

# **EUCHNER**

## **Operating Instructions**

**Transponder-Coded Safety Switch Without Guard Locking  
CTP-I-AP Unicode/Multicode**

**EN**

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## 1. About this document







### 1.1. Scope

These operating instructions are valid for all CTP-I-AP... from version V1.0.0. These operating instructions, the document "Safety information and maintenance" and any enclosed data sheet form the complete user information for your device.

### 1.2. Target group





Design engineers and installation planners for safety devices on machines, as well as setup and servicing staff possessing special expertise in handling safety components.

### 1.3. Key to symbols

Symbol/depiction	Meaning
	Printed document
	Document is available for download at <a href="http://www.euchner.com">www.euchner.com</a>
	Document on CD
	This section is applicable only if the memory card is used
 <b>DANGER</b> <b>WARNING</b> <b>CAUTION</b>	Safety precautions <b>Danger</b> of death or severe injuries <b>Warning</b> about possible injuries <b>Caution</b> slight injuries possible
 <b>NOTICE</b> <b>Important!</b>	<b>Notice</b> about possible device damage <b>Important</b> information
<b>Tip</b>	Useful information

### 1.4. Supplementary documents

The overall documentation for this device consists of the following documents:

Document title (document number)	Contents	
Safety Information and Maintenance CTP (2138087)	Basic information for safe setup and service	
Operating Instructions (2137526)	(this document)	
Possibly enclosed data sheet	Item-specific information about deviations or additions	
	<b>Important!</b> Always read all documents to gain a complete overview of safe installation, setup and use of the device. The documents can be downloaded from <a href="http://www.euchner.com">www.euchner.com</a> . For this purpose enter the doc. no. in the search box.	

### 2. Correct use

Safety switches series CTP-I-AP... are interlocking devices without guard locking (type 4). Devices with unicode evaluation possess a high coding level, devices with multicode evaluation possess a low coding level.

In combination with a movable guard and the machine control, this safety component prevents dangerous machine functions from occurring while the guard is open. A stop command is triggered if the guard is opened during the dangerous machine function.

This means:

- › Starting commands that cause a dangerous machine function must become active only when the guard is closed.
- › Opening the guard triggers a stop command.
- › Closing a guard must not cause automatic starting of a dangerous machine function. A separate start command must be issued. For exceptions, refer to EN ISO 12100 or relevant C-standards.

Before the device is used, a risk assessment must be performed on the machine, e.g. in accordance with the following standards:

- › EN ISO 13849-1, Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
- › EN ISO 12100, Safety of machinery – General principles for design – Risk assessment and risk reduction
- › IEC 62061, Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems

Correct use includes observing the relevant requirements for installation and operation, particularly based on the following standards:

- › EN ISO 13849-1, Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
- › EN ISO 14119, Safety of machinery – Interlocking devices associated with guards – Principles for design and selection
- › EN 60204-1, Safety of machinery – Electrical equipment of machines – Part 1: General requirements

The safety switch is allowed to be operated only in conjunction with the intended EUCHNER actuator and the related connection components from EUCHNER. On the use of different actuators or other connection components, EUCHNER provides no warranty for safe function.



#### Important!

- › The user is responsible for the proper integration of the device into a safe overall system. For this purpose, the overall system must be validated, e.g. in accordance with EN ISO 13849-2.
- › It is only allowed to use components that are permissible in accordance with the table below.

Table 1: Possible combinations for CTP components

Safety switch	Actuator	
		A-C-H...
CTP-I-... Unicode/Multicode		●
Key to symbols	●	Combination possible

### 3. Description of the safety function

Devices from this series feature the following safety functions:

#### Monitoring of the position of the guard (interlocking device according to EN ISO 14119)

- Safety function (see chapter 6.3. *Switching states on page 7*):
  - The safety outputs are switched off when the guard is open (monitoring of the door position).
- Safety characteristics: category, Performance Level, PFH<sub>D</sub> (see chapter 12. *Technical data on page 17*).

### 4. Exclusion of liability and warranty

In case of failure to comply with the conditions for correct use stated above, or if the safety instructions are not followed, or if any servicing is not performed as required, liability will be excluded and the warranty void.

### 5. General safety precautions

Safety switches fulfill personnel protection functions. Incorrect installation or tampering can lead to fatal injuries to personnel.

Check the safe function of the guard particularly

- after any setup work
- after the replacement of a system component
- after an extended period without use
- after every fault

Independent of these checks, the safe function of the guard should be checked at suitable intervals as part of the maintenance schedule.



#### WARNING

Danger to life due to improper installation or due to bypassing (tampering). Safety components perform a personnel protection function.

- Safety components must not be bypassed, turned away, removed or otherwise rendered ineffective. On this topic pay attention in particular to the measures for reducing the possibility of bypassing according to EN ISO 14119:2013, section 7.
- The switching operation must be triggered only by actuators designated for this purpose.
- Prevent bypassing by means of replacement actuators (only for multicode evaluation). For this purpose, restrict access to actuators and to keys for releases, for example.
- Mounting, electrical connection and setup only by authorized personnel possessing the following knowledge:
  - specialist knowledge in handling safety components
  - knowledge about the applicable EMC regulations
  - knowledge about the applicable regulations on occupational safety and accident prevention.



#### Important!

Prior to use, read the operating instructions and keep these in a safe place. Ensure the operating instructions are always available during mounting, setup and servicing. EUCHNER cannot provide any warranty in relation to the readability of the CD for the storage period required. For this reason you should archive a printed copy of the operating instructions. You can download the operating instructions from [www.euchner.com](http://www.euchner.com).

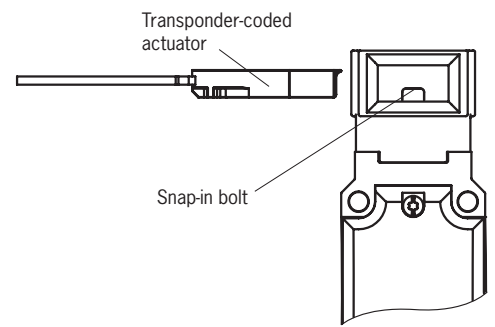
### 6. Function

The device monitors the position of movable guards.

The system consists of the following components: coded actuator (transponder) and switch.

Whether the device learns the complete actuator code (unicode) or not (multicode) depends on the respective version.

- ▶ **Devices with unicode evaluation:** The actuator must be assigned to the safety switch by a teach-in operation so that it is detected by the system. This unambiguous assignment ensures a particularly high level of protection against tampering. The system thus possesses a high coding level.
- ▶ **Devices with multicode evaluation:** Unlike systems with unique code detection, on multicode devices a specific code is not requested but instead it is only checked whether the actuator is of a type that can be detected by the system (multicode detection). There is no exact comparison of the actuator code with the taught-in code in the safety switch (unique code detection). The system possesses a low coding level.



When the guard is closed, the actuator is moved into the safety switch. When the switch-on distance is reached, power is supplied to the actuator by the switch and data are transferred.

If a permissible code is detected, the safety outputs are switched on.

The safety outputs are switched off when the guard is opened.

In the event of a fault in the safety switch, the safety outputs are switched off and the DIA LED illuminates red. The occurrence of faults is detected at the latest on the next demand to close the safety outputs (e.g. on starting).

#### 6.1. Door monitoring output (OD)

All versions have a door monitoring output. The door monitoring output is switched on as soon as the actuator is inserted in the switch head (state: guard closed).

#### 6.2. Diagnostics output (OI)

The diagnostics output is switched on in the event of a fault (switch-on condition as for DIA LED).

#### 6.3. Switching states

The detailed switching states for your switch can be found in the system status table. All safety outputs, monitoring outputs and display LEDs are described there.

	Guard closed	Guard open
Safety outputs F01A and F01B	on	off
Door monitoring output OD	on	off

## 7. Changing the approach direction

The approach direction needs to be changed only if the switch is to be approached from the rear.

Proceed as follows:

1. Remove the screws from the safety switch
2. Set the required direction
3. Tighten the screws with a torque of 1.2 Nm

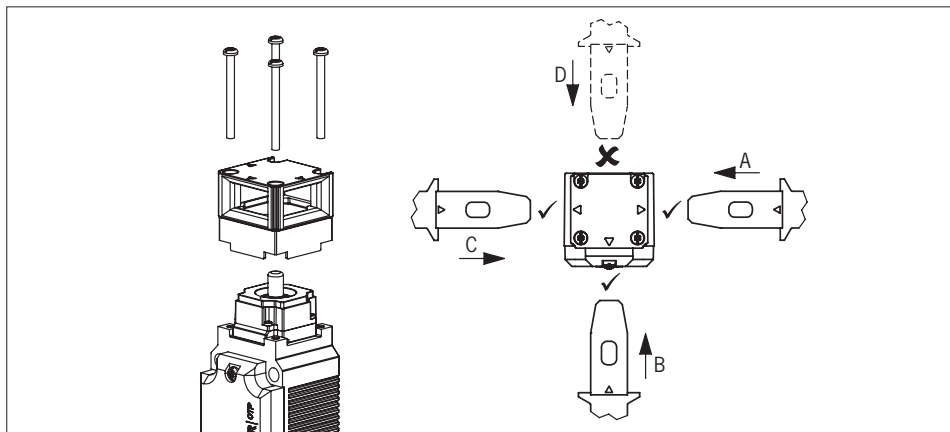


Figure 1: Changing the approach direction



### 8. Installation



#### CAUTION

Safety switches must not be bypassed (bridging of contacts), turned away, removed or otherwise rendered ineffective.

- › Observe EN ISO 14119:2013, section 7, for information about reducing the possibilities for bypassing an interlocking device.



#### NOTICE

Risk of damage to equipment and malfunctions as a result of incorrect installation.

- › Safety switches and actuators must not be used as an end stop.
- › Observe EN ISO 14119:2013, sections 5.2 and 5.3, for information about fastening the safety switch and the actuator.
- › Protect the switch head against damage, as well as penetrating foreign objects such as swarf, sand and blasting shot, etc.
- › Observe the min. door radii (see chapter 12.5.1. *Dimension drawing for actuator CTP-... on page 21*).
- › Observe the tightening torque for fastening the switch (max.1.4 Nm).

A clearance of 12 mm must be maintained around the actuator head (see *Figure 2*).

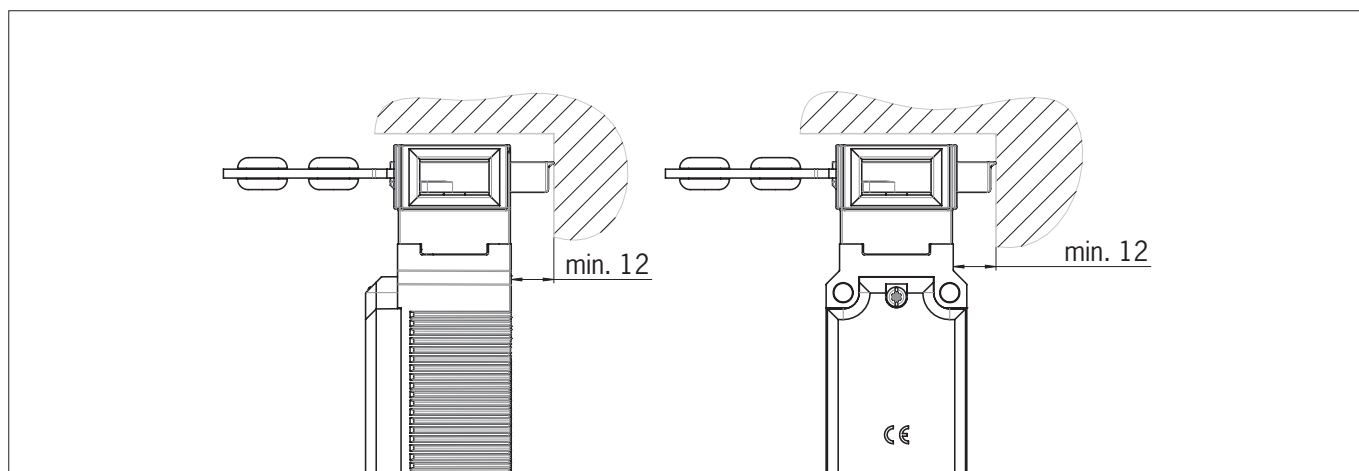


Figure 2: Actuator head clearance

#### Note the following points:

Actuator and safety switch must be fitted so that

- › the actuator is snapped in with the guard closed and is completely in the actuator head.
- › when the guard is open up to the distance  $S_{ar}$  (assured switch-off distance), a hazard is excluded.

## 9. Electrical connection

	<p><b>WARNING</b></p> <p>If there is a mistake, loss of the safety function due to incorrect connection.</p> <ul style="list-style-type: none"> <li>› To ensure safety, both safety outputs (FO1A and FO1B) must always be evaluated.</li> <li>› Monitoring outputs must not be used as safety outputs.</li> <li>› Lay the connection cables with protection to prevent the risk of short circuits.</li> </ul>
	<p><b>CAUTION</b></p> <p>Risk of damage to equipment or malfunctions as a result of incorrect connection.</p> <ul style="list-style-type: none"> <li>› The device generates its own test pulses on the output lines FO1A/FO1B. A downstream control system must tolerate these test pulses, which may have a length of up to 0.35 ms. Depending on the inertia of the downstream device (control system, relay, etc.), this can lead to short switching processes.</li> <li>› The inputs on an evaluation unit connected must be positive-switching, as the two outputs on the safety switch deliver a level of +24 V in the switched-on state.</li> <li>› All the electrical connections must either be isolated from the mains supply by a safety transformer according to IEC 61558-2-6 with limited output voltage in the event of a fault, or by other equivalent isolation measures (PELV).</li> <li>› All electrical outputs must have an adequate protective circuit for inductive loads. The outputs must be protected with a free-wheeling diode for this purpose. RC interference suppression units must not be used.</li> <li>› Power devices which are a powerful source of interference must be installed in a separate location away from the input and output circuits for signal processing. The cable routing for safety circuits should be as far away as possible from the cables of the power circuits.</li> <li>› To avoid EMC interference, the physical environmental and operating conditions at the installation site of the device must comply with the requirements according to the standard EN 60204-1:2006, section 4.4.2 (EMC).</li> </ul> <p>Please pay attention to any interference fields from devices such as frequency converters or induction heating systems. Observe the EMC instructions in the manuals from the respective manufacturer.</p>
	<p><b>Important!</b></p> <p>If the device does not appear to function when operating voltage is applied (e.g. green STATE LED does not flash), the safety switch must be returned unopened to the manufacturer.</p>

### 9.1. Notes about requirements

	<p><b>Important!</b></p> <ul style="list-style-type: none"> <li>› For use and operation as per the  requirements <sup>1)</sup>, a power supply with the feature “for use in class 2 circuits” must be used. Alternative solutions must comply with the following requirements: Electrically isolated power supply unit in combination with fuse as per UL248. This fuse should be designed for max. 3.3 A and should be integrated into the 30 V DC voltage section.</li> <li>› For use and applications as per the  requirements <sup>1)</sup>, a connection cable listed under UL category code CYJV/7, min. 24 AWG, min 80 °C, must be used.</li> </ul> <p><small>1) Note on the scope of the UL approval: the devices have been tested as per the requirements of UL508 and CSA/ C22.2 no. 14 (protection against electric shock and fire).</small></p>
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### 9.2. Safety in case of faults

- The safety outputs F01A/F01B are short circuit-proof.
- A short circuit between F01A and F01B is detected by the switch.
- A short circuit in the cable can be excluded by laying the cable with protection.

### 9.3. Fuse protection for power supply

The power supply must be provided with fuse protection depending on the number of switches and current required for the outputs. The following rules apply:

#### Max. current consumption $I_{max}$

$$I_{max} = I_{UB} + I_{F01A+F01B} + I_{OD}$$

$$I_{UB} = \text{Switch operating current (40 mA)}$$

$$I_{OL}/I_{OD} = \text{Load current of monitoring outputs (max. 50 mA per monitoring output)}$$

$$I_{F01A+F01B} = \text{Load current of safety outputs F01A + F01B (2 x max. 150 mA)}$$

### 9.4. Requirements for connection cables



#### CAUTION

Risk of damage to equipment or malfunctions as a result of incorrect connection cables.

- Use connection components and connection cables from EUCHNER
- On the usage of other connection components, the requirements in the following table apply. EUCHNER provides no warranty for safe function in case of failure to comply with these requirements.

Observe the following requirements with respect to the connection cables:

#### For safety switches CTP-I-AP-...-SA-... with plug connector M12, 8-pin

Parameter	Value	Unit
Conductor cross-section, min.	0.25	mm <sup>2</sup>
R max.	80	Ω/km
C max.	120	nF/km
L max.	0.65	mH/km
Recommended cable type	LIYY 8x0.25 mm <sup>2</sup>	

### 9.5. Pin assignment safety switch CTP-I-AP-...-SA-... with plug connector M12, 8-pin

Wiring diagram C				
Plug connector (view of connection side)	Pin	Designation	Function	Wire color of connection cable <sup>1)</sup>
<p>1 x M12</p>	1	n.c.	-	WH
	2	UB	Operating voltage of AP electronics, 24 V DC	BN
	3	F01A	Safety output, channel 1	GN
	4	F01B	Safety output, channel 2	YE
	5	OI	Diagnostic output	GY
	6	OD	Door monitoring output	PK
	7	0 V	Operating voltage of AP electronics, 0 V	BU
	8	n.c.	-	RD

1) Only for standard EUCHNER connection cable

## 9.6. Connection CTP-I-AP

Connect the device as shown in Figure 3. The monitoring outputs can be routed to a control system.



### WARNING

If there is a mistake, loss of the safety function due to incorrect connection.  
 ▶ To ensure safety, both safety outputs (FO1A and FO1B) must always be evaluated.



### Important!

▶ The example shows only an excerpt that is relevant for connection of the CTP system. The example illustrated here does not show complete system planning. The user is responsible for safe integration into the overall system. Detailed application examples can be found at [www.euchner.com](http://www.euchner.com). Simply enter the order number in the search box. All available connection examples for the device can be found in "Downloads."

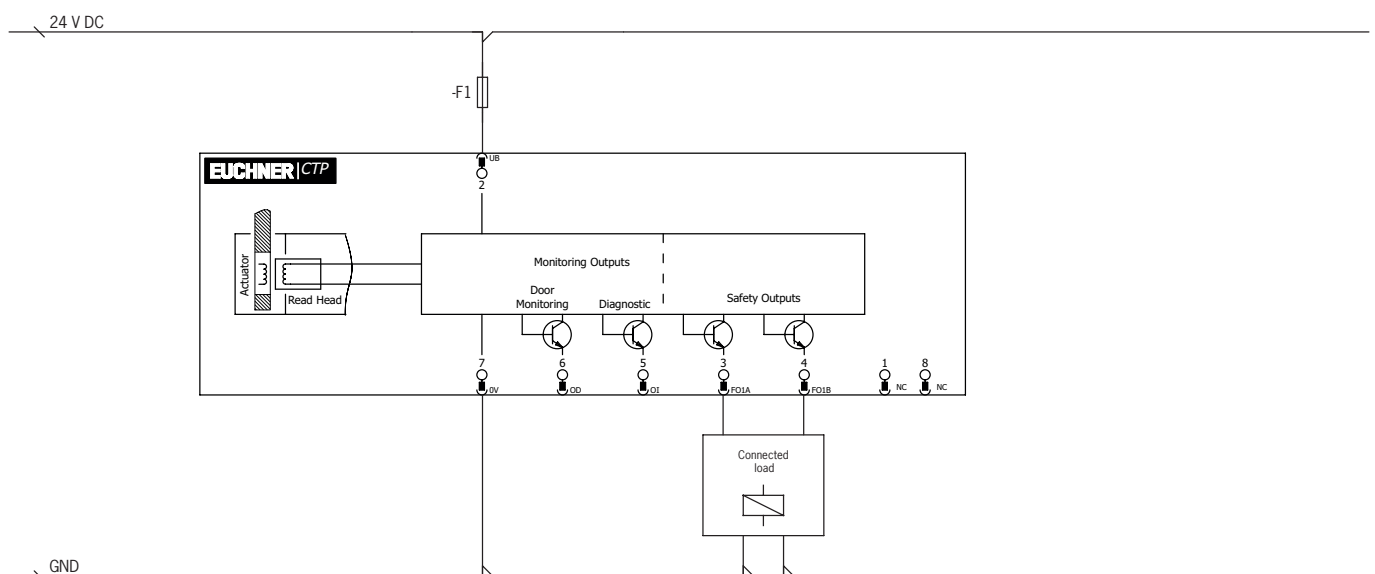


Figure 3: Connection example, version with plug connector M12

### 9.7. Notes on operation with safe control systems

Please observe the following requirements for connection to safe control systems:

- ▶ Use a common power supply for the control system and the connected safety switches.
- ▶ The device tolerates voltage interruptions on UB of up to 5 ms. Tap the supply voltage directly from the power supply unit. If the supply voltage is connected to a terminal of a safe control system, this output must provide sufficient electrical current.
- ▶ The safety outputs (FO1A and FO1B) can be connected to the safe inputs of a control system. Prerequisite: the input must be suitable for pulsed safety signals (OSSD signals, e.g. from light grids). The control system must tolerate test pulses on the input signals. This normally can be set up by parameter assignment in the control system. Observe the notes of the control system manufacturer. For the pulse duration of your safety switch, please refer to chapter 12. *Technical data on page 17.*

A detailed example of connecting and setting the parameters of the control system is available for many devices at [www.euchner.com](http://www.euchner.com) in Downloads » Applications » CTP. The features of the respective device are dealt with there in greater detail.

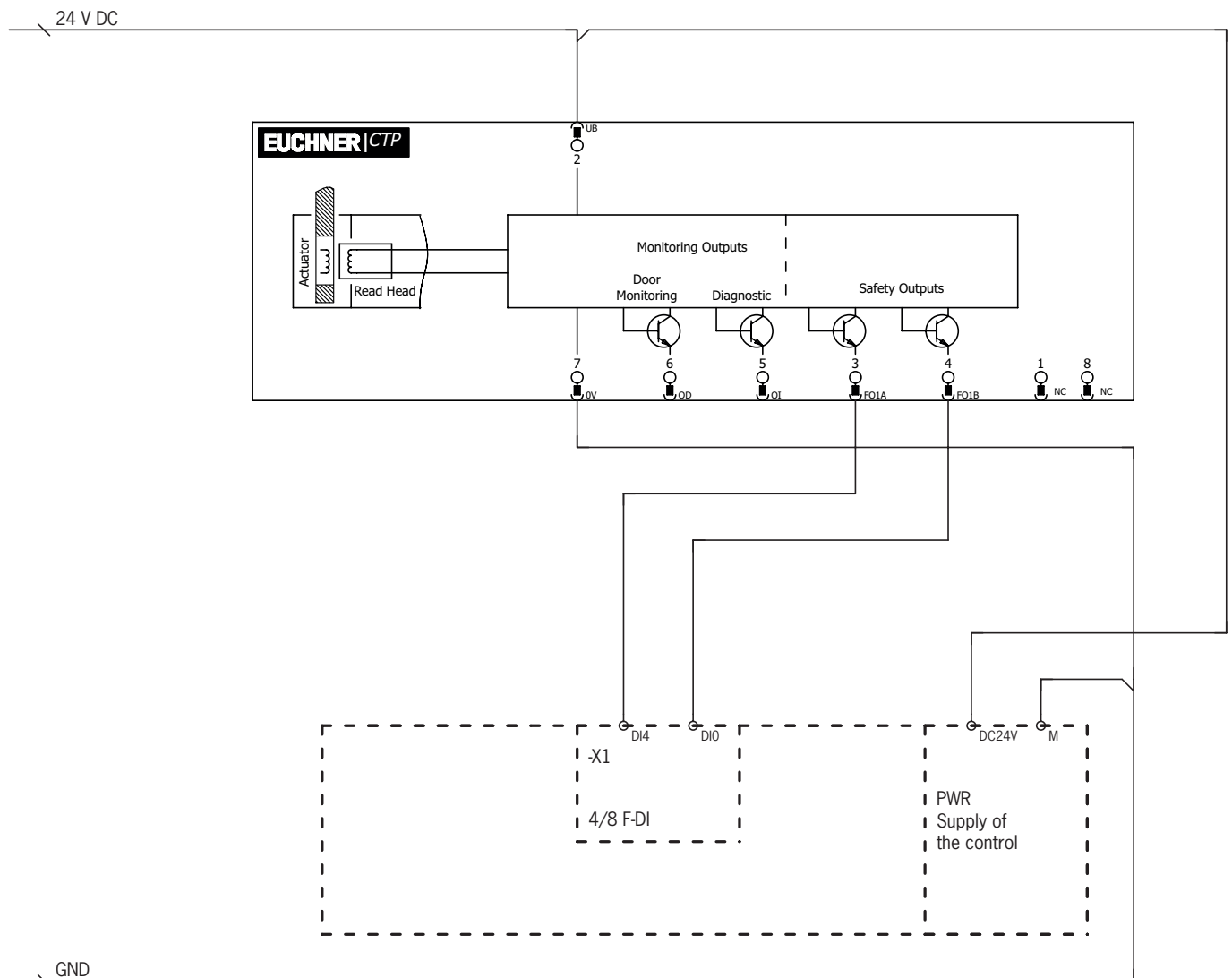


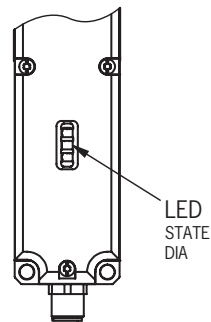
Figure 4: Connection example for the connection to ET200

## 10. Setup

### 10.1. LED displays

You will find a detailed description of the signal functions in chapter 11. *System status table on page 16.*

LED	Color
STATE	green
DIA	red



### 10.2. Teach-in function for actuator (only for unicode evaluation)

The actuator must be allocated to the safety switch using a teach-in function before the system forms a functional unit.

During a teach-in operation, the safety outputs are switched off, i.e. the system is in the safe state.

The teach-in operation is fully automatic. The number of possible teach-in operations is unlimited.



#### Tip!

Prior to switching on, close the guard on which the actuator to be taught in is installed. The teach-in operation starts immediately after switching on. This feature simplifies above all teach-in with series circuits and on large installations.



#### Important!

- › The teach-in operation may be performed only if the device does not have any internal errors.
- › Devices in the condition as supplied remain in teach-in standby state until you have successfully taught in the first actuator. Once taught in, switches remain in the teach-in standby state for approx. 3 min. after each switch-on.
- › The safety switch disables the code of the previous actuator if teach-in is carried out for a new actuator. Teach-in is not possible again immediately for this actuator if a new teach-in operation is carried out. The disabled code is released again in the safety switch only after a third code has been taught in.
- › The safety switch can be operated only with the last actuator taught in.
- › If the switch detects the actuator that was most recently taught when in the teach-in standby state, this state is ended immediately and the switch changes to normal state.
- › The actuator to be taught in is not activated if it is within the operating distance for less than 30 s.

#### 10.2.1. Actuator teach-in

1. Establish teach-in standby:

- Devices in the condition as supplied: unlimited teach-in standby after switching on
- Switch already taught in: teach-in standby is available for approx. 3 min after switching on

➔ Teach-in standby indication, STATE LED flashes 3x repeatedly

2. Insert the actuator during teach-in standby.

➔ The automatic teach-in operation starts (duration approx. 30 s).

During the teach-in operation the STATE LED flashes (approx. 1 Hz).

Alternate flashing of the STATE and DIA LEDs acknowledges the successful teach-in operation.

Teach-in errors are indicated by the illumination of the red DIA LED and a flashing code on the green State LED (see chapter 11. *System status table on page 16*).

3. Switch off operating voltage UB (min. 3 s).

- ➔ The code of the actuator that was just taught in is activated in the safety switch.
- 4. Switch on operating voltage UB.
- ➔ The device operates normally.

### 10.3. Functional check



#### WARNING

Danger of fatal injury as a result of faults in installation and functional check.

- › Before carrying out the functional check, make sure that there are no persons in the danger zone.
- › Observe the applicable accident prevention regulations.

#### 10.3.1. Mechanical function test

The actuator must slide easily into the actuating head. Close the guard several times to check the function.

#### 10.3.2. Electrical function test

After installation and any fault, the safety function must be fully checked. Proceed as follows:

1. Switch on operating voltage.
  - ➔ The machine must not start automatically.
  - ➔ The safety switch carries out a self-test. The green STATE LED then flashes at regular intervals.
2. Close all guards.
  - ➔ The machine must not start automatically.
  - ➔ The green STATE LED illuminates continuously.
3. Enable operation in the control system.
4. Open the guard.
  - ➔ The machine must switch off and it must not be possible to start it as long as the guard is open.

Repeat steps 2 - 4 for each guard.

## 11. System status table

Operating mode	Actuator/door position	Safety outputs FO1A and FO1B	Door monitoring output OD	LED indicator Output		State
				STATE (green)	D/A (red) and diagnostics output OI	
<b>Normal operation</b>	closed	on	on		○	Normal operation, door closed
	open	off	off		○	Normal operation, door open.
<b>Teach-in operation</b> (only unicode)	open	off	off		○	Device in teach-in standby
	closed	off	on		○	Teach-in operation
	X	off	X	↔		Positive acknowledgment after completion of teach-in operation
<b>Fault display</b>	X	off	X			Fault in the teach-in operation (only unicode) Actuator removed from the operating distance prior to the end of the teach-in operation or faulty actuator detected.
	X	off	off			Input error Test pulses on the safety outputs cannot be read due to asynchronous tests pulses on UB.
	X	off	off			Read error (e.g. actuator faulty)
	X	off	off			Output error (e.g. short circuit, loss of switching ability)
	X	off	X			Disabled actuator detected
	X	off	off	○		Internal error
<b>Key to symbols</b>				○	LED not illuminated	
					LED illuminated	
					LED flashes for 8 s at 10 Hz	
					LED flashes three times, and this is then repeated	
				↔	LEDs flash alternately	
				X	Any state	

After the cause has been remedied, faults can generally be reset by opening and closing the guard. If the fault is still displayed afterward, use the reset function or briefly interrupt the power supply. Please contact the manufacturer if the fault could not be reset after restarting.



### Important!

If you do not find the displayed device status in the system status table, this indicates an internal device fault. In this case, you should contact the manufacturer.



### 12. Technical data



#### NOTICE

If a data sheet is included with the product, the information on the data sheet applies.

#### 12.1. Technical data for safety switch CTP-I-AP

Parameter	Value			Unit
	min.	typ.	max.	
<b>General</b>				
Material	Die-cast zinc			
- Switch head	Reinforced thermoplastic			
- Switch housing				
Installation position	Any			
Degree of protection	IP 67/IP 69/IP 69K (screwed tight with the related mating connector)			
Safety class according to EN IEC 61558	III			
Degree of contamination	3			
Mechanical life	1 x 10 <sup>6</sup> operating cycles			
Ambient temperature at UB = 24 V	-20	-	+55	°C
Actuator approach speed, max.	20			m/min
Actuating/extraction at 20 °C	10/20			N
Weight	Approx. 0.23			kg
Connection	1 plug connector M12, 8-pin			
Operating voltage UB (reverse polarity protected, regulated, residual ripple < 5 %)	24 ± 15% (PELV)			V DC
Current consumption I <sub>UB</sub>	40			mA
For the approval according to UL the following applies	Operation only with UL class 2 power supply, or equivalent measures			
Switching load according to UL	DC 24 V, class 2			
External fuse (operating voltage UB) <sup>1)</sup>	0.25	-	8	A
Rated insulation voltage U <sub>i</sub>	-	-	50	V
Rated impulse withstand voltage U <sub>imp</sub>	-	-	0.5	kV
Rated conditional short-circuit current	100			A
Resilience to vibration	Acc. to EN 60947-5-3			
EMC protection requirements	Acc. to EN 60947-5-3			
Ready delay	-	-	1	s
Risk time	-	-	260	ms
Switch-on time	-	-	400	ms
Discrepancy time	-	-	10	ms
Test-pulse duration	0.35			ms
Frequency band	120 ... 130			kHz
<b>Safety outputs FO1A/FO1B</b> Semiconductor outputs, p-switching, short circuit-proof				
- Output voltage U <sub>FO1A</sub> /U <sub>FO1B</sub> <sup>2)</sup>				
HIGH U <sub>FO1A</sub> /U <sub>FO1B</sub>	UB - 1.5	-	UB	V DC
LOW U <sub>FO1A</sub> /U <sub>FO1B</sub>	0	-	1	
Switching current per safety output	1	-	150	mA
Utilization category acc. to EN 60947-5-2	DC-13 24 V 150 mA Caution: outputs must be protected with a free-wheeling diode in case of inductive loads			
Switching frequency <sup>3)</sup>	0.5			Hz
<b>Monitoring outputs OI, OD</b> p-switching, short circuit-proof				
Output voltage	0.8 x UB	-	UB	V DC
Max. load	-	-	50	mA
<b>Reliability values acc. to EN ISO 13849-1</b>				
Category	4			
Performance Level (PL)	e			
PFH <sub>D</sub>	4.1 x 10 <sup>-9</sup> /h			
Mission time	20			years

1) Trip characteristic medium slow-blow.

2) Values at a switching current of 50 mA without taking into account the cable lengths.

3) Corresponds to the actuation frequency.

### 12.1.1. Typical system times

Please refer to the technical data for the exact values.

**Ready delay:** After switching on, the device carries out a self-test. The system is ready for operation only after this time.

**Switch-on time of safety outputs:** The max. reaction time  $t_{on}$  is the time from the moment when the guard is closed to the moment when the safety outputs switch on.

**Risk time according to EN 60947-5-3:** If an actuator moves outside the operating distance, the safety outputs (FO1A and FO1B) are switched off after the risk time at the latest.

**Discrepancy time:** The safety outputs (FO1A and FO1B) switch with a slight time offset. They have the same signal state no later than after the discrepancy time.

**Test pulses at the safety outputs:** The device generates its own test pulses on the safety outputs (FO1A and FO1B). A downstream control system must tolerate these test pulses.

This can usually be set up in the control systems by parameter assignment. If parameter assignment is not possible for your control system or if shorter test pulses are required, please contact our support organization.

The test pulses are output only if the safety outputs are switched on.

## 12.2. Switching distances



### Important!

- › From the assured switch-off distance  $S_{ar}$  the safety outputs are safely shut down. To achieve the assured switch-off distance  $S_{ar}$  the actuator must be pulled completely out of the switch head.
- › To achieve the assured switch-on distance  $S_{ao}$  the actuator must be inserted completely into the switch head and snap in.

You will find detailed information in chapter 12.4. *Dimension drawing for safety switch CTP... on page 20.*

### 12.3. Radio frequency approvals

FCC ID: 2AJ58-05

IC: 22052-05



#### FCC/IC-Requirements

This device complies with part 15 of the FCC Rules and with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### Supplier's Declaration of Conformity

##### 47 CFR § 2.1077 Compliance Information

#### Unique Identifier:

CTP-I-AR SERIES  
CTP-I1-AR SERIES  
CTP-I2-AR SERIES  
CTP-IBI-AR SERIES  
CTP-L1-AR SERIES  
CTP-L2-AR SERIES  
CTP-LBI-AR SERIES  
CTP-I-AP SERIES  
CTP-I1-AP SERIES  
CTP-I2-AP SERIES  
CTP-IBI-AP SERIES  
CTP-L1-AP SERIES  
CTP-L2-AP SERIES  
CTP-LBI-AP SERIES

#### Responsible Party – U.S. Contact Information

##### **EUCHNER USA Inc.**

6723 Lyons Street  
East Syracuse, NY 13057

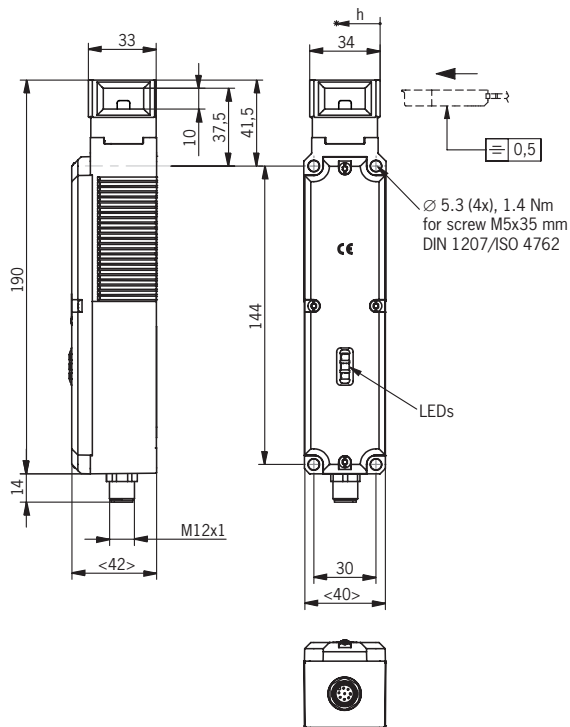
+1 315 701-0315

+1 315 701-0319

info(at)euchner-usa.com

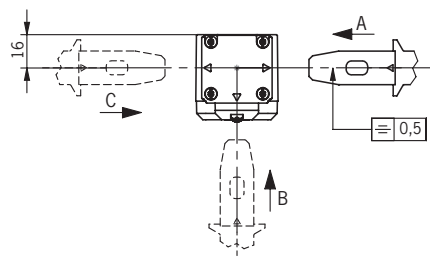
<http://www.euchner-usa.com>

12.4. Dimension drawing for safety switch CTP...

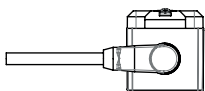


Necessary minimum travel + permissible overtravel

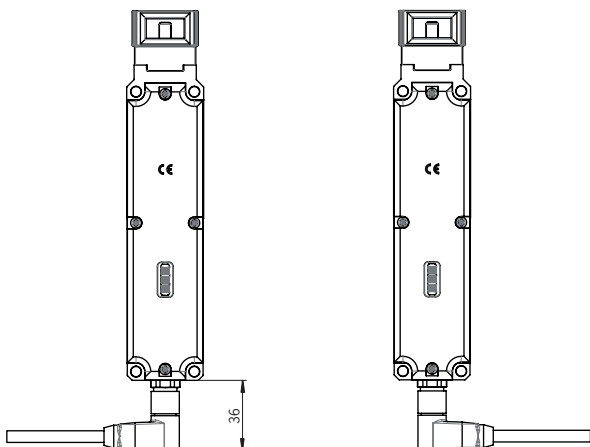
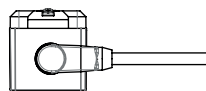
Approach direction	Standard actuator
Horizontal (h)	40 + 5



Cable exit C



Cable exit A

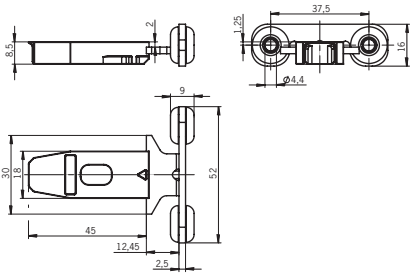
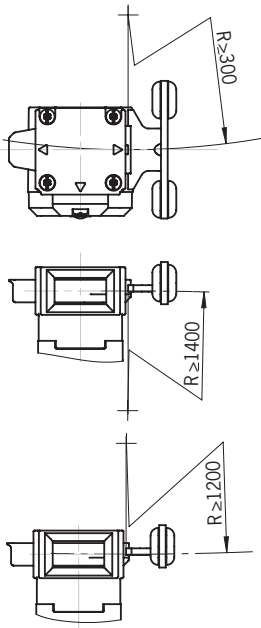
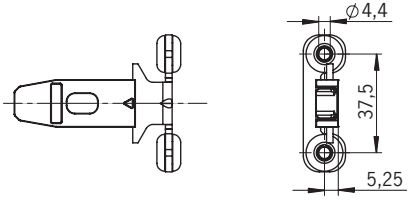
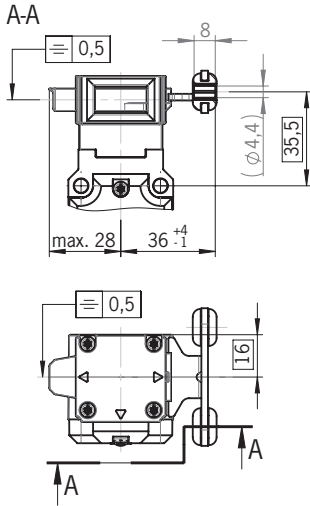


### 12.5. Technical data for actuator CTP-...

Parameter	Value			Unit
	min.	typ.	max.	
Housing material	Fiber reinforced plastic			
Weight	0.03 ... 0.06 (depending on version)			kg
Ambient temperature	-20	-	+55	°C
Degree of protection	IP 67/IP 69/IP 69K			
Mechanical life	1 x 10 <sup>6</sup>			
Installation position	Any			
Power supply	Inductive via read head			

#### 12.5.1. Dimension drawing for actuator CTP-...

	Dimension drawing	Min. door radius [mm]	Order no./item
Straight actuators			<b>122666</b> A-CH-GSST-122666
			<b>126015</b> A-CH-GSST-126015

	Dimension drawing	Min. door radius [mm]	Order no./item
Bent actuators	 <p>bent, upward</p>	 <p><math>R \geq 300</math></p> <p><math>R \geq 1400</math></p> <p><math>R \geq 1200</math></p>	<p><b>122667</b> A-CHW-SST-122667</p>
	 <p>bent, downward</p>	 <p>A-A</p> <p><math>\equiv 0,5</math></p> <p>8</p> <p><math>\phi 4,4</math></p> <p>35,5</p> <p>max. 28</p> <p><math>36^{+4}_{-1}</math></p> <p>16</p> <p>A</p>	<p><b>122668</b> A-CHW-SST-122668</p>

	Dimension drawing	Min. door radius [mm]	Order no./item
Hinged actuators		<p>X = 53 mm (122671, 122672) X = 49 mm (122669, 122670)</p>	<p><b>122671</b> A-C-HRL-LS-122671</p>
			<p><b>122672</b> A-C-HRL-LS-122672</p>
Hinged actuators		<p>X = 41 mm (122673, 122674) X = 45 mm (122675, 122676)</p>	<p><b>122675</b> A-C-HR0-LS-122675</p>
			<p><b>122676</b> A-C-HR0-LS-122676</p>



**Tip!**

Safety screws are included with the actuator.

## 13. Ordering information and accessories



**Tip!**

Suitable accessories, e.g. cables or assembly material, can be found at [www.euchner.com](http://www.euchner.com). To order, enter the order number of your item in the search box and open the item view. Accessories that can be combined with the item are listed in "Accessories."

## 14. Inspection and service



**WARNING**

Danger of severe injuries due to the loss of the safety function.

- › If damage or wear is found, the complete switch and actuator assembly must be replaced. Replacement of individual parts or assemblies is not permitted.
- › Check the device for proper function at regular intervals and after every fault. For information about possible time intervals, refer to EN ISO 14119:2013, section 8.2.

Regular inspection of the following is necessary to ensure trouble-free long-term operation:

- › Check the switching function (see chapter 10.3. *Functional check on page 15*)
- › Check the secure fastening of the devices and the connections
- › Check for soiling

No servicing is required. Repairs to the device are only allowed to be made by the manufacturer.



**NOTICE**

The year of manufacture is given in the laser marking at the bottom right corner. The current version number in the format (V X.X.X) can also be found on the device.

## 15. Service

If service support is required, please contact:

EUCHNER GmbH + Co. KG  
Kohlhammerstraße 16  
70771 Leinfelden-Echterdingen

**Service telephone:**

+49 711 7597-500

**E-mail:**

[support@euchner.de](mailto:support@euchner.de)

**Internet:**

[www.euchner.com](http://www.euchner.com)



### 16. Declaration of conformity



# EUCHNER

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**EU-Konformitätserklärung**  
**EU declaration of conformity**  
**Déclaration UE de conformité**  
**Dichiarazione di conformità UE**  
**Declaración UE de conformidad**

Original DE  
Translation EN  
Traduction FR  
Traduzione IT  
Traducción ES

2123042-07-03/19

Die nachfolgend aufgeführten Produkte sind konform mit den Anforderungen der folgenden Richtlinien (falls zutreffend):  
*The beneath listed products are in conformity with the requirements of the following directives (if applicable):*  
*Les produits mentionnés ci-dessous sont conformes aux exigences imposées par les directives suivantes (si valable)*  
*I prodotti sotto elencati sono conformi alle direttive sotto riportate (dove applicabili):*  
*Los productos listados a continuación son conforme a los requisitos de las siguientes directivas (si fueran aplicables):*

I:	Maschinenrichtlinie <i>Machinery directive</i> <i>Directive Machines</i> <i>Direttiva Macchine</i> <i>Directiva de máquinas</i>	2006/42/EG 2006/42/EC 2006/42/CE 2006/42/CE 2006/42/CE
II:	Funkanlagen-Richtlinie (RTTE / RED) <i>Radio equipment directive</i> <i>Directive équipement radioélectrique</i> <i>Direttiva apparecchiatura radio</i> <i>Directiva equipo radioeléctrico</i>	2014/53/EU 2014/53/EU 2014/53/UE 2014/53/UE 2014/53/UE
III:	RoHS Richtlinie <i>RoHS directive</i> <i>Directive de RoHS</i> <i>Direttiva RoHS</i> <i>Directiva RoHS</i>	2011/65/EU 2011/65/EU 2011/65/UE 2011/65/UE 2011/65/UE

Die Schutzziele der Niederspannungsrichtlinie 2014/35/EU und EMV Richtlinie 2014/30/EU werden gemäß Artikel 3.1 der Funkanlagen-Richtlinie eingehalten.  
*The safety objectives of the Low-voltage directive 2014/35/EU and EMC Directive 2014/30/EU comply with article 3.1 of the Radio equipment directive.*  
*Les objectifs de sécurité de la Directive basse tension 2014/35/UE et Directive de CEM 2014/30/UE sont conformes à l'article 3.1 de la Directive équipement radioélectrique.*  
*Gli obiettivi di sicurezza della Direttiva bassa tensione 2014/35/UE e Direttiva CEM 2014/30/UE sono conformi a quanto riportato nell'articolo 3.1 della Direttiva apparecchiatura radio.*  
*Los objetivos de seguridad de la Directiva de bajo voltaje 2014/35/UE y Directiva CEM 2014/30/UE cumplen con el artículo 3.1 de la Directiva equipo radioeléctrico.*

Folgende Normen sind angewandt:  
*Following standards are used:*  
*Les normes suivantes sont appliquées:*  
*Vengono applicate le seguenti norme:*  
*Se utilizan los siguientes estándares:*

a:	EN 60947-5-3:2013	f:	EN 50581:2012 (RoHS)
b:	EN ISO 14119:2013	g:	EN 50364:2010
c:	EN ISO 13849-1:2015	h:	EN 300 330 V2.1.1
d:	EN 62026-2:2013 (ASI)		
e:	EN 60947-5-5:1997/A1:2005/A11:2013		

Bezeichnung der Bauteile <i>Description of components</i> <i>Description des composants</i> <i>Descrizione dei componenti</i> <i>Descripción de componentes</i>	Type <i>Type</i> <i>Type</i> <i>Tipo</i> <i>Typo</i>	Richtlinie <i>Directives</i> <i>Directive</i> <i>Direttiva</i> <i>Directivas</i>	Normen <i>Standards</i> <i>Normes</i> <i>Norme</i> <i>Estándares</i>	Zertifikats-Nr. <i>No. of certificate</i> <i>Numéro du certificat</i> <i>Norme</i> <i>Número del certificado</i>
Sicherheitsschalter <i>Safety Switches</i> <i>Interrupteurs de sécurité</i> <i>Finecorsa di sicurezza</i> <i>Interruptores de seguridad</i>	CTP-...	I, II, III	a, b, c, f, g, h	UQS 123565, ET 18080 *
	CTP-..AS...	I, II, III	a, b, c, d, f, g, h	UQS 125542
	CTP-LBI...	I, II, III	a, b, c, f, g, h	UQS 127798
	CEM-I2-...-C40...	I, II, III	a, b, c, f, g, h	UQS 124482
Sicherheitsschalter mit Not-Halt-Einrichtungen <i>Safety Switches with Emergency-Stop facilities</i> <i>Interrupteurs de sécurité avec appareillage arrêt d'urgence</i> <i>Finecorsa di sicurezza con dispositivi di arresto di emergenza</i> <i>Interruptores de seguridad con dispositivos de parada de emergencia</i>	CTP-...	I, II, III	a, b, c, e, f, g, h	UQS 123565
Betätiger <i>Actuator</i> <i>Actionneur</i> <i>Azionatore</i> <i>Actuador</i>	A-C-...	I, II, III	a, b, c, f, g, h	UQS 123565, ET 18080 *
	A-C40-... A-TI-...	I, II, III	a, b, c, f, g, h	UQS 124482



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\* Benannte Stelle  
Notified Body  
Organisme notifié  
Sede indicata  
Entidad citada

0340  
DGUV Test  
Prüf- und Zertifizierungsstelle Elektrotechnik  
Fachbereich ETEM  
Gustav-Heinemann-Ufer 130  
50968 Köln

Genehmigung der umfassenden Qualitätssicherung (UQS) durch die benannte Stelle 0035  
*Approval of the full quality assurance system by the notified body 0035*  
*Approbation du système d'assurance qualité complet par l'organisme notifié 0035*  
*Approvazione del sistema di garanzia di qualità totale da parte dell'organismo notificato 0035*  
*Aprobación del sistema de aseguramiento de calidad total por parte del organismo 0035 notificado*

TÜV Rheinland Industrie Service GmbH  
Alboinstr. 56  
12103 Berlin  
Germany

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller:  
*This declaration of conformity is issued under the sole responsibility of the manufacturer:*  
*La présente déclaration de conformité est établie sous la seule responsabilité du fabricant:*  
*La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante:*  
*La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante:*

EUCHNER GmbH + Co. KG  
Kohlhammerstraße 16  
70771 Leinfelden-Echterdingen  
Germany

Leinfelden, März 2019

EUCHNER GmbH + Co. KG  
Kohlhammerstraße 16  
70771 Leinfelden-Echterdingen  
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*Responsable Développement Electronique*  
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Dokumentationsbevollmächtigter  
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*Responsable documentation*  
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Edition:  
2137526-05-05/19  
Title:  
Operating Instructions Transponder-Coded Safety Switch  
CTP-IAP  
(translation of the original operating instructions)  
Copyright:  
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