

## ITEM 124225 CTP-L1-AP-U-HA-AZ-SA-124225

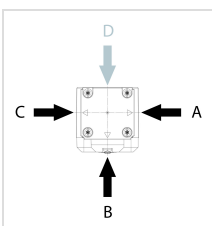
Description	Technical data	Accessories	Downloads
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### Features

- › 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 M12
- › Unicode
- › Door monitoring output
- › Approach direction A, B and C (default setting on delivery)

### Approach direction



- › Figure  
Horizontal  
Can be adjusted in 90° steps

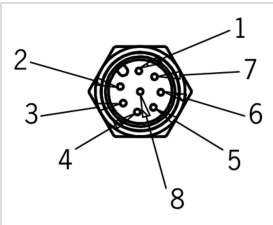


## Unicode evaluation

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 connection cable
	1	IMP	Operating voltage of guard locking solenoid, 24 V DC	WH
	2	UB	Operating voltage of AP electronics, 24 V DC	BN
	3	FO1A	Safety output, channel 1 	GN
	4	FO1B	Safety output, channel 2 	YE
	5	OI	Diagnostics output	GY
	6	OD	Door monitoring output	PK
	7	0 V UB	Operating voltage of AP electronics, 0 V	BU
	8	IMM	Operating voltage of guard locking solenoid 0 V	RD

## 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 <b>[1]</b>
Resilience to vibration		In acc. with EN IEC 60947-5-3
Mechanical life		$1 \times 10^6$
Installation position		Any
Ready delay		max.1 s
Switching frequency		max.0,5 Hz
Connection		1 plug connector M12, 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 <b>[2]</b>
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 <b>[3]</b>
Operating voltage DC	$U_{UB}$	24 V DC -15% ... 15% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Current consumption	$I_{UB}$ $I_{IMP}$	40 mA 400 mA
Utilization category according to EN 60947-5-2	DC-13	24V 150mA <b>[4]</b>
Solenoid operating voltage DC	$U_{IMP}$	24 V DC -15% ... +10% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Fusing	External (operating voltage $U_B$ ) External (solenoid operating voltage $IMP$ )	0,25 ... 2 A 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
Switching load	According to UL 24V DC, class 2 [5]
<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 <sub>r</sub>	max.0,25 mA
Switch-on time	max.400 ms
Discrepancy time	
Both safety outputs	In acc. with EN IEC 60947-5-3max.10 ms
<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

## Operating distance

Repeat accuracy R	
According to EN 60947-5-2	10 %

## Miscellaneous

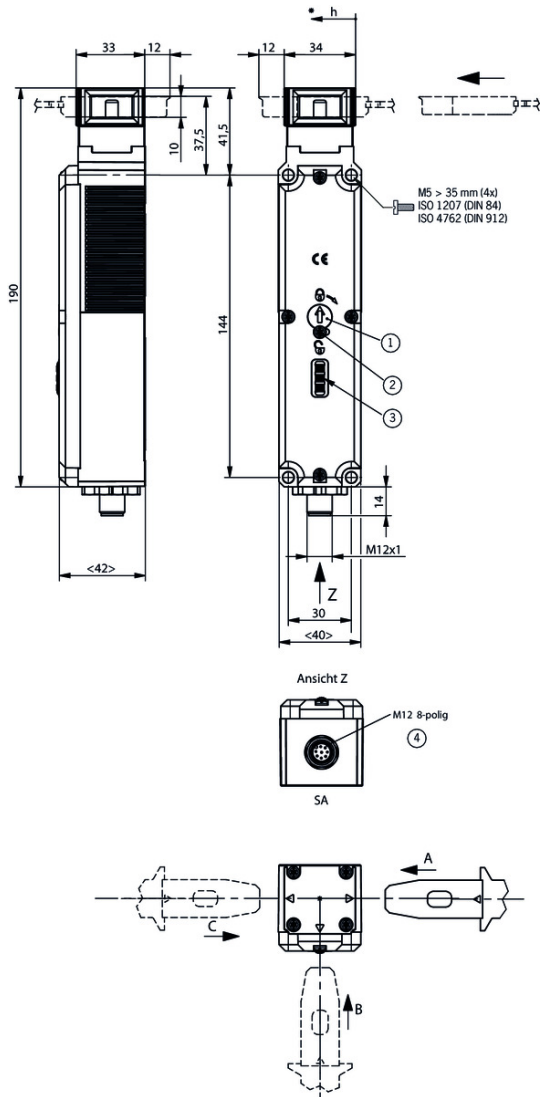
For the approval according to UL the following applies	Operation only with UL class 2 power supply, or equivalent measures see operating instructions
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## Reliability values acc. to EN ISO 13849-1

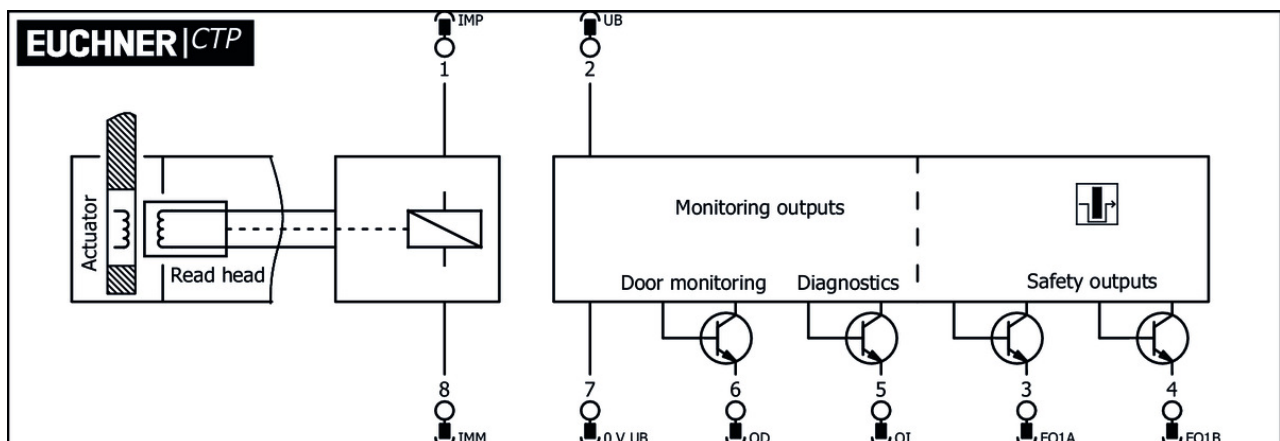
Performance Level	PL e
Category	4
PFH <sub>D</sub>	4.1 x 10 <sup>-9</sup>
Mission time	20 y

- [1] Screwed tight plug connector/mating component
- [2]  $F_{zh} = F_{max}/1.3$  Depending on the actuator used
- [3] Applies for a load with  $C \leq 30nF$  and  $R \leq 20k\Omega$
- [4] Caution: outputs must be protected with a free-wheeling diode in case of inductive loads
- [5] Alternatively see operating instructions

### Dimension drawing



### Wiring diagram



## Actuator

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### ▼ Bent actuator for safety switches CTP



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

#### ▼ Features

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



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

#### ▼ Features

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

### ▼ Hinged actuator for safety switch CTP



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

#### ▼ Features

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



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

#### ▼ Features

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



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

#### ▼ Features

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



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

#### ▼ Features

- › 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

#### ▼ Features

- › Straight actuator
- › Two safety screws included

## Function expansion

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### ▼ Lockout mechanism CTP



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

#### ▼ Features

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

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



### **086236** SCHLOSS TP GLEICHSCHLIESSEND

#### ▼ Features

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



### **084177** SCHLOSS TP VERSCHIEDENSCHLIESSEND

#### ▼ Features

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



### **109212** SCHLOSS TP GLEICHSCHLIESSEND C2293

#### ▼ Features

- › Identical locking
  - › Key can be removed only in “locked” position
- 

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



### **099877** NOTENTSPERRUNG TP/STP

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



### **103110** ENTRIEGELUNG RUECKSTELLEND TP/STP

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#### ▼ Wire front release



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

#### ▼ Features

- › 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

#### ▼ Features

- › 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

#### ▼ Features

- › Can be used as escape release or emergency unlocking

- › No automatic return
- › Sheath length 3 m (rope length 6 m)



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

✓ Features

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



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

✓ Features

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



**111233** AE-B-A1-03,0-F-111233

✓ Features

- › 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

✓ Features

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

✓ Handle for wire front release



**124204** AY-HDL-124204

✓ Features

- › Suitable for all wire front releases



**099795** AY-HDL-099795

✓ Features

- › Suitable for all wire front releases

## Mounting accessories

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



**093456** EMP-SB

✓ Features

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

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





**093458** EMP-B2

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



**093457** EMP-B1

▼ Mounting plates AM-P for safety switches CTP



**126026** AM-P-126026

▼ Features

- › For vertical and horizontal mounting of safety switch CTP

## Connection material

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



**120998** C-M12F08-08X025PU20,0-MA-120998

▼ Features

- › 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

▼ Features

- › M12 female plug, 8-pin
- › Angled plug connector
- › Cable outlet C (left)
- › PUR cable
- › Cable length 20 m
- › With flying lead

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



**113188** C-M12F08-08X025PU10,0-MA-113188

▼ Features

- › 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

▼ Features

- › M12 female plug, 8-pin

- › Angled plug connector
  - › Cable outlet C (left)
  - › PUR cable
  - › Cable length 10 m
  - › With flying lead
- 

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



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

▼ Features

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



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

▼ Features

- › 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

▼ Features

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



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

▼ Features

- › 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

▼ Features

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



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

▼ Features

- › 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

▼ Features

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



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

▼ Features

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

## Bolt

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▼ Bolts for safety switches series CTP



**123653** RIEGEL CTP-AC-123653

▼ Features

- › Steel bolt
  - › For doors hinged on right and left
  - › Can be locked in open position with padlocks
  - › Actuator included
- 

▼ Bolt BTC-CTP-S for safety switch CTP



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

▼ Features

- › 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

▼ Features















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

## Instructions

### ▼ Bezpečnostní informace CTP (-AR/-AP)

	Doc. no.	Version	Language	Download
Sicherheitsinformation CTP (-AR/-AP)	2138087	02-11/17		 0.7 MB
Información de seguridad CTP (-AR/-AP)				
Information de sécurité CTP (-AR/-AP)				
Informazioni sulla sicurezza CTP (-AR/-AP)				
Safety Information CTP (-AR/-AP)				
Bezpečnostní informace CTP (-AR/-AP)	2138087	02-11/17		 0.2 MB
安全情報 CTP (-AR/-AP)	2138087	02-11/17		 0.3 MB
Informação de segurança CTP (-AR/-AP)	2138087	02-11/17		 0.2 MB
Информация о безопасности CTP (-AR/-AP)	2138087	02-11/17		 0.3 MB
Güvenlik bilgisi CTP (-AR/-AP)	2138087	02-11/17		 0.3 MB
安全信息 CTP (-AR/-AP)	2138087	02-11/17		 0.3 MB

### ▼ 操作指示書トランスポンダー型コード化安全スイッチ ガードロック内蔵CTP-AP ユニコード/マルチコード

	Doc. no.	Version	Language	Download
Betriebsanleitung Transpondercodierter Sicherheitsschalter mit Zuhaltung CTP-AP Uni-/Multicode	2124217	05-05/18		 4.2 MB
Mode d'emploi Interrupteur de sécurité à codage par transpondeur avec interverrouillage CTP-AP uni-/multicode	2124217	05-05/18		 4.2 MB
Manual de instrucciones Interruptor de seguridad con codificación por transponder con bloqueo CTP-AP Unicode/Multicode	2124217	05-05/18		 4.2 MB
操作指示書トランスポンダー型コード化安全スイッチ ガードロック内蔵CTP-AP ユニコード/マルチコード	2124217	05-05/18		 4.5 MB
Návod k použití Bezpečnostní spínač s kódovaným transpondérem CTP-AP Unicode/Multicode	2124217	05-05/18		 4.4 MB
Operating instructions Transponder-Coded Safety Switch With Guard Locking CTP-AP Unicode/Multicode	2124217	05-05/18		 4.2 MB
Istruzioni di impiego Finecorsa di sicurezza con codifica a transponder con meccanismo di ritenuta CTP-AP Uni-/Multicode	2124217	05-05/18		 4.2 MB

## Catalogs









▼ ガード・ロック付き トランスポンダー・コード化 安全スイッチCTP

	Doc. no.	Version	Language	Download
ガード・ロック付き トランスポンダー・コード化 安全スイッチCTP	136411	09-03/16		 1.8 MB

▼ Transpondercodierter Sicherheitsschalter CTP mit Zuhaltung transponder-coded safety switch CTP with guard locking Interrupteur de sécurité à codage par transpondeur CTP avec interverrouillage Interruptor de seguridad CTP codificado por transponder con bloqueo Finecorsa di sicurezza con codifica a transponder CTP con meccanismo di ritenuta Kilitli RFID kodlu emniyet salteri CTP Chave de segurança codificada por transponder CTP com bloqueio Bezpečnostní spínač CTP s kódovaným transpondérem a jištěním ochranného krytu 带锁定功能的 CTP应答式编码 安全开关






	Doc. no.	Version	Language	Download
Transpondercodierter Sicherheitsschalter CTP mit Zuhaltung	123243	12-02/18		 2.3 MB
Interrupteur de sécurité à codage par transpondeur CTP avec interverrouillage	123245	12-02/18		 2.3 MB
Interruptor de seguridad CTP codificado por transponder con bloqueo	123246	12-02/18		 2.3 MB
transponder-coded safety switch CTP with guard locking	123244	12-02/18		 2.3 MB
Finecorsa di sicurezza con codifica a transponder CTP con meccanismo di ritenuta	126042	12-02/18		 2.3 MB
Kilitli RFID kodlu emniyet salteri CTP	126076	12-02/18		 2.4 MB
Chave de segurança codificada por transponder CTP com bloqueio	126214	12-02/18		 2.3 MB
Bezpečnostní spínač CTP s kódovaným transpondérem a jištěním ochranného krytu	126604	12-02/18		 2.3 MB
带锁定功能的 CTP应答式编码 安全开关	158439	12-02/18		 2.4 MB

▼ Transpondercodierte Sicherheitsschalter - Verriegelungseinrichtungen und Zuhaltungen Transponder-coded safety switches - Interlocking devices and guard locking devices Interruptores de seguridad con codificación por transponder - Dispositivos de enclavamiento y bloqueos Interrupteurs de sécurité à codage par transpondeur - Dispositifs de verrouillage et interverrouillages

	Doc. no.	Version	Language	Download
Transpondercodierte Sicherheitsschalter - Verriegelungseinrichtungen und Zuhaltungen	127594	02-01/18		 5.2 MB
Interrupteurs de sécurité à codage par transpondeur - Dispositifs de verrouillage et interverrouillages	137558	02-01/18		 5.2 MB
Interruptores de seguridad con codificación por transponder - Dispositivos de enclavamiento y bloqueos	137560	02-01/18		 5.2 MB
Transponder-coded safety switches - Interlocking devices and guard locking devices	127595	02-01/18		 5.1 MB

**Declaration of conformity**

▼ EU-Konformitätserklärung

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
EU-Konformitätserklärung	2123042	06-08/18		 0.4 MB
EU declaration of conformity				
Declaración UE de conformidad				
Déclaration UE de conformité				
Dichiarazione di conformità			