  
Y-HDL-124204

- ▶ suitable for all wire front releases



**099795**  
AY-HDL-099795

- ▶ suitable for all wire front releases

#### Lock for auxiliary release for safety switch CTP/CTA/TP/STP

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**109212**  
AE-K-A1-IUK2-109212

- ▶ Identical locking
- ▶ Key can be removed only in "unlocked" position



**086236**  
AE-K-A1-IULK1-86236

- ▶ Identical locking
- ▶ Key removable in "unlocked" and "locked" positions



**121017**

- ▶ Identical locking



121917  
AE-K-A1-ILK1-121917

- ▶ Identical locking
- ▶ Key removable in "locked" position



084177  
AE-K-A1-DULK1-84177

- ▶ Lock unique locking
- ▶ Key removable in "unlocked" and "locked" positions

## Lockout bar CTP/CTA



123411  
AE-L-C-H-123411

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

## Release with automatic reset for safety switch CTP/CTA/TP/STP/MGB/MGB2/MGBS



103110  
AE-R-A1-103110

## Wire front release (bowden)



125582  
AE-B-A1-06,0-125582

- ▶ Can be used as escape release or emergency release
- ▶ no automatic return
- ▶ Rope length 6 m (without sheath)



098313  
AE-B-A1-03,0-098313

- ▶ Can be used as escape release or emergency release
- ▶ no automatic return
- ▶ Sheath length 3 m (rope length 6 m)



098314  
AE-B-A1-04,0-098314

- ▶ Can be used as escape release or emergency release
- ▶ no automatic return
- ▶ Sheath length 4 m (rope length 6 m)



097747  
AE-B-A1-02,0-F-097747

- ▶ Can be used as escape release or emergency release
- ▶ automatic return
- ▶ Sheath length 2 m (rope length 6 m)



111233  
AE-B-A1-03,0-F-111233

- ▶ Can be used as escape release or emergency release
- ▶ automatic return
- ▶ Sheath length 3 m (rope length 6 m)



**124770**  
AE-B-A1-06,0-F-124770

- ▶ Can be used as escape release or emergency release
- ▶ automatic return
- ▶ Rope length 6 m (without sheath)



**096230**  
AE-B-A1-02,0-096230

- ▶ Can be used as escape release or emergency release
- ▶ no automatic return
- ▶ Sheath length 2 m (rope length 6 m)

## Metal bolt

### Bolt BTC-CTP with escape release for safety switches CTP, CTA

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**123660**  
BTC-CTP-S-TH-01-F

- ▶ Aluminum bolt
- ▶ For doors hinged on the left or right
- ▶ Lever for escape release from the danger zone
- ▶ Pushbutton in open position
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

### Bolt BTM-UNIP-S... with escape release for safety switches TP, STP, STA, CTP and CTA

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**164196**  
BTM-UNIP-S-TH-01-F-164196

- ▶ Steel bolt
- ▶ For doors hinged on the left or right
- ▶ Can be locked in open position with padlocks
- ▶ Actuator not included

### Bolt with escape release for safety switch CTP, CTA

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**123655**  
RIEGEL CTP-ACF-123655

- ▶ Steel bolt
- ▶ Lever for escape release from the danger zone
- ▶ For doors hinged on the right and left
- ▶ Detent knob in open position
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

## Mounting accessories

## Efficient protection against tampering for safety switch mounting

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**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 plates AM-P for safety switch CTP/CTA

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**126026**  
AM-P-126026

- ▶ For vertical and horizontal mounting of safety switch CTP/CTA

## Mounting plates EMP-B1 for actuators for safety switches CTP, CTA, TP...A, STA, STP, TX and TZ

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**093457**  
EMP-B1

## Mounting plates EMP-B2 for actuators for safety switches CTP, CTA, TP...A, STA, STP, TX and TZ

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**093458**  
EMP-B2

## Mounting plates EMP-SB for safety switches CTP, CTA, TP...A, STA, STP and TX

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**093456**  
EMP-SB

- ▶ For vertical and horizontal mounting of safety switches CTP, CTA, TP...A, STA, STP and TX

## Plastic bolt

### Bolt CTP-GFK-F with escape release for safety switch CTP


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**123658**  
RIEGEL CTP-GFK-F


- ▶ Fiber glass reinforced plastic bolt
- ▶ For doors hinged on the left or right
- ▶ Lever for escape release from the danger zone
- ▶ Detent knob in open position
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

## Contacts

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