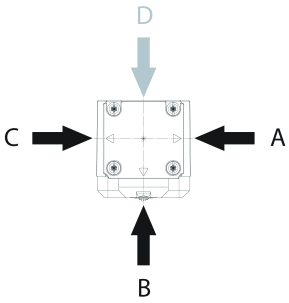
CTP-L1-AP-M-HA-AE-SA-163003 (Order no. 163003)

Safety switch with guard locking CTP-AP, RFID, plug connector M12, escape release

- Closed-circuit current principle
- Multicode
- Monitoring output door position OD
- Monitoring output diagnosis OI
- Plug connector M12, 8-pin
- Escape release



Approach direction



Horizontal

Can be adjusted in 90° steps

Guard locking principle

Power to unlock: On a guard with guard locking based on the closed-circuit current principle, the guard is locked by spring force until the guard locking solenoid is supplied with power. Unlocking is by solenoid force. The term mechanical guard locking is also used.

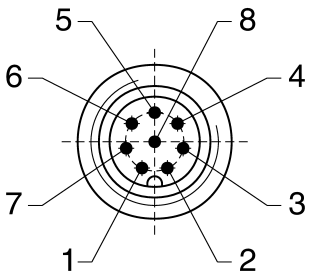
Multicode evaluation

It is checked whether the actuator is of a type that can be detected by the system (multicode evaluation). The system possesses a low coding level. Every suitable actuator is detected by the switch.

Escape release

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

Terminal assignment

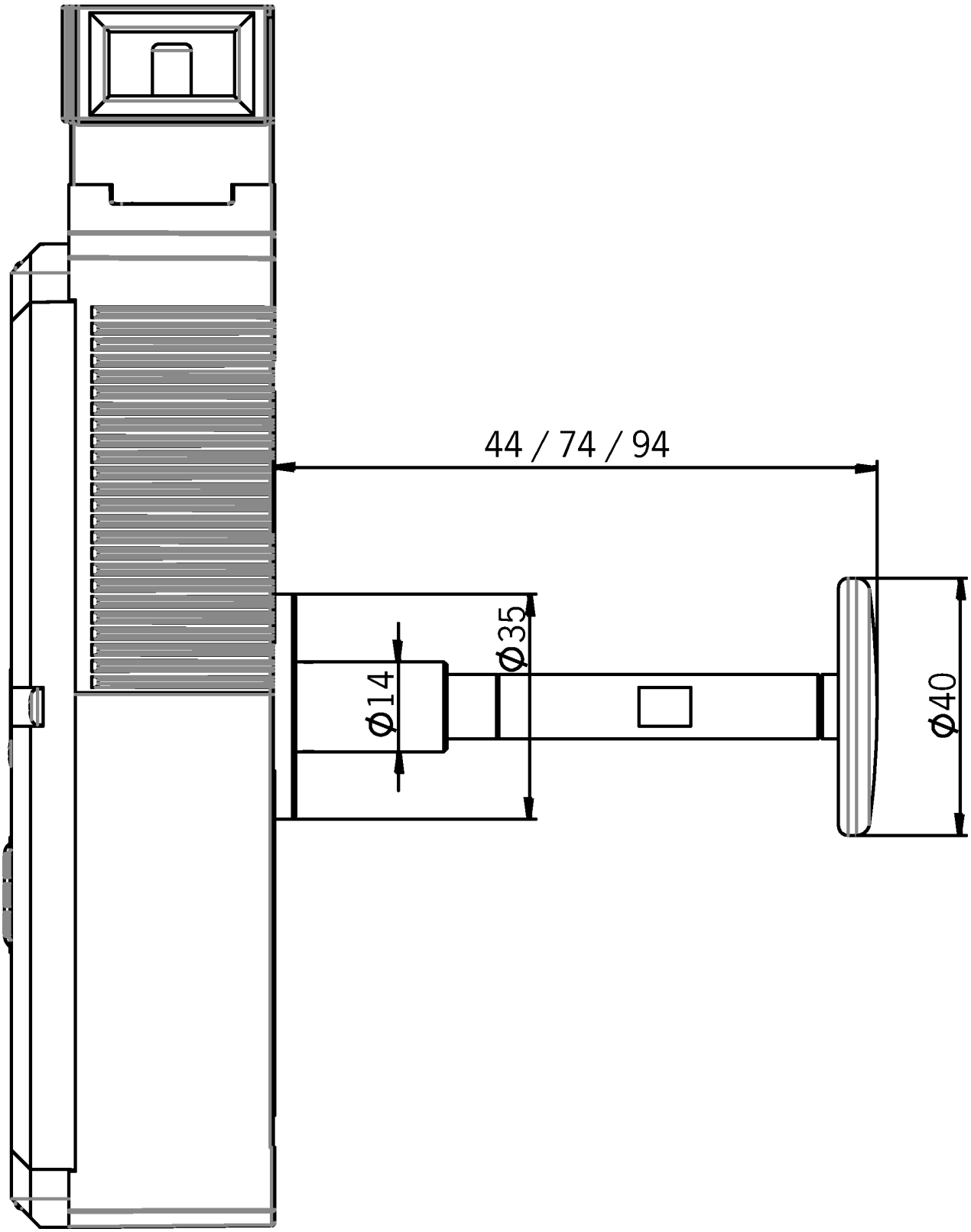
Plug connector (view of connection side)	Pin	Designation	Function	Connecting cable conductor coloring
	1	IMP	Operating voltage of guard locking solenoid, 24 V DC	WH
	2	UB	Electronics operating voltage, 24 V DC	BN
	3	FO1A	Safety output, channel A ast_2634296	GN
	4	FO1B	Safety output, channel B ast_2634296	YE
	5	OI	Diagnostic monitoring output	GY
	6	OD	Door position monitoring output	PK
	7	0 V UB	Electronics operating voltage, 0 V DC	BU
	8	IMM	Solenoid operating voltage, 0 V DC	RD

Accessories required

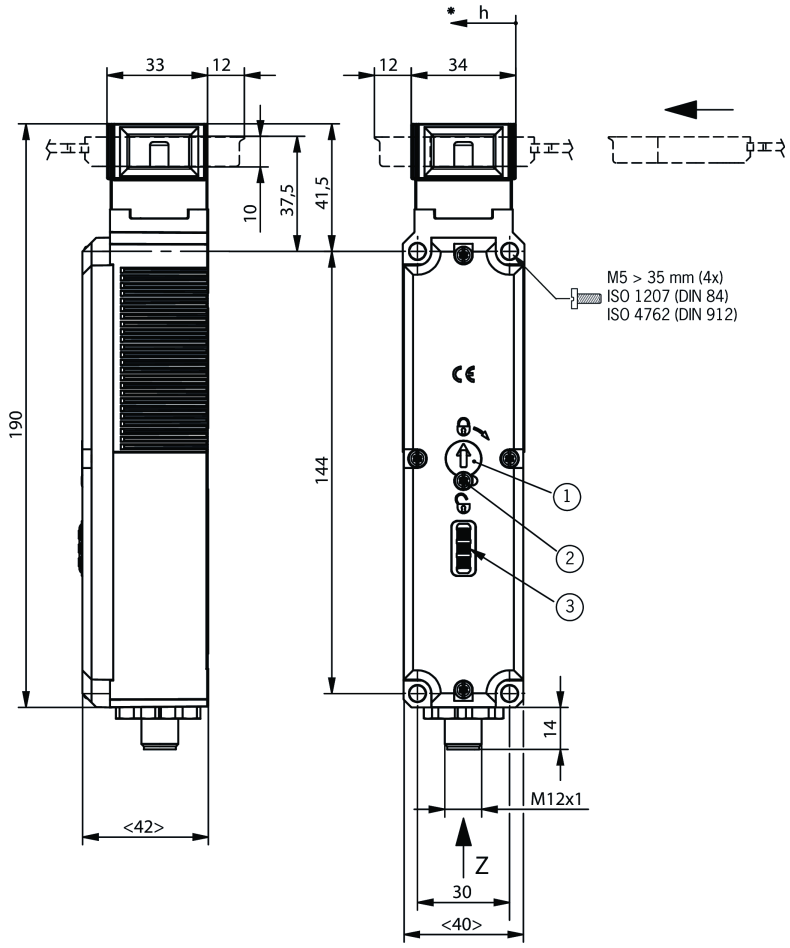
Actuator is not included.

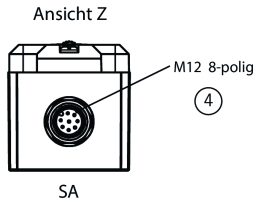
The safety switch can be used only in conjunction with actuators designated for this purpose.

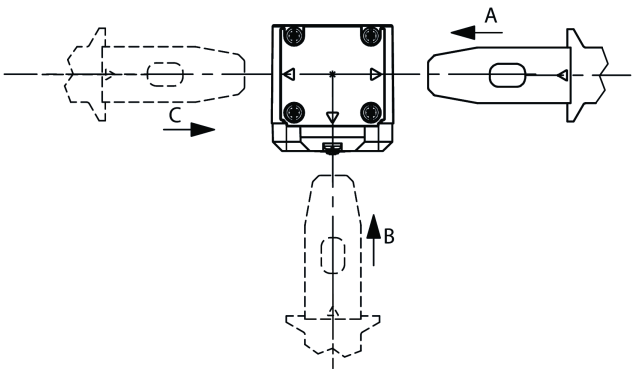
Dimensional drawings



Dimensional drawings







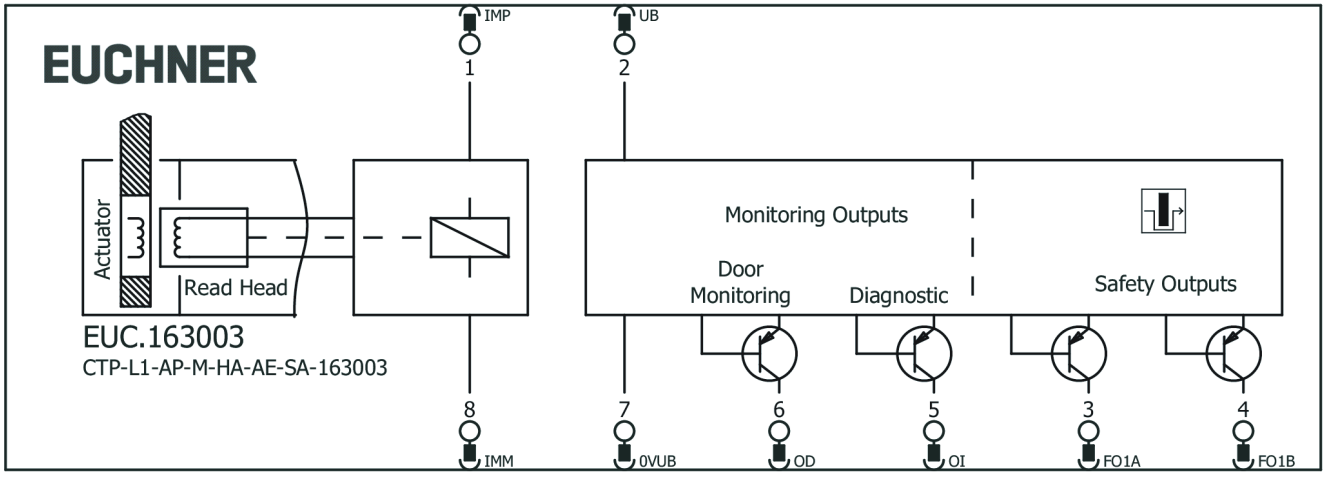
1 Auxiliary release

2 Locking screw

3 LEDs

4 Plug connector aligned

Connection examples



Technical data

Approvals



Workspace

Repeat accuracy R	10 %

Electrical connection values

Fuse	
external (solenoid operating voltage IMP)	0.5 ... 8 A
external (operating voltage UB)	0.25 ... 8 A
Power consumption	6 W
Rated insulation voltage U_i	50 V
Rated impulse voltage U_{imp}	0.5 kV
Operating voltage DC	
U_{UB}	24 V DC -15% ... +15% reverse polarity protected, regulated, residual ripple<5%, PELV
EMC protection requirements	Acc. to EN IEC 60947-5-3
Utilization category	
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
Solenoid duty cycle	100 %
Switching load	
according to UL	24V DC, Class 2 (alternatively, see operating instructions)
Safety class	III

Current consumption	
I_{IMP}	400 mA
I_{UB}	40 mA
Test pulse duration	max. 0.3 ms (Applies to a load with C<= 30nF and R<= 20kOhm)
Test pulse interval	min. 100 ms
Degree of contamination (external, according to EN 60947-1)	3
	Monitoring output OD, OI
Output type	p-switching, short circuit-proof
Output voltage	0.8xUB ... UB V DC
Switching current	1 ... 50 mA
	Safety outputs FO1A/FO1B
Output type	2 semiconductor outputs, p-switching, short circuit-proof
Output voltage	
HIGH U(FO1A) / U(FO1B)	UB-1.5 ... UB V DC
LOW U(FO1A) / U(FO1B)	0 ... 1 V DC
Discrepancy time	
both safety outputs	max. 10 ms Acc. to EN IEC 60947-5-3
Turn-on time	max. 400 ms
Off-state current Ir	max. 0.25 mA
Switching current	
per safety output FO1A / FO1B	1 ... 10 ... 150 mA

Mechanical values and environment

Anfahrgeschwindigkeit	max. 20 m/min
Connection type	1 plug connector M12, 8-pin
Extraction force	20 N
Ready delay	max. 1 s
Actuating force	10 N
Installation orientation	any
Switching frequency	max. 0.5 Hz
Storage temperature	-25 ... 70 °C

Mechanical life	1 x 10^6
Overtravel	5 mm
Retention force	20 N
Shock and vibration resistance	Acc. to EN IEC 60947-5-3
Degree of protection	IP67/IP69/IP69K (In the inserted and screwed tight state)
Ambient temperature	
at U_B = 24 V DC	-20 ... 55 °C
Material	
Switch head cover	Die-cast zinc
Safety switch housing	Reinforced thermoplastic
Locking force F_{max}	3900 N
Locking force F_{Zh}	3000 N (Fzh = Fmax/1.3, depending on the actuator used)
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
Guard lock monitoring	PL e	-	$4.1x10^{-9}$	4	20 y

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

Miscellaneous

Notices for UL approval	Operation only with UL Class 2 power supply or equivalent measures; see operating instructions
Additional feature	Escape release actuated by pushing

Downloads

All documentation for this material can be found on our website:
https://www.euchner.com/en-us/a/163003/?#downloads-tab

Ordering data

Ordernumber	163003
Item designation	CTP-L1-AP-M-HA-AE-SA-163003
Gross weight	0,8kg
Customs tariff number	85365019000
ECLASS 11.0	27-27-24-05 Safety-related transponder switch with guardlocking

Accessories

Actuator

Bent actuator for safety switch CTP/CTA

	**122667** A-C-H-W-SST-122667	Actuator bent at top Two safety screws included
	**122668** A-C-H-W-SST-122668	Bent actuator, bottom Two safety screws included

Hinged actuator for safety switch CTP/CTA

	**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
	**122675** A-C-H-RO-LS-122675	Hinged actuator for top-hinged doors 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

	**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

	**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
	**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, 20 m



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



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 plug connector M12, 8-pin, 10 m



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

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



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

M12 female plug, 8-pin
Straight plug connector
PUR 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



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

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



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

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

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



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



099877
AE-M-A1-99877

Extension of the escape release CET / CTP / CTA/ MGBS



127377
AF-E-80-127377

Extension of the escape release by 30, 50 or 80 mm

Handle for wire front release (bowden)



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 switch CTP/CTA/TP/STP



084177
AE-K-A1-DULK1-84177

Lock unique locking
Key removable in “unlocked” and “locked” positions



086236
AE-K-A1-IULK1-86236

Identical locking
Key removable in “unlocked” and “locked” positions



109212
AE-K-A1-IUK2-109212

Identical locking
Key can be removed only in “unlocked” position



121917
AE-K-A1-ILK1-121917

Identical locking
Key removable in “locked” position

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/MGB2/MGBS



103110
AE-R-A1-103110

Wire front release (bowden)



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)



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)



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)



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)



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)

Metal bolt

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



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



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



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



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



177772
AM-C-SW3-V3-177772

Plastic inserts for hexagon socket screws with a SW3 socket size
Efficient protection against tampering for safety switch mounting
The packaging includes inserts for 18 screws

Mounting plates AM-P for safety switch CTP/CTA



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



093457
EMP-B1

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



093458
EMP-B2

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



093456
EMP-SB

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

Switch bracket CTP/TP/STP GFK



096613
SCHALTERAUFNAHME TP/STP GFK

Switch bracket made of fiber glass reinforced plastic
For doors hinged on the left or right

Plastic bolt

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