



# One fits all

Safety switch **CTS** with FlexFunction

**EUCHNER**

More than safety.

# THE SAFETY SWITCH **CTS**

High locking force in a compact design: the safety switch CTS expands the EUCHNER product range between the CTP all-round talent and the CTM specialist, combining the best of both worlds while offering maximum flexibility. The CTS is ideal for applications requiring a high locking force in a confined space.

## ■ HIGH LOCKING FORCE IN A SMALL PACKAGE

Compact switch dimensions (135 x 31 x 31 mm) combined with a high locking force of  $F_{max}$  3,900 N enable universal use of the CTS. The CTS can be mounted in three orientations, permitting flexible application for hinged and sliding doors. This versatility is rounded off by the retrofittable escape release.

## ■ NEW LED CONCEPT

The innovative new LED concept with an RGB LED enables detailed diagnostics. Different switch states are easily recognizable, guaranteeing clear fault detection.

## ■ MAXIMUM SAFETY

Transponder coding provides maximum safety despite the small switch size. The proven transponder technology ensures that even a single CTS achieves category 4 /PL e according to EN ISO 13849-1 and meets all the requirements of EN ISO 14119.

## ■ VERSATILE FLEXFUNCTION

A separate switch for each application? Not with the CTS. This safety switch combines various functions in a single device: with or without guard lock monitoring, actuator code evaluation with high or low coding level – the choice is up to you with CTS. Here, functions are selected by configuration with the suitable actuator. What's more, the CTS features various connection options: a connecting cable with plug connector or flying lead offers you the right solution for any application.



# CTS IN DETAIL



## ACTUATOR

- ▶ Actuator mounted on floating bearing: tolerates vibrations or offset mounting
- ▶ One actuator for all applications: suitable for both sliding doors and minimal door radii
- ▶ For simple safety switch configuration during the teach-in operation



## SWITCH

- ▶ High locking force of  $F_{max}$  3,900 N in a compact design
- ▶ Retrofittable escape release: guard locking release simply by pressing to leave the danger zone
- ▶ Industry 4.0 ready: communication capability in combination with an EUCHNER IO-Link Gateway
- ▶ New LED concept with RGB LED: clear fault detection, visible from three sides
- ▶ Maximum safety according to EN ISO 13849-1 cat. 4 / PL e and EN ISO 14119
- ▶ Two versions available: guard locking according to open-circuit or closed-circuit current principle
- ▶ Can be connected in series with other EUCHNER devices from the BR system family
- ▶ Connecting cable with plug connector or flying lead for easy installation
- ▶ Flexible installation options: ideal for sliding or hinged doors
- ▶ Auxiliary release for releasing the guard locking with the aid of a tool

**Equip your machine or production line with a FlexFunction device to benefit from the versatility of a single safety switch.**

## BENEFITS FOR YOU

- + Great flexibility with a single switch
- + Simple configuration
- + Efficient logistics and streamlined procurement process
- + Configurable switch for trouble-free conversion and retrofitting

# FLEXFUNCTION

## A NEW APPROACH TO SAFETY SWITCHES

The innovative safety switch CTS is EUCHNER's first FlexFunction device. In addition to featuring the proven benefits of conventional transponder-coded EUCHNER safety switches with guard locking, the CTS combines in **a single switch** all the options otherwise available only in different variants.

With or without guard lock monitoring, actuator code evaluation with high or low coding level – the choice is up to you with CTS. All options remain open until setup, because only then will the CTS be configured by the actuator. This is no obstacle to new applications, however, because the switch can be repeatedly reconfigured after a factory reset.

### ➤ THE FLEXFUNCTION SWITCH CTS OPENS UP NEW PLANNING AND OPERATION OPPORTUNITIES WITH MAXIMUM FLEXIBILITY.

#### WHAT DOES FLEXFUNCTION MEAN FOR THE CTS?

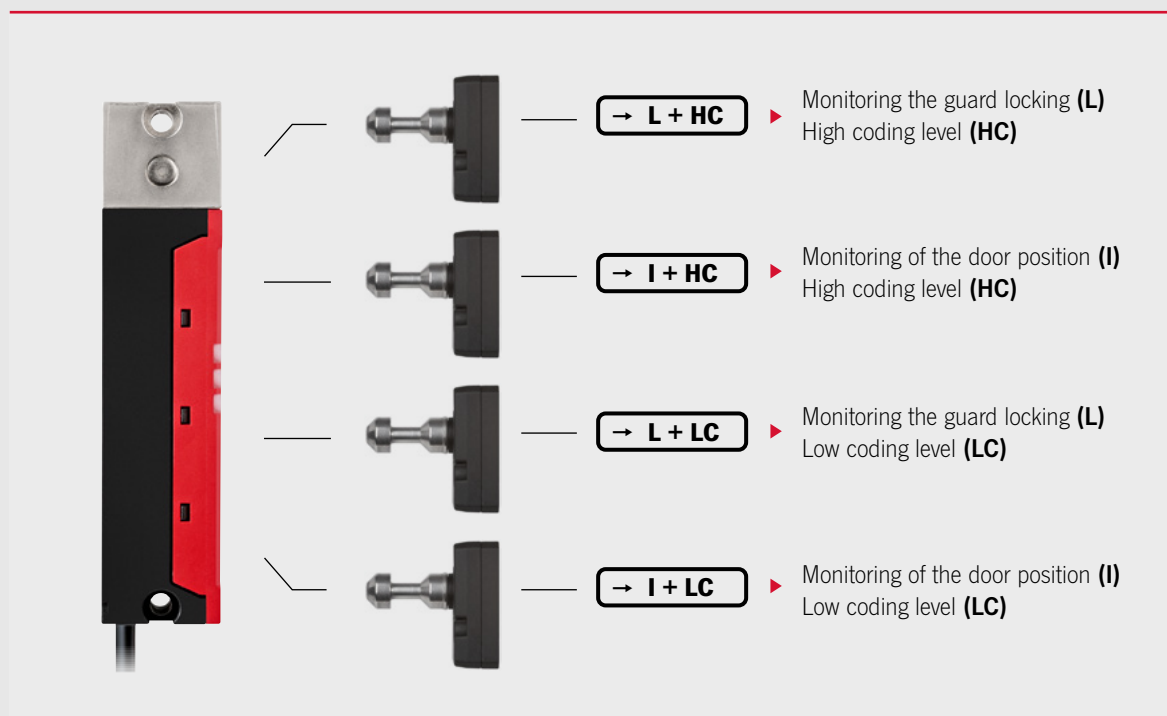
All transponder-coded safety switches CTS are factory equipped with the following functions:

- ▶ Guard lock monitoring for protection of personnel
- ▶ Guard locking for process protection
- ▶ Transponder data evaluation with high coding level
- ▶ Transponder data evaluation with low coding level

The function used in individual cases depends on the respective safety requirements at the place of use. An appropriate actuator is selected once the safety requirements are defined. Teaching-in the actuator configures the safety switch, assigning it the required function.

All doors are open to you with this patented, one-of-a-kind EUCHNER FlexFunction system. You decide the conditions.

#### ONE SWITCH, MANY POSSIBILITIES



# SIMPLE INTEGRATION

## INTO APPLICATIONS AND SYSTEMS

Whether separate operation, series connection or linking to the higher-level control system using various communication standards – anything is possible thanks to the great flexibility offered by the CTS.

### ■ SYSTEM FAMILIES BP AND BR

Devices in the BP and BR system families combined with an EUCHNER IO-Link Gateway can communicate and send process and device data in real time to an IO-Link master. Comprehensive diagnostic messages enable rapid and targeted troubleshooting.

BP devices are suitable for separate operation. In the BR version, up to 20 devices belonging to the BR system family can be connected in series.

Devices with communication capability are identified by the Industry 4.0-ready logo.



### ■ IO-LINK AND FLEXFUNCTION

Would you like to determine the current configuration of your device or conveniently perform a factory reset to reconfigure the device?

The communication capabilities offered by the CTS can provide data and information to the control system and transmit commands to the switch.

#### PROCESS DATA (CYCLICAL DATA)

Status, door position 1	O <sub>D</sub>
Status, door position 2 (guard locking can be activated)	O <sub>T</sub>
State of the switch's safety outputs	O <sub>M</sub>
General error message	O <sub>I</sub>
Guard locking state	O <sub>L</sub>
Locking element state	O <sub>LS</sub>
Escape release state	O <sub>ER</sub>

#### DEVICE DATA AND EVENTS (ACYCLICAL DATA)

Sensor order number/version
Number of devices in the switch chain
Current diagnostic code
Stored diagnostic code
Code of current actuator
Code of blocked actuator
Code of taught-in actuator
Voltage
Current device configuration
Number of teach-in operations, factory resets and resets for acknowledging error messages
Temperature
Number of switching cycles
Factory reset
Log files



## FLEXIBLE USE AND RECONFIGURABLE AT ANY TIME BY FACTORY RESET

Monitoring the **GUARD LOCKING**  
**HIGH** coding level



→ L + HC

### SAFETY DOOR PROTECTION

- ▶ Protection of personnel with high level of protection against tampering required
- ▶ Additional flexibility thanks to retrofittable escape release
- ▶ Readily visible RGB LED for simplified diagnostics

➤ **ESCAPE RELEASE (CAN BE RETROFITTED)**



Monitoring of the **DOOR POSITION**  
**HIGH** coding level



→ I + HC

### PROCESS PROTECTION WITH OPTIONAL GUARD LOCKING FUNCTION

- ▶ Safety outputs react to door position
- ▶ High coding level protects against tampering
- ▶ Flexible installation by side mounting and connecting cable with plug connector





+



→ L + LC

### GUARD LOCKING FOR PROCESS PROTECTION

- ▶ No unintentional process interruption
- ▶ Covered installation: low coding level suffices

Monitoring the **GUARD LOCKING**  
**LOW** coding level



+



→ I + LC

### PROTECTION OF PERSONNEL WITH OPTIONAL GUARD LOCKING FUNCTION

- ▶ Safety outputs react to door position
- ▶ Covered installation: low coding level suffices

Monitoring of the **DOOR POSITION**  
**LOW** coding level



+



→ L + HC

### GUARD LOCKING FOR PROTECTION OF PERSONNEL

- ▶ Protection against over-traveling machine movement
- ▶ High coding level protects against tampering
- ▶ High locking force of Fmax 3,900 N

Monitoring the **GUARD LOCKING**  
**HIGH** coding level

# OUR PRODUCTS FOR YOUR SAFETY

## SAFE 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  
CTS / CTM / CTP / CTA / CET

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

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

## DOOR LOCKING SYSTEMS

MGB / MGBS / MGB2 *CLASSIC*  
MGB2 *MODULAR* (MGB2 PROFINET / MGB2 EtherCAT)

## ACCESS CONTROL SYSTEMS

EKS / EKS *Light* / EKS *Modular* / CKS / CKS2

## OPERATING DEVICES

ZSM / ZSB / HBA / HBM

## LIGHT GRIDS / LIGHT CURTAINS

LCA

## EMERGENCY STOP DEVICES

ES / RPS

## SAFETY CONTROL SYSTEMS / SAFETY RELAYS

MSC / ESM / ESM-CB / GWY

**> YOU CAN FIND MORE INFORMATION ABOUT OUR PRODUCTS HERE**

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

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