

ITEM 157112 CTP-L1-AP-U-HA-AES-SA-157112

Description	Technical data	Accessories	Downloads
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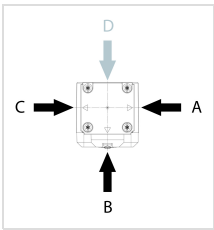
Features

- › Safety switch with guard locking and integrated evaluation electronics
- › Version with stainless-steel components
- › ECOLAB certificate
- › Short circuit monitoring
- › Two safety outputs (semiconductor outputs)
- › Up to category 4/PL e according to EN ISO 13849-1
- › With plug connector M12
- › Unicode
- › Door monitoring output
- › With escape release
- › Approach directions A, B and C (delivery state)

Medium-resistant stainless-steel version

Robust, tough and largely media resistant. Critical components such as plugs, cover screws and guide bushes, etc., consist of high-quality inox steel.

Approach direction



► Figure
Horizontal
Can be adjusted in 180° 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 the danger zone without tools.

Connector assignment

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting 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	Diagnostic 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		
	Metal material	Stainless steel
	Safety switch housing	Fiber glass reinforced thermoplastic
	Actuating button	POM-C
Weight		
	Net	0,53 kg
Ambient temperature		
	At $U_B = 24V$ DC	-20 ... +55 °C
Degree of protection		IP67 / IP69 / IP69K [1]
Resilience to vibration		In acc. with EN IEC 60947-5-3
Mechanical life		1×10^6
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 [2]
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 [3]
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 [4]
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 U_{IMP})		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]
		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 $U(FO1A) / U(FO1B)$		$U_B - 1,5 \dots U_B$ V DC
LOW $U(FO1A) / U(FO1B)$		0 ... 1 V DC
Off-state current I_r		max.0,25 mA
Switch-on time		max.400 ms
Discrepancy time		
	Both safety outputs	In acc. with EN IEC 60947-5-3 max.10 ms
		Monitoring output OD
Type of output		p-switching, short circuit-proof
Switching current		1 ... 50 mA
Output voltage		0,8x U_B ... U_B V DC
		Monitoring output OI
Type of output		p-switching, short circuit-proof
Switching current		1 ... 50 mA
Output voltage		0,8x U_B ... U_B V DC

Operating distance

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

Miscellaneous

Additional feature		Escape release actuated by pushing
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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
Category	4
PFH _D	4.1×10^{-9}
Mission time	20 y

[1] Screwed tight plug connector/mating component

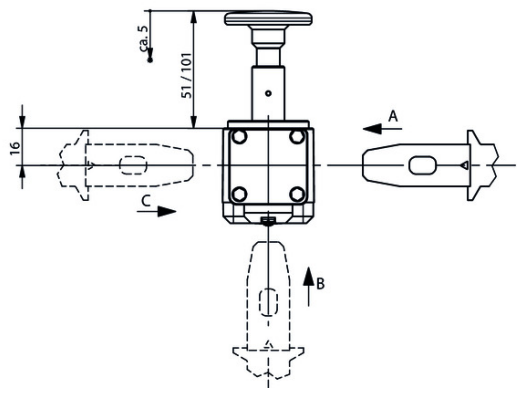
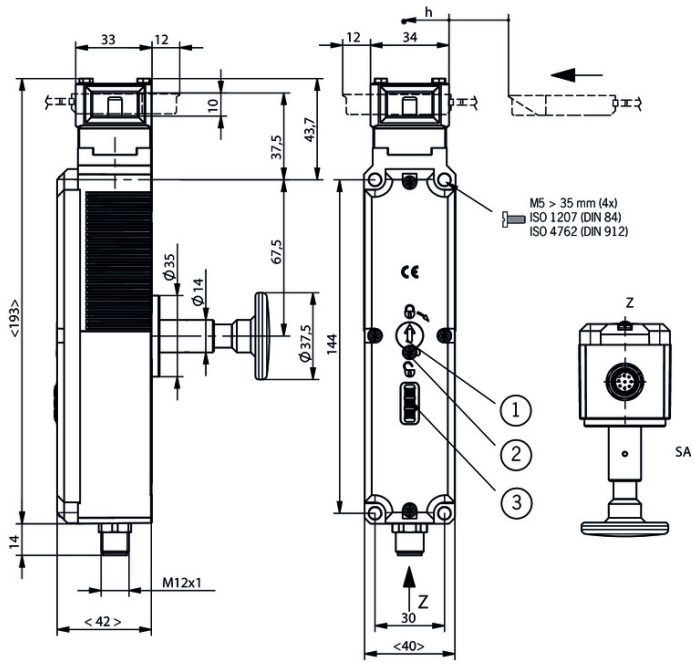
[2] $F_{zh} = F_{max}/1.3$ Depending on the actuator used

[3] Applies for a load with $C \leq 30\text{nF}$ and $R \leq 20\text{k}\Omega$

[4] Caution: outputs must be protected with a free-wheeling diode in case of inductive loads

[5] Alternatively see operating instructions

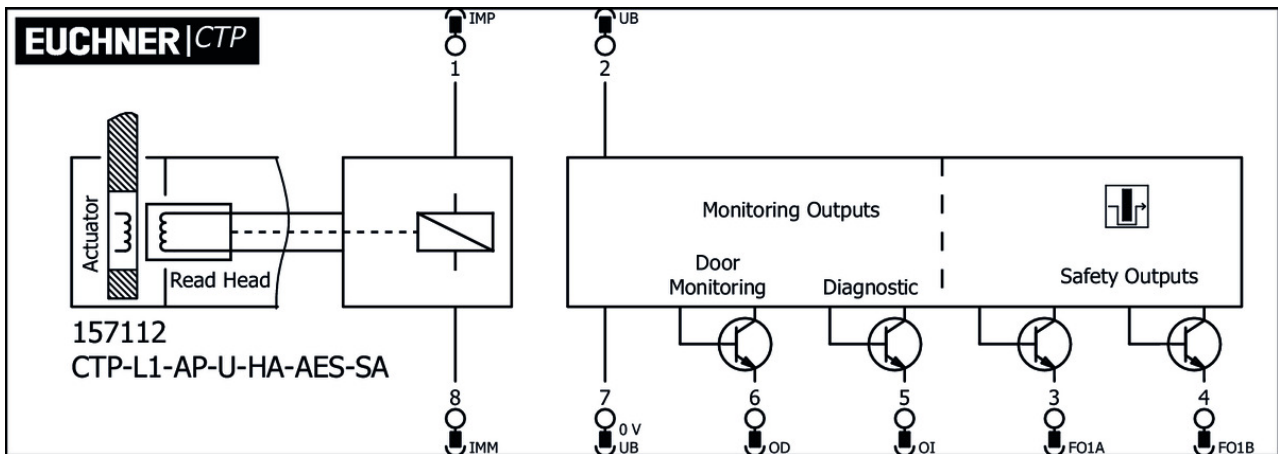
Dimension drawing



Legende

- 1 Auxiliary release
- 2 Locking screw
- 3 LEDs

Wiring diagram



Function expansion

Lockout mechanism CTP



123411 AE-L-C-H-123411

Features

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

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

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

▼ 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

Actuator

▼ Straight actuator for stainless-steel safety switch CTP



157696 A-C-H-G-SSS-157696

▼ Features













- › Stainless-steel version
- › Straight actuator
- › Two safety screws included

Instructions

▼ Bezpečnostní informace CTP (-AR/-AP)







	Doc. no.	Version	Language	Download
Sicherheitsinformation CTP (-AR/-AP)	2138087	02-11/17		0.7 MB
Safety Information CTP (-AR/-AP)				
Información de seguridad CTP (-AR/-AP)				
Information de sécurité CTP (-AR/-AP)				
Informazioni sulla sicurezza 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

▼ Návod k použití Bezpečnostní spínač s kódovaným transpondérem CTP-AP Unicode/Multicode

	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
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
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

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