

INDUSTRY 4.0  
READY

# CTP and CTA Transponder-Coded Safety Switches with Guard Locking

**EUCHNER**

More than safety.

# The **CTP** and **CTA** safety switches

The CTP/CTA safety switch combines the proven principle of operation of electromechanical safety switches with guard locking and modern transponder-coded safety engineering. Thanks to the transponder technology, even a single CTP/CTA achieves category 4 / PL e according to EN ISO 13849-1, without additional fault exclusion, and meets all the requirements of EN ISO 14119. It is ideally suited to applications in which a high Performance Level and a high locking force are required.

## ■ **Versatile use**

The CTP/CTA reliably secures safety doors and flaps on machines and installations. Thanks to the integrated guard locking and guard lock monitoring, it can be used both for process protection and the protection of personnel. The high IP65 / IP67 / IP69 / IP69K degree of protection makes this switch an all-rounder suitable for almost every industrial application. The CTP/CTA is perfectly suitable even for harsh, dirty environments. There are also special versions available for potentially explosive atmospheres that meet ATEX requirements.

## ■ **Compatible with existing safety switches**

The CTP/CTA is based on the slim housing of our popular electromechanical safety switches. Users can easily change over to the CTP/CTA if necessary thanks to its compatible fixing dimensions.

# The **CTP** and **CTA**: proven EUCHNER quality

- ▶ **Integrated insertion funnel** makes inserting the actuator into the safety switch easy
- ▶ **4 approach directions**
- ▶ **Actuator with integrated transponder** for clear detection
- ▶ **Auxiliary release** for releasing the guard locking with the aid of a tool
- ▶ **Different plug connectors (M12, M23)** to reduce the wiring work
- ▶ **Industry 4.0 ready** with communication functions in combination with an EUCHNER IO-Link Gateway
- ▶ **Immediate diagnostic function** enables quick determination of the device status using LEDs
- ▶ **Compact design** for space-saving mounting on the guard
- ▶ **Can be connected in series** with up to 20 CTPs/CTAs or other EUCHNER devices in the BR system family
- ▶ **IP65 / IP67 / IP69 / IP69K degree of protection** for universal use in industrial environments
- ▶ **Maximum safety** according to EN ISO 13849-1 cat. 4 / PL e and EN ISO 14119



## ■ Maximum safety

Transponder coding ensures maximum safety. The requirements in all relevant standards can be met with just a single CTP/CTA. Irrespective of whether category 4 / PL e according to EN ISO 13849-1 must be achieved or whether the requirements in EN ISO 14119 must be met – you're always on the safe side with the CTP/CTA.

## ■ Different coding levels

Depending on the application, safety switches with unicode or multicode evaluation can be used. For unicode evaluation, the actuator is clearly assigned to the safety switch in a teach-in operation. This ensures excellent protection against tampering and far exceeds the requirement for a high coding level stipulated in EN ISO 14119.

Switches with multicode evaluation, which corresponds to a low coding level, check only whether the right type of actuator is in use.



## ■ CTP features

- ▶ **Robust metal head**  
3,900 N locking force
- ▶ **Escape release (optional)**  
to exit the danger zone, simply press the red button to release the guard locking
- ▶ **Robust fiber glass reinforced plastic housing**  
versatile and flexible

## ■ CTA features

- ▶ **Robust metal housing with increased locking force up to 8,000 N** for use in even the harshest conditions
- ▶ **Flush-mounted escape release (optional or can be retrofitted)**  
enables greater flexibility for conversions and retrofits

# Easy to integrate into different applications and systems

Be it separate operation, series connection or connection to the higher-level control system via various communication standards – anything is possible thanks to the wide range of CTP/CTA versions available.

## ■ BP system family

Devices in the BP system family are suitable for separate operation. EUCHNER IO-Link Gateways can be used to read process and device data from the switch and to send the data to an IO-Link Master in real time. Devices with communication capability are identified by the INDUSTRY 4.0 READY logo.

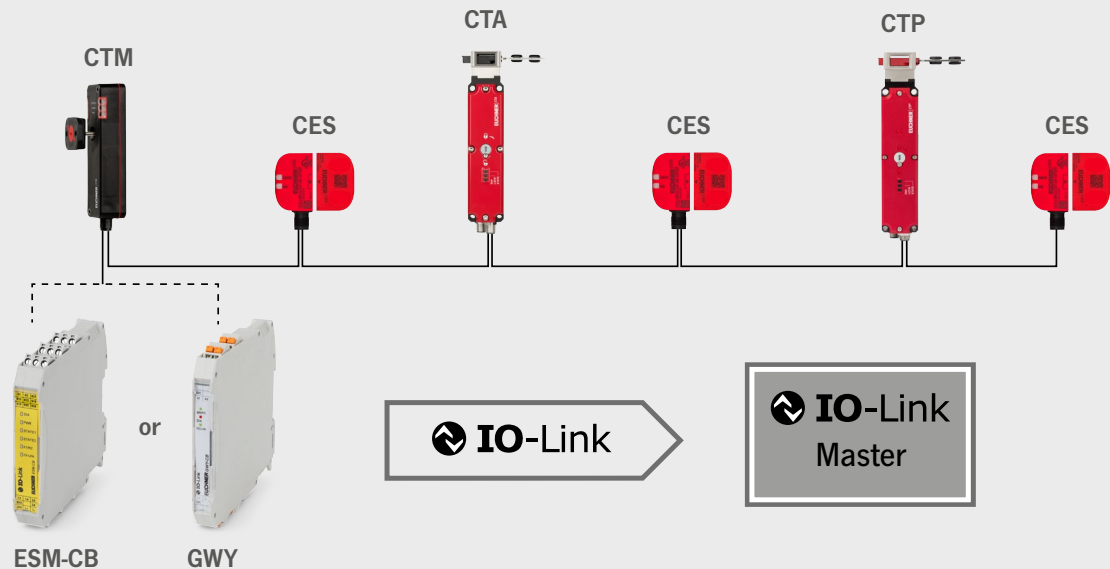
## ■ BR system family

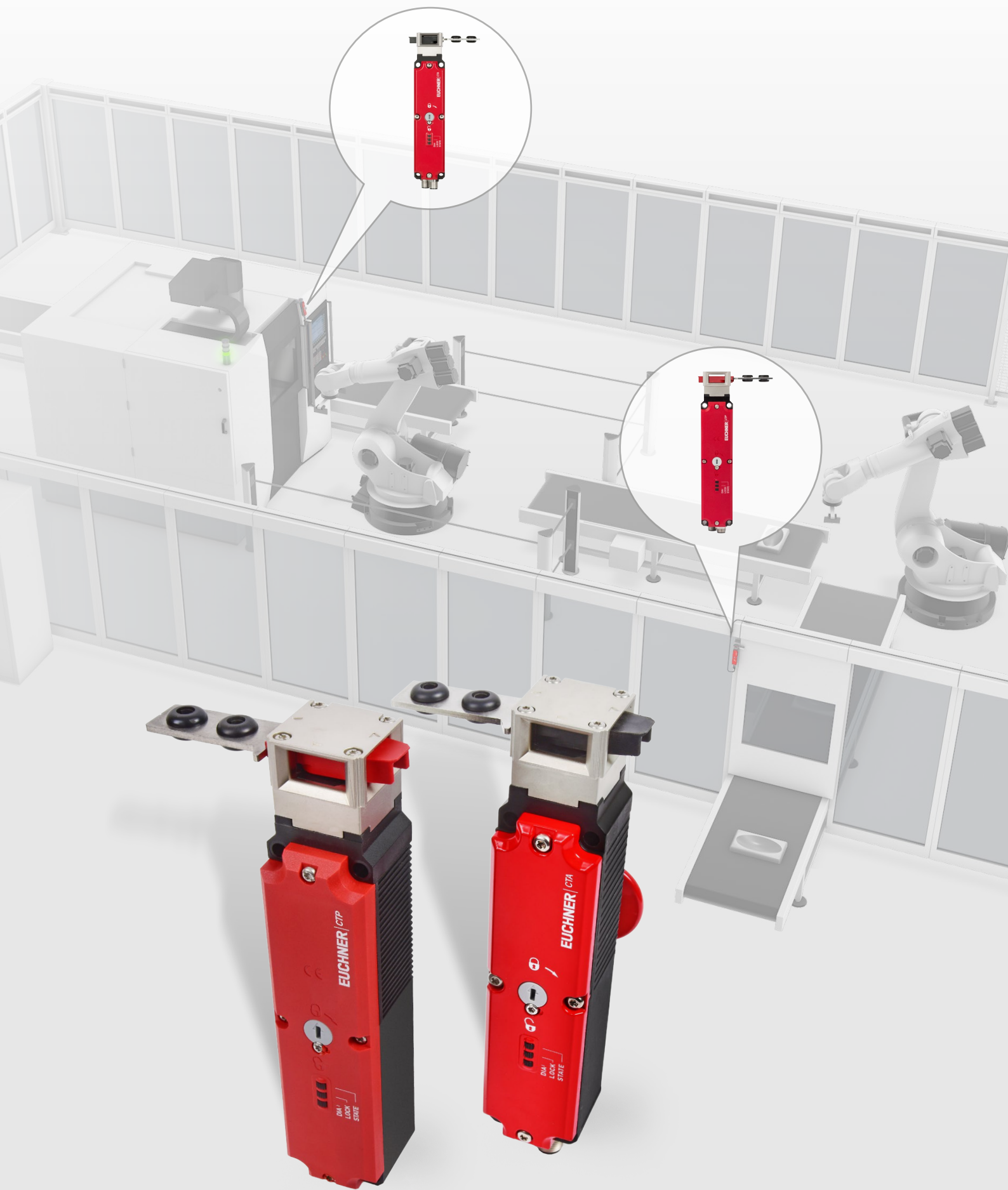
In the BR version, up to 20 devices belonging to the BR system family can be connected in series. The switch can communicate in combination with an EUCHNER IO-Link Gateway, and sends process and device data to higher-level control systems. Comprehensive diagnostic messages enable rapid and targeted troubleshooting.

## ■ AS system family

Version with integrated AS-Interface. The safety switch is connected directly to the ribbon cable via an AS-i coupling module. The wiring work is therefore reduced to a minimum, as all information on the safety switch is made available to the control system via the AS-Interface.

### Examples for series connection in the field



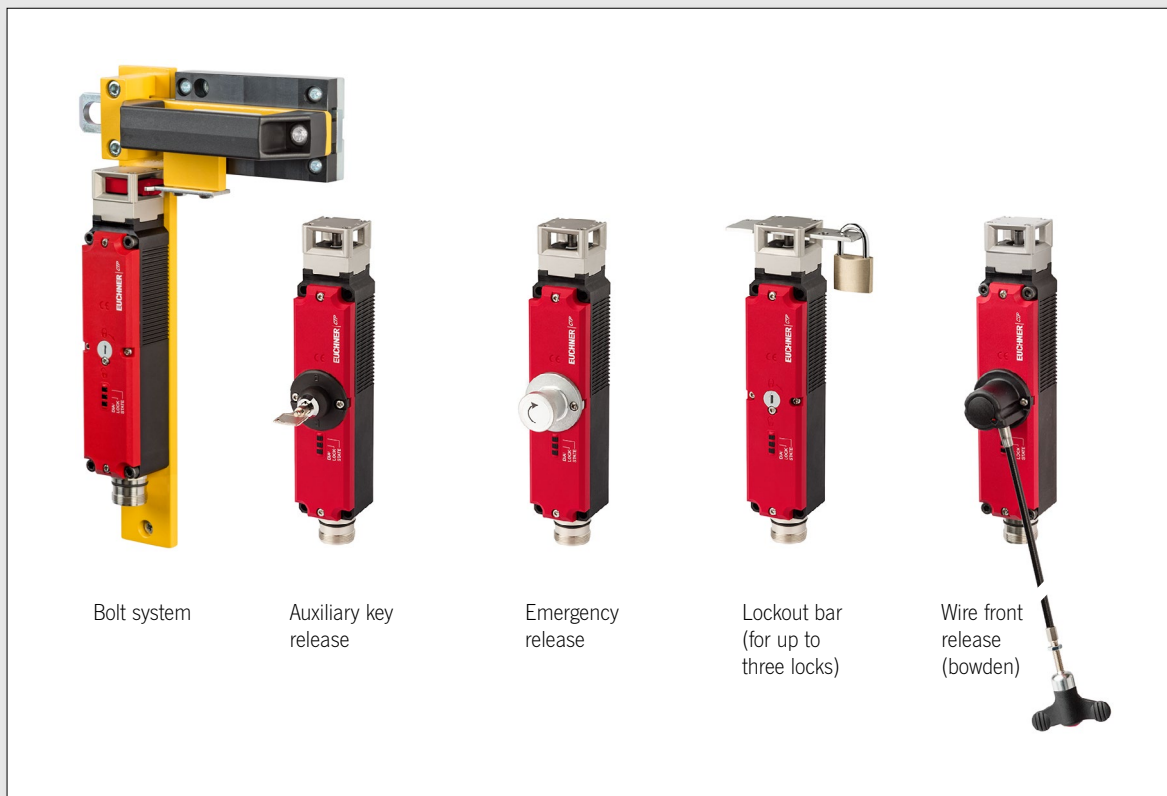


## ■ Different plug connectors for greater flexibility



## ■ Extensive accessories

Be it different mechanical releases, pre-assembled cables or different bolt systems, actuators or mounting plates – the comprehensive range of accessories offers maximum flexibility during integration and mounting.



# Technical data

Parameter	CTP		CTA	
	Value		Value	
Housing material	Reinforced thermoplastic		Die-cast zinc	
Switch head cover	Die-cast zinc			
Degree of protection	IP65 / IP67 / IP69 / IP69K (screwed tight with plug connector)			
Degree of contamination	3			
Installation position	Any			
Mechanical life	1 x 10 <sup>6</sup> operating cycles			
Ambient temperature at U <sub>B</sub> = 24 V DC	-20 °C to +55 °C			
Approach speed, max.	20 m/min			
Locking force F <sub>max</sub>	3,900 N		8,000 N	
Locking force F <sub>zh</sub> acc. to EN ISO 14119	3,000 N			
Locking force F <sub>zh</sub> acc. to TÜV Süd			4,000 N	
Weight	0.42 kg		0.95 kg	
Overtravel	5 mm			
Retention force	20 N			
Utilization category acc. to EN 60947-5-2	DC-13 24V 150 mA Outputs must be protected with a free-wheeling diode in case of inductive loads			
Operating voltage U <sub>B</sub> (reverse polarity protected, regulated, residual ripple < 5%)	24 V DC ±15%			
Current consumption I <sub>UB</sub>	40 mA			
<b>Solenoid</b>				
Current consumption I <sub>IMP</sub>	400 mA			
Solenoid operating voltage U <sub>IMP</sub> (reverse polarity protected, regulated, residual ripple < 5%)	24 V DC +10%/-15%			
Duty cycle	100%			
Average connected load	6 W			
Switching frequency	0.5 Hz			
<b>Safety outputs F01A/F01B</b> 2 Semiconductor outputs, p-switching, short circuit-proof				
	min.	typ.	max.	
Output voltage U <sub>F01A</sub> /U <sub>F01B</sub>				
HIGH U <sub>F01A</sub> /U <sub>F01B</sub>	U <sub>B</sub> - 1.5 V DC	-	U <sub>B</sub>	
LOW U <sub>F01A</sub> /U <sub>F01B</sub>	0 V DC	-	1 V DC	
Switching current per safety output	1 mA	-	150 mA	
Discrepancy time between both safety outputs EN IEC 60947-5-3	10 ms			
Turn-on time, max.	150 ms			
Off-state current I, max.	0.25 mA			
<b>Monitoring outputs OL/OD/OI</b> p-switching, short circuit-proof				
	min.	typ.	max.	
Output voltage	0.8 V DC x U <sub>B</sub>		U <sub>B</sub>	
Switching current	1 mA		50 mA	
<b>Safety characteristics</b>				
Mission time	20 years			
Category	4			
Performance Level (PL)	e			
PFH <sub>D</sub>	5.38 x 10 <sup>-9</sup>			

## Actuator CTP/CTA

Parameter	Value		
Coating material	Fiber reinforced plastic		
Mounting material	Stainless steel		
Bush material	NBR		
Installation position	Any		
Degree of protection acc. to EN IEC 60529	IP65 / IP67 / IP69 / IP69K		
Weight	0.03 to 0.06 kg (depending on version)		
Mechanical life	1 x 10 <sup>6</sup> operating cycles		
Overtravel	5 mm		
Ambient temperature	min. -20 °C	typ.	max. +55 °C
CTA locking force F <sub>max</sub> A-C-H-G-SSS-165497	8,000 N		
CTP locking force F <sub>max</sub> A-C-H-G-SST-126015	3,900 N		

# OUR PRODUCTS FOR YOUR SAFETY

## RELIABLE DOOR DETECTION

Transponder-coded safety switches without guard locking:  
CES-C04 // CES-C07

Magnetically coded safety switches without guard locking:  
CMS

Electromechanical safety switches without guard locking:  
NM // NP // GP // NZ

## SAFE GUARD LOCKING

Transponder-coded safety switches with guard locking:  
CTM // CTP // CTA // CET

Electromechanical safety switches with guard locking:  
STM // TP // STP // STA

Safety switches with integrated mounting magnet:  
CEM-C40 // CEM-C60

## DOOR LOCKING SYSTEMS

MGB // MGB2 *Modular* // MGBS

## ACCESS CONTROL SYSTEMS

EKS // EKS *Light* // EKS *Modular* // CKS

## OPERATING DEVICES

ZSM // ZSB // HBA // HBM

## LIGHT GRIDS/LIGHT CURTAINS

LCA

## EMERGENCY STOP DEVICES

ES // RPS

## SAFETY CONTROL / SAFETY RELAY / IO-LINK GATEWAYS

MSC // ESM // GWY

### > YOU CAN FIND MORE INFORMATION ABOUT OUR PRODUCTS HERE:

[www.euchner.de/en-us/Products](http://www.euchner.de/en-us/Products)

### > YOU CAN DOWNLOAD CATALOGS AND FLYERS HERE:

[www.euchner.de/en-us/Service/Downloads](http://www.euchner.de/en-us/Service/Downloads)

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

Tel. +49 711 7597-0  
Fax +49 711 753316  
info@euchner.de  
www.euchner.com

**EUCHNER**  
More than safety.