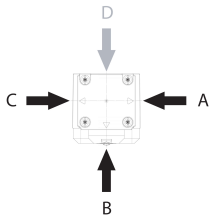

CTP-L1-AR-U-HA-AZ-SAB-122812 (ORDER NO. 122812)

- ▶ Safety switch with guard locking and integrated evaluation electronics
- ▶ Up to 20 switches in series
- ▶ Short circuit monitoring
- ▶ Two safety outputs (semiconductor outputs)
- ▶ Up to category 4/PL e according to EN ISO 13849-1
- ▶ With two plug connectors M12
- ▶ Unicode
- ▶ Door monitoring output
- ▶ Approach directions A, B and C (delivery state)



DESCRIPTION

Approach direction



Figure

Horizontal

Can be adjusted in 90° steps

Unicode evaluation

Each actuator is unique. The switch detects only taught-in actuators. Additional actuators can be taught in. Only the last actuator taught in is detected.

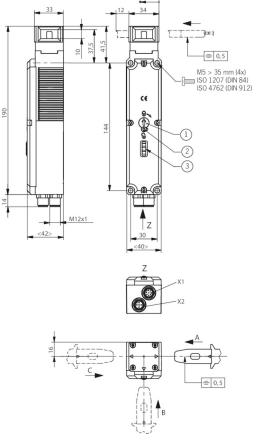
Guard locking type

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

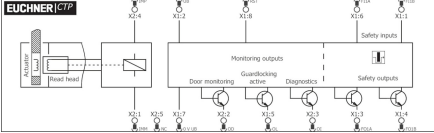
Connector assignment

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	X 1.1	FI1B	Enable input for channel 2	WH
	X 1.2	UB	Operating voltage of AR electronics 24 V DC	BN
	X 1.3	F01A	Safety output, channel 1	GN
	X 1.4	F01B	Safety output, channel 2	YE
	X 1.5	OL	Guard locking monitoring output	GY
	X 1.6	FI1A	Enable input for channel 1	PK
	X 1.7	0 V UB	Operating voltage of AR electronics 0 V	BU
	X 1.8	RST	Reset input	RD
	X 2.1	IMM	Operating voltage of guard locking solenoid 0 V	BN
	X 2.2	OD	Door monitoring output	WH
	X 2.3	OI	Diagnostic output	BU
	X 2.4	IMP	Operating voltage of guard locking solenoid 24 V DC	BK
	X 2.5	-	n.c.	GY

Dimension drawing



Wiring diagram



TECHNICAL DATA

Approvals



Mechanical values and environment

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 / IP69 / IP69K	
Resilience to vibration	In acc. with EN IEC 60947-5-3	
Mechanical life	1 x 10 ⁶	
Installation position	Any	
Ready delay	8 s	
Switching frequency	max.0,5 Hz	
Connection	2 plug connectors M12, 5 and 8-pin	
Approach speed	20 m/min	
Guard locking principle	Closed-circuit current principle	
Locking force F _{max}	3900 N	
Locking force F _{Zh}	3000 N	
Retention force	20 N	
Extraction force	20 N	
Actuating force	10 N	
Overtravel	5 mm	
Electrical connection ratings		
Test-pulse interval	min.140 ms	
Test pulses	max.1,0 ms	
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 according to EN 60947-5-2		
	DC-13	24V 150mA
Solenoid operating voltage DC		
	U _{IMP}	24 V DC -15% ... +10% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Fusing		
	External (operating voltage U _B)	0,25 ... 2 A
	External (solenoid operating voltage I _{MP})	0,5 ... 8 A
Rated insulation voltage U _i	max.50 V	
Rated impulse withstand voltage U _{imp}	max.0,5 kV	
Power consumption	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		
Delay per device	5 ms	
Single device	max.260 ms	
Switching load		
According to UL	24V DC, class 2	
Safety outputs F01A / F01B		
Type of output	2 semiconductor outputs, p-switching, short circuit-proof	
Switching current		
Per safety output F01A / F01B	1 ... 150 mA	
Output voltage		
High U(F01A) / U(F01B)	UB-1,5 ... UB V DC	
Low U(F01A) / U(F01B)	0 ... 1 V DC	
Off-state current I _r	max.0,25 mA	
Switch-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	10 %	
Other		
For the approval according 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-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 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 right and left
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

Connection material

Bridging plug M12



097645
BRUECKEN-STECKER

- ▶ Bridging plug
- ▶ M12 male plug, 4-pin

Connecting cable with two plug connectors M12, 5-pin, 1 m, AIDA standard



159362
C-M12F05-05X034PU01,0-M12M05-159362

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color yellow
- ▶ Cable length 1 m



159355
C-M12F05-05X034PU01,0-M12M05-159355

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color gray
- ▶ Cable length 1 m

Connecting cable with two plug connectors M12, 5-pin, 1.5m, AIDA standard



159363
C-M12F05-05X034PU01,5-M12M05-159363

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color yellow
- ▶ Cable length 1.5 m



159356
C-M12F05-05X034PU01,5-M12M05-

- ▶ M12 female plug to M12 plug connector, 5-pin



159356

- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color gray
- ▶ Cable length 1.5 m

Connecting cable with two plug connectors M12, 5-pin, 3m, AIDA standard



159364

C-M12F05-05X034PU03,0-M12M05-159364

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color yellow
- ▶ Cable length 3 m



159357

C-M12F05-05X034PU03,0-M12M05-159357

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color gray
- ▶ Cable length 3 m

Connecting cable with two plug connectors M12, 5-pin, 5m, AIDA standard



159365

C-M12F05-05X034PU05,0-M12M05-159365

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color yellow
- ▶ Cable length 5 m



159358

C-M12F05-05X034PU05,0-M12M05-159358

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color gray
- ▶ Cable length 5 m

Connecting cable with two plug connectors M12, 5-pin, 8m, AIDA standard



159919

C-M12F05-05X034PU08,0-M12M05-159919

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color yellow
- ▶ Cable length 8 m



159359

C-M12F05-05X034PU08,0-M12M05-159359

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color gray
- ▶ Cable length 8 m

Connecting cable with two plug connectors M12, 5-pin, 10m, AIDA standard



159920

C-M12F05-05X034PU10,0-M12M05-159920

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color yellow
- ▶ Cable length 10 m



159360

C-M12F05-05X034PU10,0-M12M05-159360

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard

- ▶ PUR cable, sheath color gray
- ▶ Cable length 10 m

Connecting cable with two plug connectors M12, 5-pin, 15m, AIDA standard



159921
C-M12F05-05X034PU15,0-M12M05-159921

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color yellow
- ▶ Cable length 15 m



159361
C-M12F05-05X034PU15,0-M12M05-159361

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ Connecting cable according to AIDA standard
- ▶ PUR cable, sheath color gray
- ▶ Cable length 15 m

Connection cable with 2 plug connectors M12, 1m



123430
C-M12M08-08X025PV01,0-M12F08-123430

- ▶ 8-pin M12 male plug, straight
- ▶ 8-pin M12 female connector, straight
- ▶ PVC cable
- ▶ Cable length 1m

Connection cable with 2 plug connectors M12, 2m



123431
C-M12M08-08X025PV02,0-M12F08-123431

- ▶ 8-pin M12 male plug, straight
- ▶ 8-pin M12 female connector, straight
- ▶ PVC cable
- ▶ Cable length 2m

Connection cable with 2 plug connectors M12, 5-pin, 5m



119932
C-M12F05-05X034PU05,0-M12M05-119932

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ PUR cable
- ▶ Cable length 5 m



100180
C-M12F05-05X034PV05,0-M12M05-100180

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ PVC cable
- ▶ Cable length 5 m

Connection cable with 2 plug connectors M12, 5-pin, 10m



119947
C-M12F05-05X034PU10,0-M12M05-119947

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ PUR cable
- ▶ Cable length 10 m



100181
C-M12F05-05X034PV10,0-M12M05-100181

- ▶ M12 female plug to M12 plug connector, 5-pin
- ▶ Straight female plug and plug connector
- ▶ PVC cable
- ▶ Cable length 10 m

Connection cable with 2 plug connectors M12, 5-pin, 20m



119971
C-M12F05-05X034PU20,0-M12M05-119971

- M12 female plug to M12 plug connector, 5-pin
- Straight female plug and plug connector
- PUR cable
- Cable length 20 m



100182
C-M12F05-05X034PV20,0-M12M05-100182

- M12 female plug to M12 plug connector, 5-pin
- Straight female plug and plug connector
- PVC cable
- Cable length 20 m

Connection cable with 2 plug connectors M12, 5m



123432
C-M12M08-08X025PV05,0-M12F08-123432

- 8-pin M12 male plug, straight
- 8-pin M12 female connector, straight
- PVC cable
- Cable length 5m

Connection cable with 2 plug connectors M12, 10m



123433
C-M12M08-08X025PV10,0-M12F08-123433

- 8-pin M12 male plug, straight
- 8-pin M12 female connector, straight
- PVC cable
- Cable length 10m

Connection cable with angled plug connector M12, 5-pin, 10m



113187
C-M12F05-05X025PU10,0-MA-113187

- M12 female plug, 5-pin
- Angled plug connector
- PUR cable
- Cable length 10 m
- Cable exit A (right)
- With flying lead



113190
C-M12F05-05X025PU10,0-MA-113190

- M12 female plug, 5-pin
- Angled plug connector
- PUR cable
- Cable length 10 m
- Cable exit C (left)
- With flying lead

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



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



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

Connection 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



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

Connection cable with plug connector M12, 5-pin, 10m



100184
C-M12F05-05X034PV10,0-MA-100184

- ▶ M12 female plug, 5-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 10 m
- ▶ With flying lead

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



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

Connection cable with plug connector M12, 8-pin, 10m



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

Connection cable with plug connector M12, 8-pin, 20m



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

Connection cable with plug connector M12, 8-pin, 30m



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

Connection cable with straight plug connector M12, 5-pin, 5m



113620
C-M12F05-05X034PU05,0-MA-113620

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



100183
C-M12F05-05X034PV05,0-MA-100183

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

Connection cable with straight plug connector M12, 5-pin, 10m



113640
C-M12F05-05X034PU10,0-MA-113640

- ▶ M12 female plug, 5-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead

Connection cable with straight plug connector M12, 5-pin, 20 m



113682
C-M12F05-05X034PU20,0-MA-113682

- ▶ M12 female plug, 5-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead



100185
C-M12F05-05X034PV20,0-MA-100185

- ▶ M12 female plug, 5-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 20 m
- ▶ With flying lead

Connection cable with straight plug connector M12, 5-pin, 20 m

Connection cable with straight plug connector M12, 5-pin, 30 m



122784
C-M12F05-05X034PU30,0-MA-122784

- ▶ M12 female plug, 5-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 30 m
- ▶ With flying lead

M12 extension PUR 5-pin, plug connectors at both ends, 10m



115565
C-M12F05-05X025PU10,0-M12M05-115565

- ▶ M12 female plug, 5-pin (angled) to M12 plug connector (straight)
- ▶ Connectors at both ends
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With cable exit A (right)



115566
C-M12F05-05X025PU10,0-M12M05-115566

- ▶ M12 female plug, 5-pin (angled) to M12 plug connector (straight)
- ▶ Connectors at both ends
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With cable exit C (left)

Passive distribution module



120861
AC-DP-04-SA-120861

- ▶ Connection of up to 4 CES-AR, CET-AR, CTP-AR and ESL-AR
- ▶ LEDs for the indication of the door position on each port
- ▶ Can be connected in series

Y-distributor M12 with connection cable



111696
Y-VERTEILER M12 MIT ANSCHLUSSKABEL

- ▶ Y-distributor M12 with connection cable, 2 x 5-pin, 1 x 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 0.2 m



112395
Y-VERTEILER M12 MIT 1M KABEL

- ▶ Y-distributor M12 with connection cable, 2 x 5-pin, 1 x 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 1 m

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



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 “locked” 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



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

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



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

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



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

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

Mounting accessories

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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