

## CTP-L1-AR-M-HA-AZ-SH-123363 (ORDER NO. 123363)

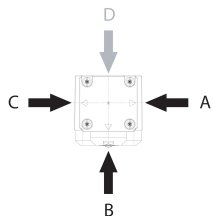
### Transponder-coded safety switch CTP-AR, M23

- ▶ Safety switch with guard locking and integrated evaluation electronics
- ▶ Up to 20 switches in series
- ▶ Short circuit monitoring
- ▶ 2 safety outputs (semiconductor outputs)
- ▶ Up to category 4/PL e according to EN ISO 13849-1
- ▶ With plug connectors M23
- ▶ Multicode
- ▶ Door monitoring output
- ▶ Approach directions A, B and C (delivery state)



### Description

#### Approach direction



Figure

Horizontal

Can be adjusted in 90° steps

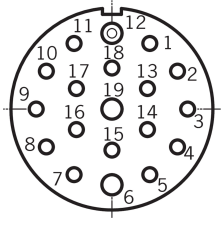


#### Multicode evaluation

Every suitable actuator is detected by the switch.

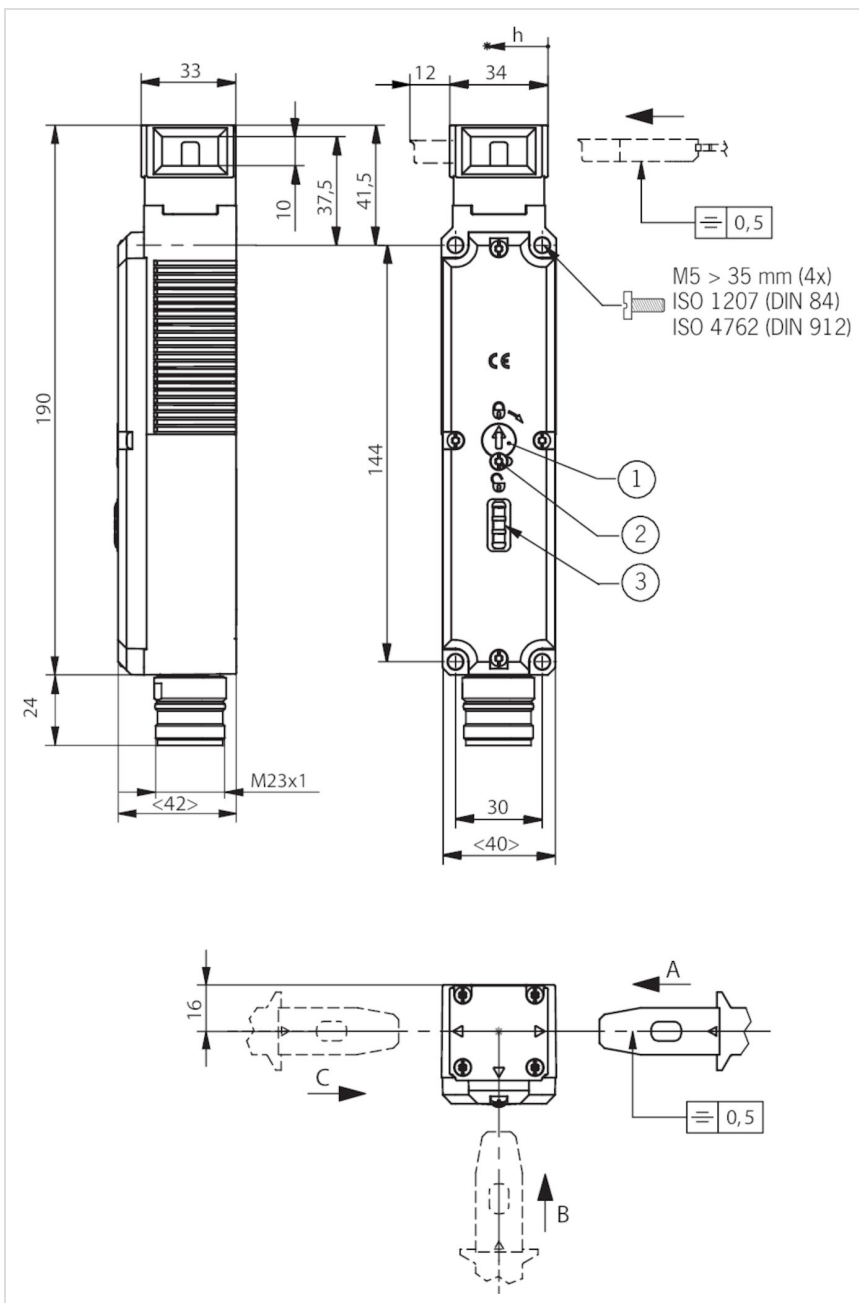
#### Guard locking type

CTP-L1 Guard locking actuated by spring force applied and power-ON released (closed-circuit current principle)

## Connector assignment

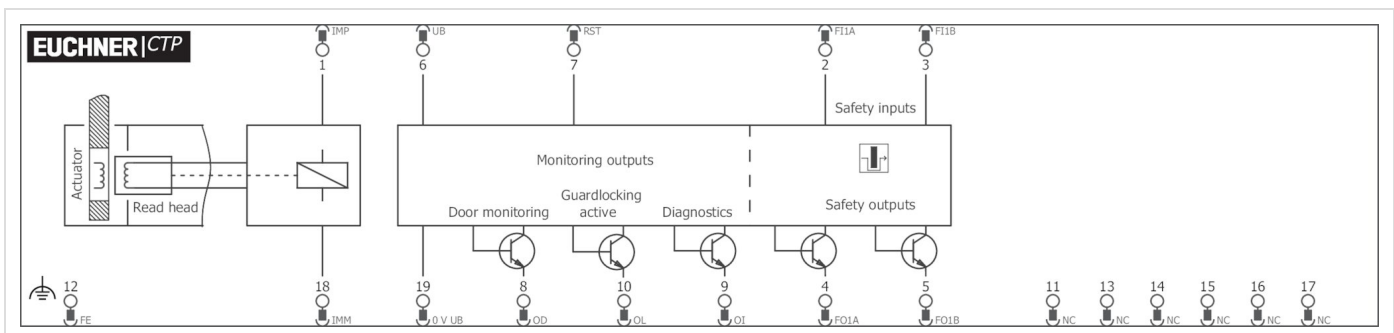
Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	1	IMP	Operating voltage of guard locking solenoid 24 V DC	VT
	2	FI1A	Enable input for channel 1	RD
	3	FI1B	Enable input for channel 2	GY
	4	F01A	Safety output, channel 1 	RD/BU
	5	F01B	Safety output, channel 2 	GN
	6	UB	Operating voltage of AR electronics, 24 V DC	BU
	7	RST	Reset input	GY/PK
	8	OD	Door monitoring output	GN/WH
	9	OI	Diagnostic output	YE/WH
	10	OL	Guard locking monitoring output	GY/WH
	11	-	n.c.	BK
	12	FE	Function earth (must be connected to meet the EMC requirements)	GN/YE
	13	-	n.c.	PK
	14	-	n.c.	BN/GY
	15	-	n.c.	BN/YE
	16	-	n.c.	BN/GN
	17	-	n.c.	WH
	18	IMM	Operating voltage of guard locking solenoid 0 V	YE
	19	0 V UB	Operating voltage of AR electronics, 0 V	BN

## Dimension drawing



- 1 Auxiliary release
- 2 Locking screw
- 3 LEDs

### Wiring diagram



### Technical data

## Mechanical values and environment

Shock and vibration resistance	In acc. with EN 60947-5-3
Housing material	
Switch head cover	Die-cast zinc
Safety switch housing	Fiber glass reinforced thermoplastic
Weight	
Net	0,42 kg
Ambient temperature	
At $U_B = 24V$ DC	-20 ... +55 °C
Degree of protection	IP67 (Screwed tight plug connector/mating component)
Mechanical life	$1 \times 10^6$
Installation orientation	Any
Ready delay	8 s
Switching frequency	max.0,5 Hz
Connection	1 plug connector M23, 19-pin, RC18
Approach speed	max.20 m/min
Guard locking principle	Closed-circuit current principle
Locking force $F_{max}$	3900 N
Locking force $F_{Zh}$	3000 N ( $F_{zh} = F_{max}/1.3$ Depending on the actuator used)
Retention force	20 N
Extraction force	20 N
Actuating force	10 N
Overtravel	5 mm

## Electrical connection ratings

Extension of risk time according to EN 60947-5-3 per device	max.5 ms
Test-pulse interval	min.140 ms
Test pulses	max.1,0 ms (Applies for a load with $C \leq 30nF$ and $R \leq 20k\Omega$ )
Operating voltage DC	
$U_{UB}$	24 V DC -15% ... 15% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Current consumption	
$I_{UB}$	40 mA
$I_{IMP}$	400 mA
Utilization category acc. to EN 60947-5-2	
DC-13	24V 150mA (Caution: outputs must be protected with a free-wheeling diode in case of inductive loads)
Solenoid operating voltage DC	
$U_{IMP}$	24 V DC -15% ... +10% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Fusing	

External (operating voltage UB)	0,25 ... 8 A
External (solenoid operating voltage IMP)	0,5 ... 8 A
Rated insulation voltage $U_i$	50 V
Rated impulse withstand voltage $U_{imp}$	0,5 kV
Connection rating	6 W
EMC protection requirements	In acc. with EN IEC 60947-5-3
Solenoid duty cycle	100 %
Degree of contamination (external, according to EN 60947-1)	3
Safety class	EN IEC 61140 III
Risk time according to EN 60947-5-3	Single device max.260 ms
Switching load	According to UL 24V DC, class 2 (Alternatively see operating instructions)
<b>Safety outputs FO1A / FO1B</b>	
Type of output	2 semiconductor outputs, p-switching, short circuit-proof
Switching current	Per safety output FO1A / FO1B 1 ... 150 mA
Output voltage	High U(FO1A) / U(FO1B) UB-1,5 ... UB V DC Low U(FO1A) / U(FO1B) 0 ... 1 V DC
Off-state current $I_r$	max.0,25 mA
Turn-on time	max.400 ms
Discrepancy time	Both safety outputs max.10 ms In acc. with EN IEC 60947-5-3
<b>Monitoring output OL</b>	
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	0,8xUB ... UB V DC
<b>Monitoring output OD</b>	
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	0,8xUB ... UB V DC
<b>Monitoring output OI</b>	
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	0,8xUB ... UB V DC

## Work area

Repeat accuracy R

According to EN 60947-5-2 10 %

## Other

For the approval acc. to UL the following applies

Operation only with UL class 2 power supply, or equivalent measures see operating instructions

## Reliability values according to EN ISO 13849-1

Performance Level	PL e
Category	4
PFH <sub>D</sub>	$4.1 \times 10^{-9}$
Mission time	20 y

## Accessories

### Actuator

## Bent actuator for safety switches CTP

---



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

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



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

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

## Hinged actuator for safety switch CTP

---



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

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



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

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



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

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



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

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

## Straight actuator for safety switch CTP

---



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

- ▶ Straight actuator
  - ▶ Two safety screws included
- 

Bolt

## Bolt BTC-CTP-S for safety switch CTP

---



123659  
BTC-CTP-S-TH-00-X

- ▶ Aluminum bolt
- ▶ For doors hinged on the left or right
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

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

---



159951  
BTM-UNIP-S-TH-00-X-159951

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

## Bolt CTP-GFK for safety switch CTP

---



123657  
RIEGEL CTP-GFK

- ▶ Fiber glass reinforced plastic bolt
- ▶ For doors hinged on the left or right
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

## Bolts for safety switches series CTP

---



123653  
RIEGEL CTP-AC-123653

- ▶ Steel bolt
- ▶ For doors hinged on the right or left
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

## Connection material

### Connection cable with plug connector M23 with option C1825, 1.5m, angled

---



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



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

### Connection cable with plug connector M23 with option C1825, 1.5m, 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

### Connection cable with plug connector M23 with option C1825, 3m, 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

### Connection cable with plug connector M23 with option C1825, 3m, 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

### Connection cable with plug connector M23 with option C1825, 6m, 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

### Connection cable with plug connector M23 with option C1825, 6m, 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

### Connection cable with plug connector M23 with option C1825, 8m, 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

## Connection cable with plug connector M23 with option C1825, 8m, 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

## Connection cable with plug connector M23 with option C1825, 10m, 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

## Connection cable with plug connector M23 with option C1825, 10m, 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

## Connection cable with plug connector M23 with option C1825, 15m, 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

## Connection cable with plug connector M23 with option C1825, 15m, 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

## Connection cable with plug connector M23 with option C1825, 20m, angled

---



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

- ▶ M23 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)
- ▶ PUR cable



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

- ▶ Cable length 20 m
- ▶ With flying lead
- ▶ Cores color-coded
- ▶ 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

### Connection cable with plug connector M23 with option C1825, 20m, 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

### Connection cable with plug connector M23 with option C1825, 25m, 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

### Connection cable with plug connector M23 with option C1825, 25m, 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

### Connection cable with plug connector M23 with option C1825, 30m, 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

### Connection cable with plug connector M23 with option C1825, 40m, 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

### Female connector RC18 angled with option C1825



**077000**

- ▶ Plug connector M23 angled



077026  
RC18WF-C1825

- ▶ Plug connector M23, angled
- ▶ Number of pins: 19-pin with shield spring

## Female plug RC18 angled

---

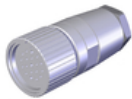


074617  
RC18WF

- ▶ Plug connector M23, angled
- ▶ Number of pins: 19-pin with shield spring

## Female plug RC18 straight

---

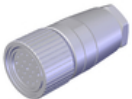


074616  
RC18EF

- ▶ Plug connector M23, straight
- ▶ Number of pins: 19-pin with shield spring

## Female plug RC18 straight with option C1825

---



077025  
RC18EF-C1825

- ▶ Plug connector M23, straight
- ▶ Number of pins: 19-pin with shield spring

## Replacement crimp contacts for female connector RC18

---

094309  
CRIMPKONTAKT BUCHSE RCF

- ▶ 19 crimp sockets
- ▶ Conductor cross-section 19 x 0.75 - 1 mm<sup>2</sup>
- ▶ For plug connector RC18

## Replacement crimp contacts for female connector RC18 with option C1825

---

094310  
CRIMPKONTAKT BUCHSE RCF-C1825

- ▶ 19 crimp sockets
- ▶ Conductor cross-section 16 x 0.25 - 0.5 mm<sup>2</sup> and 3 x 0.75 - 1 mm<sup>2</sup>
- ▶ For plug connector RC18..C1825

## Function expansion

### Emergency unlocking for safety switches CTP/TP/STP

---



099877  
NOTENTSPERRUNG TP/STP

## Handle for wire front release

---



099795  
M.HDL.000705

- ▶ Suitable for all wire front releases



AI-PDL-099/99



**124204**  
AY-HDL-124204

- ▶ Suitable for all wire front releases

### Lock for auxiliary release for safety switches CTP/TP/STP



**121917**  
SCHLOSS TP GLEICHSCHLIESSEND  
C2416

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



**084177**  
SCHLOSS TP  
VERSCHIEDENSCHLIESSEND

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



**086236**  
SCHLOSS TP GLEICHSCHLIESSEND

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



**109212**  
SCHLOSS TP GLEICHSCHLIESSEND  
C2293

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

### Lockout mechanism CTP



**123411**  
AE-L-C-H-123411

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

### Release with automatic reset for safety switches CTP/TP/STP



**103110**  
ENTRIEGELUNG RUECKSTELLEND  
TP/STP

### Wire front release



**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)



**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)



**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)



**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)



**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)



**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)



**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)

## 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 plates AM-P for safety switches CTP

---



**126026**  
AM-P-126026

- ▶ For vertical and horizontal mounting of safety switch CTP

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

---



**093457**  
EMP-B1

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

---



**093458**  
EMP-B2

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

---



**093456**  
EMP-SB

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

## Contacts

🏠 EUCHNER GmbH + Co. KG  
Kohlhammerstraße 16  
70771 Leinfelden-Echterdingen

☎ +49 711 7597-0

📠 +49 711 753316

✉ info(at)euchner.de

