

ITEM 157816 CTP-L1-AR-M-HA-AZS-SAB-157816

Description	Technical data	Accessories	Downloads
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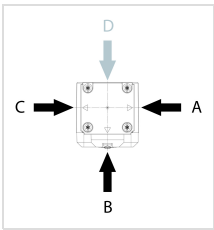
Features

- › Safety switch with guard locking and integrated evaluation electronics
- › Version with stainless-steel components
- › ECOLAB certificate
- › 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)

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)

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	FO1A	Safety output, channel 1	GN
	X 1.4	FO1B	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

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	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

Approvals



Mechanical values and environment

Housing material	Metal material Safety switch housing	Stainless steel Fiber glass reinforced thermoplastic
Weight	Net	0,48 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		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 [2]
Retention force		20 N
Extraction force		20 N
Actuating force		10 N
Overtravel		5 mm

Electrical connection ratings

Test-pulse interval	min.140 ms
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Test pulses	max.1,0 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
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 ^[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 ... 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 60947-5-3max.10 ms
Monitoring output OL	
Type of output	p-switching, short circuit-proof
Switching current	1 ... 50 mA
Output voltage	0,8xU _B ... U _B 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

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 _D	4.1×10^{-9}
Mission time	20 y

[1] Screwed tight plug connector/mating component

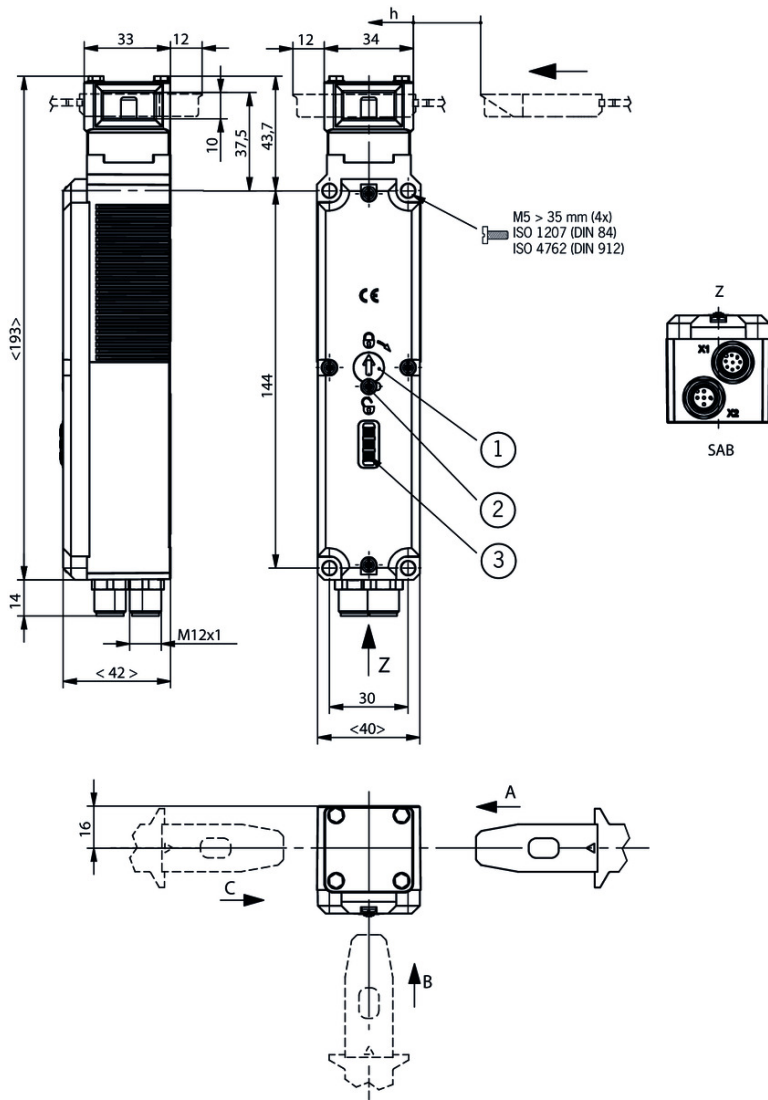
[2] $F_{zh} = F_{max}/1.3$ Depending on the actuator used

[3] Applies for a load with $C \leq 30nF$ 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

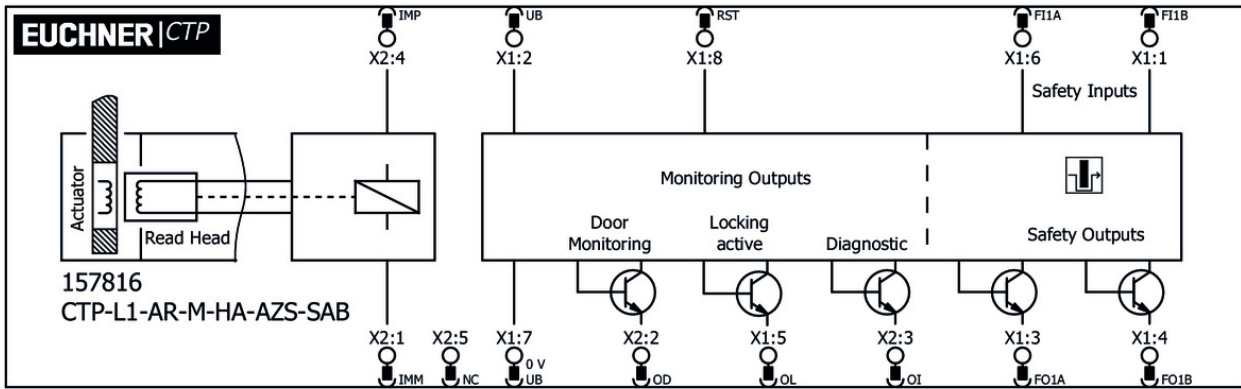
Dimension drawing



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

Bolt

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
-

Connection material

- ✓ 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
-

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



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
-



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
-

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



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
-



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
-

▼ 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 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 plug connector M12, 8-pin, 30m



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



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

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



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



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

▼ Y-distributor M12 with connection cable



112395 Y-VERTEILER M12 MIT 1M KABEL

▼ Features

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



111696 Y-VERTEILER M12 MIT ANSCHLUSSKABEL

▼ Features

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

▼ Bridging plug M12



097645 BRUECKEN-STECKER

▼ Features

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

▼ Connection cable with 2 plug connectors M12, 10m



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

▼ Features

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

▼ Connection cable with 2 plug connectors M12, 1m

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



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

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



- 123432** C-M12M08-08X025PV05,0-M12F08-123432
- ▼ Features
 - › 8-pin M12 male plug, straight
 - › 8-pin M12 female connector, straight
 - › PVC cable
 - › Cable length 5m

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-AR Unicode/Multicode**

	Doc. no.	Version	Language	Download
Betriebsanleitung Transpondercodierter Sicherheitsschalter mit Zuhaltung CTP-AR Uni-/Multicode	2123041	06-05/18		 4.5 MB
Mode d'emploi Interrupteur de sécurité à codage par transpondeur avec interverrouillage CTP-AR uni-/multicode	2123041	06-05/18		 4.5 MB
Manual de instrucciones Interruptor de seguridad con codificación por transponder con bloqueo CTP-AR Unicode/Multicode	2123041	06-05/18		 4.5 MB
Návod k použití Bezpečnostní spínač s kódovaným transpondérem CTP-AR Unicode/Multicode	2123041	06-05/18		 4.7 MB
Operating instructions Transponder-Coded Safety Switch With Guard Locking CTP-AR Unicode/Multicode	2123041	06-05/18		 4.5 MB
Istruzioni di impiego Finecorsa di sicurezza con codifica a transponder con meccanismo di ritenuta CTP-AR Uni-/Multicode	2123041	06-05/18		 4.5 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-AR ユニコード/マルチコード	2123041	06-05/18		 4.8 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