

CTP-L1-AP-U-HA-AE-SH-123375 (ORDER NO. 123375)

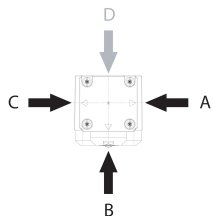
Transponder-coded safety switch CTP-AP, M23, with escape release

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



Description

Approach direction



Figure

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

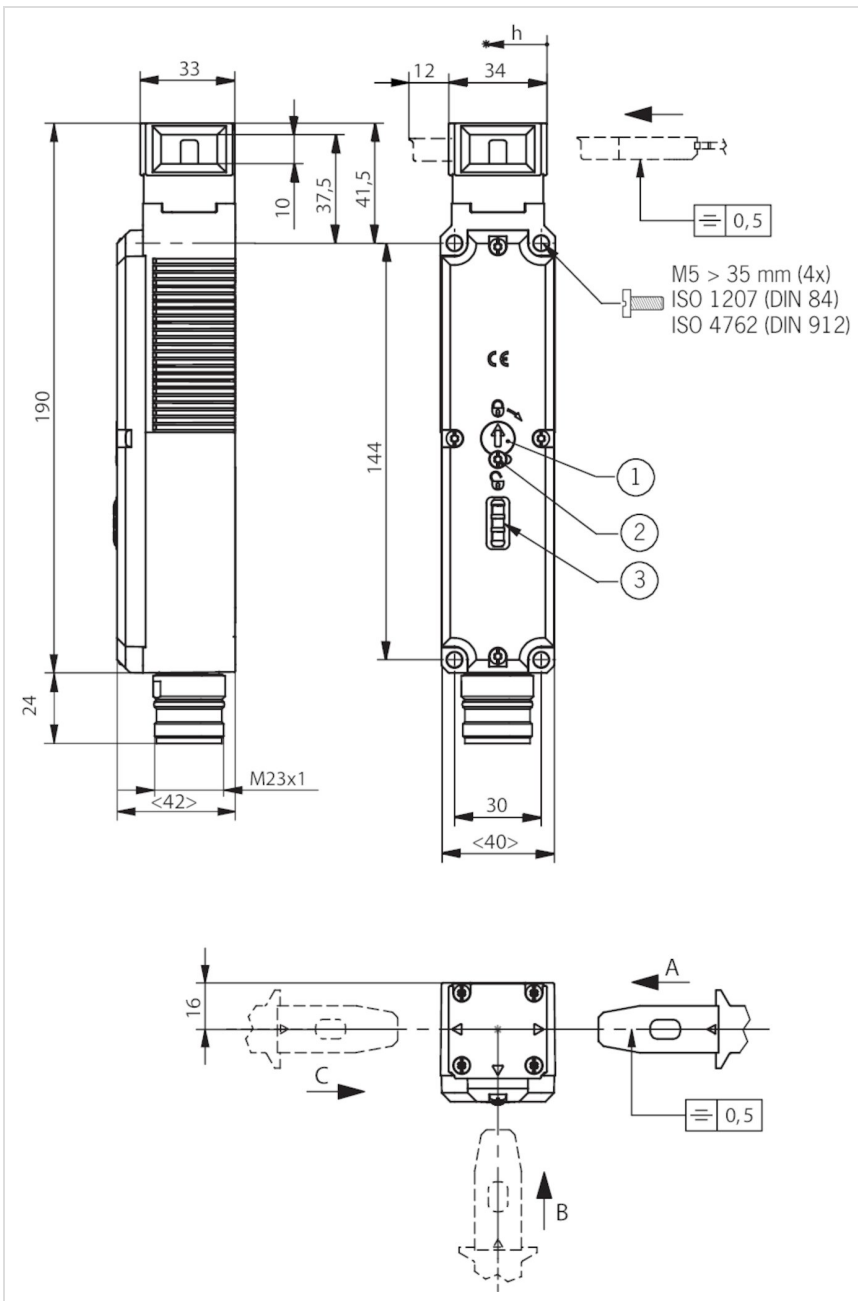
Escape release

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

Connector assignment

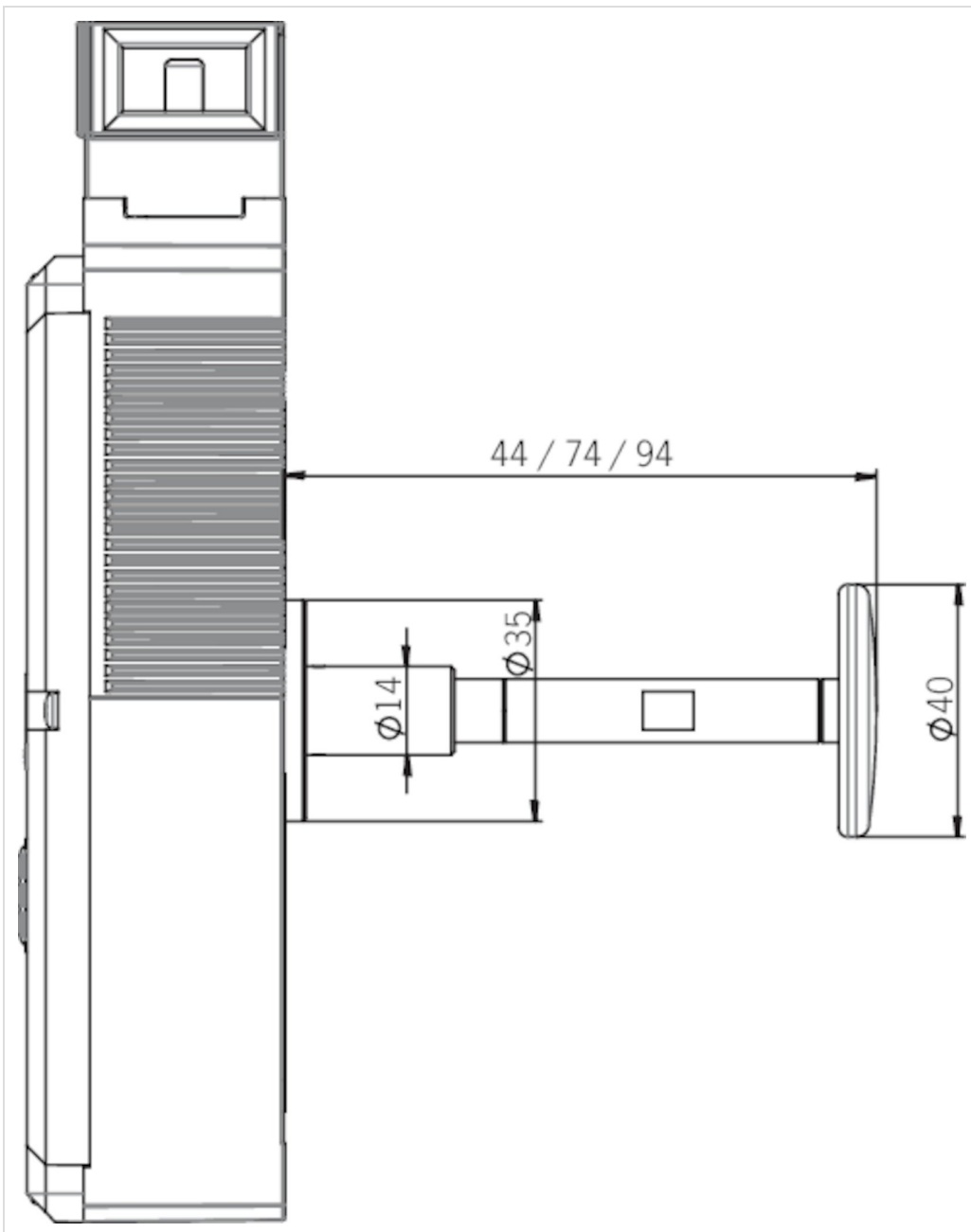
Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	1	IMP	Operating voltage of guard locking solenoid, 24 V DC	VT
	2	-	n.c.	RD
	3	-	n.c.	GY
	4	F01A	Safety output, channel 1	RD/BU
	5	F01B	Safety output, channel 2	GN
	6	UB	Operating voltage of AP electronics, 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 lock 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 AP electronics, 0 V	BN

Dimension drawing

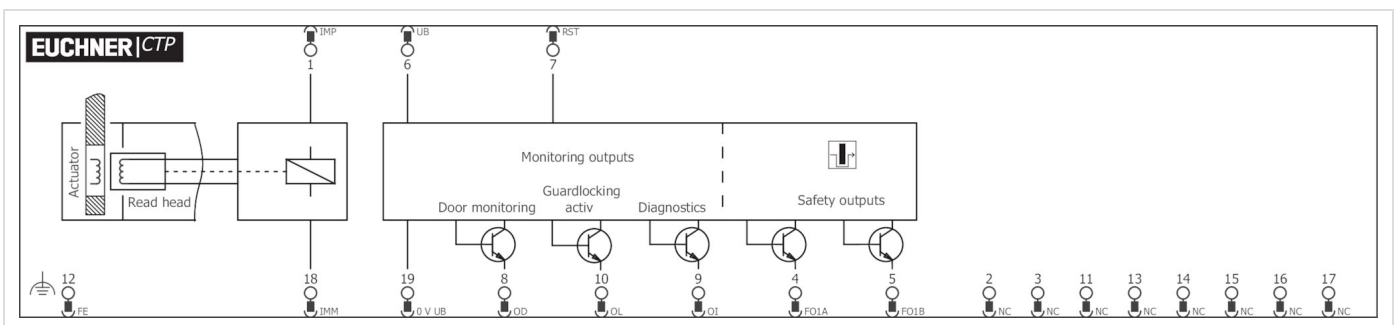


- 1 Auxiliary release
- 2 Locking screw
- 3 LEDs

Dimension drawing



Wiring diagram



Technical data

Approvals



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 x 10 ⁶
Installation orientation	Any
Ready delay	max.1 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

Test-pulse interval	min.100 ms
Test pulses	max.0,3 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 (solenoid operating voltage IMP) 0,5 ... 8 A
	External (operating voltage UB) 0,25 ... 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
Switching load	According to UL 24V DC, class 2 (Alternatively see operating instructions)
Safety outputs FO1A / FO1B	
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
Monitoring output OL	
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	0,8xUB ... UB V DC
Monitoring output OD	
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	0,8xUB ... UB V DC
Monitoring output OI	
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 %
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Other

Additional feature	Escape release actuated by pushing
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 _D	4.1 x 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 with escape release for safety switch CTP



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 and CTP



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



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

Bolts with escape release for safety switch CTP



123655
RIEGEL CTP-ACF-123655

- ▶ Steel bolt
- ▶ Lever for escape release from the danger zone
- ▶ For doors hinged on the right or left
- ▶ Detent knob in open position
- ▶ 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



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



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

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



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



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

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



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



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

- ▶ RC18 plug connector, 18-pin + PE
- ▶ Angled plug connector
- ▶ Cable exit C (left)

I

- ▶ 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



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



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

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



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



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

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



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



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

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



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



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

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



077026
RC18WF-C1825

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

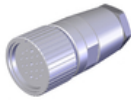
Female plug RC18 angled



074617
RC18WF

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

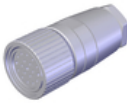
Female plug RC18 straight



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 mm²
- ▶ 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 mm² and 3 x 0.75 - 1 mm²
- ▶ 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
AY-HDL-099795

- ▶ Suitable for all wire front releases



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



109212
SCHLOSS TP GLEICHSCHLIESSEND
C2293

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



086236
SCHLOSS TP GLEICHSCHLIESSEND

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

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



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)



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)

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

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