

CTP-I-AP-U-HA-ZZ-SA-136732 (ORDER NO. 136732)

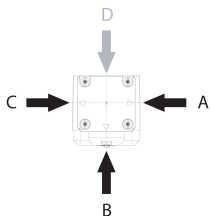
Transponder-coded safety switch CTP-I-AP, M12

- ▶ Safety switch without guard locking, with 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 M12
- ▶ Unicode
- ▶ Approach directions A, B and C (delivery state)



Description

Approach direction



Figure

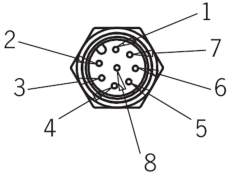


Horizontal

Can be adjusted in 90° steps

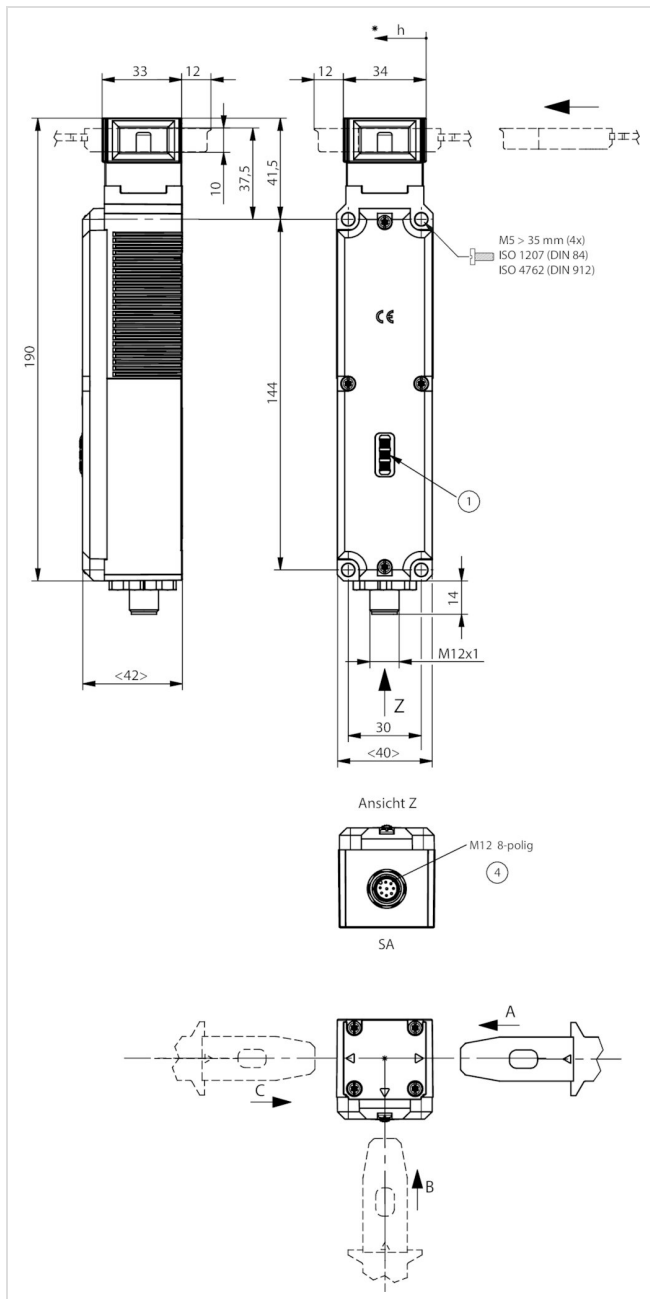
Unicode evaluation

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.

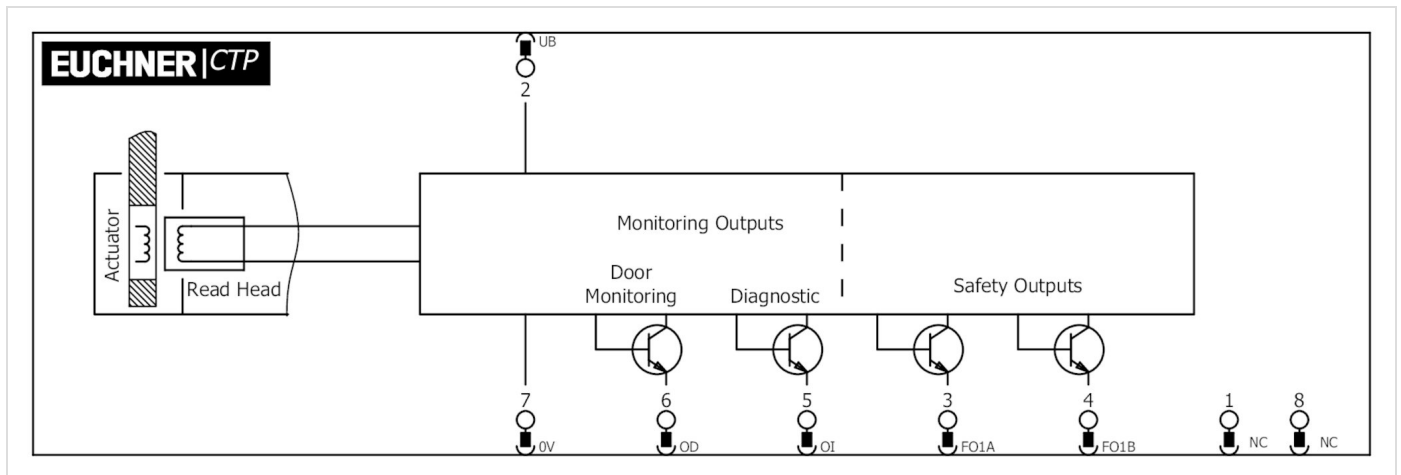
Connector assignment

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	1	n.c.	-	-
	2	UB	Operating voltage of AP electronics, 24 V DC	BN
	3	F01A	Safety output, channel 1 	GN
	4	F01B	Safety output, channel 2 	YE
	5	OI	Diagnostic output	GY
	6	OD	Door monitoring output	PK
	7	0 V UB	Operating voltage of AP electronics, 0 V	BU
	8	n.c.	-	-

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 0,23 kg
Ambient temperature	
	At $U_B = 24V DC$ -20 ... +55 °C
Degree of protection	IP67/IP69/IP69K (Screwed tight plug connector/mating component)
Mechanical life	1×10^6
Installation orientation	Any
Ready delay	max.1 s
Switching frequency	max.0,5 Hz
Connection	One plug connector M12, 8-pin
Approach speed	max.20 m/min
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 $C \leq 30\text{nF}$ and $R \leq 20\text{k}\Omega$)
Operating voltage DC	
	U_{UB} 24 V DC -15% ... 15% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Current consumption	
	I_{UB} 40 mA
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)
Fusing	
	External (operating voltage U_B) 0,25 ... 8 A
Rated insulation voltage U_i	50 V
Rated impulse withstand voltage U_{imp}	0,5 kV
Connection rating	1 W
EMC protection requirements	In acc. with EN IEC 60947-5-3
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 $U(\text{FO1A}) / U(\text{FO1B})$ $U_B - 1,5 \dots U_B$ V DC
	Low $U(\text{FO1A}) / U(\text{FO1B})$ 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 OD
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	$0,8 \times U_B \dots U_B$ V DC
	Monitoring output OI
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	$0,8 \times U_B \dots U_B$ V DC
Work area	
Repeat accuracy R	
	According to EN 60947-5-2 10 %

Other

Detent mechanism	Snap-in bolt
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	4.1×10^{-9}
Mission time	20 y

Accessories

Actuator

Bent actuator for safety switches CTP



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

- ▶ Actuator bent at 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



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 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



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

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)



- ▶ Cable outlet C (only)
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead

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



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

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



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

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

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



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

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



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

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



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

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

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



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

Function expansion

Lockout mechanism CTP



123411
AE-L-C-H-123411

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

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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