

## ITEM 129478 CTP-L1-AP-U-HA-AE-SII-129478

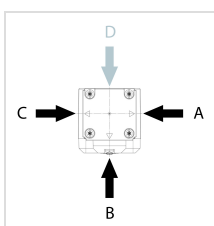
Description	Technical data	Accessories	Downloads
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### Features

- › Safety switch with guard locking and integrated evaluation electronics
- › Direct connection to decentralized peripheral systems (e.g. ET200pro)
- › Short circuit monitoring
- › 2 safety outputs (semiconductor outputs)
- › Up to category 4/PL e according to EN ISO 13849-1
- › With 2 plug connectors M12
- › Unicode
- › Door monitoring output
- › With escape release
- › 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.

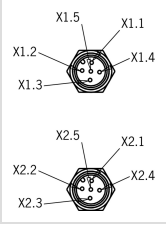


## Guard locking type

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

## Escape release

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

## Connector assignment

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connection cable
	X 1.1	UB	Operating voltage of AP electronics, 24 V DC	BN
	X 1.2	FO1A	Safety output, channel 1 	WH
	X 1.3	0 V UB	Operating voltage of AP electronics, 0 V	BU
	X 1.4	FO1B	Safety output, channel 2 	BK
	X 1.5	-	Not used	GY
	X 2.1	-	Not used	BN
	X 2.2	OD	Door monitoring output	WH
	X 2.3	IMM	Control input of guard locking solenoid, 0 V	BU
	X 2.4	IMP	Guard locking solenoid control input, 24 V DC	BK
	X 2.5	-	Not used	GY

## 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		2 plug connectors M12, 5-pin + pin 5 not used
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	$I_{UB}$	40 mA
	$I_{IMP}$	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 UB)	0,25 ... 2 A
External (solenoid operating voltage IMP)	0,5 ... 8 A
Rated insulation voltage U <sub>i</sub>	max.50 V
Rated impulse withstand voltage U <sub>imp</sub>	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 <sup>[5]</sup>
	<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

## Operating distance

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

## Miscellaneous

Additional feature	Escape release actuated by pushing
For the approval according to UL the following applies	Operation only with UL class 2 power supply, or equivalent measures see operating instructions

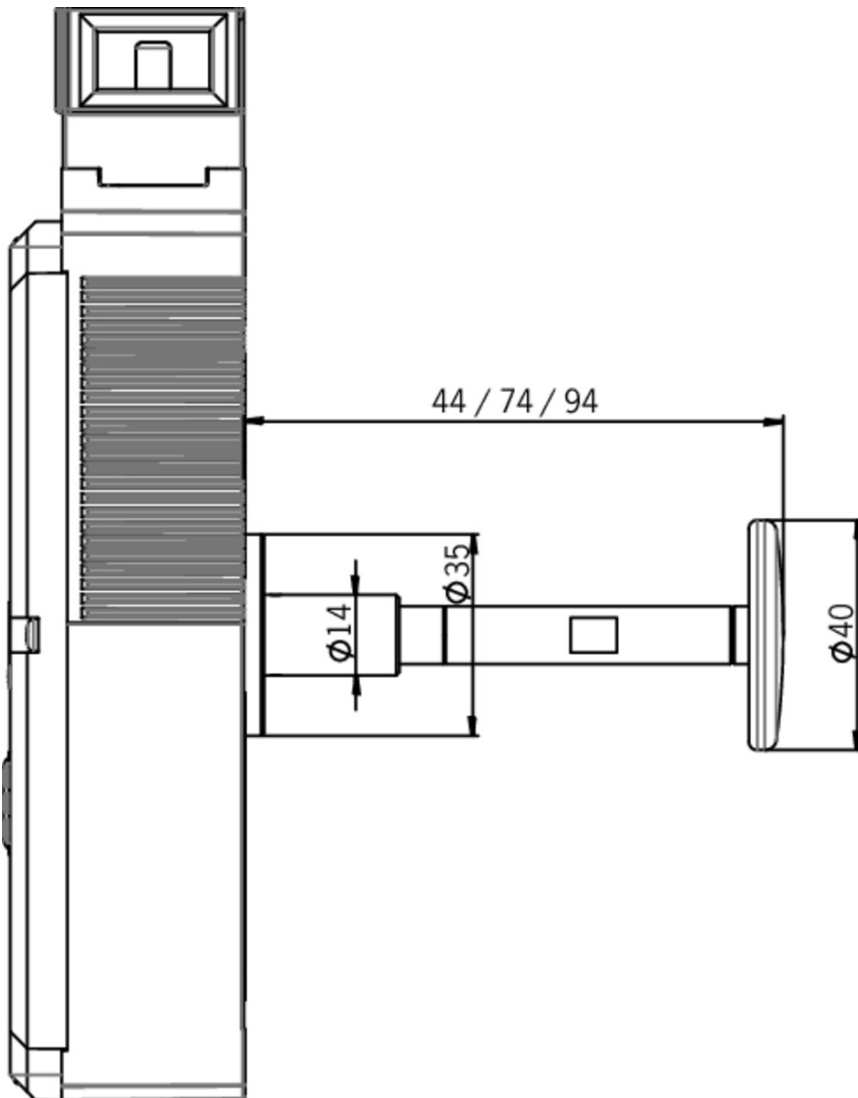
## Reliability values acc. to EN ISO 13849-1

Performance Level	PL e
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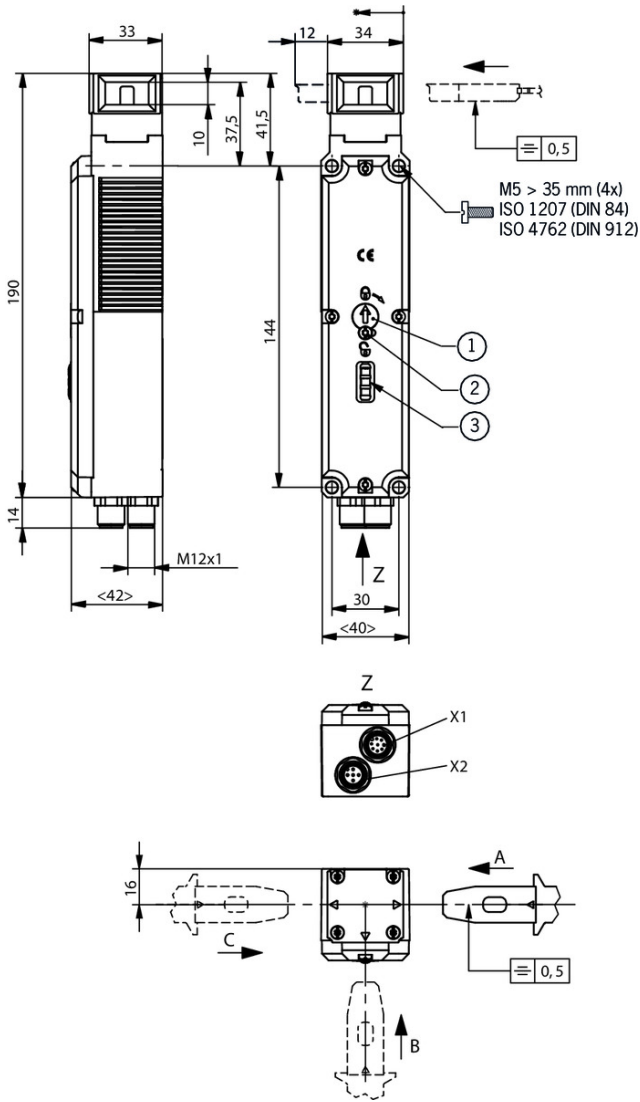
Category	4
PFH <sub>D</sub>	$4.1 \times 10^{-9}$
Mission time	20 y

- [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

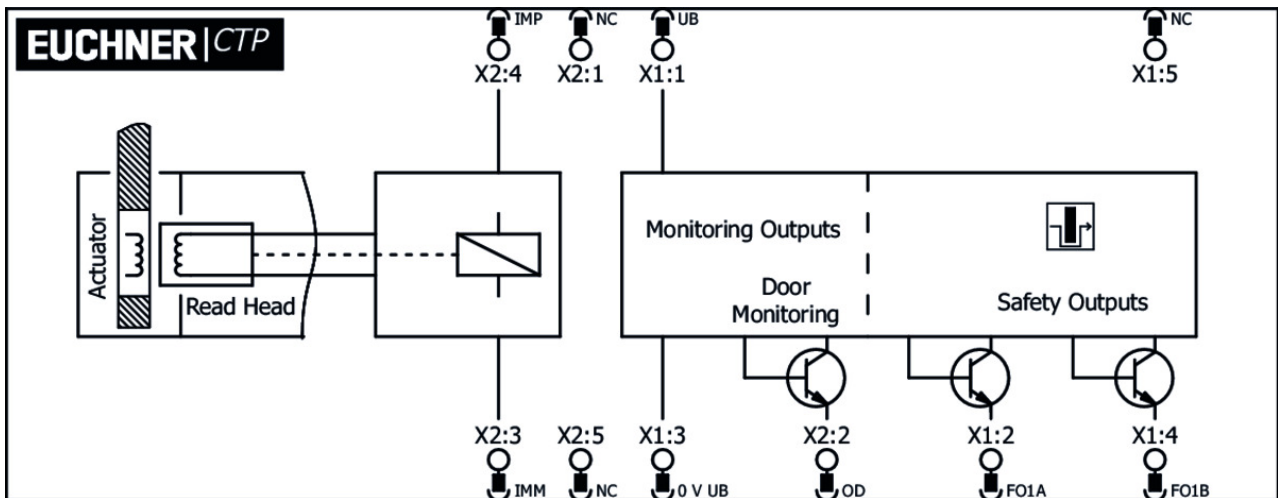
### Dimension drawing



## Dimension drawing



## Wiring diagram



## Actuator

✓ 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

### ✓ 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



**109212** SCHLOSS TP GLEICHSCHLIESSEND C2293

▼ Features

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



**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

▼ Emergency unlocking for safety switches CTP/TP/STP



**099877** NOTENTSPERRUNG TP/STP

▼ 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

▼ Features

- › Can be used as escape release or emergency unlocking
- › No automatic return
- › Sheath length 2 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)



**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)

**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)



**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)



**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)

✓ Handle for wire front release



**099795** AY-HDL-099795

✓ Features

- › Suitable for all wire front releases



**124204** AY-HDL-124204

✓ 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-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

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▼ Mounting plates AM-P for safety switches CTP



**126026** AM-P-126026

▼ Features

- › For vertical and horizontal mounting of safety switch CTP
- 

## Connection material

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



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

▼ Features

- › 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

▼ Features

- › 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, 5-pin, 10m



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

▼ Features

- › 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

▼ Features

- › 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, 5m



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

▼ Features

- › 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

✓ Features

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

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



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

✓ Features

- › 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

✓ Features

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

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



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

✓ Features

- › 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

✓ Features

- › 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)

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



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

✓ Features

- › M12 female plug, 5-pin

- › Straight plug connector
  - › PUR cable
  - › Cable length 20 m
  - › With flying lead
- 

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



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

▼ Features

- › 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, 5m



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

▼ Features

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



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

▼ Features

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

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



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

▼ Features

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

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



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

▼ Features

- › 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, 30 m



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

▼ Features

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

- ▼ Y-distributor M12 with connection cable, 5-pin



**124516** AC-YD-V0,2-SBB-124516

▼ Features

- › Y-distributor M12 with connection cable, 5-pin
  - › Straight plug connector
  - › PVC cable
  - › Cable length 0.29 m
- 

## Bolt

- 
- ▼ Bolts with escape release for safety switch CTP



**123655** RIEGEL CTP-ACF-123655

▼ Features

- › Steel bolt
  - › Lever for escape release from the danger area
  - › For doors hinged on right and left
  - › Detent knob in open position
  - › Can be locked in open position with padlocks
  - › Actuator included
- 

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



**123658** RIEGEL CTP-GFK-F

▼ Features

- › Fiber glass reinforced plastic bolt
  - › For doors hinged on the left or right
  - › Lever for escape release from the danger area
  - › Detent knob in open position
  - › Can be locked in open position with padlocks
  - › Actuator included
- 

- ▼ Bolt BTC-CTP with escape release for safety switch CTP



**123660** BTC-CTP-S-TH-01-F

▼ Features

- › Aluminum bolt
- › For doors hinged on the left or right
- › Lever for escape release from the danger area

- › Pushbutton in open position
- › 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







### 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

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