

CTP-L1-AP-U-HA-AZ-SA-EX-129512 (ORDER NO. 129512)

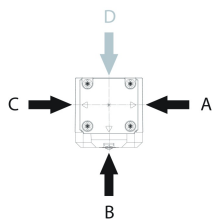
Transponder-coded safety switch CTP-AP, M12, ATEX

- ▶ ATEX version
- ▶ Suitable for use in zones 2 and 22 (gases and dusts)
- ▶ 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
- ▶ Diagnostics output OI
- ▶ Approach directions A, B and C (delivery state)



Description

Approach direction



Horizontal

Can be adjusted in 90° steps

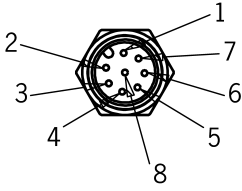
Unicode evaluation

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.

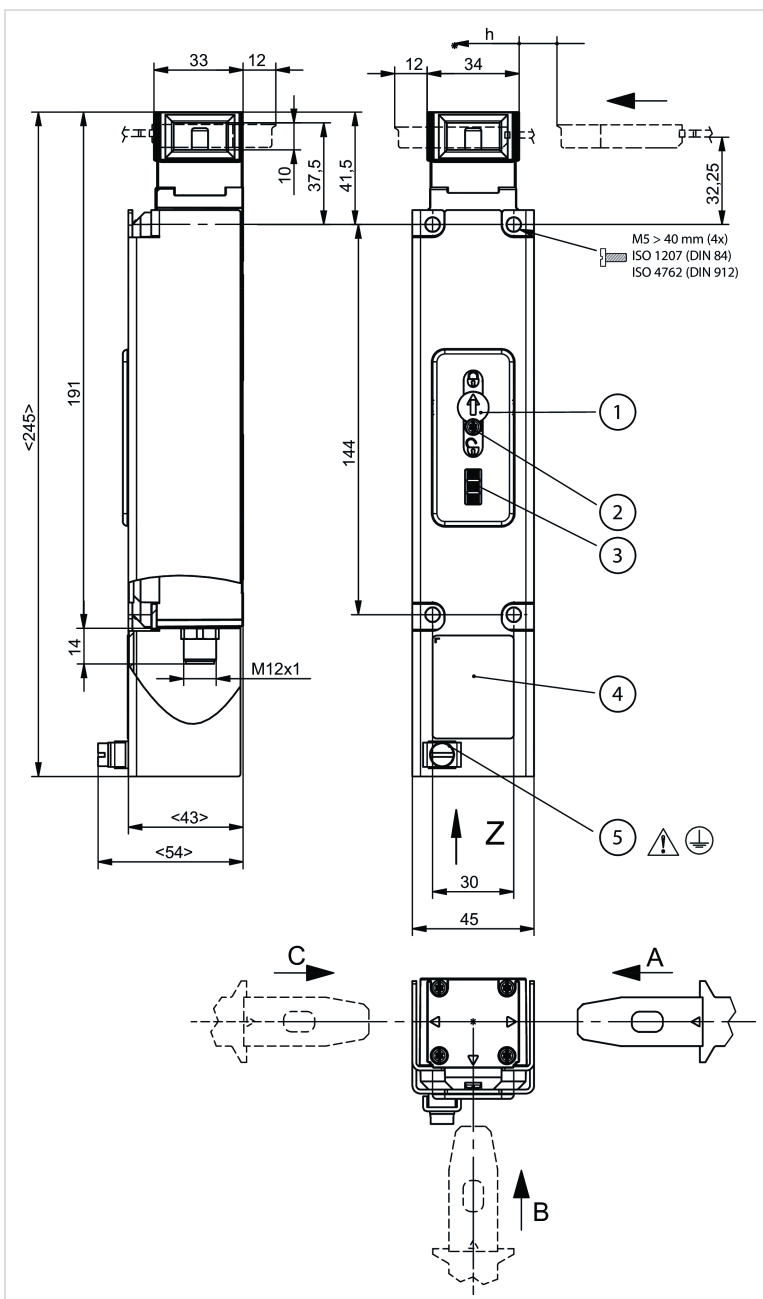
Guard locking type

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

Connector assignment

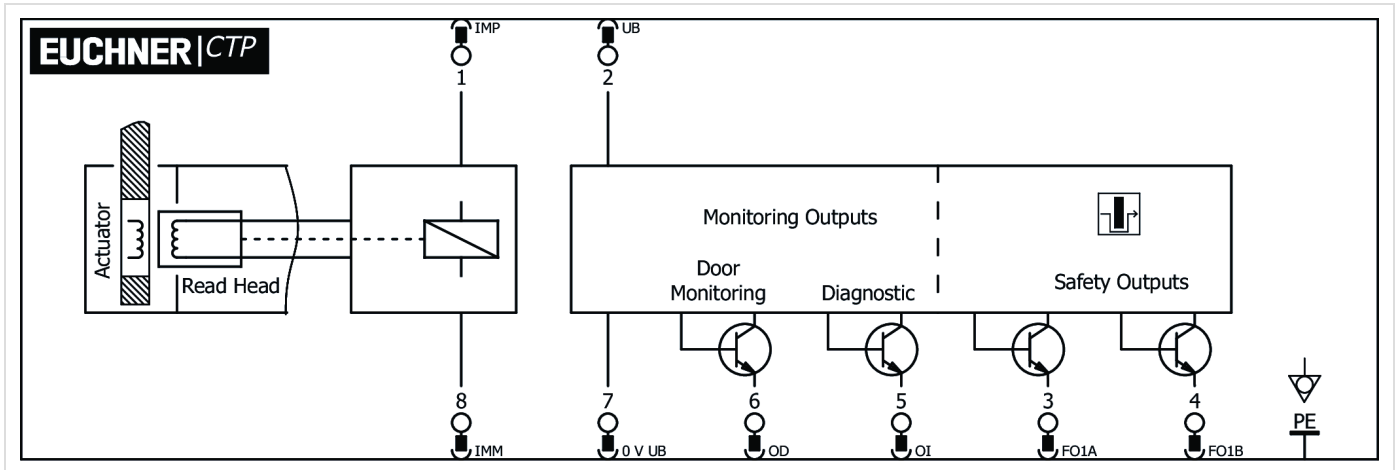
Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	1	IMP	Operating voltage of guard locking solenoid, 24 V DC	WH
	2	UB	Operating voltage of AP electronics, 24 V DC	BN
	3	FO1A	Safety output, channel 1	GN
	4	FO1B	Safety output, channel 2	YE
	5	OI	Diagnostic 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

Dimension drawings



- 1 Auxiliary release
- 2 Locking screw
- 3 LEDs
- 4 Protective plate
- 5 Grounding terminal – for preventing electrostatic charging. Ground switch via cable. Cable cross-section 4...6 mm²

Connection examples



Technical data

Approvals



Work area

Repeat accuracy R

according to EN 60947-5-2 10 %

Electrical connection ratings

Current consumption

	IIMP	400 mA
	IUB	40 mA
Degree of contamination (external, according to EN 60947-1)		3
EMC protection requirements		according to EN IEC 60947-5-3
Fusing		
	external (operating voltage UB)	0.25 ... 8 A
	external (solenoid operating voltage IMP)	0.5 ... 8 A
Operating voltage DC		
	UUB	24 V DC -15% ... +15% reverse polarity protected, regulated, residual ripple < 5%, PELV
Power consumption		6 W
Rated impulse withstand voltage U_{imp}		0.5 kV
Rated insulation voltage U_i		50 V
Safety class		
	EN IEC 61140	III
Solenoid duty cycle		100 %
Solenoid operating voltage DC		
	UIMP	24 V DC -15% ... +10% reverse polarity protected, regulated, residual ripple < 5%, PELV
Switching load		
	according to UL	24V DC, Class 2 (alternatively, see operating instructions)
Test pulse interval		min. 100 ms
Test pulses		max. 0.3 ms (Applies to a load with $C \leq 30$ nF and $R \leq 20$ kohm)
Utilization category		
	DC-13	24V 150mA (Caution: outputs must be protected with a free-wheeling diode in case of inductive loads)
		Monitoring output OD, OI
Output type		p-switching, short circuit-proof
Output voltage		$0.8 \times U_B$... U_B V DC
Switching current		1 ... 50 mA
		Safety outputs FO1A / FO1B
Discrepancy time		
	both safety outputs	max. 10 ms according to EN IEC 60947-5-3
Off-state current I_r		max. 0.25 mA
Output type		2 semiconductor outputs, p-switching, short circuit-proof
Output voltage		
	LOW U(FO1A) / U(FO1B)	0 ... 1 V DC
	HIGH U(FO1A) / U(FO1B)	$U_B - 1.5$... U_B V DC
Switching current		
	per safety output FO1A / FO1B	1 ... 150 mA
Turn-on time		max. 400 ms

Mechanical values and environment

Actuating force	10 N
Ambient temperature	at UB = 24V DC -20 ... +55 °C
Approach speed	max. 20 m/min
Connection	1 plug connector M12, 8-pin
Degree of protection	IP65/IP66 (screwed tight plug connector/mating component)
Extraction force	20 N
Guard locking principle	Closed-circuit current principle
Installation orientation	any
Locking force F_{max}	3900 N
Locking force F_{Zh}	3000 N ($F_{Zh} = F_{max}/1.3$, depending on the actuator used)
Material	
	Switch head cover Die-cast zinc
	Safety switch housing reinforced thermoplastic
Mechanical life	1×10^6
Overtravel	5 mm
Ready delay	max. 1 s
Retention force	20 N
Shock and vibration resistance	according to EN 60947-5-3
Switching frequency	max. 0.5 Hz

Reliability values according to EN ISO 13849-1

Category	4
Mission time	20 y
Performance Level	PL e
PFHd	4.1×10^{-9}

Miscellaneous

Explosion protection	incl. cover hood II3G Ex ec IIC T4 Gc X / II3D Ex tc IIIC T110°C Dc X
The following applies to the approval according to UL	Operation only with UL Class 2 power supply or equivalent measures; see operating instructions

Accessories

Actuator

Hinged actuator for safety switch CTP-EX, ATEX



166341
A-C-H-RR-LS-EX-166341

- ▶ Hinged actuator for doors hinged on the left
- ▶ ATEX version
- ▶ Suitable for use in zones 2 and 22 (gases and dusts)
- ▶ Two safety screws included



166340
A-C-H-RL-LS-EX-166340

- ▶ Hinged actuator for doors hinged on the right
- ▶ ATEX version
- ▶ Suitable for use in zones 2 and 22 (gases and dusts)
- ▶ Two safety screws included

Straight actuator for safety switch CTP-EX, ATEX



136826
A-C-H-G-LS-EX-136826

- ▶ ATEX version
- ▶ Suitable for use in zones 2 and 22 (gases and dusts)
- ▶ Straight actuator
- ▶ Two safety screws included

Connection material

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



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

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



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

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



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

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

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



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

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



115257
C-M12F08-08X025PU30,0-MA-115257

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

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



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

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



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

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

Function expansion

Lockout bar CTP/CTA



123411
AE-L-C-H-123411

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

Metal bolt

Bolt BTM-UNIP-S... for safety switches TP, STP, STA, CTP and CTA



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

Mounting accessories

Efficient protection against tampering for safety switch mounting



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



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

Contacts

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