

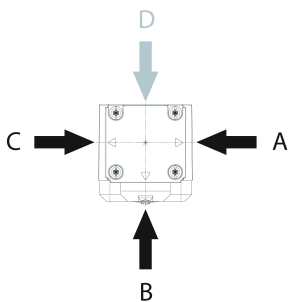
## CTP-L1-AP-U-HA-AE-SA-EX-156240 (Order no. 156240)

### 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
- ▶ With escape release
- ▶ 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 OD
- ▶ Guard lock monitoring output OL
- ▶ Approach directions A, B and C (delivery state)



### Approach direction



Horizontal

Can be adjusted in 90° steps

### Mounting plate

A mounting plate for supporting the escape release is included.

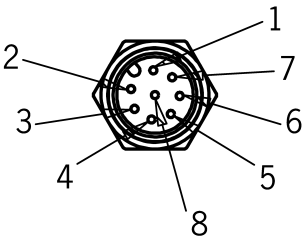
### Unicode evaluation

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	Connecting cable conductor coloring
	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	OL	Guard lock monitoring output	GY
	6	OD	Door monitoring output	PK
	7	0 V UB	AP electronics operating voltage, 0 V	BU
	8	IMM	Guard locking solenoid operating voltage, 0 V	RD

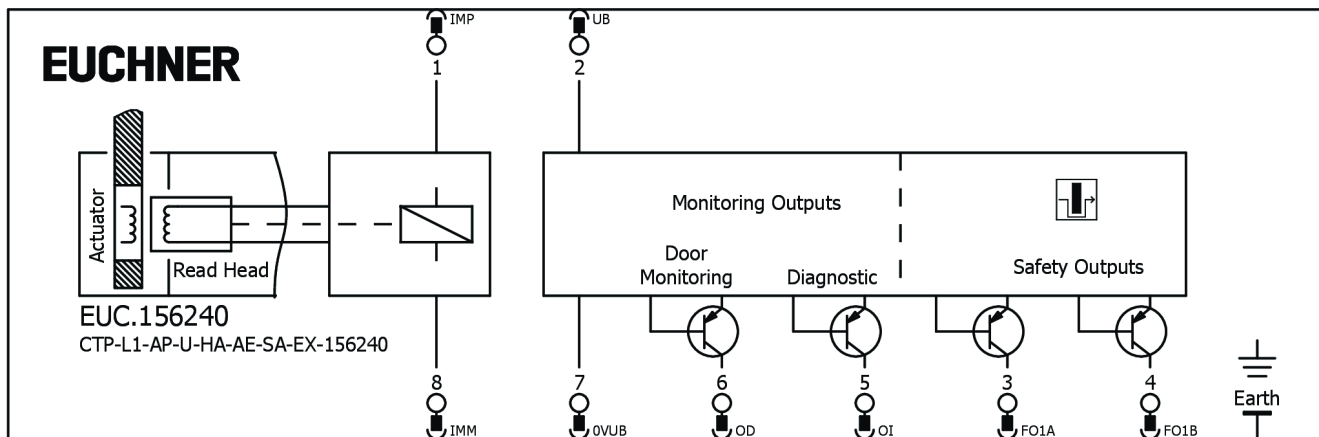


Grounding terminal – for preventing electrostatic charging. Ground switch via cable. Cable cross-section 4...6 mm<sup>2</sup>

6 Escape release

7 Mounting plate

## Connection examples



## Technical data

### Approvals



### Workspace

Repeat accuracy R

according to EN 60947-5-2 10 %

### Electrical connection values

Fuse

external (solenoid operating voltage IMP) 0.5 ... 8 A

external (operating voltage UB) 0.25 ... 8 A

Power consumption 6 W

Rated insulation voltage  $U_i$  50 V

Rated impulse voltage  $U_{imp}$  0.5 kV

Operating voltage DC

$U_{UB}$  24 V DC -15% ... +15% reverse polarity protected, regulated, residual ripple < 5%, PELV

EMC protection requirements Acc. to EN IEC 60947-5-3

Utilization category

DC-13 24 V 150 mA  
(Caution: outputs must be protected with a free-wheeling diode in case of inductive loads)

Solenoid operating voltage DC

$U_{IMP}$  24 V DC -15% ... +10% reverse polarity protected, regulated, residual ripple < 5%, PELV

Solenoid duty cycle 100 %

Switching load

according to UL 24V DC, Class 2  
(alternatively, see operating instructions)

Safety class III

## Current consumption

$I_{IMP}$  400 mA

$I_{UB}$  40 mA

Test pulse duration max. 0.3 ms  
(Applies to a load with  $C \leq 30$  nF and  $R \leq 20$  kohm)

Test pulse interval min. 100 ms

Degree of contamination (external, according to EN 60947-1) 3

### Monitoring output OD, OL

Output type p-switching, short circuit-proof

Output voltage  $0.8 \times U_B \dots U_B$  V DC

Switching current 1 ... 50 mA

### Safety outputs FO1A / FO1B

Output type 2 semiconductor outputs, p-switching, short circuit-proof

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

Discrepancy time

both safety outputs max. 10 ms Acc. to EN IEC 60947-5-3

Turn-on time max. 400 ms

Off-state current  $I_r$  max. 0.25 mA

Switching current

per safety output FO1A / FO1B 1 ... 150 mA

## Mechanical values and environment

Approach speed max. 20 m/min

Connection type 1 plug connector M12, 8-pin

Extraction force 20 N

Ready delay max. 1 s

Actuating force 10 N

Installation orientation any

Switching frequency max. 0.5 Hz

Mechanical life  $1 \times 10^6$

Overtravel	5 mm
Retention force	20 N
Shock and vibration resistance	Acc. to EN IEC 60947-5-3
Degree of protection	IP65/IP66 (When inserted and secured)
Ambient temperature	
with $U_B = 24 \text{ V DC}$	-20 ... +55 °C
Material	
Mounting plate	Aluminum
Safety switch housing	Reinforced thermoplastic
Protective plate	Stainless steel
Switch head cover	Die-cast zinc
Locking force $F_{\max}$	3900 N
Locking force $F_{Zh}$	3000 N ( $F_{zh} = F_{\max}/1.3$ , depending on the actuator used)
Guard locking principle	Closed-circuit current principle

## Characteristic values according to EN ISO 13849-1 and EN IEC 62061

	PL	Maximum SIL	PFH <sub>D</sub>	Category	Mission time
Monitoring of guard locking	PL e	-	$4.1 \times 10^{-9}$	4	20 y

	PL	Maximum SIL	Category	Mission time
Control of guard locking	Depending on external control of guard locking			20 y

## Miscellaneous

Explosion protection in accordance with ATEX Directive 2024/34/EU	II3G Ex ec IIC T4 Gc X / II3D Ex tc IIIC T110°C Dc X
Notices for UL approval	Operation only with UL Class 2 power supply or equivalent measures; see operating instructions
Additional feature	Escape release actuated by pushing

## Downloads

All documentation for this material can be found on our website:

<https://www.euchner.de/en-us/a/156240/?#downloads-tab>

## Ordering data

Ordernumber	156240
Item designation	CTP-L1-AP-U-HA-AE-SA-EX-156240
Gross weight	1,3kg
Customs tariff number	85365019000
ECLASS	27-27-24-05 Safety-related transponder switch with guardlocking

## Accessories

### Actuator

#### Hinged actuator for safety switch CTP-EX, ATEX



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

- ▶ 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



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

- ▶ 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



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

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



**115113**  
C-M12F08-08X025PU10,0-MA-115113

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR 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

## Mounting accessories

### Efficient protection against tampering for safety switch mounting



**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



**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