

Interlocking devices and guard locking devices

Interlocking devices and guard locking devices



EUCHNER

More than safety.

EUCHNER

More than safety.



Headquarters in Leinfelden-Echterdingen



Logistics center in Leinfelden-Echterdingen



Production location in Unterböhringen

Internationally successful – the EUCHNER company

EUCHNER GmbH + Co. KG is a world-leading company in the area of industrial safety technology. EUCHNER has been developing and producing high-quality switching systems for mechanical and systems engineering for more than 60 years.

The medium-sized family-operated company based in Leinfelden, Germany, employs around 750 people around the world.

17 subsidiaries and other sales partners in Germany and abroad work for our international success on the market.

Quality and innovation – the EUCHNER products

A look into the past shows EUCHNER to be a company with a great inventive spirit. We take the technological and ecological challenges of the future as an incentive for extraordinary product developments.

EUCHNER safety switches monitor safety doors on machines and installations, help to minimize dangers and risks and thereby reliably protect people and processes. Today, our products range from electromechanical and electronic components to intelligent integrated safety solutions. Safety for people, machines and products is one of our dominant themes.

We define future safety technology with the highest quality standards and reliable technology. Extraordinary solutions ensure the great satisfaction of our customers. The product ranges are subdivided as follows:

- ▶ Transponder-coded Safety Switches
- ▶ Transponder-coded Safety Switches with guard locking
- ▶ Multifunctional Gate Box MGB
- ▶ Access management systems (Electronic-Key-System EKS)
- ▶ Electromechanical Safety Switches
- ▶ Magnetically coded Safety Switches
- ▶ Enabling Switches
- ▶ Safety Relays
- ▶ Emergency Stop Devices
- ▶ Hand-Held Pendant Stations and Handwheels
- ▶ Safety Switches with AS-Interface
- ▶ Joystick Switches
- ▶ Position Switches



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CES technology from the inventor of transponder-coded safety engineering – transponder-coded safety systems from EUCHNER

The transponder-coded safety systems from EUCHNER are modern interlocking devices or guard locking devices of type 4 for the protection of people, machines and processes. They are based on non-contact transponder technology and consist of a coded actuator, a read head and evaluation electronics. In some systems, the read head and evaluation electronics form a self-contained unit. All safety functions are combined in a single component here (internal evaluation). With external evaluation, the actuator is read via a separate read head connected to an evaluation unit in the control cabinet.

Internal evaluation

Transponder signals are evaluated in the field, not in the control cabinet. All devices in this catalog have internal evaluation.

External evaluation

With external evaluation the evaluation electronics for the transponder signals are accommodated in a separate housing. This separation minimizes the read head's size. This is particularly advantageous if the available space at the location to be protected is very limited.

You will find more information on these devices in the catalog for "Transponder-coded safety systems with external evaluation" or at www.euchner.com.

The advantages of transponder-coded safety switches

Transponder-coded safety switches from EUCHNER provide the following advantages:

- Maximum protection against tampering due to uniquely coded actuator
- Highest safety category and Performance Level (PL) according to EN ISO 13849-1.

- Depending on the application, a device with a suitable operating distance can be selected.
- The large operating distance offers greater door guide tolerance.
- The actuator can be rotated within the read head's operating distance.
- Less sensitive to dirt on the surface.
- Less susceptible to vibration and shock.
- Can be used in harsh environment.
- Suitable for areas with increased hygiene requirements.

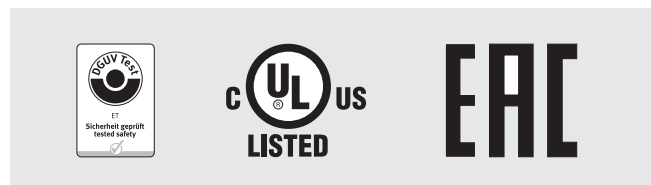
Type examinations and approvals

EUCHNER is allowed to undertake CE certification for almost all products without the involvement of a notified body, as EUCHNER is allowed to use the system for full quality assurance according to Annex X of the Machinery Directive. This procedure has been confirmed by TÜV Rheinland and is checked regularly. Nevertheless, additional type examinations are undertaken by a notified body such that an independent body again confirms that all laws and standards are met.

Many of the devices listed in this catalog have been tested for instance by the German Social Accident Insurance association (DGUV), formerly the employers' liability insurance association (BG), and are given in the lists from the DGUV.

For countries outside the EU, multiple approvals are necessary for safety products. Many of the products are listed by Underwriters Laboratories (UL) or are marked according to the EurAsian Conformity (EAC) standard.

The approval symbols on the individual pages of the catalog indicate which tests and approvals are available and which body tested the devices. With the aid of the approval symbols listed below you can quickly see which approvals are available for the related device:



You will find further information on the topic of directives and standards in the Service area at www.euchner.com.

Selection criteria

System families

System family A

A System family A is characterized by the ability to switch through clock pulses from safe control systems via its semiconductor outputs.

The clock pulses at the control system outputs do not have to be switched off. Up to three devices can be connected in series.

System family AH

AH System family AH was specially developed for switching high currents. This permits direct switching of contactors and loads without additional safety relay. Each of the two outputs can withstand a load of 3.5 A.

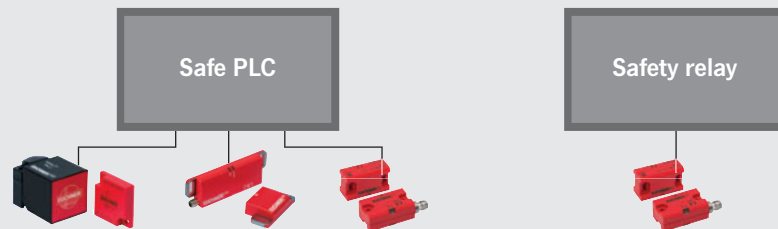
In operation the device regularly switches off the safety outputs for a few milliseconds to check the safe switching function.

System family AP

AP The system family AP is intended to be used for separate operation. The devices are particularly suitable for the connection of safety evaluation units and safety control systems that require short test pulses. Some versions have been optimized for connection to decentralized

peripheral systems, such as the ET200pro series from Siemens. The AP devices generate test pulses on the safety outputs for short circuit monitoring. Due to the little wiring work, AP devices represent a low-cost solution.

Connection examples



System family AR

AR In the AR version up to 20 devices belonging to the AR system family can be connected in series. Category 4/PL e is achieved for series connections with up to 20 devices. The AR devices generate test pulses on the safety outputs for short circuit monitoring.

If the evaluation unit is used, the monitoring signals can be evaluated as well. Instead of the Y-plug connectors it is also possible to use a passive distribution module.

With this device, safety and status signals are collected together in the field and forwarded to the control system.

Two different concepts for connection are available:

■ Series connection in the field

For field wiring EUCHNER offers the option of using M12 plugs and Y-distributors to connect together several AR devices. The safety outputs can be connected either directly to a control system or to the AR evaluation unit.

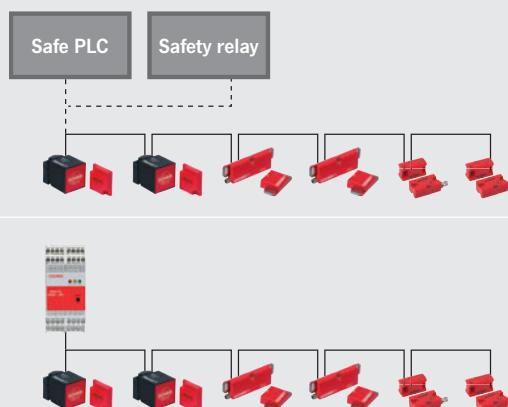
■ Series connection in the control cabinet

Wiring takes place in the control cabinet. All information about the status of individual AR devices can be forwarded directly to the control system.

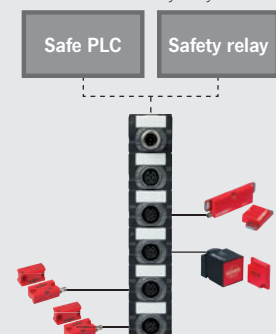
Examples for series connection in the field

Series connection with Y-distributors and connection to several safe PLCs or safety relays

Series connection with Y-distributors and connection to AR evaluation unit



Series connection with passive distribution module and connection to safe PLCs or safety relays

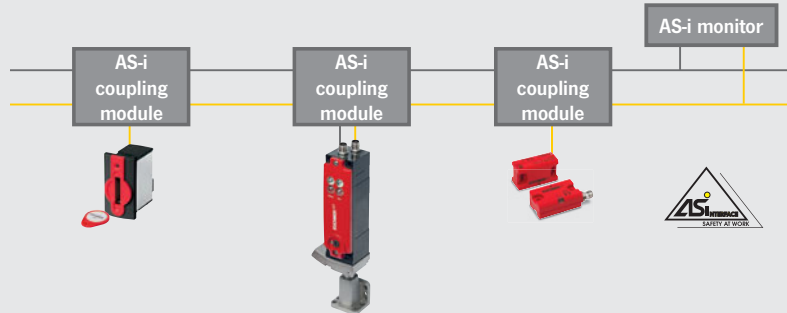


System family AS (AS-Interface Safety at Work)

AS 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.

You will find more information on devices with AS-Interface in the catalog for “Safety switches with AS-Interface” or at www.euchner.com.

System family AS



System family AY

AY AY devices are intended to be used for separate operation. The AY devices generate test pulses on the safety outputs for short circuit monitoring. The test pulses are longer than on AP devices.

Coding

Each transponder actuator from EUCHNER features unique coding and significantly surpasses the requirement in EN ISO 14119 for a type 4 switch with high coding level. The code in an actuator cannot be reprogrammed.

Unicode evaluation

With the unicode version, the actuators must be taught-in on the safety switch. During the teach-in operation the actuator code is assigned to the safety switch. This code is saved in the safety switch. Whenever an actuator is read, the safety switch compares the code just read with the code last saved. The actuator is recognized and the safety outputs/status signals are switched only if the two bit patterns are identical. The number of possible teach-in operations is dependent of the safety switch used. Only the last actuator taught in is detected. Unicode detection provides a high level of protection against tampering.

Fixcode evaluation

With fixcode devices, the teach-in operation is performed at EUCHNER prior to delivery. An actuator is permanently assigned to the device in this process. The device can be operated only with this one actuator. No additional actuators can be taught in.

Multicode evaluation

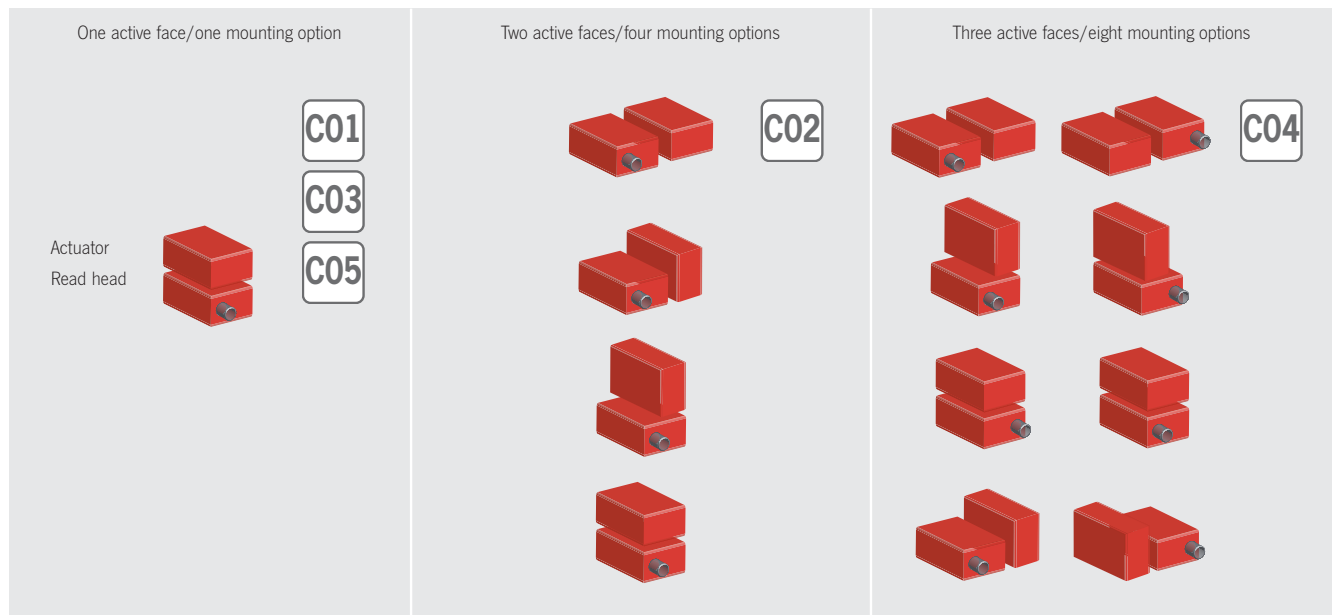
Unlike systems with unique code detection, with multicode evaluation a specific actuator code is not requested, instead it is only checked whether the actuator is of a suitable type that can be detected by the system (multicode detection). There is no exact comparison of the actuator code with a code saved in the evaluation unit. As a result a teach-in operation for the actuator is not necessary.

Operating distance and active face

The operating distances indicate the distance between the actuator and sensor from which a switching process is triggered. The active faces on the actuator and switch define these distances. The faces must be parallel to each other on approach.

Approach directions

Dependent on the housing design, the devices have one or more active faces and therefore one or more possible approach directions.



The transponder field

Transponder-coded systems operate using electromagnetic fields. These fields differ depending on the design of the device.

Switch-on distance, switch-off distance and hysteresis

On moving an actuator toward a switch, a switching signal is triggered on reaching the switch-on distance. The actuator is detected and the safety outputs are switched on.

If the actuator is removed again from the field, the safety outputs are switched off again on reaching the switch-off distance. As the switch-on distance and switch-off distance are different, there is a switching hysteresis. The larger the switching hysteresis, the less sensitive the system is to vibration.

Typical operating distance

Each system has typical and assured operating distances. The assured operating distances are defined in the EN 60947-5-3 standard and are briefly explained in the following.

The information in the catalog corresponds to the typical operating distance.

Assured operating distance s_{ao}

According to EN 60947-5-3, the assured operating distance is the distance from the active sensor face within which the presence of the actuator is correctly detected under all defined environmental conditions and manufacturing tolerances.

Assured switch-off distance s_{ar}

According to EN 60947-5-3, the assured switch-off distance is the distance from the active sensor face outside which the actuator is no longer detected under any environmental conditions, manufacturing tolerances and fault conditions, so that the system switches off.

Limit-range indication

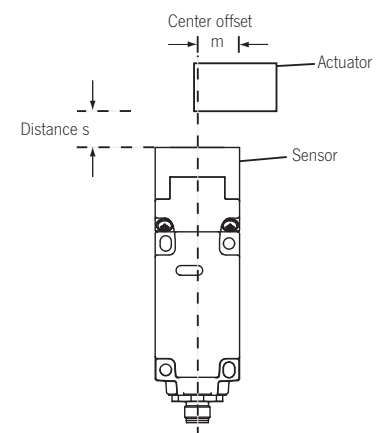
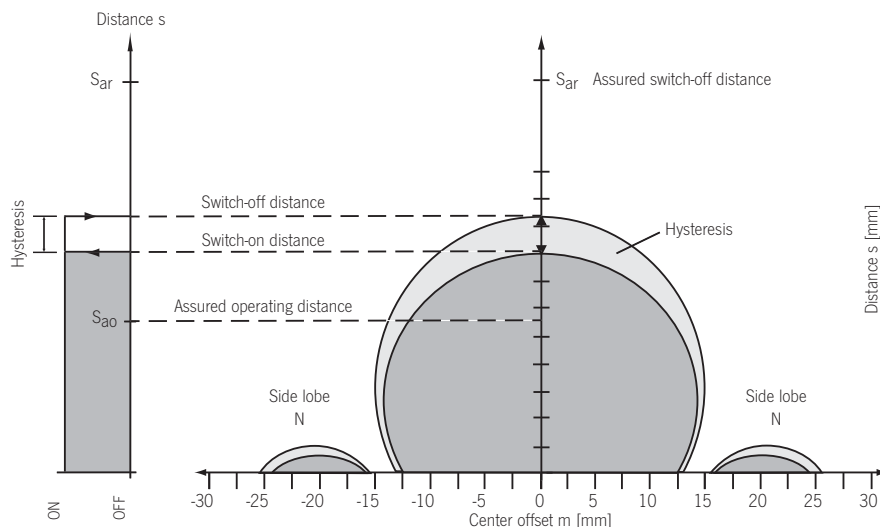
The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjusted in time.

Side lobes

Transponder fields in general comprise a main field and secondary fields (so-called side lobes). The secondary fields are significantly smaller than the main field and are to the side of the main field. A transponder is also read if it is in a secondary field. This effect is undesirable and on the very close, side approach of an actuator causes problems because the actuator is read before it has reached the main field (and therefore the intended position).

Surrounding material and installation depth

The operating distance is reduced by flush, recessed installation in the surrounding material. This effect is stronger with a metallic surrounding material than with plastic, for example. Completely encapsulated installation in metal in which the active face on the transponder is covered is in general not possible, as the field is attenuated excessively.



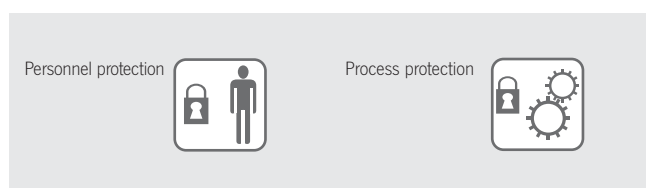
Interlocking devices and guard locking devices

Interlocking devices

Devices from the CES series are interlocking devices according to EN ISO 14119 for reliable safety guard position monitoring. Their safety outputs switch off as soon as the safety guard is opened.

Guard locking devices for process or personnel protection

As per EN ISO 14119, guard locking for personnel protection requires continuous monitoring of the guard locking function. On opening or failure of the guard locking device, the safety outputs must be switched off. Any guard locking for personnel protection can also be used as guard locking for process protection.



Guard locking devices for process protection are not reliably monitored guard locking devices. The safety function of these devices is limited to position monitoring for the safety door.

Monitoring the guard locking state is not part of the safety function.

Principle of operation of guard locking

EUCHNER offers two guard locking methods:

■ Electromechanical guard locking

Here a guard locking pin is moved, which prevents the removal of the actuator (form locking).

■ Magnetic guard locking

Here the actuator is held in place by the magnetic attraction force on the guard locking solenoid (force locking).

Guard locking principle

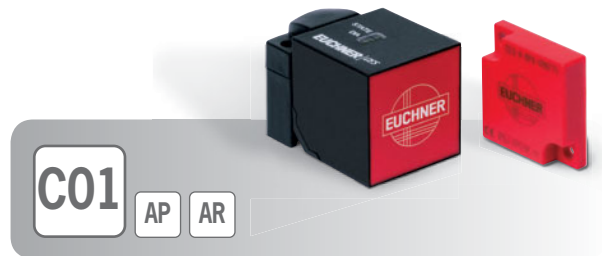
EUCHNER offers two guard locking principles:

Principle of operation	Closed-circuit current principle	Open-circuit current principle
Electromechanical guard locking	Guard locking actuated by spring force applied and power-ON released	Guard locking actuated by power-ON applied and spring released
Magnetic guard locking		Guard locking actuated by power-ON applied and released by power-OFF applied

Safety switches without guard locking

C01

- ▶ Compact, square design, standard housing (EN 60947-5-2)
- ▶ One active face; can be repositioned in five directions
- ▶ Large operating distance
- ▶ Limit-range indication
- ▶ Degree of protection IP 67



C02

- ▶ Narrow, elongated design
- ▶ Two active faces
- ▶ Direct mounting on aluminum profiles
- ▶ Limit-range indication
- ▶ Large temperature range
- ▶ Degree of protection IP 67/IP 69/IP 69K



C03

- ▶ Switches loads up to 3.5 A
- ▶ Very large operating distance
- ▶ One active face; not adjustable
- ▶ Degree of protection IP 67
- ▶ Standard housing (EN 60947-5-2)
- ▶ Start button connection



C04

- ▶ Smallest design
- ▶ Three active faces
- ▶ Limit-range indication
- ▶ Degree of protection IP 67/IP 69/IP 69K
- ▶ Actuator can be positioned in three steps by means of slot



C05

- ▶ Standard housing (EN 60947-5-2)
- ▶ One active face; can be repositioned in five directions
- ▶ Very large operating distance
- ▶ Degree of protection IP 67
- ▶ ATEX version available



Safety door handle ESL

- ▶ Safety switch and door handle in one
- ▶ Very simple mounting
- ▶ Robust metal housing
- ▶ With integrated lock (depending on version)
- ▶ Degree of protection IP 67



Safety switches with guard locking

CEM

- ▶ Magnetic guard locking for process protection
- ▶ Locking force of 600 N
- ▶ Adjustable adhesive force (acts with guard locking inactive)
- ▶ Ideal for profile mounting



CTP

- ▶ Guard locking for personnel protection according to EN 14119
- ▶ Degree of protection IP 67/IP 69/IP 69K
- ▶ Fastening compatible with the EUCHNER safety switches TP, STP and STA
- ▶ Three approach directions; head can be rotated in 90° steps
- ▶ High locking force of 3,900 N
- ▶ Version with AS-Interface available



CET

- ▶ Guard locking for personnel protection according to EN 14119
- ▶ Very high locking force up to 6,500 N
- ▶ Two safety outputs (semiconductor outputs)
- ▶ Head can be rotated in 90° steps
- ▶ Degree of protection IP 67
- ▶ Metal housing
- ▶ Actuator guide with large freedom of movement
- ▶ Two-channel solenoid control permissible
- ▶ Connection via plug connectors



Function expansion

Due to the large selection of accessories and parts that can be retrofitted, additional or expanded functions are possible. You will find an overview of the accessories available in the section of the catalog on the related device.

Release functions

Some situations require guard locking to be released manually (e.g. malfunctions or an emergency). The following release functions are available for EUCHNER devices:

Auxiliary release and mechanical key release (1)

In the event of malfunctions, guard locking can be released with the auxiliary release irrespective of the state of the solenoid.

Escape release (2)

Permits opening of a locked safety guard from the danger area without tools.

Emergency unlocking (3)

Permits opening of a locked safety guard from outside the danger area without tools.

Wire front release (4)

Release via a pull wire. Depending on the type of attachment, the wire front release can be used as emergency unlocking or escape release.



Lockout bar

The lockout bar can be used to prevent maintenance personnel from being unintentionally locked in the danger area, for example. In locked position, the lockout bar prevents activation of guard locking. The lockout bar can be secured in locked position using padlocks.

Lockout bars are available in two versions:

- ▶ Lockout bar permanently mounted on the device
- ▶ Removable lockout bar for blocking the switch head or the actuator



Versatile accessories

Bolts

Bolts function as follows: the bolt tongue mechanically guides the actuator when it is inserted into the safety switch actuating head. The bolt mounted on the door frame comprises a protruding bolt tongue, the handle and the actuator, mounted offset somewhat to the rear. The switch bracket with the safety switch is fitted to the frame. The bolt absorbs forces that act on the switch and the actuator and that could damage the switch and actuator. Bolts are available for many safety switches from EUCHNER. Some as a set with pre-assembled safety switch.

Function expansions that can be retrofitted

For some devices there are function expansions that can be retrofitted, e.g. manual releases, cover plates, insertion funnels, lockout bars and much more. You can find suitable accessories for your device very simply at www.euchner.com.

Connection material

EUCHNER offers a large selection of connecting cables, plug connectors and other connection accessories. You can find suitable accessories for your device very simply at www.euchner.com.

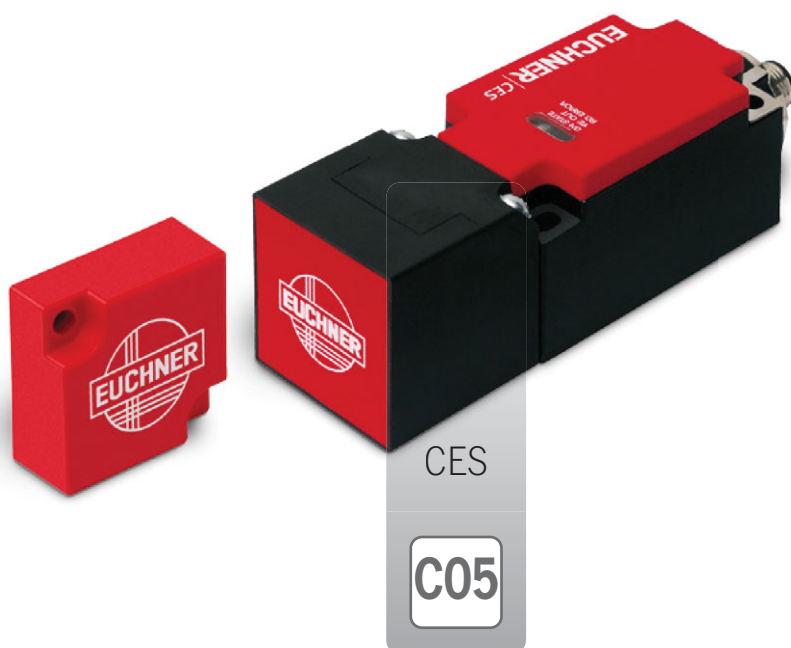
Installation material

EUCHNER offers mounting plates and brackets for many devices for a wide variety of fastening situations. You can find suitable accessories for your device very simply at www.euchner.com.



“Connect pulsed signals via the safe semiconductor outputs on up to three safety switches in series.”

- ▶ Suitable for switching pulsed signals
- ▶ Very large operating distance
- ▶ Two safe semiconductor outputs
- ▶ Monitoring output (depending on version)
- ▶ Series connection of up to three devices possible
- ▶ Cable lengths up to 300 m possible
- ▶ ATEX version available
- ▶ PL e/category 3 or 4 according to EN ISO 13849-1



Safety switch CES-A-.5...



- ▶ Standard housing (EN 60947-5-2)
- ▶ One active face, can be repositioned in five directions
- ▶ Diagnostics via two LEDs
- ▶ Large operating distance
- ▶ PL e/category 3 or 4
- ▶ ATEX version available

Details

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Category according to EN ISO 13849-1

Due to two redundantly designed semiconductor outputs (safety outputs) with internal monitoring suitable for:

- ▶ CES-A-C5E-01, category 3/PL e according to EN ISO 13849-1
- ▶ CES-A-C5H-01/CES-A-W5H-01, category 4/PL e according to EN ISO 13849-1

LED indicator

STATE Status

OUT/ERROR Status of safety outputs/diagnostics (combined)

Additional connections

OUT Monitoring output (semiconductor)

ATEX version

There is a version of this device for usage in potentially explosive atmospheres. For explosion protection see marking in the ordering table.

Important: Use only ATEX actuators for ATEX devices.

Notice

On devices with unicode evaluation the number of teach-in operations is restricted to eight.

Further information

- ▶ Dimension drawings see p. 17
- ▶ Accessories and spare parts see p. 17
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.

Ordering table

Safety switch

Series	Version	Order no./item	
CES-A-C5... Unicode		077750 CES-A-C5E-01	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-W5... Multicode		091458 CES-A-C5H-01	
CES-A-C5H-01-EX Unicode		097525 CES-A-W5H-01	
		097945 ¹⁾ CES-A-C5H-01-EX	

1) II3G Ex ic nA IIB T5 Gc X, II3D Ex ic tc IIIC T90°C Dc X

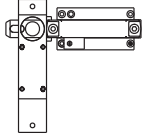
Actuator

Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BPA	40 x 40	22	098775 CES-A-BPA	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BBA	42 x 25	20	071840 CES-A-BBA	
CES-A-BCA	42 x 25 Material: PE-HD	20	088786 CES-A-BCA	
CES-A-BPA-EX-102125	40 x 40	22	102125 CES-A-BPA-EX-102125	
CES-A-BBA-EX-098158	42 x 25	20	098158 CES-A-BBA-EX-098158	

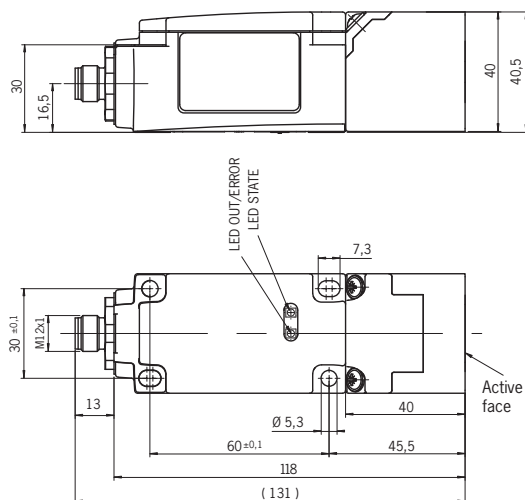
M12 **8 pin**

C05

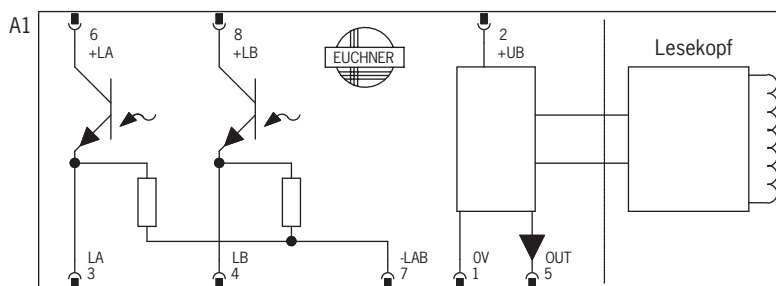
Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	M12 8 pin Page 103
Bolts	Bolts for housing design C05 	Page 108
Fixing material	Safety screws	Page 116

Dimension drawing



Block diagram



Terminal assignment

Pin	Designation	Function
1	OV	Power supply DC 0 V
2	+UB	Power supply DC 24 V
3	LA	Safety output, channel 1
4	LB	Safety output, channel 2
5	OUT	Monitoring output (door monitoring output)
6	+LA	Channel 1 input
7	-LAB	Common ground for channel 1 and channel 2 inputs
8	+LB	Channel 2 input

“The power pack – switch loads up to 3.5 A without additional relays or contactors.”

- ▶ Safety outputs with an output current up to 3.5 A for switching loads directly
- ▶ Very large operating distance
- ▶ Two safe semiconductor outputs
- ▶ Cable lengths up to 50 m possible
- ▶ PL d/category 3 according to EN ISO 13849-1



Safety switch CES-AH-C03-...

Cat.
3
PLd

Details

Available coding options

- Unicode evaluation

LED indicator

STATE Status
DIA Diagnostics

Further information

- Dimension drawings see p. 21
- Accessories and spare parts see p. 20
- For detailed information, enter the order number for the product in the search box at www.euchner.com.

- One active face, not adjustable
- Diagnostics via two LEDs
- PL d/category 3
- Cable length up to 50 m possible
- Degree of protection IP 67
- Connection via plug connectors
- Start button connection

Ordering table

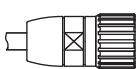
Safety switch

Series	Version	Order no./item	
CES-AH-C03-AH-... Unicode	 M23 9 pin	106300 CES-AH-C03-AH-SM-106300	For detailed information, enter the order number for the product in the search box at www.euchner.com .

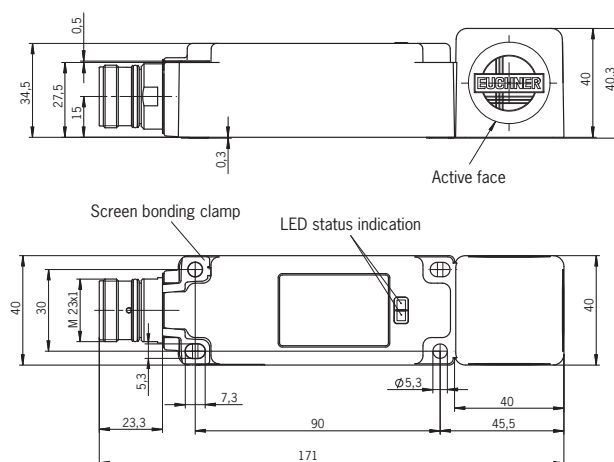
Actuator

Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BRN	 80 x 40	27	100251 CES-A-BRN-100251	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BPA	 40 x 40	22	098775 CES-A-BPA	
CES-A-BBA	 42 x 25	20	071840 CES-A-BBA	
CES-A-BCA	 42 x 25 Material: PE-HD	20	088786 CES-A-BCA	

Accessories

Type	Version	
Connection material	Female plug (for self-assembly)  M23 9 pin	Page 106
Fixing material	Safety screws	Page 116

Dimension drawing



Terminal assignment

Pin	Designation	Function
1	NC	Not used
2	START	Start input
3	LA	Safety output, channel 1
4	+LA	Input for channel 1
5	+LB	Input for channel 2
6	LB	Safety output, channel 2
7	UB	Power supply DC 24 V
8	0V	Ground DC 0 V
9	–	Not used

“Developed with a focus
on the essentials – a lot of
safety with little effort.”

- ▶ Safety switches for separate operation
- ▶ Direct connection to IP 67 field modules for various decentral peripheral systems (depending on version)
- ▶ Two safe semiconductor outputs
- ▶ Own pulsing for short circuit detection
- ▶ Connection via plug connectors
- ▶ Cable lengths up to 200 m possible
- ▶ PL e/category 4 according to EN ISO 13849-1
- ▶ Large selection of devices
- ▶ Various guard locking devices available



CES

C01



CES

C02



CES

C04



CTP

CTP



CET

CET

Safety switch CES-AP-C01-...



- ▶ One active face, can be repositioned in five directions
- ▶ Large operating distance
- ▶ Limit-range indication
- ▶ Diagnostics via two LEDs
- ▶ Standard housing according to EN 60947-5-2
- ▶ Degree of protection IP 67

Details

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjusted in time.

Connection to IP 67 field modules

Devices with M12 plug connector, 5-pin, without monitoring output are optimized for direct connection to field modules, such as ET200pro from Siemens or comparable devices from other manufacturers.

LED indicator

STATE Status
DIA Diagnostics

Additional connections

DIA Diagnostic output (semiconductor)
RST Reset input

Further information

- ▶ Dimension drawings see p. 25
- ▶ Accessories and spare parts see p. 25
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.

Ordering table

Safety switch

Series	Version	Order no./item	
CES-AP-C01-AH-... Unicode	5 pin	111145 CES-AP-C01-AH-SB-111145	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-AP-C01-CH-... Multicode		111708 CES-AP-C01-CH-SB-111708	
CES-AP-C01-CH-SB Multicode		106798 CES-AP-C01-CH-SB-106798	
CES-AP-C01-CH-SA Multicode		100250 ¹⁾ CES-AP-C01-CH-SA-100250	

1) German Social Accident Insurance approval

Actuator

Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BRN	80 x 40	27	100251 CES-A-BRN-100251	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BPA	40 x 40	22	098775 CES-A-BPA	
CES-A-BBA	42 x 25	18	071840 CES-A-BBA	
CES-A-BCA	42 x 25 Material: PE-HD	18	088786 CES-A-BCA	
CES-A-BDA-18	Ø18	19	156935 CES-A-BDA-18	

M12

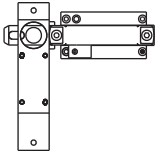
5
pin

M12

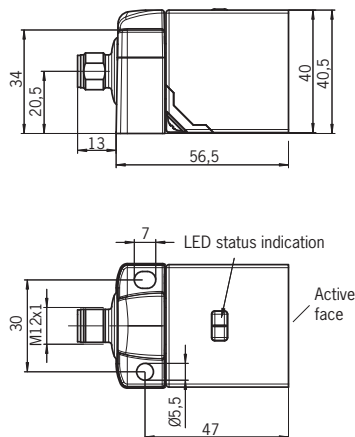
8
pin

C01

Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	 Page 97
		 Page 99
Bolts	Bolts for housing design C01 	Page 108
Fixing material	Safety screws	Page 116

Dimension drawing



Terminal assignment

			Designation	Function
With monitoring output	With monitoring output	Without monitoring output (pin 5 not used)		
1	–	–	–	Not used
2	1	1	UB	Power supply DC 24 V
3	2	2	OA	Safety output, channel 1
4	4	4	OB	Safety output, channel 2
5	5	–	DIA	Monitoring output (diagnostic output)
6	–	–	–	Not used
7	3	3	0V	Ground DC 0 V
8	–	–	RST	Reset input

Safety switch CES-AP-C.2-...



- ▶ Diagnostics via two LEDs
- ▶ Two active faces
- ▶ Limit-range indication
- ▶ Direct mounting on aluminum profiles
- ▶ Large temperature range (depending on version)
- ▶ Reinforcement plates and safety screws included
- ▶ Degree of protection IP 67/IP 69/IP 69K

Details

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjusted in time.

Connection to IP 67 field modules

Devices with M12 plug connector, 5-pin without monitoring output are optimized for direct connection to field modules, such as ET200pro from Siemens or comparable devices from other manufacturers.

Large temperature range

Devices with connecting cable and flying lead have a temperature range from -40 °C to +65 °C (with rigid cable laying).

LED indicator

STATE Status
DIA Diagnostics

Additional connections

OUT Monitoring output (semiconductor); not present on all versions.

Further information

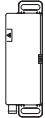
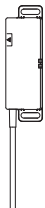
- ▶ Dimension drawings see p. 28
- ▶ Accessories and spare parts see p. 28
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.

Ordering table

Safety switch

Series	Version	Door hinge ¹⁾	Order no./item	
CES-AP-C.2-AH-... Unicode		With monitoring output	105295 CES-AP-CR2-AH-SF-105295	For detailed information, enter the order number for the product in the search box at www.euchner.com.
			105294 CES-AP-CL2-AH-SF-105294	
		With monitoring output	106552 CES-AP-CR2-AH-SB-106552	
			106553 CES-AP-CL2-AH-SB-106553	
		Without monitoring output	111748 CES-AP-CR2-AH-SB-111748	
			111747 CES-AP-CL2-AH-SB-111747	
		With monitoring output	105601 CES-AP-CR2-AH-L05-105601	
			105603 CES-AP-CL2-AH-L05-105603	
		With monitoring output	106191 CES-AP-CR2-AH-L10-106191	
			106192 CES-AP-CL2-AH-L10-106192	
		With monitoring output	106195 CES-AP-CR2-AH-L20-106195	
			106196 CES-AP-CL2-AH-L20-106196	

1) Applies to following alignment: connection/cable outlet pointing downward

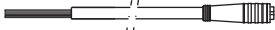
Series	Version	Door hinge ¹⁾	Order no./item	
CES-AP-C.2-CH-... Multicode	 click 6 pin	With monitoring output 	100775 CES-AP-CR2-CH-SF-100775	For detailed information, enter the order number for the product in the search box at www.euchner.com .
		Without monitoring output 	104509 CES-AP-CL2-CH-SF-104509	
	 M12 5 pin PUR 0,2m	With monitoring output 	106550 CES-AP-CR2-CH-SB-106550	
		Without monitoring output 	106551 CES-AP-CL2-CH-SB-106551	
		Without monitoring output 	109168 CES-AP-CR2-CH-SB-109168	
		Without monitoring output 	109167 CES-AP-CL2-CH-SB-109167	
	 PVC 2m	With monitoring output 	123922 CES-AP-CR2-CH-SB-123922	
		With monitoring output 	105600 CES-AP-CR2-CH-L05-105600	
	 6 wire PVC 10m	With monitoring output 	105602 CES-AP-CL2-CH-L05-105602	
		With monitoring output 	106189 CES-AP-CR2-CH-L10-106189	
		With monitoring output 	106190 CES-AP-CL2-CH-L10-106190	
		With monitoring output 	106193 CES-AP-CR2-CH-L20-106193	
		With monitoring output 	106194 CES-AP-CL2-CH-L20-106194	
		With monitoring output 		

1) Applies to following alignment: connection/cable outlet pointing downward

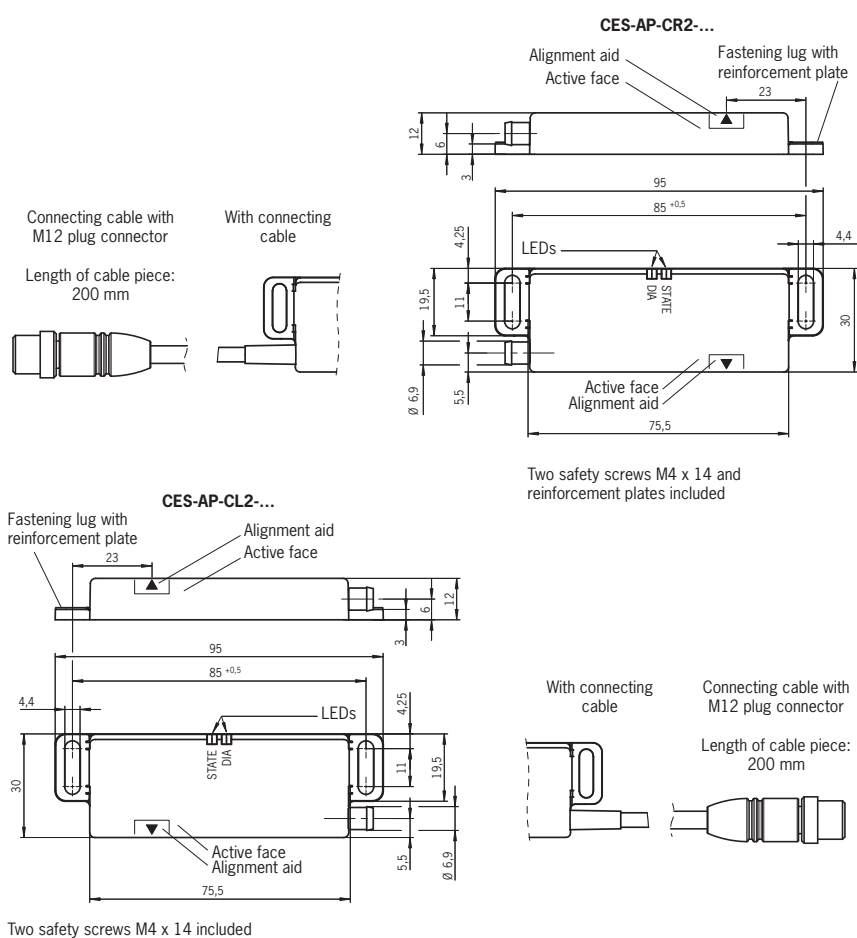
Actuator

Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BDN-06	 Ø6 x 26	19	104730 CES-A-BDN-06-104730	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BLN-...	 95 x 30 	15	100776 CES-A-BLN-R2-100776	
	 95 x 30 	15	104510 CES-A-BLN-L2-104510	
	 55 x 30 Independent of the door hinge	15	103450 CES-A-BLN-U2-103450	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector  click 6 pin	Page 94
	Connecting cable with plug connector  M12 5 pin	Page 97
Fixing material	Safety screws	Page 116

Dimension drawing





C02

Terminal assignment

6 pin With monitoring output	5 pin With monitoring output	Without monitoring output (pin 5 not used)	Designation	Function	Wire color
1	1	1	UB	Power supply DC 24 V	BN
2	2	2	OA	Safety output, channel 1	WH
3	3	3	OV	Ground DC 0 V	BU
4	4	4	OB	Safety output, channel 2	BK
5	5	–	OUT	Monitoring output (door monitoring output)	GY
6	–	–	–	Not used	PK

Safety switch CES-I-AP-.-C04-...



- ▶ **Smallest design**
- ▶ **Three active faces**
- ▶ **Diagnostics via two LEDs**
- ▶ **Limit-range indication**
- ▶ **Degree of protection IP 67**
- ▶ **ATEX protective cover (optional)**

Details**Available coding options**

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjusted in time.

Connection to IP 67 field modules

Devices with M12 plug connector, 5-pin without monitoring output are optimized for direct connection to field modules, such as ET200pro from Siemens or comparable devices from other manufacturers.

Rubber support

A rubber support is included with each switch and actuator and is intended to prevent the accumulation of soiling in the area of the mounting holes.

LED indicator

STATE Status
DIA Diagnostics

Additional connections

OD Monitoring output (semiconductor); not present on all versions

ATEX protective cover

Housing protection AM-C04-EX-137528 is required for use in potentially explosive atmospheres. See accessories on p. 31.

Further information

- ▶ Dimension drawings see p. 32
- ▶ Accessories and spare parts see p. 31
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.

Ordering table

Safety switch

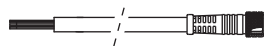
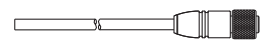
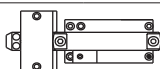
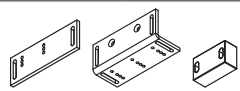
Series	Version	Order no./item	
CES-I-AP-U-C04-... Unicode	M8 4 pin Without monitoring output	115324 CES-I-AP-U-C04-SK-115324	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	M12 5 pin PUR 0,1m Without monitoring output	115150 CES-I-AP-U-C04-USI-115150	
	M12 5 pin PUR 0,22m With monitoring output	116502 CES-I-AP-U-C04-USB-116502	
	M12 5 pin PUR 5m With monitoring output	116503 CES-I-AP-U-C04-U05-116503	
	5 wire PUR 10m With monitoring output	116504 CES-I-AP-U-C04-U10-116504	
	5 wire PUR 20m With monitoring output	116505 CES-I-AP-U-C04-U20-116505	

Series	Version	Order no./item	
CES-I-AP-M-C04-... Multicode	 M8 4 pin Without monitoring output	117325 CES-I-AP-M-C04-SK-117325	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	 M12 5 pin PUR 0,1m Without monitoring output	117323 CES-I-AP-M-C04-USI-117323	
	 M12 5 pin PUR 0,22m With monitoring output	117324 CES-I-AP-M-C04-USB-117324	
	 M12 5 pin PUR 5m With monitoring output	117328 CES-I-AP-M-C04-U05-117328	
	 M12 5 pin PUR 10m With monitoring output	117329 CES-I-AP-M-C04-U10-117329	
	 M12 5 pin PUR 20m With monitoring output	117330 CES-I-AP-M-C04-U20-117330	

Actuator

Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BDN-06	 Ø6 x 26	19	104730 CES-A-BDN-06-104730	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BBN-C04	 42 x 25	15	115271 CES-A-BBN-C04-115271	
 CES-A-BBN-C04-EX-137527	 42 x 25	15	137527 CES-A-BBN-C04-EX-137527	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector  M8 4 pin	Page 95
	Connecting cable with plug connector  M12 5 pin	Page 97
Bolts	Bolts for housing design C04 	Page 110
Fixing material	Mounting sets 	Page 114
	Safety screws 	Page 116
 Housing protection	Housing protection ATEX for switches 	Page 116

M8

4 pin

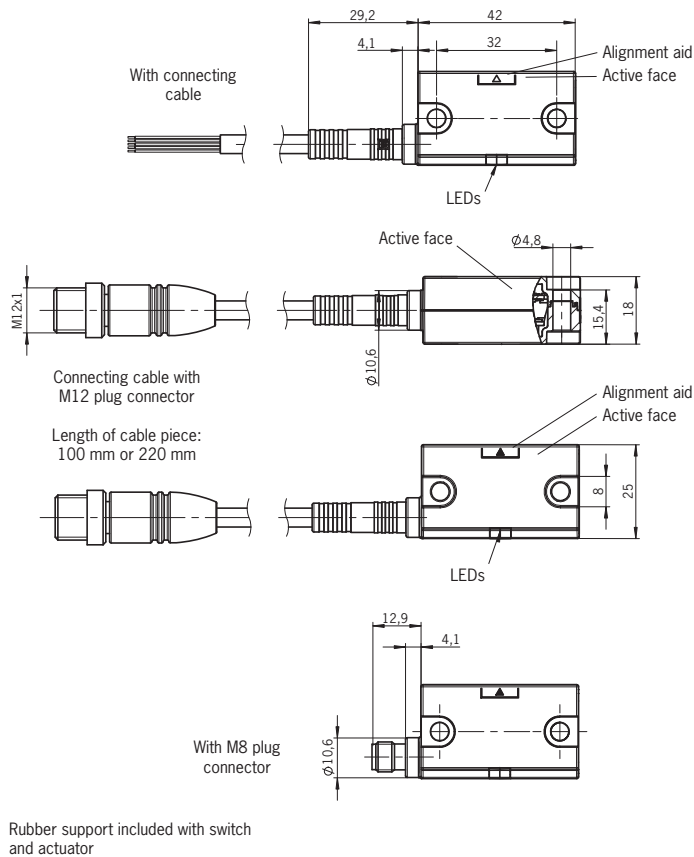
M12

5 pin



5 wire

Dimension drawing



Terminal assignment

5 pin 5 wire With monitoring output	5 pin Without monitoring output (pin 5 not used)	4 pin Without monitoring output	Designation	Function	Wire color
1	1	1	UB	Power supply DC 24 V	BN
2	2	2	FO1A	Safety output, channel 1	WH
3	3	3	0V	Ground DC 0 V	BU
4	4	4	FO1B	Safety output, channel 2	BK
5	–	–	OD	Monitoring output (door monitoring output)	GY

Safety switch CTP-...-AP-... with guard locking



- ▶ Safety switch with guard locking
- ▶ Locking force up to 3,900 N
- ▶ Diagnostics via three LEDs
- ▶ PL e/category 4

Notice

The device is only allowed to be operated in conjunction with the actuators A-C-H....

Details

Approach direction



Head can be rotated in 90° steps

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Guard locking types

L1 Closed-circuit current principle

Guard locking by spring force.
Release by applying voltage to the guard locking solenoid.

L2 Open-circuit current principle

Guard locking by solenoid force.
Activation of the guard locking by applying voltage to the guard locking solenoid.

LBI BiState

Activation input for guard locking.
This type of guard locking has a function to prevent
- persons from unintentionally locking themselves inside if the safety door is open in case of a power failure and if the machine is switched off.
- the deactivation of activated guard locking in case of a power failure.

I1 As for L1, but without guard lock monitoring. Guard locking for process protection only.

I2 As for L2, but without guard lock monitoring. Guard locking for process protection only.

Auxiliary release

Included with all versions as standard.

Escape release (optional)

Some devices have an escape release. The escape release can be extended with the aid of the support brackets supplied.

Extended version

With integrated switches (optional)

Retrofittable releases

Devices with auxiliary release can be retrofitted with various release functions (see accessories).

Connection to IP 67 field modules

Devices with plug connector SII (2 x M12, 5-pin) are optimized for direct connection to field modules, such as ET200pro from Siemens or comparable devices from other manufacturers.

LED indicator

STATE Status
LOCK Guard locking
DIA Diagnostics

Additional connections

OD Door monitoring output
OI Diagnostic output
OL Guard locking monitoring output

Further information

- ▶ Dimension drawings see p. 39
- ▶ Accessories and spare parts see p. 38
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.

1) German Social Accident Insurance approval pending

Ordering table

CTP-L.-AP-...-SII-... with two plug connectors M12

 Order no./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 40	
CTP-L1 Closed-circuit current principle					For detailed information, enter the order number for the product in the search box at www.euchner.com.
124468 CTP-L1-AP-U-HA-AZ-SII-124468	U			A	
127640 CTP-L1-AP-U-HA-AE-SII-127640	U	●		B	
129477 CTP-L1-AP-U-HA-AZ-SII-129477	U			B	
129478 CTP-L1-AP-U-HA-AE-SII-129478	U	●		B	

CTP-...-AP-...-SA-... with plug connector M12

M12 8 pin Order no./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 40	i
CTP-L1 Closed-circuit current principle					For detailed information, enter the order number for the product in the search box at www.euchner.com.
124225 CTP-L1-AP-U-HA-AZ-SA-124225	U			C	
126912 CTP-L1-AP-U-HA-AE-SA-126912	U				
124727 CTP-L1-AP-M-HA-AZ-SA-124727	M				
CTP-L2 Open-circuit current principle					
124728 CTP-L2-AP-U-HA-AZ-SA-124728	U			C	
136841 CTP-L2-AP-U-HA-AE-SA-136841	U				
124729 CTP-L2-AP-M-HA-AZ-SA-124729	M				
CTP-LBI BiState					
127798 CTP-LBI-AP-U-HA-AZ-SA-127798	U			D	
CTP-I1 Process protection guard locking, closed-circuit current principle					
136595 CTP-I1-AP-U-HA-AEC-SA-136595	U			E	
CTP-I2 Process protection guard locking, open-circuit current principle					
126258 CTP-I2-AP-U-HA-AZC-SA-126258	U			E	

CTP...-AP-...-SA-EX-... with plug connector M12

M12 8 pin Order no./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 40	
CTP-L1 Closed-circuit current principle					For detailed information, enter the order number for the product in the search box at www.euchner.com.
136675 CTP-L1-AP-U-HA-AZ-SA-EX-136675	U			E	
129512 CTP-L1-AP-U-HA-AZ-SA- EX-129512	U				

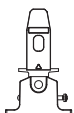
CTP...-AP-...-SH-... with plug connector M23

M2319 pin Order no./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 40	
CTP-L1 Closed-circuit current principle					For detailed information, enter the order number for the product in the search box at www.euchner.com.
123364 CTP-L1-AP-U-HA-AZ-SH-123364	U			F	
123375 CTP-L1-AP-U-HA-AE-SH-123375	U				
123365 CTP-L1-AP-M-HA-AZ-SH-123365	M				
123376 CTP-L1-AP-M-HA-AE-SH-123376	M				
CTP-L2 Open-circuit current principle					
123370 CTP-L2-AP-U-HA-AZ-SH-123370	U			F	
123371 CTP-L2-AP-M-HA-AZ-SH-123371	M				

CTP...-AP-...-SH-... with plug connector M23, extended version

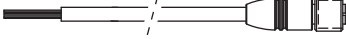
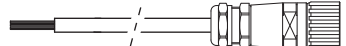
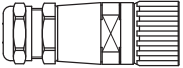
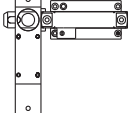
 Order no./item	Coding U = unicode M = multicode	Escape release	Controls	Guard locking Personnel/process protection	For wiring diagram see page 40	
CTP-L1 Closed-circuit current principle						For detailed information, enter the order number for the product in the search box at www.euchner.com .
137342 CTP-L1-AP-U-HA-AEE-SH-137342	U	●	Two pushbuttons (illuminated)			
156056 CTP-L1-AP-U-HA-AZE-SH-156056	U		Emergency stop, two pushbuttons (illuminated)			

Actuator

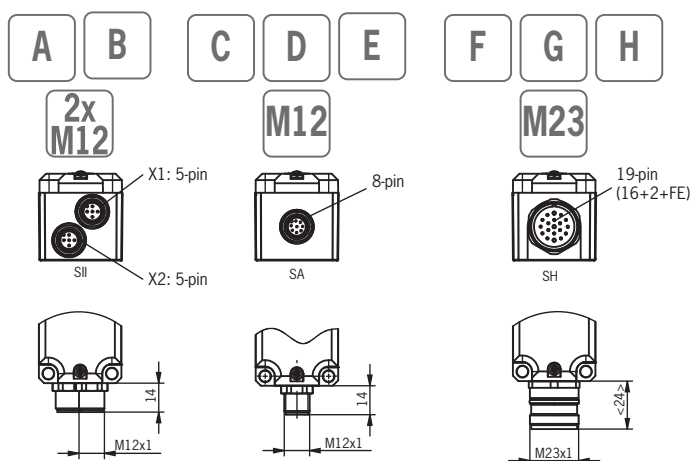
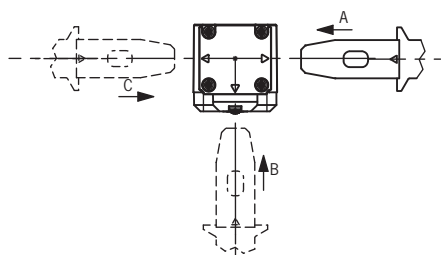
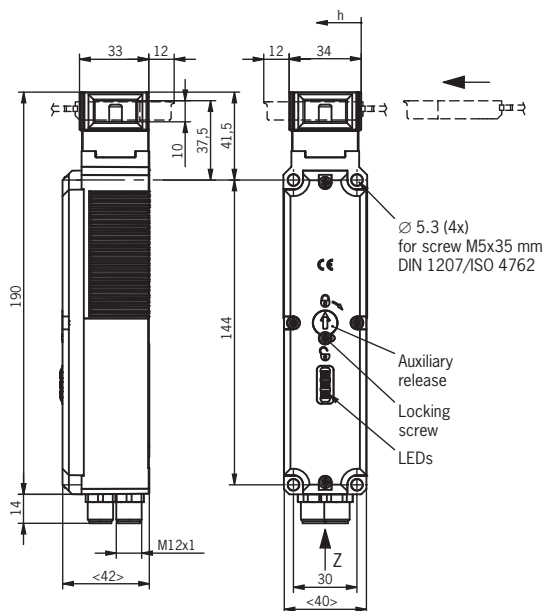
Series	Design	Order no./item	
A-C-H...	 Straight	126015 A-C-H-G-SST-126015	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	 Straight	136826 A-C-H-G-LS-EX-136826	
	 Bent, upward ¹⁾	122667 A-C-H-W-SST-122667	
	 Bent, downward ¹⁾	122668 A-C-H-W-SST-122668	
	  ¹⁾	122671 A-C-H-RL-LS-122671	
	  ¹⁾	122672 A-C-H-RR-LS-122672	
	  ¹⁾	122675 A-C-H-RO-LS-122675	
	  ¹⁾	122676 A-C-H-RU-LS-122676	

1) Applies to following alignment: connection/cable outlet pointing downward

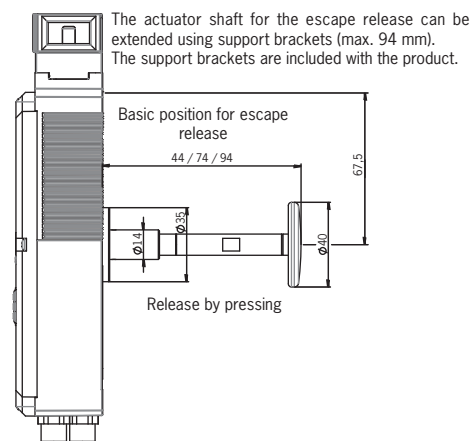
Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	  Page 97
	Connecting cable with plug connector 	  Page 99
	Connecting cable with plug connector 	  Page 104/105
	Female plug (for self-assembly) 	  Page 106
Bolts	Bolts for housing design CTP 	Page 111
Fixing material	Mounting plates 	Page 114
	Safety screws 	Page 116
Miscellaneous accessories	Mechanical key release 	Page 116 f.
	Release 	
	Emergency unlocking 	
	Wire front release 	
	Handle for wire front release 	
	Lockout bar 	

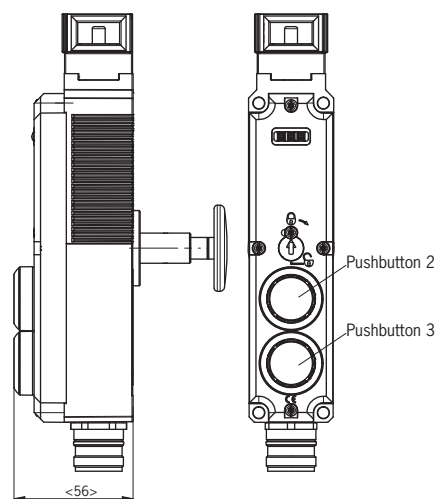
Dimension drawing



With escape release



Extended version



2x
M125
pin

M12

8
pin**Terminal assignment****A**2x
M125
pin

Wiring diagram A

Pin	Designation	Function
X 1.1	U_B	Operating voltage of AP electronics, DC 24 V
X 1.2	FO1A	Safety output, channel 1
X 1.3	0 V U_B	Operating voltage of AP electronics, DC 0 V
X 1.4	FO1B	Safety output, channel 2
X 1.5	–	Not used
X 2.1	–	Not used
X 2.2	–	Not used
X 2.3	IMM	Operating voltage of guard locking solenoid, DC 0 V
X 2.4	IMP	Operating voltage of guard locking solenoid, DC 24 V
X 2.5	–	Not used

B2x
M125
pin

Wiring diagram B

Pin	Designation	Function
X 1.1	U_B	Operating voltage of AP electronics, DC 24 V
X 1.2	FO1A	Safety output, channel 1
X 1.3	0 V U_B	Operating voltage of AP electronics, DC 0 V
X 1.4	FO1B	Safety output, channel 2
X 1.5	–	Not used
X 2.1	–	Not used
X 2.2	OD	Door monitoring output
X 2.3	IMM	Operating voltage of guard locking solenoid, DC 0 V
X 2.4	IMP	Operating voltage of guard locking solenoid, DC 24 V
X 2.5	–	Not used

C

M12

8
pin

Wiring diagram C

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	U_B	Operating voltage of AP electronics, DC 24 V
3	FO1A	Safety output, channel 1
4	FO1B	Safety output, channel 2
5	OI	Diagnostic output
6	OD	Door monitoring output
7	0 V U_B	Operating voltage of AP electronics, DC 0 V
8	IMM	Operating voltage of guard locking solenoid, DC 0 V

D

M12

8
pin

Wiring diagram D

Pin	Designation	Function
1	IMP	Control input of guard locking solenoid, DC 24 V
2	U_B	Operating voltage of AP electronics, DC 24 V
3	FO1A	Safety output, channel 1
4	FO1B	Safety output, channel 2
5	OI	Diagnostic output
6	OD	Door monitoring output
7	OL	Guard locking monitoring output
8	0 V	Operating voltage of AP electronics, DC 0 V, and control voltage of guard locking solenoid, DC 0 V

M12

8
pin

M23

19
pin

CTP

E

M12

8
pin

Wiring diagram E

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	U _B	Operating voltage of AP electronics, DC 24 V
3	F01A	Safety output, channel 1
4	F01B	Safety output, channel 2
5	OI	Diagnostic output
6	OD	Door monitoring output
7	OL	Guard locking monitoring output
8	0 V	Operating voltage of AP electronics, DC 0 V, and guard locking solenoid, DC 0 V

F

M23

19
pin

Wiring diagram F

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	–	Not used
3	–	Not used
4	F01A	Safety output, channel 1
5	F01B	Safety output, channel 2
6	U _B	Operating voltage of AP electronics, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostic output
10	OL	Guard locking monitoring output
11	–	Not used
12	FE	Function earth
13	–	Not used
14	–	Not used
15	–	Not used
16	–	Not used
17	–	Not used
18	IMM	Operating voltage of guard locking solenoid, DC 0 V
19	0V U _B	Operating voltage of AP electronics, DC 0 V

M23 19 pin

G M23 19 pin Wiring diagram G

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	–	Not used
3	–	Not used
4	FO1A	Safety output, channel 1
5	FO1B	Safety output, channel 2
6	U _B	Operating voltage of AP electronics, DC 24 V, and controls/indicators, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostic output
10	OL	Guard locking monitoring output
11	–	Not used
12	FE	Function earth
13	IMM	Operating voltage of guard locking solenoid, DC 0 V
14	–	Not used
15	S2	Pushbutton 2 (illuminated)
16	H2	LED 2
17	S3	Pushbutton 3 (illuminated)
18	H3	LED 3
19	0V U _B	Operating voltage of AP electronics, DC 0 V, and controls/indicators, DC 0 V

H M23 19 pin Wiring diagram H

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	IMM	Operating voltage of guard locking solenoid, DC 0 V
3	S1.C	Emergency stop (auxiliary contact)
4	FO1A	Safety output, channel 1
5	FO1B	Safety output, channel 2
6	U _B	Operating voltage of AP electronics, DC 24 V, and controls/indicators, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostic output
10	S1.A1	Emergency stop (channel A)
11	S1.A2	Emergency stop (channel A)
12	FE	Function earth
13	S1.B1	Emergency stop (channel B)
14	S1.B2	Emergency stop (channel B)
15	S2	Pushbutton 2 (illuminated)
16	H2	LED 2
17	S3	Pushbutton 3 (illuminated)
18	H3	LED 3
19	0V U _B	Operating voltage of AP electronics, DC 0 V, and controls/indicators, DC 0 V

Safety switch CET.-AP-... with guard locking



- ▶ Safety switch with guard locking
- ▶ Locking force up to 6,500 N
- ▶ Metal housing
- ▶ Diagnostics via four LEDs
- ▶ Degree of protection IP 67
- ▶ Actuator guide with large freedom of movement
- ▶ Two-channel solenoid control permissible
- ▶ Connection via plug connectors

Notice

The device is only allowed to be operated in conjunction with the actuator CET-A-....

Details

Approach direction



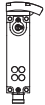
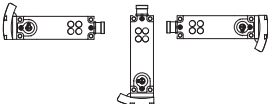
Head can be rotated in 90° steps

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Category according to EN ISO 13849-1

The category is dependent on the installation position:

Installation position	Category/PL
	Cat. 3 PLe
	Cat. 4 PLe

Guard locking types

CET3 Closed-circuit current principle

Guard locking by spring force. Release by applying voltage to the guard locking solenoid. Monitoring of the door position: The door monitoring output OUT D is set to HIGH as soon as the actuator is above the extended plunger (state: door closed, guard locking not active). The output OUT D remains set also with guard locking active.

CET4 Open-circuit current principle

Guard locking by applying voltage to the guard locking solenoid. Release by spring force. Monitoring of the door position: The door monitoring output OUT D is set to HIGH as soon as the actuator is above the extended plunger (state: door closed, guard locking not active). The output OUT D remains set also with guard locking active.

Teach-in input (optional)

Some devices with unicode evaluation have a teach-in input. These devices can be taught-in only if the teach-in input has the corresponding circuit. In this way the protection against tampering is additionally increased.

Auxiliary release

Included with all versions as standard.

Escape release (optional)

Some devices have an escape release (see ordering table).

Wire front release (optional)

The wire front release permits remote unlocking of the guard locking via a pull wire. Flexible routing of the pull wire permits release of the guard locking in inaccessible installation situations.

Double ramp



Versions with double ramp can be approached from two sides.

Devices with double ramp are also suitable for applications in which the switch must be "passed over." E.g. on doors that can be opened inwards and outwards. The double ramp can be retrofitted (see accessories page 118).

LED indicator

STATE Status
DIA Diagnostics
LED 1 red see wiring diagram
LED 2 green see wiring diagram

Additional connections (depending on version)

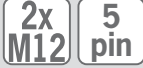
OUT Monitoring output (semiconductor)
OUT D Door monitoring output
DIA Diagnostic output

Further information

- ▶ Dimension drawings see p. 48
- ▶ Accessories and spare parts see p. 47
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.

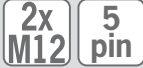
Ordering table

CET-AP-...-SI-... with two plug connectors M12, without door monitoring output, for connection to decentralized peripheral equipment

 Order no./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1) ¹⁾	For wiring diagram see page 50	
CET3 Closed-circuit current principle								
111346 CET3-AP-CRA-AH-50X-SI-111346	U							For detailed information, enter the order number for the product in the search box at www.euchner.com .
121367 CET3-AP-CRA-AH-50X-SI-C2290-121367	U					5 m		
114073 CET3-AP-CRA-AH-50F-SI-114073	U				75 mm			
157408 CET3-AP-CRA-AH-50F-SI-C2312-157408	U				105 mm			
CET4 Open-circuit current principle								
112082 CET4-AP-CRA-AH-50X-SI-112082	U							

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

CET-AP-...-SI-... with two plug connectors M12, with door monitoring output

 Order no./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1) ¹⁾	For wiring diagram see page 50	
CET3 Closed-circuit current principle								
124589 CET3-AP-CRA-AH-50X-SI-C2438-124589	U							For detailed information, enter the order number for the product in the search box at www.euchner.com .
124594 CET3-AP-CRA-AH-50F-SI-C2438-127594	U				75 mm			
CET4 Open-circuit current principle								
126763 CET4-AP-CRA-AH-50X-SI-C2438-126763	U							

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

CET.-AP-...-SA-... with plug connector M12, with door monitoring output

M12 8 pin Order no./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1)¹⁾	For wiring diagram see page 50	
CET3 Closed-circuit current principle								For detailed information, enter the order number for the product in the search box at www.euchner.com.
122398 CET3-AP-CRA-AH-50X-SA-122389	U						C	
121579 CET3-AP-CRA-CH-50X-SA-121579	M							
124601 CET3-AP-CRA-AH-50F-SA-124601	U				75 mm			
157287 CET3-AP-CRA-CH-50F-SA-C2312-157287	M				105 mm			
122406 CET3-AP-CRA-AH-50X-SA-122406	U						D	
122409 CET3-AP-CRA-CH-50X-SA-122409	M							
CET4 Open-circuit current principle								
122415 CET4-AP-CRA-AH-50X-SA-122415	U						C	
122413 CET4-AP-CRA-CH-50X-SA-122413	M							

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

CET.-AP-...-SH-... with plug connector M23, with door monitoring output

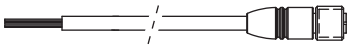
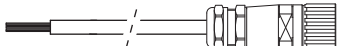
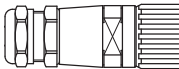
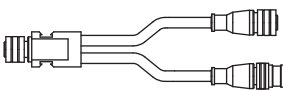
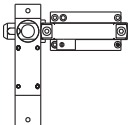
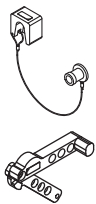
 Order no./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1)¹⁾	For wiring diagram see page 51	
CET3 Closed-circuit current principle								
119106 CET3-AP-CRA-AH-50F-SH-C2312-119106	U				105 mm			For detailed information, enter the order number for the product in the search box at www.euchner.com .

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

Actuator

Series	Design	Order no./item	
CET-A-BWK-50X		096327 CET-A-BWK-50X	For detailed information, enter the order number for the product in the search box at www.euchner.com .

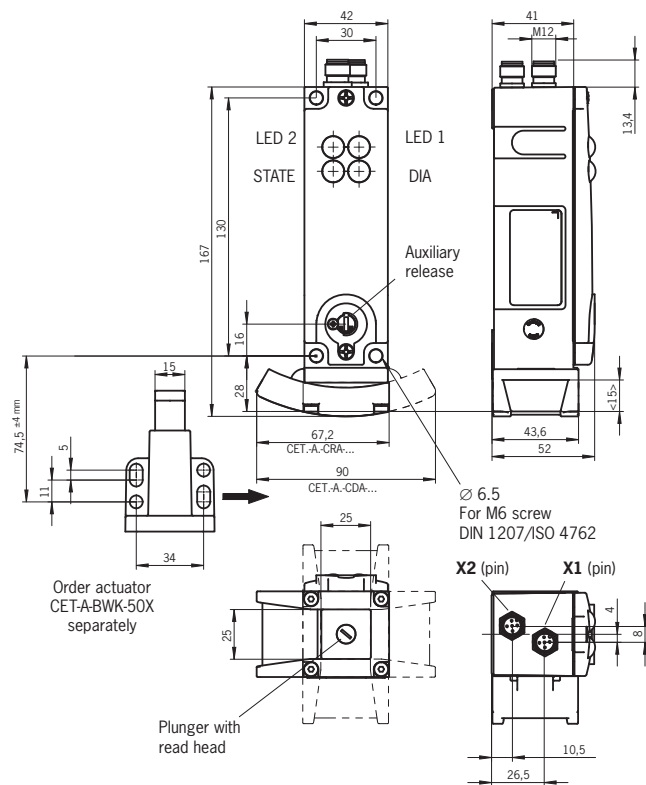
Accessories

Type	Version	
Connection material	Connecting cable with plug connector  M12 5 pin 8 pin	Page 97 f.
	Connecting cable with plug connector  M23 19 pin	Page 99
	Female plug (for self-assembly)  M23 19 pin	Page 104/105
	Adapter for connection to IP 67 field modules For AP devices with plug connectors 2 x M12, 5-pin, with monitoring output (e.g. CET-AP with wiring diagram B) for connection to field modules with socket M12, 5-pin.  M12 (socket) 5 pin 2x M12 (plug)	Page 106
Bolts	Bolts for housing design CET 	Page 107
Fixing material	Mounting plates 	Page 111
	Safety screws 	Page 114
Miscellaneous accessories	Lockout bar 	Page 116 f.
	Mechanical key release 	
	Emergency unlocking 	
	Cover 	
	Double ramp 	
	Handle for wire front release 	

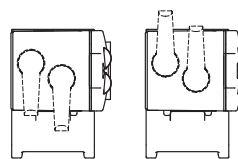
Dimension drawing

2x
M12

With two plug connectors M12

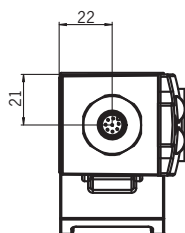


With angle connectors



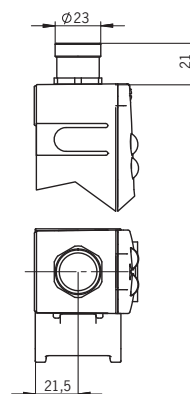
M12

With one plug connector M12

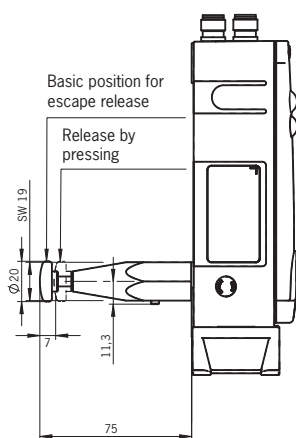


M23

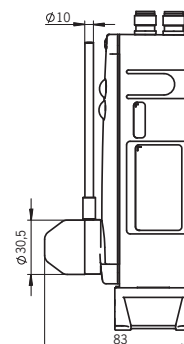
With plug connector M23



With escape release



With wire front release





Terminal assignment

A B 2x M12 Wiring diagrams A and B

Pin	Designation	Function	2x M12	
			A	B
X 1.1	U_B	Operating voltage, DC 24 V	●	●
X 1.2	OA	Safety output, channel 1	●	●
X 1.3	0 V U_B	Operating voltage, DC 0 V	●	●
X 1.4	OB	Safety output, channel 2	●	●
X 1.5	–	Not used	●	●
X 2.1	–	Not used	●	●
X 2.2	–	Not used (for connection to decentralized peripheral equipment)	●	●
	OUT D	Door monitoring output		●
X 2.3	0 V U_{CM}	Operating voltage of guard locking solenoid, DC 0 V	●	●
X 2.4	U_{CM}	Operating voltage of guard locking solenoid, DC 24 V	●	●
X 2.5	–	Not used	●	●

C D M12 Wiring diagrams C and D

Pin	Designation	Function	M12	
			C	D
1	U_{CM}	Operating voltage of guard locking solenoid, DC 24 V	●	●
2	U_B	Operating voltage, DC 24 V	●	●
3	OA	Safety output, channel 1	●	●
4	OB	Safety output, channel 2	●	●
5	OUT	Monitoring output (guard locking active)	●	●
	DIA	Monitoring output (diagnostic output)		●
6	OUT D	Door monitoring output	●	●
7	0 V U_B	Operating voltage, DC 0 V	●	●
8	0 V U_{CM}	Operating voltage of guard locking solenoid, DC 0 V	●	●

M23 19
pin

CET

E

M23 Wiring diagram E

Pin	Designation	Function
1	U_{CM}	Operating voltage of guard locking solenoid, DC 24 V
2	–	Not used
3	–	Not used
4	OA	Safety output, channel 1
5	OB	Safety output, channel 2
6	U_B	Operating voltage, DC 24 V
7	RST	Reset input
8	OUT D	Door monitoring output
9	–	Not used
10	OUT	Monitoring output (guard locking active)
11	–	Not used
12	FE	Function earth
13	J	Teach-in input
14	–	Not used
15	–	Not used
16	–	Not used
17	–	Not used
18	0V U_{CM}	Operating voltage of guard locking solenoid, DC 0 V
19	0V U_B	Operating voltage, DC 0 V

“Minimum effort for large installations with a large number of safety doors.”

- ▶ Can be connected in series with all AR devices (up to 20 devices)
- ▶ Quick connection via M12 connectors (depending on version)
- ▶ Evaluation via safety control systems or an AR evaluation unit (depending on version)
- ▶ Two safe semiconductor outputs
- ▶ Own pulsing for short circuit detection
- ▶ PL e/category 4 according to EN ISO 13849-1 for up to 20 devices
- ▶ Switch chains with cable lengths up to 200 m possible
- ▶ Large selection of devices
- ▶ Various guard locking devices available



CES

C01



CES

C02



CES

C04



ESL

ESL



CEM

CEM



CTP

CTP



CET

CET



CES

CES

Safety switch CES-AR-C01-...



- ▶ Up to 20 switches in series
- ▶ One active face, can be repositioned in five directions
- ▶ Diagnostics via two LEDs
- ▶ Large operating distance
- ▶ Standard housing according to EN 60947-5-2
- ▶ Limit-range indication

Details

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation
- ▶ Fixcode evaluation

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjusted in time.

LED indicator

STATE Status
DIA Diagnostics

Additional connections

OUT Monitoring output (semiconductor)
RST Reset input

Further information

- ▶ Dimension drawings see p. 55
- ▶ Accessories and spare parts see p. 55
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

Ordering table

Safety switch

Series	Version	Order no./item	
CES-AR-C01-AH-SA Unicode		098941 CES-AR-C01-AH-SA	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-AR-C01-CH-SA Multicode		098942 CES-AR-C01-CH-SA	
CES-AR-C01-EH-SA Fixcode (actuator CES-A-BPA included)		098582 CES-AR-C01-EH-SA	

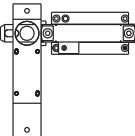
Actuator

Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BRN	80 x 40	27	100251 CES-A-BRN-100251	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BPA	40 x 40	22	098775 CES-A-BPA	
CES-A-BBA	42 x 25	18	071840 CES-A-BBA	
CES-A-BCA	42 x 25 Material: PE-HD	18	088786 CES-A-BCA	
CES-A-BDA-18	Ø18	19	156935 CES-A-BDA-18	

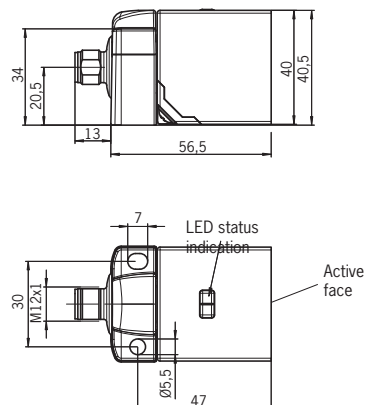
M12 **8 pin**

C01

Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	M12 8 pin Page 99
	Strapping plug/Y-distributor 	M12 Page 101
	Passive distribution module 	M12 Page 102
Bolts	Bolts for housing design C01 	Page 108
Fixing material	Safety screws	Page 116

Dimension drawing



Terminal assignment

8 pin	Designation	Function
1	IB	Enable input for channel 2
2	UB	Power supply DC 24 V
3	OA	Safety output, channel 1
4	OB	Safety output, channel 2
5	OUT	Monitoring output (door monitoring output)
6	IA	Enable input for channel 1
7	OV	Ground DC 0 V
8	RST	Reset input

Safety switch CES-AR-C.2-...



- ▶ Diagnostics via two LEDs
- ▶ Two active faces
- ▶ Limit-range indication
- ▶ Simple mounting on aluminum profiles
- ▶ Large temperature range (depending on version)
- ▶ Reinforcement plates and safety screws included

Details

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjusted in time.

Large temperature range

Devices with connecting cable and flying lead have a temperature range from -30 °C to +65 °C (with rigid cable laying).

LED indicator

STATE Status
DIA Diagnostics

Additional connections

OUT Monitoring output (semiconductor)
RST Reset input

Further information

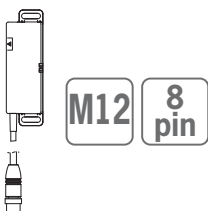
- ▶ Dimension drawings see p. 58
- ▶ Accessories and spare parts see p. 58
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

Ordering table

Safety switch

Series	Version	Door hinge ¹⁾	Order no./item	
CES-AR-C.2-AH-... Unicode			105751 CES-AR-CR2-AH-SG-105751	For detailed information, enter the order number for the product in the search box at www.euchner.com.
			105753 CES-AR-CL2-AH-SG-105753	
			105746 CES-AR-CR2-AH-SA-105746	
			105748 CES-AR-CL2-AH-SA-105748	
			109046 CES-AR-CR2-AH-L05-109046	
			109047 CES-AR-CL2-AH-L05-109047	
			109050 CES-AR-CR2-AH-L10-109050	
			109051 CES-AR-CL2-AH-L10-109051	
			109054 CES-AR-CR2-AH-L20-109054	
			109055 CES-AR-CL2-AH-L20-109055	

1) Applies to following alignment: connection/cable outlet pointing downward

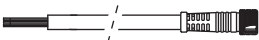
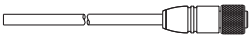
Series	Version	Door hinge ¹⁾	Order no./item	
CES-AR-C.2-CH-... Multicode			105750 CES-AR-CR2-CH-SG-105750	For detailed information, enter the order number for the product in the search box at www.euchner.com .
			105752 CES-AR-CL2-CH-SG-105752	
		 0,15m	115792 CES-AR-CR2-CH-SA-115792	
		 PUR	115793 CES-AR-CL2-CH-SA-115793	
		 1m	105745 CES-AR-CR2-CH-SA-105745	
		 1m	105747 CES-AR-CL2-CH-SA-105747	
		 PVC 2m	112928 CES-AR-CR2-CH-SA-112928	
		 2m	112929 CES-AR-CL2-CH-SA-112929	
		 5m	109044 CES-AR-CR2-CH-L05-109044	
		 5m	109045 CES-AR-CL2-CH-L05-109045	
		 10m	109048 CES-AR-CR2-CH-L10-109048	
		 10m	109049 CES-AR-CL2-CH-L10-109049	
		 20m	109052 CES-AR-CR2-CH-L20-109052	
		 20m	109053 CES-AR-CL2-CH-L20-109053	

1) Applies to following alignment: connection/cable outlet pointing downward

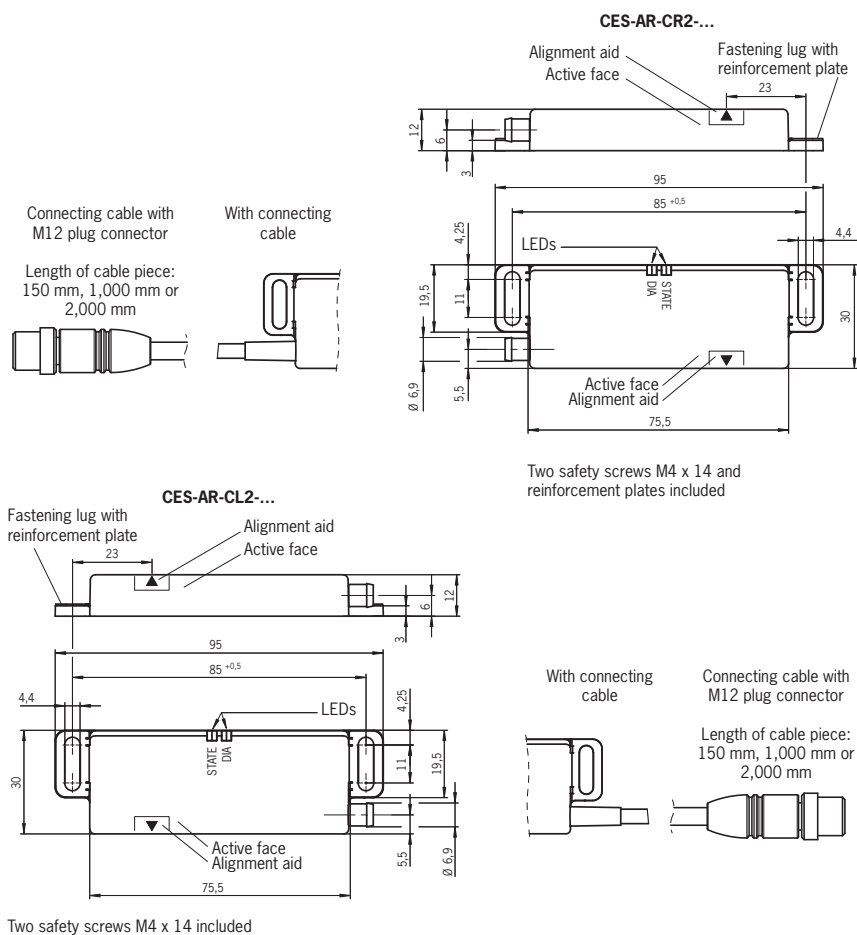
Actuator

Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BDN-06	 Ø6 x 26	19	104730 CES-A-BDN-06-104730	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BLN-...	 95 x 30 	15	100776 CES-A-BLN-R2-100776	
	 95 x 30 	15	104510 CES-A-BLN-L2-104510	
	 55 x 30 Independent of the door hinge	15	103450 CES-A-BLN-U2-103450	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	Page 96
	Connecting cable with plug connector 	Page 99
	Strapping plug/Y-distributor 	Page 101
	Passive distribution module 	Page 102
Fixing material	Safety screws	Page 116

Dimension drawing



M8

8
pin

M12

8
pin8
wire

C02

Terminal assignment

8 pin	Designation	Function	Wire color
1	IB	Enable input for channel 2	WH
2	UB	Power supply DC 24 V	BN
3	OA	Safety output, channel 1	GN
4	OB	Safety output, channel 2	YE
5	OUT	Monitoring output (door monitoring output)	GY
6	IA	Enable input for channel 1	PK
7	OV	Ground DC 0 V	BU
8	RST	Reset input	RD

Safety switch CES-I-AR-.-C04-...



- ▶ Smallest design
- ▶ Three active faces
- ▶ Diagnostics via two LEDs
- ▶ Limit-range indication
- ▶ Rubber support for protection against soiling
- ▶ ATEX protective cover (optional)

Details

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjusted in time.

Rubber support

A rubber support is included with each switch and actuator and is intended to prevent the accumulation of soiling in the area of the mounting holes.

LED indicator

STATE Status
DIA Diagnostics

ATEX protective cover

Housing protection AM-C-C04-EX-137528 is required for use in potentially explosive atmospheres. See accessories on p. 61.

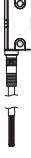
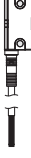
Further information

- ▶ Dimension drawings see p. 62
- ▶ Accessories and spare parts see p. 61
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

Ordering table

Safety switch

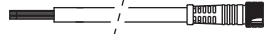
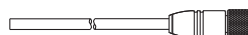
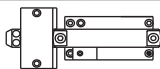
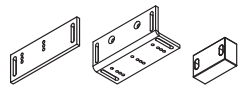
Series	Version	Order no./item	
CES-I-AR-U-C04-... Unicode	M8 8 pin	119469 CES-I-AR-U-C04-SG-119469	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	M12 8 pin PUR 1m	119473 CES-I-AR-U-C04-USA-119473	
	5m	119470 CES-I-AR-U-C04-U05-119470	
	8 wire PUR 10m	119471 CES-I-AR-U-C04-U10-119471	
	20m	119472 CES-I-AR-U-C04-U20-119472	

Series	Version	Order no./item	
CES-I-AR-M-C04-... Multicode	 M8 8 pin	119474 CES-I-AR-M-C04-SG-119474	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	 M12 8 pin PUR 1m	119479 CES-I-AR-M-C04-USA-119479	
	 5m	119475 CES-I-AR-M-C04-U05-119475	
	 8 wire PUR 10m	119476 CES-I-AR-M-C04-U10-119476	
	 20m	119477 CES-I-AR-M-C04-U20-119477	

Actuator

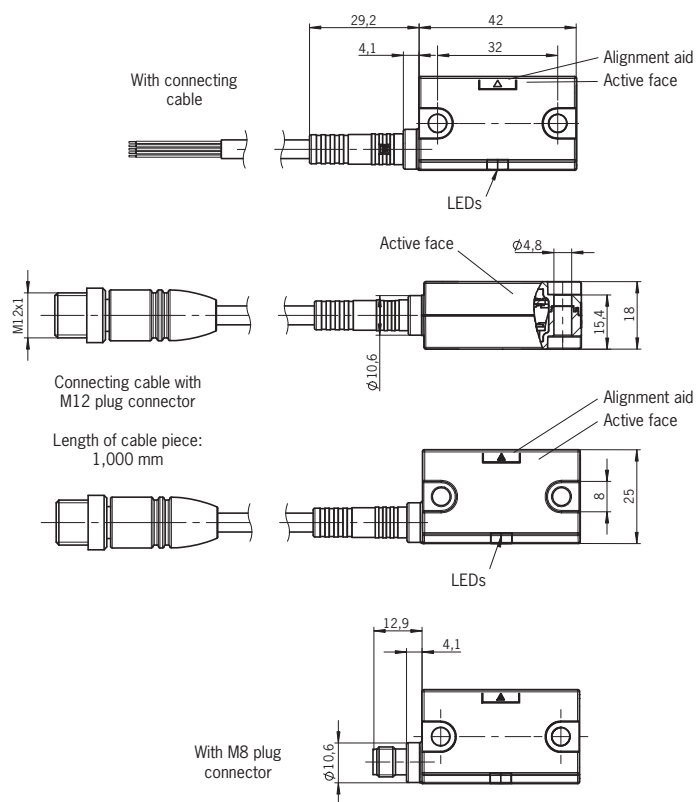
Series	Design	Typ. operating distance [mm]	Order no./item	
CES-A-BDN-06	 Ø6 x 26	19	104730 CES-A-BDN-06-104730	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BBN-C04	 42 x 25	15	115271 CES-A-BBN-C04-115271	
 CES-A-BBN-C04-EX-137527	 42 x 25	15	137527 CES-A-BBN-C04-EX-137527	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector  M8 8 pin	Page 96
	Connecting cable with plug connector  M12 8 pin	Page 99
	Strapping plug/Y-distributor M12	Page 101
	Passive distribution module M12	Page 102
Bolts	Bolts for housing design C04 	Page 110
Fixing material	Mounting sets 	Page 114
	Safety screws	Page 116
 Housing protection	Housing protection ATEX for switches 	Page 116



Dimension drawing



Rubber support included with switch and actuator

Terminal assignment

8 pin	Designation	Function	Wire color
1	FI1B	Enable input for channel 2	WH
2	UB	Power supply DC 24 V	BN
3	FO1A	Safety output, channel 1	GN
4	FO1B	Safety output, channel 2	YE
5	OD	Monitoring output (door monitoring output)	GY
6	FI1A	Enable input for channel 1	PK
7	OV	Ground DC 0 V	BU
8	RST	Reset input	RD

Safety system ESL-IH-AR-...



- ▶ Safety switch and door handle in one device
- ▶ Very simple mounting
- ▶ Robust metal housing
- ▶ Optional lock
- ▶ Diagnostics via two LEDs

Details**Available coding options**

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Changeover for right/left doors

The device can be adapted for doors hinged on right and left by rotating the connection. The devices are suitable only for hinged doors.

Lock (optional)

To protect against unintended machine operation, the device is available with a lock. This protects against unintentional opening of the door.

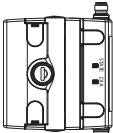
LED indicator

STATE Status
DIA Diagnostics

Further information

- ▶ Dimension drawings see p. 65
- ▶ Accessories and spare parts see p. 64
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

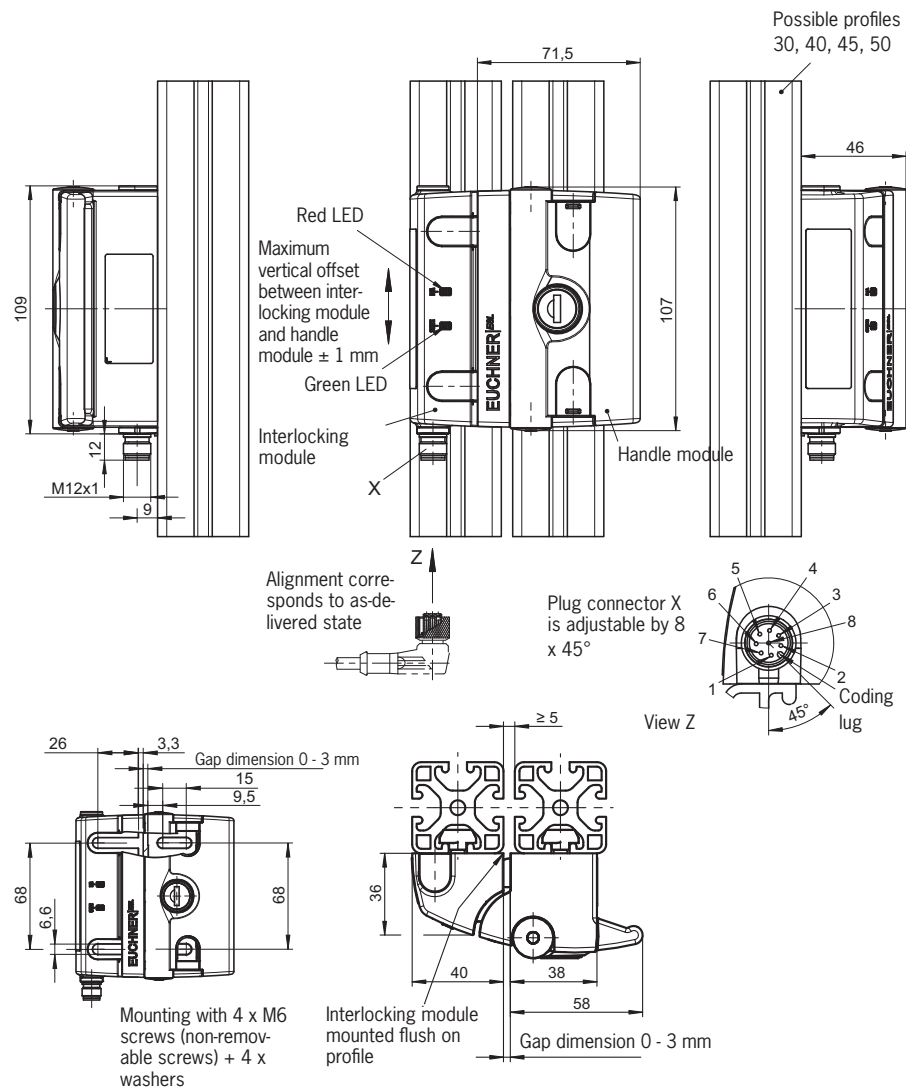
Ordering table**Safety switch**

Series	Version	Order no./item		
ESL-IH-AR-... Unicode	  	 115320 ESL-IH-AR-U-R30-SA-115320	For detailed information, enter the order number for the product in the search box at www.euchner.com .	
		-		120824 ESL-IH-AR-U-R30-SA-120824
ESL-IH-AR-... Multicode		 114943 ESL-IH-AR-M-R30-SA-114943		
		-		120646 ESL-IH-AR-M-R30-SA-120646

Accessories

Type	Version	
Connection material	Connecting cable with plug connectors M12 8 pin	Page 99
	Strapping plug/Y-distributor M12	Page 101
	Passive distribution module M12	Page 102
Fixing material	Safety screws	Page 116

Dimension drawing



Terminal assignment

Pin	Designation	Function
1	F11B	Enable input, channel 2
2	UB	Operating voltage, 24 V DC
3	F01A	Safety output, channel 1
4	F01B	Safety output, channel 2
5	OD	Monitoring output (door monitoring output)
6	F11A	Enable input, channel 1
7	0 V UB	Operating voltage, 0 V
8	RST	Reset input

Safety switch CEM-I2-AR-.-C40-... with guard locking for process protection



- ▶ Safety switch with guard locking for process protection
- ▶ Locking force 600 N
- ▶ Diagnostics via four LEDs
- ▶ Adjustable adhesive force (with guard locking inactive)
- ▶ Limit range indication for transponder and anchor plate

Notice

The safety switch CEM-I2-AR-.-C40-... is only allowed to be operated in conjunction with the actuator A-C40.

Details

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Adjustable adhesive force

The adhesive force can be adjusted with the aid of a parameterization key (order no. 125481) in steps of 0 N, 30 N (default setting on delivery) and 50 N. The adhesive force is active if guard locking is inactive. The operating voltage UB must be present for this purpose.

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE

LED. This allows the safety door to be readjusted in time. The device also signals if the guard locking force is less than 400 N on switching on.

LED indicator

POWER	Operating voltage
STATE	Status
DIA	Diagnostics
LOCK	Guard locking

Further information

- ▶ Dimension drawings see p. 67
- ▶ Accessories and spare parts see p. 66
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

Ordering table

Safety switch

Series	Version	Order no./item	
CEM-I2-AR-... Unicode		124937 CEM-I2-AR-U-C40-SH-124937	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CEM-I2-AR-... Multicode		113739 CEM-I2-AR-M-C40-SH-113739	

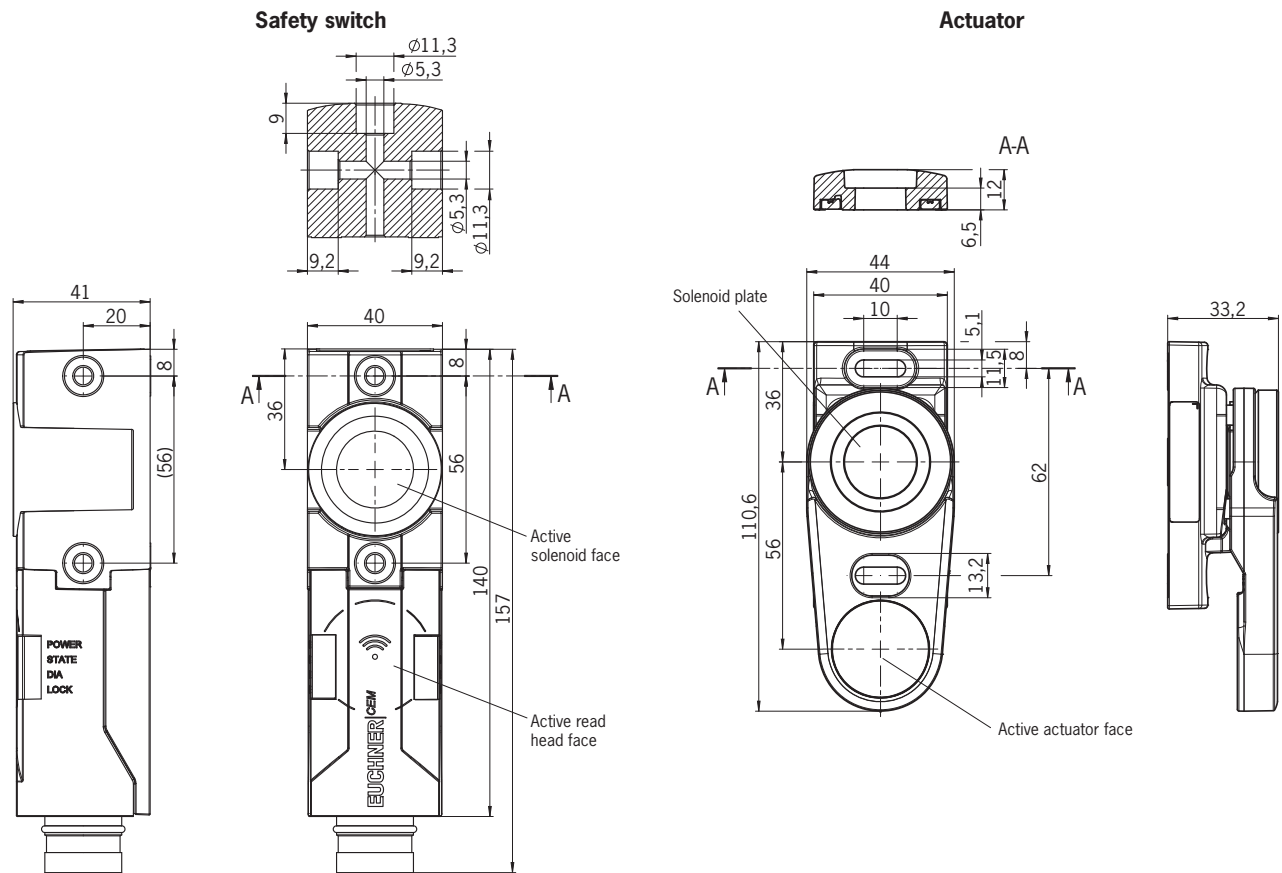
Actuator

Series	Design	Order no./item	
A-C40		113869 A-C40-113869	For detailed information, enter the order number for the product in the search box at www.euchner.com .
Parameterization key		125481 A-TI-001-125481	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	Page 104
	Female plug (for self-assembly) 	Page 106
Fixing material	Mounting bracket 	Page 114
	Safety screws 	Page 116
Miscellaneous accessories	Lockout bar 	Page 116

Dimension drawing



Terminal assignment

Pin	Designation	Function
1	IMP	Control voltage, guard locking solenoid, 24 V DC
2	FI1A	Enable input, channel 1
3	FI1B	Enable input, channel 2
4	FO1A	Safety output, channel 1
5	FO1B	Safety output, channel 2
6	UB	Operating voltage, 24 V DC
7	RST	Reset input
8	OT	Door monitoring output
9	OI	Diagnostic output
10	OL	Guard locking monitoring output
11	-	n.c.
12	FE	Function earth (must be connected to meet the EMC requirements)
13	-	n.c.
14	-	n.c.
15	-	n.c.
16	-	n.c.
17	-	n.c.
18	-	n.c.
19	0 V UB	Operating voltage, 0 V

Safety switch CTP-L-AR-... with guard locking



- ▶ Safety switch with guard locking
- ▶ Locking force up to 3,900 N
- ▶ Diagnostics via three LEDs

Notice

The device is only allowed to be operated in conjunction with the actuators A-C-H-....

Details

Approach direction



Head can be rotated in 90° steps

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Guard locking types

L1 Closed-circuit current principle

Guard locking by spring force.
Release by applying voltage to the guard locking solenoid.

L2 Open-circuit current principle

Guard locking by solenoid force.
Activation of the guard locking by applying voltage to the guard locking solenoid.

I2 As for L2, but without guard lock monitoring. Guard locking for process protection only.

Auxiliary release

Included with all versions as standard.

Escape release (optional)

Some devices have an escape release. The escape release can be extended with the aid of the support brackets supplied.

Retrofittable releases

Devices with auxiliary release can be retrofitted with various release functions (see accessories).

LED indicator

STATE	Status
LOCK	Guard locking
DIA	Diagnostics

Additional connections

OD	Door monitoring output
OI	Diagnostic output
OL	Guard locking monitoring output

Further information

- ▶ Dimension drawings see p. 72
- ▶ Accessories and spare parts see p. 71
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

1) German Social Accident Insurance approval pending

Ordering table

CTP-L-AR-...-SAB-... with two plug connectors M12

2x M12 5 pin 8 pin	Order no./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 73	
CTP-L1 Closed-circuit current principle						For detailed information, enter the order number for the product in the search box at www.euchner.com .
122812 CTP-L1-AR-U-HA-AZ-SAB-122812	U			A		
122813 CTP-L1-AR-U-HA-AE-SAB-122813	U	●				
123307 CTP-L1-AR-M-HA-AZ-SAB-123307	M					
123308 CTP-L1-AR-M-HA-AE-SAB-123308	M	●		A		
124067 CTP-L2-AR-M-HA-AZC-SAB-124067	M					
CTP-L2 Open-circuit current principle						
122814 CTP-L2-AR-U-HA-AZ-SAB-122814	U			A		
123361 CTP-L2-AR-M-HA-AZ-SAB-123361	M					

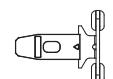
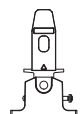
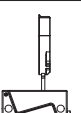
CTP-L-AR-...-SH-... with plug connector M23

M23 19 pin Order no./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 73	
CTP-L1 Closed-circuit current principle					For detailed information, enter the order number for the product in the search box at www.euchner.com.
123362 CTP-L1-AR-U-HAAZ-SH-123362	U			B	
123373 CTP-L1-AR-U-HAAE-SH-123373	U	●			
123363 CTP-L1-AR-MHA-AZ-SH-123363	M				
123374 CTP-L1-AR-MHAAE-SH-123374	M	●			
CTP-L2 Open-circuit current principle					
123366 CTP-L2-AR-U-HAAZ-SH-123366	U			B	
123369 CTP-L2-AR-MHAAZ-SH-123369	M				

CTP-L-AR-...-SH-... plug connector M23, extended version

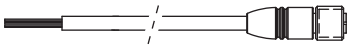
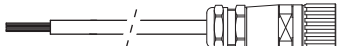
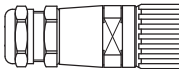
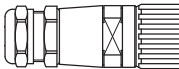
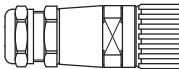
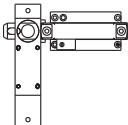
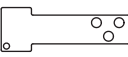
M23 19 pin Order no./item	Coding U = unicode M = multicode	Escape release	Controls	Guard locking Personnel/process protection	For wiring diagram see page 73	i
CTP-L1 Closed-circuit current principle						For detailed information, enter the order number for the product in the search box at www.euchner.com.
137341 CTP-L1-AR-U-HA-AZE-SH-137341	U		Two pushbuttons (illuminated)		C	
126874 CTP-L1-AR-U-HA-AZE-SH-126874	U		Emergency stop, two pushbuttons (illuminated)		D	
137164 CTP-L1-AR-U-HA-AEE-SH-137164	U	●	Emergency stop, two pushbuttons (illuminated)		D	
CTP-L2 Open-circuit current principle						
137165 CTP-L2-AR-U-HA-AZE-SH-137165	U		Emergency stop, two pushbuttons (illuminated)		D	

Actuator

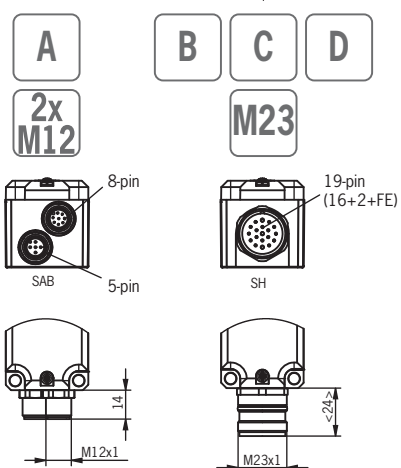
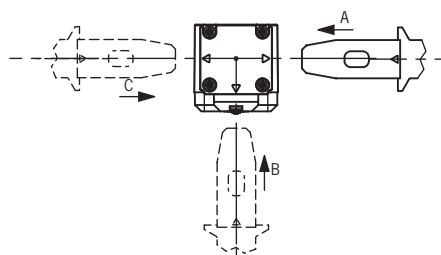
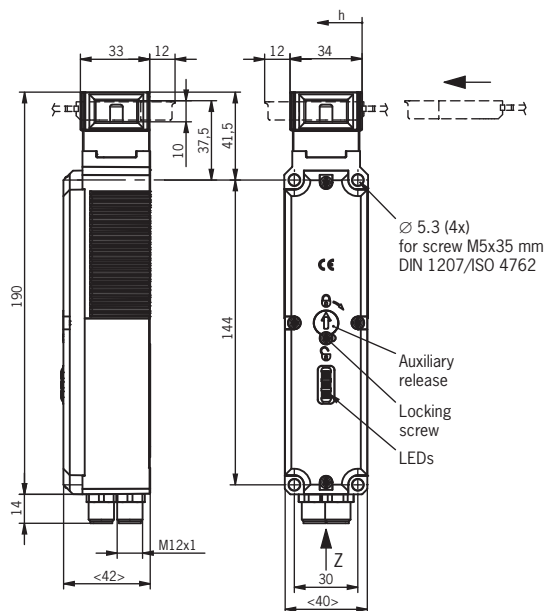
Series	Design	Order no./item	
A-C-H-...	 Straight	126015 A-C-H-G-SST-126015	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	 Bent, upward ¹⁾	122667 A-C-H-W-SST-122667	
	Bent, downward ¹⁾	122668 A-C-H-W-SST-122668	
	 Hinged actuator	122671 A-C-H-RL-LS-122671	
	 Hinged actuator	122672 A-C-H-RR-LS-122672	
	 Hinged actuator	122675 A-C-H-RO-LS-122675	
	 Hinged actuator	122676 A-C-H-RU-LS-122676	

1) Applies to following alignment: connection/cable outlet pointing downward

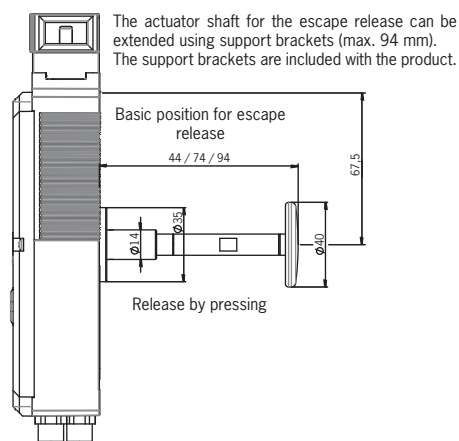
Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	M12  Page 97
		M12  Page 99
	Connecting cable with plug connector 	M23  Page 104/105
	Female plug (for self-assembly) 	M23  Page 106
	Strapping plug/Y-distributor 	M12 Page 101
	Passive distribution module 	M12 Page 102
Bolts	Bolts for housing design CTP 	Page 111
Fixing material	Mounting plates 	Page 114
	Safety screws 	Page 116
Miscellaneous accessories	Mechanical key release 	Page 116 f.
	Release 	
	Emergency unlocking 	
	Wire front release 	
	Handle for wire front release 	
	Lockout bar 	

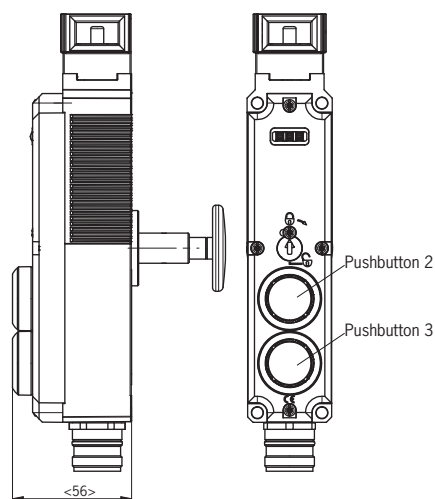
Dimension drawing



With escape release



Extended version





CTP

Terminal assignment

A

2x
M12

Wiring diagram A

Pin	Designation	Function
X 1.1	FI1B	Enable input, channel 2
X 1.2	U _B	Operating voltage of AR electronics, DC 24 V
X 1.3	FO1A	Safety output, channel 1
X 1.4	FO1B	Safety output, channel 2
X 1.5	OL	Guard locking monitoring output
X 1.6	FI1A	Enable input, channel 1
X 1.7	0 V U _B	Operating voltage of AR electronics, DC 0 V
X 1.8	RST	Reset input
X 2.1	IMM	Operating voltage of guard locking solenoid, DC 0 V
X 2.2	OD	Door monitoring output
X 2.3	OI	Diagnostic output
X 2.4	IMP	Operating voltage of guard locking solenoid, DC 24 V
X 2.5	–	Not used

B

M23

Wiring diagram B

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	FI1A	Enable input, channel 1
3	FI1B	Enable input, channel 2
4	FO1A	Safety output, channel 1
5	FO1B	Safety output, channel 2
6	U _B	Operating voltage of AR electronics, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostic output
10	OL	Guard locking monitoring output
11	–	Not used
12	FE	Function earth (must be connected to meet the EMC requirements)
13	–	Not used
14	–	Not used
15	–	Not used
16	–	Not used
17	–	Not used
18	IMM	Operating voltage of guard locking solenoid, DC 0 V
19	0V U _B	Operating voltage of AR electronics, DC 0 V

M23**19
pin****C****M23****Wiring diagram C**

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	FI1A	Enable input, channel 1
3	FI1B	Enable input, channel 2
4	FO1A	Safety output, channel 1
5	FO1B	Safety output, channel 2
6	U _B	Operating voltage of AR electronics, DC 24 V, and controls/indicators, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostic output
10	OL	Guard locking monitoring output
11	–	Not used
12	FE	Function earth (must be connected to meet the EMC requirements)
13	IMM	Operating voltage of guard locking solenoid, DC 0 V
14	–	Not used
15	S2	Pushbutton 2 (illuminated)
16	H2	LED 2
17	S3	Pushbutton 3 (illuminated)
18	H3	LED 3
19	0V U _B	Operating voltage of AR electronics, DC 0 V, and controls/indicators, DC 0 V

D**M23****Wiring diagram D**

Pin	Designation	Function
1	IMP	Operating voltage of guard locking solenoid, DC 24 V
2	FI1A	Enable input, channel 1
3	FI1B	Enable input, channel 2
4	FO1A	Safety output, channel 1
5	FO1B	Safety output, channel 2
6	U _B	Operating voltage of AR electronics, DC 24 V, and controls/indicators, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostic output
10	S1.A1	Emergency stop (channel A)
11	S1.A2	Emergency stop (channel A)
12	FE	Function earth
13	S1.B1	Emergency stop (channel B)
14	S1.B2	Emergency stop (channel B)
15	S2	Pushbutton 2 (illuminated)
16	H2	LED 2
17	S3	Pushbutton 3 (illuminated)
18	H3	LED 3
19	0V	Operating voltage of AR electronics, DC 0 V, controls/indicators, DC 0 V, and operating voltage of guard locking solenoid, DC 0 V

Transponder-coded safety switch CET.-AR-... with guard locking



- ▶ Safety switch with guard locking
- ▶ Locking force up to 6,500 N
- ▶ Metal housing
- ▶ Diagnostics via four LEDs

Notice

The device is only allowed to be operated in conjunction with the actuator CET-A-....

Details

Approach direction



Head can be rotated in 90° steps

Available coding options

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Category according to EN ISO 13849-1

The category is dependent on the installation position:

Installation position	Category/PL
	Cat. 3 PLe
	Cat. 4 PLe

Guard locking types

CET1 Closed-circuit current principle

Guard locking by spring force. Release by applying voltage to the guard locking solenoid.

CET2 Open-circuit current principle

Guard locking by solenoid force. Activation of the guard locking by applying voltage to the guard locking solenoid.

CET3 Function as for CET1-AR, but here the door position is also monitored. The door monitoring output OUT D is set to HIGH as soon as the actuator is above the extended plunger (state: door closed, guard locking not active). The output OUT D remains set also with guard locking active.

CET4 Function as for CET2-AR, but here the door position is monitored as well. The door monitoring output OUT D is set to HIGH as soon as the actuator is above the extended plunger (state: door closed, guard locking not active). The output OUT D remains set also with guard locking active.

Auxiliary release

Included with all versions as standard.

Escape release (optional)

Some devices have an escape release (see ordering table).

Wire front release (optional)

The wire front release permits remote unlocking of the guard locking via a pull wire. Flexible routing of the pull wire permits release of the guard locking in inaccessible installation situations.

Teach-in input (optional)

Some devices with unicode evaluation have a teach-in input. These devices can be taught-in only if the teach-in input has the corresponding circuit. In this way the protection against tampering is additionally increased.

Double ramp



Versions with double ramp can be approached from two sides.



Devices with double ramp are also suitable for applications in which the switch must be "passed over." E.g. on doors that can be opened inwards and outwards. The double ramp can be retrofitted (see accessories page 118).

Feedback loop (optional)

Versions with feedback loop permit monitoring of connected devices (e.g. contactors). Additionally, a start button can be integrated.

LED indicator

STATE Status

DIA Diagnostics

LED 1 red see wiring diagram

LED 2 green see wiring diagram

Additional connections

OUT Monitoring output (semiconductor)

OUT D Door monitoring output (only CET3/4)

RST Reset input

Further information

- ▶ Dimension drawings see p. 82
- ▶ Accessories and spare parts see p. 81
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

Ordering table

CET-AR-...-SG-... with two plug connectors M12, without door monitoring

2x M12 5 pin 8 pin	Order no./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Function earth	Escape release	Wire front release (L1) ¹⁾	For wiring diagram see page 84		
CET1											
Closed-circuit current principle											
106275 CET1-AR-CDA-AH-50X-SG-106275	U		●						A	For detailed information, enter the order number for the product in the search box at www.euchner.com	
106616 CET1-AR-CRA-AH-50A-SG-106616	U			●			75 mm				
106159 CET1-AR-CRA-AH-50F-SG-106159	U		●			75 mm					
105802 CET1-AR-CRA-AH-50S-SG-105802	U			●							
103418 CET1-AR-CRA-AH-50X-SG-103418	U		●								
113320 CET1-AR-CRA-AH-50S-SG-C2290-113320	U			●			5 m				
110241 CET1-AR-CRA-CH-50F-SG-110241	M						75 mm				
105764 CET1-AR-CRA-CH-50S-SG-105764	M				●						
105763 CET1-AR-CRA-CH-50X-SG-105763	M										
109015 CET1-AR-CRA-CH-50X-SG-C2290-109015	M					●		3 m			
109231 CET1-AR-CDA-CH-50X-SG-109231	M										
CET2											
Open-circuit current principle											
109075 CET2-AR-CRA-AH-50S-SG-109075	U			●					A		
110240 CET2-AR-CRA-AH-50X-SG-110240	U		●								
109941 CET2-AR-CRA-CH-50F-SG-C2312-109941	M						105 mm				
110082 CET2-AR-CRA-CH-50X-SG-110082	M										

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

For detailed information, enter the order number for the product in the search box at www.euchner.com.

CET.-AR-...-SG-... with two plug connectors M12, with door monitoring output

2x M12 5 pin 8 pin			Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Function earth	Escape release	Wire front release (L1) ¹⁾	For wiring diagram see page 84	
CET3											
Closed-circuit current principle											
110114 CET3-AR-CRA-CH-50X-SG-C2290-110114			M				●		3 m	B	For detailed information, enter the order number for the product in the search box at www.euchner.com
110905 CET3-AR-CRA-CH-50F-SG-C2290-110905			M				●	75 mm	3 m		
110906 CET3-AR-CRA-CH-50X-SG-110906			M				●				
110907 CET3-AR-CRA-CH-50F-SG-110907			M				●	75 mm			
109401 CET3-AR-CRA-AH-50X-SG-109401			U		●						
113139 CET3-AR-CRA-AH-50X-SG-C2290-113139			U		●				3 m		
113965 CET3-AR-CRA-AH-50F-SG-113965			U		●			75 mm			
112992 CET3-AR-CRA-CH-50S-SG-112992			M			●					
114090 CET3-AR-CDA-CH-50F-SG-114090			M								
CET4											
Open-circuit current principle											
111683 CET4-AR-CRA-AH-50X-SG-111683			U		●					B	
128193 CET4-AR-CRA-AH-50X-SG-C2290-128193			U		●				3 m		
111684 CET4-AR-CRA-CH-50X-SG-111684			M								
114650 CET4-AR-CRA-CH-50F-SG-114650			M					75 mm			
113081 CET4-AR-CRA-CH-50S-SG-113081			M			●					
114712 CET4-AR-CDA-CH-50X-SG-114712			M								
113609 CET4-AR-CRA-CH-50X-SG-C2355-113609			M							C	

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

CET.-AR-...-SH-... plug connector M23, without door monitoring output

M23 19 pin Order no./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Function earth	Escape release	Wire front release (L1)¹⁾	For wiring diagram see page 85		
CET1 Closed-circuit current principle										
110203 CET1-AR-CRA-AH-50X-SH-110203	U							D	For detailed information, enter the order number for the product in the search box at www.euchner.com	
113022 CET1-AR-CRA-AH-50X-SH-C2290-113022	U						3 m			
113021 CET1-AR-CRA-AH-50F-SH-C2353-113021	U					105 mm	3 m			
110943 CET1-AR-CRA-AH-50F-SH-C2312-110943	U					105 mm				
110204 CET1-AR-CRA-CH-50X-SH-110204	M									
124104 CET1-AR-CRA-CH-50F-SH-C2312-124104	M					105 mm				
113255 CET1-AR-CDA-CH-50X-SH-113255	M									
CET2 Open-circuit current principle										
110205 CET2-AR-CRA-AH-50X-SH-110205	U							D		
112446 CET2-AR-CDA-AH-50X-SH-112446	U									
110206 CET2-AR-CRA-CH-50X-SH-110206	M									

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

CET.-AR-...-SH-... with plug connector M23, with door monitoring output

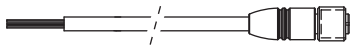
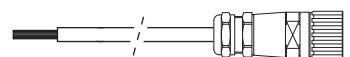
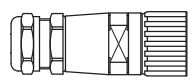
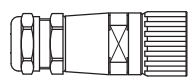
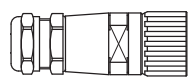
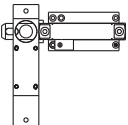
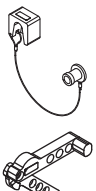
M23 19 pin Order no./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Function earth	Escape release	Wire front release (L1) ¹⁾	For wiring diagram see page 85		
CET3 Closed-circuit current principle										
110103 CET3-AR-CRA-AH-50X-SH-110103	U		●		●			E	For detailed information, enter the order number for the product in the search box at www.euchner.com .	
111725 CET3-AR-CRA-AH-50F-SH-C2312-111725	U		●		●	105 mm				
113024 CET3-AR-CRA-AH-50X-SH-C2290-113024	U		●		●		3 m			
113023 CET3-AR-CRA-AH-50F-SH-C2353-113023	U		●		●	105 mm	3 m			
114088 CET3-AR-CRA-AH-50X-SH-C2290-114088	U		●		●		5 m			
113148 CET3-AR-CRA-AH-50F-SH-113148	U		●		●	75 mm				
115202 CET3-AR-CRA-AH-50X-SH-C2375-115202	U				●					
110104 CET3-AR-CRA-CH-50X-SH-110104	M				●					
114647 CET3-AR-CDA-AH-50F-SH-114647	U		●		●	75 mm				
CET4 Open-circuit current principle										
110201 CET4-AR-CRA-AH-50X-SH-110201	U		●		●			E		
116285 CET4-AR-CRA-AH-50F-SH-116285	U		●		●	75 mm				
110202 CET4-AR-CRA-CH-50X-SH-110202	M				●					

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 116).

Actuator

Series	Design	Order no./item	
CET-A-BWK-50X		096327 CET-A-BWK-50X	For detailed information, enter the order number for the product in the search box at www.euchner.com .

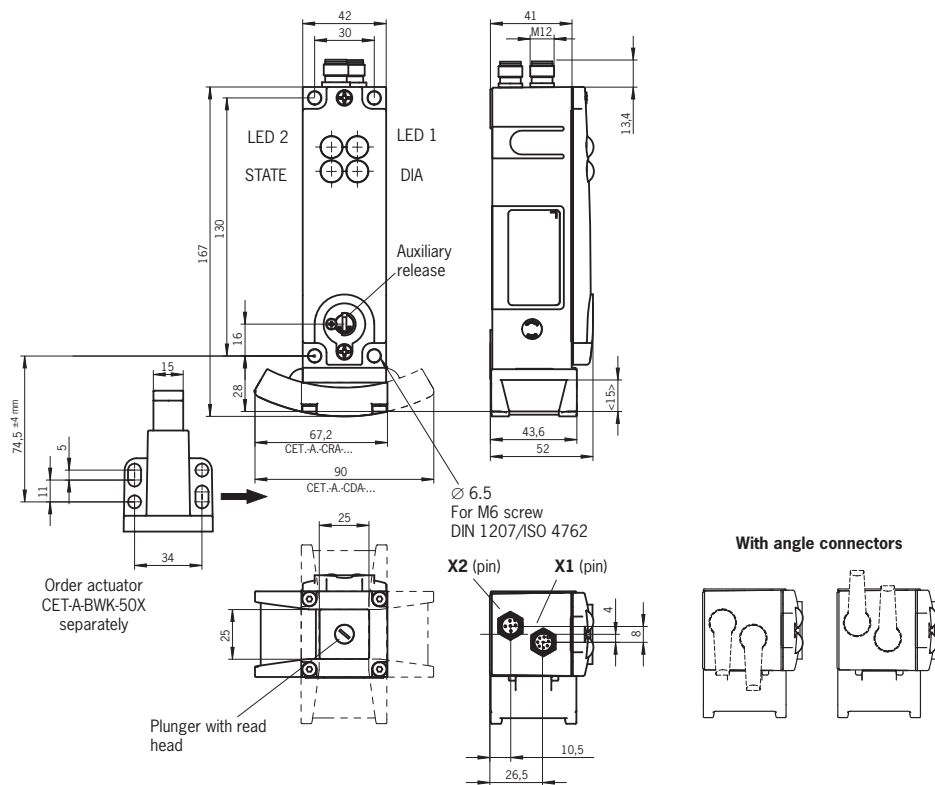
Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	M12 5 pin Page 97
	Connecting cable with plug connectors 	M12 8 pin Page 99
	Connecting cable with plug connectors 	M23 19 pin Page 104/105
	Female plug (for self-assembly) 	M23 19 pin Page 106
	Strapping plug/Y-distributor 	M12 Page 101
	Passive distribution module 	M12 Page 102
Bolts	Bolts for housing design CET 	Page 111
Fixing material	Mounting plates 	Page 114
	Safety screws 	Page 116
Miscellaneous accessories	Lockout bar 	Page 116 f.
	Mechanical key release 	
	Emergency unlocking 	
	Cover 	
	Double ramp 	
	Handle for wire front release 	

Dimension drawing

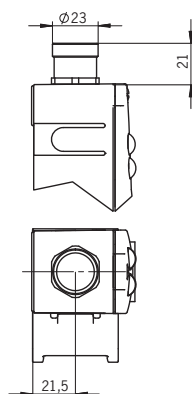
2x
M12

With two plug connectors M12

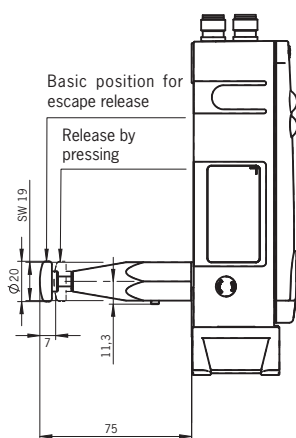


M23

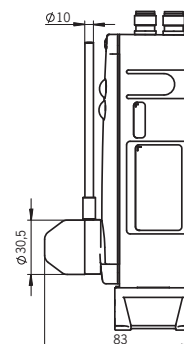
With plug connector M23



With escape release



With wire front release





Terminal assignment

A ... **C** Wiring diagram A to C

Pin	Designation	Function	2x M12		
			A	B	C
X 1.1	IB	Enable input for channel 2	●	●	●
X 1.2	U _B	Operating voltage of AR electronics, DC 24 V	●	●	●
X 1.3	OA	Safety output, channel 1	●	●	●
X 1.4	OB	Safety output, channel 2	●	●	●
X 1.5	OUT	Monitoring output	●	●	●
X 1.6	IA	Enable input for channel 1	●	●	●
X 1.7	0 V U _B	Operating voltage of AR electronics, DC 0 V	●	●	●
X 1.8	RST	Reset input	●	●	●
X 2.1	0 V U _{CM}	Operating voltage of guard locking solenoid, DC 0 V	●	●	●
X 2.2	LED 1	LED 1 red, freely configurable, DC 24 V	●		
		LED 1 red, solenoid energized	● ¹⁾		
X 2.3	OUT D	Door monitoring output (indication on LED 2)		●	●
X 2.4	LED 1	LED 1 red, freely configurable, DC 24 V		●	
	LED 2	LED 2 green, freely configurable, DC 24 V	●		
X 2.5	OUT	Monitoring output			●
X 2.5	U _{CM}	Operating voltage of guard locking solenoid, DC 24 V	●	●	●
X 2.5	J	Version with teach-in input	●	●	
	Y	Version with feedback loop	●	●	
	–	Version without feedback loop, without teach-in input and without function earth	●	●	●
	FE	Function earth	● ¹⁾	●	

1) Only for order no.109015

M23 19 pin

CET

D ... E Wiring diagrams D and E

Pin	Designation	Function	M23	
			D	E
1	U_{CM}	Operating voltage of guard locking solenoid, DC 24 V	●	●
2	IA	Enable input for channel 1	●	●
3	IB	Enable input for channel 2	●	●
4	OA	Safety output, channel 1	●	●
5	OB	Safety output, channel 2	●	●
6	U_B	Operating voltage AR electronics, DC 24 V	●	●
7	RST	Reset input	●	●
8	OUT D	Door monitoring output (only CET3-AR and CET4-AR)		●
9	–	Not used	●	●
10	OUT	Monitoring output	●	●
11	–	Not used	●	●
12	FE	Function earth	●	●
13	J	Version with teach-in input	●	●
	Y	Version with feedback loop	●	●
	-	Version without feedback loop and without teach-in input	●	●
14	–	Not used	●	●
15	LED 1	LED 1 red, freely configurable, DC 24 V	●	●
16	LED 2	LED 2 green, freely configurable, DC 24 V	●	●
17	-	Not used	●	●
18	0V U_{CM}	Operating voltage of guard locking solenoid, DC 0 V	●	●
19	0V U_B	Operating voltage of AR electronics, DC 0 V	●	●

AR evaluation unit CES-AR-AES-12



- ▶ **Central evaluation of an AR switch chain**
- ▶ **Status of each individual switch can be seen**
- ▶ **For switch chains of up to 12 devices**
- ▶ **Four individual safe relay contacts**

Details

The AR evaluation unit is used to evaluate the individual safety switches in an AR switch chain and to reliably interrupt a safety circuit.

The unit has two inputs for the connection of an AR switch chain. The safety contacts are switched as a function of the input signals. Downstream parts of the safety circuit can be monitored using a feedback loop.

The switching states of the connected safety switches can be signaled by means of monitoring outputs (see table Terminal assignment p. 87). If the actuator on one of the safety switches in the switch chain is moved out of the operating distance, the AR evaluation unit opens its contacts and the corresponding monitoring output is reset. The system is designed so that failures will not result in the loss of the safety function. The occurrence of failures is detected by cyclic self-monitoring at the latest at the next demand to close the safety contacts. The system can be started either manually using a start button or automatically.

Category according to EN ISO 13849-1

Due to two redundant safety paths (relay contacts) with two internal, monitored normally open contacts per safety path, suitable for:

- ▶ Category 4/PL e according to EN ISO 13849-1
- ▶ Each safety path is independently safe.

LED indicator

STATE	Device status
DIA	Fault display
OUT	Switch chain status

Notice

The plug-in connection terminals are not included and must be ordered separately.

Further information

- ▶ Dimension drawings see p. 87
- ▶ Accessories and spare parts see p. 86
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.
- ▶ You will find information on the series connection of AR devices on page 5.

Ordering table**AR evaluation unit**

Series	Order no./item	
CES-AR-AES-12 Unicode	098225 CES-AR-AES-12	For detailed information, enter the order number for the product in the search box at www.euchner.com .

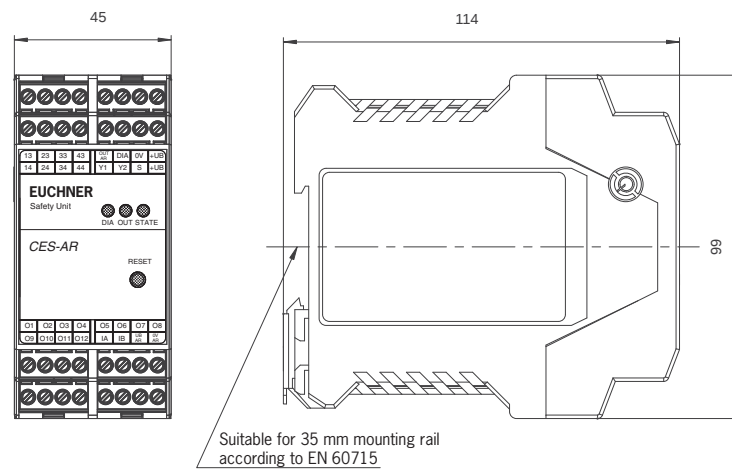
Accessories

Type	Version	
Connection material	Connection kits for AR evaluation unit CES-AR-AES-12	Page 107

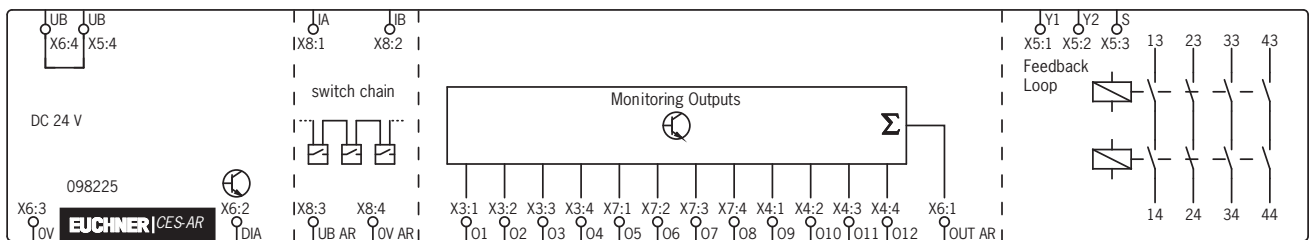
Which safety switches can be connected?

AR evaluation unit	Safety switch
098225 CES-AR-AES-12	CES-AR-C01... from V1.1.2 (see type label on the device)
	CES-AR-CR2... from V1.1.2 (see rating plate on the device)
	CES-AR-CL2... from V1.1.2 (see rating plate on the device)
	CES-I.-AR-C04 from V1.0.1 (see type label on the device)
	CET1/2-AR... from V1.1.2 (see type label on the device)
	CET3/4-AR... from V1.0.0 (see type label on the device)
	CTP-AR
	ESL-I-AR from V1.0.0

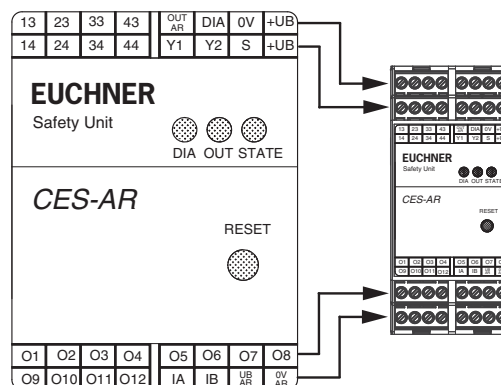
Dimension drawing



Block diagram



Terminal assignment



Several monitoring outputs are occupied depending on the switch type, e.g. one monitoring output for the door position and one for the guard locking status. The table below shows how many monitoring outputs the individual safety switches occupy.

Series	Number (type) of monitoring outputs
CES-AR ESL-AR	1 (door position or diagnostics)
CET1/2-AR	1 (status of guard locking)
CET3/4-AR CTP-AR	2 (first monitoring output: door position, second monitoring output: status of guard locking)

“Process protection guard locking for separate operation.”

- ▶ Safety switches for separate operation
- ▶ Magnetic guard locking for process protection
- ▶ Own pulsing for short circuit detection
- ▶ PL e/category 4 according to EN ISO 13849-1



CEM

CEM

AY

Safety switch CEM-I2-AY-.-C40-... with guard locking for process protection



- ▶ Safety switch with guard locking for process protection
- ▶ Locking force 600 N
- ▶ Diagnostics via four LEDs
- ▶ Adjustable adhesive force (with guard locking inactive)
- ▶ Limit range indication for transponder and anchor plate

Notice

The safety switch CEM-I2-AY-.-C40-... is only allowed to be operated in conjunction with the actuator A-C40.

Details

Available coding options

- ▶ Unicode evaluation

Adjustable adhesive force

The adhesive force can be adjusted with the aid of a parameterization key (order no. 125481) in steps of 0 N, 30 N (default setting on delivery) and 50 N. The adhesive force is active if guard locking is inactive. The operating voltage UB must be present for this purpose.

Limit-range indication

The device detects if the actuator wanders out of the operating distance and indicates that the actuator is in the limit range by flashing the STATE LED. This allows the safety door to be readjust-

ed in time. The device also signals if the guard locking force is less than 400 N on switching on.

LED indicator

POWER	Operating voltage
STATE	Status
DIA	Diagnostics
LOCK	Guard locking

Further information

- ▶ Dimension drawings see p. 91
- ▶ Accessories and spare parts see p. 90
- ▶ For detailed information, enter the order number for the product in the search box at www.euchner.com.

Ordering table

Safety switch

Series	Version	Order no./item	
CEM-I2-AY-... Unicode	M12 8 pin	128103 CEM-I2-AY-U-C40-SA-128103	For detailed information, enter the order number for the product in the search box at www.euchner.com .

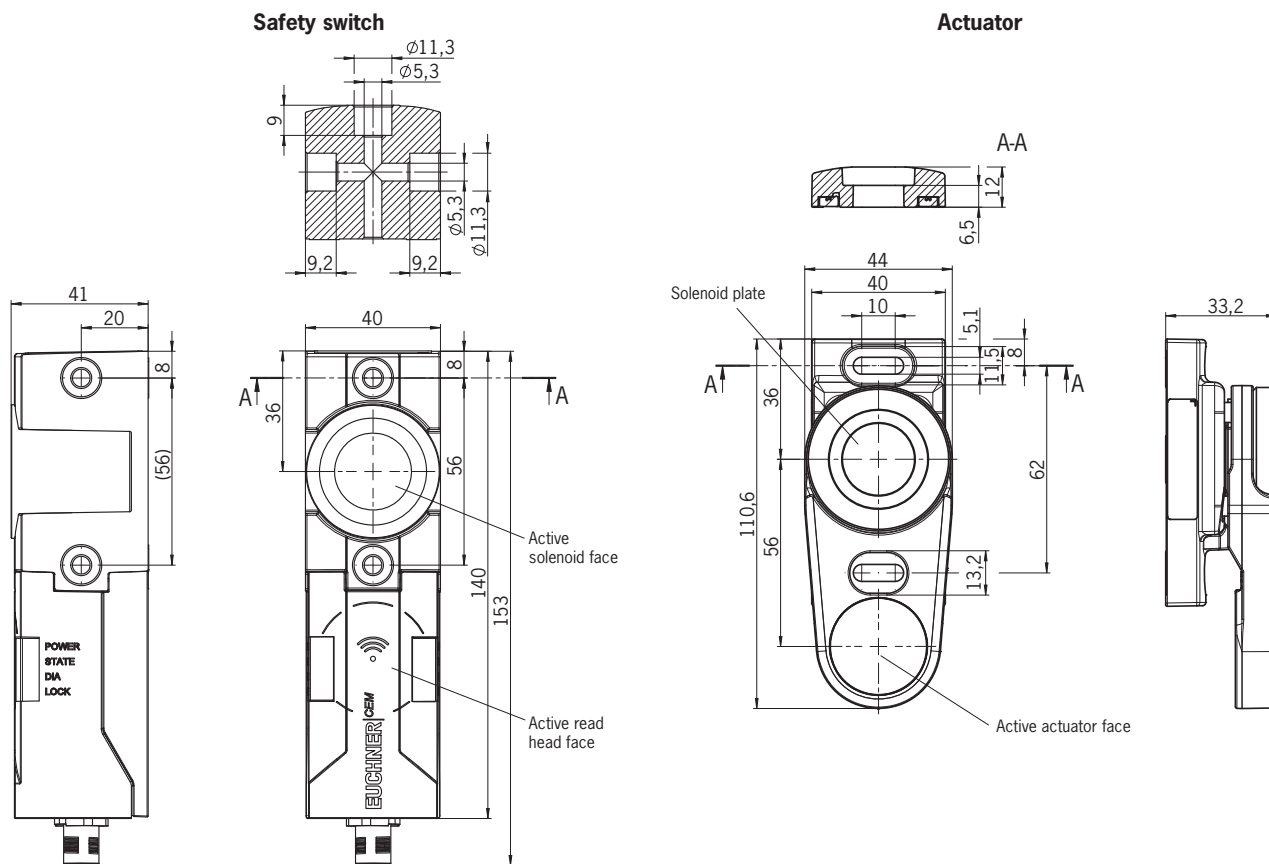
Actuator

Series	Design	Order no./item	
A-C40		113869 A-C40-113869	For detailed information, enter the order number for the product in the search box at www.euchner.com .
Parameterization key		125481 A-TI-001-125481	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector M12 8 pin	Page 99
Fixing material	Mounting bracket 	Page 114
	Safety screws	Page 116
Miscellaneous accessories	Lockout bar 	Page 116

Dimension drawing



Terminal assignment

Pin	Designation	Function
1	IMP	Control voltage, guard locking solenoid, 24 V DC
2	UB	Operating voltage, 24 V DC
3	F01A	Safety output, channel 1
4	F01B	Safety output, channel 2
5	OI	Diagnostic output
6	OT	Door monitoring output
7	OL	Guard locking monitoring output
8	0 V UB	Operating voltage, 0 V

“Exploit all the advantages
– with well thought-out
original accessories from
EUCHNER.”

- ▶ Connection material – connect safely and easily; no long search for cables and plug connectors.
- ▶ Fixing material – safe and easy installation for many installation situations.
- ▶ Bolts and bolt sets – door handle and mounting plate in one.
Complete sets comprising bolt and switch as complete solution.
- ▶ Function expansions – increase the possible applications with additional functions such as releases, lockout bars, etc.



Connection material

click 6 pin PVC

Connecting cables with snap-on catch

For the connection of:

CES-AP-C.2-...-SF



Version		Order no./item	
click 6 pin PVC Connecting cable with female plug, flying lead, 6 x 0.14 mm²	5m	103556 C-R08F06-06X014PV05,0-ES-103556	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	10m	103557 C-R08F06-06X014PV10,0-ES-103557	
	15m	103558 C-R08F06-06X014PV15,0-ES-103558	
	20m	103559 C-R08F06-06X014PV20,0-ES-103559	
	25m	103560 C-R08F06-06X014PV25,0-ES-103560	

Connecting cables with plug connectors

For the connection of:

CES-IP-.-C04-SK



Version		Order no./item	
M8 4 pin PVC	Connecting cable with female plug, flying lead, 4 x 0.25 mm ² 	2m 088812 C-M08F04-04X025PV02,0-ES-088812	For detailed information, enter the order number for the product in the search box at www.euchner.com .
		5m 088813 C-M08F04-04X025PV05,0-ES-088813	
		10m 088814 C-M08F04-04X025PV10,0-ES-088814	
		15m 088815 C-M08F04-04X025PV15,0-ES-088815	
		25m 095035 C-M08F04-04X025PV25,0-ES-095035	
		50m 097100 C-M08F04-04X025PV50,0-ES-097100	
M8 4 pin PUR	Connecting cable with female plug, flying lead, 4 x 0.25 mm ² 	10m 084703 C-M08F04-04X025PV10,0-ES-084703	
		5m 116049 C-M08F04-04X034PU05,0-ES-116049	
		10m 116050 C-M08F04-04X034PU10,0-ES-116050	
		20m 116051 C-M08F04-04X034PU20,0-ES-116051	
		50m 120241 C-M08F04-04X034PU50,0-ES-120241	

M8

8
pin

PVC

PUR

Connecting cables with plug connectors

For the connection of:

CES-AR-C.2...-SG



CES-I-AR-C04-SG



Version		Order no./item	
M8 8 pin PVC	Connecting cable with female plug, flying lead, 8 x 0.14 mm ² 	5m 110933 C-M08F08-08X014PV05,0-ES-110933	For detailed information, enter the order number for the product in the search box at www.euchner.com .
		10m 110934 C-M08F08-08X014PV10,0-ES-110934	
		15m 110935 C-M08F08-08X014PV15,0-ES-110935	
		20m 111603 C-M08F08-08X014PV20,0-ES-111603	
M8 8 pin PUR	Connecting cable with female plug, flying lead, 8 x 0.14 mm ² 	5m 106671 C-M08F08-08X014PU05,0-ES-106671	
		10m 106672 C-M08F08-08X014PU10,0-ES-106672	
		20m 106673 C-M08F08-08X014PU20,0-ES-106673	

Connecting cables with plug connectors

For the connection of:

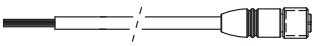
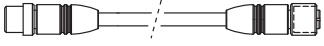
CES-AP-C01...-SB	CES-AP-C.2...-SB	CES-I-AP...-USB CES-I-AP...-USI	CTP...-AP...-SII CTP...-AR...-SAB	CET-AP...-SI CET-AR...-SG
Terminal plug not aligned. Cable outlet not defined			The following applies to the device installation position shown: Cable outlet C (left) Cable outlet A (right)	

Version		Cable outlet	Order no./item	
M12 5 pin PVC	Connecting cable with female plug, flying lead, 5 x 0.34 mm ²	5m	100183 C-M12F05-05X034PV05,0-MA-100183	For detailed information, enter the order number for the product in the search box at www.euchner.com .
		10m	100184 C-M12F05-05X034PV10,0-MA-100184	
		20m	100185 C-M12F05-05X034PV20,0-MA-100185	
		50m	156064 C-M12F05-05X034PV50,0-MA-156064	
	Extension, plug connectors at both ends for connection to decentralized peripheral equipment	5m	100180 C-M12F05-05X034PV05,0-M12M05-100180	
		10m	100181 C-M12F05-05X034PV10,0-M12M05-100181	
		20m	100182 C-M12F05-05X034PV20,0-M12M05-100182	
M12 5 pin PUR	Connecting cable with female plug, flying lead, 5 x 0.25 mm ²	10m	113190 C-M12F05-05X025PU10,0-MA-113190	
			113187 C-M12F05-05X025PU10,0-MA-113187	
	Extension, plug connectors at both ends for connection to decentralized peripheral equipment	10m	115566 C-M12F05-05X025PU10,0-M12M05-115566	
			115565 C-M12F05-05X025PU10,0-M12M05-115565	

M12

5
pin

PUR

Version		Cable outlet	Order no./item	
M12 5 pin PUR	Connecting cable with female plug, flying lead, 5 x 0.34 mm² 	5m	–	113620 C-M12F05-05X034PU05,0-MA-113620
		10m	–	113640 C-M12F05-05X034PU10,0-MA-113640
		20m	–	113682 C-M12F05-05X034PU20,0-MA-113682
		30m	–	122784 C-M12F05-05X034PU30,0-MA-113682
	Extension, plug connectors at both ends for connection to decentralized peripheral equipment 	5m	–	119932 C-M12F05-05X034PU05,0-M12M05-119932
		10m	–	119947 C-M12F05-05X034PU10,0-M12M05-119947
		20m	–	119971 C-M12F05-05X034PU20,0-M12M05-119971

For detailed information, enter the order number for the product in the search box at www.euchner.com.

Connecting cables with plug connectors

For the connection of:

CES-AP-C01...-SA
CES-AR-C01...-SA

CES-AR-C.2...-SA

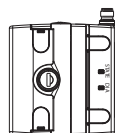
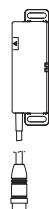
CES-I-AR...-USA

ESL...-AR...-SA

CEM...-AY...-SA

CTP...-AP...-SA
CTP...-AR...-SAB

CET-AP...-SA
CET-AR...-SG



Terminal plug not aligned.
Cable outlet not defined

The following applies to the device installation position shown:

Cable outlet C (left)

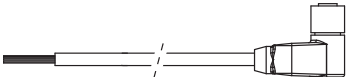
Cable outlet A (right)



Version		Cable outlet	Order no./item	
M12 8 pin PVC	Connecting cable with female plug, flying lead, 8 x 0.25 mm² 	5m	—	100177 C-M12F08-08X025PV05,0-MA-100177
		10m	—	100178 C-M12F08-08X025PV10,0-MA-100178
		20m	—	100179 C-M12F08-08X025PV20,0-MA-100179
		30m	—	115116 C-M12F08-08X025PV30,0-MA-115116
M12 8 pin PUR	Extension, plug connectors at both ends 	1m	—	123430 C-M12M08-08X025PV01,0-M12F08-123430
		2m	—	123431 C-M12M08-08X025PV02,0-M12F08-123431
		5m	—	123432 C-M12M08-08X025PV05,0-M12F08-123432
		10m	—	123433 C-M12M08-08X025PV10,0-M12F08-123433
M12 8 pin PUR	Connecting cable with female plug, flying lead, 8 x 0.25 mm² 	5m	—	115112 C-M12F08-08X025PU05,0-MA-115112
		10m	—	115113 C-M12F08-08X025PU10,0-MA-115113
		20m	—	115114 C-M12F08-08X025PU20,0-MA-115114
		30m	—	115257 C-M12F08-08X025PU30,0-MA-115257

For detailed information, enter the order number for the product in the search box at www.euchner.com.

M12 8 pin PUR

Version			Cable outlet	Order no./item	 For detailed information, enter the order number for the product in the search box at www.euchner.com .
M12 8 pin PUR	Connecting cable with female plug, flying lead, 8 x 0.25 mm² 	10m	C	113189 C-M12F08-08X025PU10,0-MA-113189	
			A	113188 C-M12F08-08X025PU10,0-MA-113188	
		20m	C	120999 C-M12F08-08X025PU20,0-MA-120999	
			A	120998 C-M12F08-08X025PU20,0-MA-120998	

Strapping plug/Y-distributors

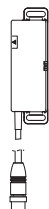
For the series connection of devices from the output family AR

For the connection of:

CES-AR-C01-.-SA



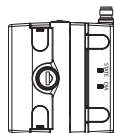
CES-AR-C.2-.-SA



CES-AR-.-USA



ESL-...AR-.-SA

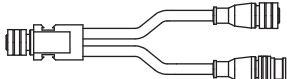


CTP-L-AR-.-SAB



CET-AR-.-SG



Version				Order no.	i For detailed information, enter the order number for the product in the search box at www.euchner.com.
Strapping plug for AR series connection with Y-distributors (male plug)				097645	
					
8 pin	1x	Y-distributor M12 with connecting cable	0,2m	111696	
5 pin	2x		1m	112395	
8 pin	1x	Y-distributor M12		097627	
5 pin	2x	Not suitable for CTP! Instead please use a Y-distributor with connecting cable (see above)			

M12

AR

Passive distribution module

For the series connection of devices from the output family AR

For the connection of:

CES-AR-C01...-SA

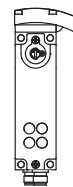
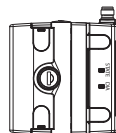
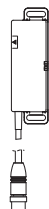
CES-AR-C.2...-SA

CES-I-AR...-USA

ESL...-AR...-SA

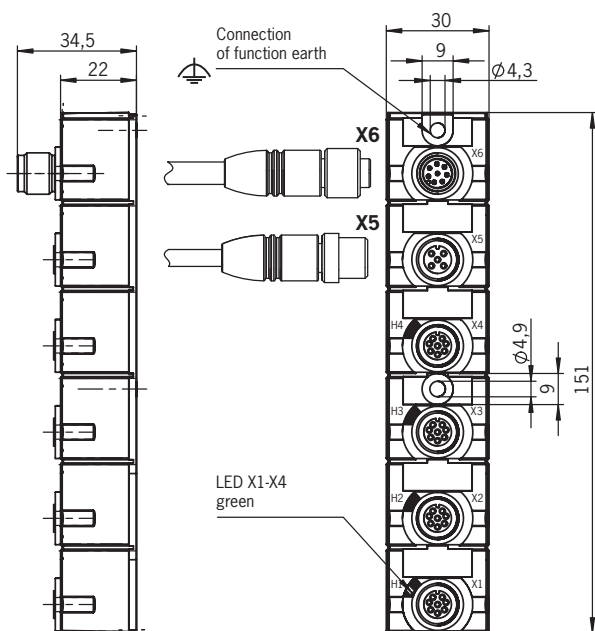
CTP-L-AR...-SAB

CET-AR...-SG

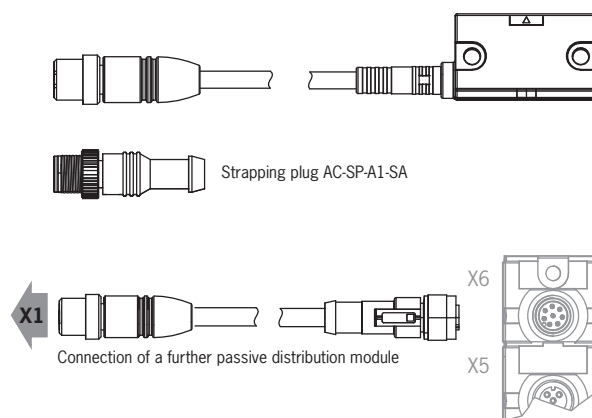


Version		Order no.	
8 pin 5x 5 pin 1x	Passive distribution module	120861 AC-DP-04-SAA-120861	
M12 AR	Strapping plug for bypassing unused connections on the passive distribution module (male plug)	123340 AC-SP-A1-SA-123340	For detailed information, enter the order number for the product in the search box at www.euchner.com .

Dimension drawing and connection options



Connection	Use
X1 ... X4	- Connection of AR devices (CES-AR, CET-AR, ...) or - Bypassing using strapping plug if connection is not used or - Connection of a further passive distribution module (important: only on X1)
X5	Provision of the status signals for all AR devices connected
X6	Power supply for the AR devices and transmission of the safety signals

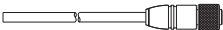


Screened connecting cables with plug connector

For the connection of:

CES-A-5



Version		Order no./item	 For detailed information, enter the order number for the product in the search box at www.euchner.com .
M12 8 pin PVC	5m	077751 C-M12F08-08X025PV05,0-GA-077751	
	10m	077752 C-M12F08-08X025PV10,0-GA-077752	
	15m	077753 C-M12F08-08X025PV15,0-GA-077753	
	20m	077871 C-M12F08-08X025PV20,0-GA-077871	
	25m	077872 C-M12F08-08X025PV25,0-GA-077872	
	50m	077873 C-M12F08-08X025PV50,0-GA-077873	
Connecting cable with female plug, screened ¹⁾ , 8 x 0.25 mm ² 			

1) The screen on the connecting cable is connected to the plug housing.

Connecting cable with straight plug connector

For the connection of:

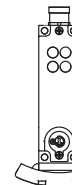
CEM-...AR-...-SH

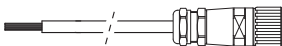


CTP-...AR-...-SH



CET-AR-...-SH



Version		Order no./item	
M23 19 pin PUR Connecting cable with female plug, flying lead 	1,5m	092761 C-M23F19-19XDIFPU01,5-MA-092761	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	3m	092816 C-M23F19-19XDIFPU03,0-MA-092816	
	6m	077014 C-M23F19-19XDIFPU06,0-MA-077014	
	8m	077015 C-M23F19-19XDIFPU08,0-MA-077015	
	10m	092898 C-M23F19-19XDIFPU08,0-MA-077015	
	15m	077016 C-M23F19-19XDIFPU15,0-MA-077016	
	20m	092726 C-M23F19-19XDIFPU20,0-MA-092726	
	25m	092727 C-M23F19-19XDIFPU25,0-MA-092727	
	30m	095993 C-M23F19-19XDIFPU30,0-MA-095993	
	40m	102490 C-M23F19-19XDIFPU40,0-MA-102490	

Connecting cable with angled plug connector

For the connection of:

CEM-...AR-...-SH



CTP-...AR-...-SH



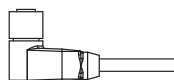
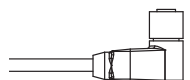
CET-AR-...-SH



The following applies to the device installation position shown:

Cable outlet C (left)

Cable outlet A (right)



Version		Order no./item Cable outlet		
		C	A	
M23 19 pin PUR Angled female plug with cable, halogen free	1,5m	092906 C-M23F19-19XDIFPU01,5-MA-092906	092907 C-M23F19-19XDIFPU01,5-MA-092907	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	3m	092908 C-M23F19-19XDIFPU03,0-MA-092908	092909 C-M23F19-19XDIFPU03,0-MA-092909	
	6m	077018 C-M23F19-19XDIFPU06,0-MA-077018	085194 C-M23F19-19XDIFPU06,0-MA-085194	
	8m	077019 C-M23F19-19XDIFPU08,0-MA-077019	085195 C-M23F19-19XDIFPU08,0-MA-085195	
	10m	092901 C-M23F19-19XDIFPU10,0-MA-092901	092902 C-M23F19-19XDIFPU10,0-MA-092902	
	15m	077020 C-M23F19-19XDIFPU15,0-MA-077020	085196 C-M23F19-19XDIFPU15,0-MA-085196	
	20m	092910 C-M23F19-19XDIFPU20,0-MA-092910	092911 C-M23F19-19XDIFPU20,0-MA-092911	
	25m	092912 C-M23F19-19XDIFPU25,0-MA-092912	092913 C-M23F19-19XDIFPU25,0-MA-092913	

M23

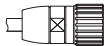
9
pin19
pin

Female plug M23

For the connection of:

CES-AH-C03-...



Version	Comment	Order no.	
M23 9 pin	Straight female plug  Mating connector for safety switch CES-AH-C03-...	106597	For detailed information, enter the order number for the product in the search box at www.euchner.com .

Female plug M23

For the connection of:

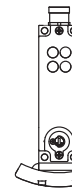
CEM-...-AR-...-SH

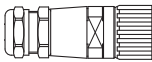
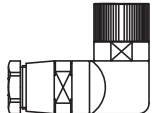


CTP-...-AR-...-SH



CET-AR-...-SH



Version	Comment	Order no.	
Straight female plug (for self-assembly) 	EF Female plug For conductor cross-section 19 x 0.75 - 1 mm ²	074616	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	EF-C1825 Female plug For conductor cross-section 16 x 0.25 - 0.5 mm ² + 3 x 0.75 - 1 mm ²	077025	
Angled female plug (for self-assembly) 	WF Angled female plug For conductor cross-section 19 x 0.75 - 1 mm ²	074617	
	WF-C1825 Angled female plug For conductor cross-section 16 x 0.25 - 0.5 mm ² + 3 x 0.75 - 1 mm ²	077026	
Replacement crimp contacts	For female plugs EF and WF Conductor cross-section 19 x 0.75 - 1 mm ²	094309	
	For female plugs EF-C1825 and WF-C1825 Conductor cross-section 16 x 0.25 - 0.5 mm ² + 3 x 0.75 - 1 mm ²	094310	

Connection kits

For connection to AR evaluation unit CES-AR-AES-12

Version	Comment	Order no.	
CES Connection kits for evaluation unit CES-AR-AES-12	Plug-in screw terminals	104776 CES-EA-TC-AK08-104776	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	Plug-in spring terminals	112629 CES-EA-TC-KK08-112629	

Teach-in adapter

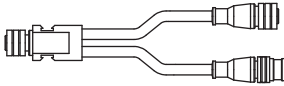
For connection to safety switch CET

Version	Comment	Order no.	
CET Teach-in adapter AC-TA-A-.... 2x M12	For safety switch CET1-AR/CET3-AR	125496 AC-TA-A1-SG-125496	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	For safety switch CET2-AR/CET4-AR	125497 AC-TA-A2-SG-125497	
	For safety switch CET1/CET3	122748 AC-TA-A1-SH-122748	
	For safety switch CET2/CET4	122749 AC-TA-A2-SH-122749	

Adapter for connection to IP 67 field modules

Adapter for AP devices with plug connectors 2 x M12, 5-pin, with monitoring output (e.g. CET-AP with wiring diagram B) for connection to field modules with sockets M12, 5-pin.

The adapter makes it possible to operate the guard locking solenoid via a safe output module and to route the monitoring contact OUT D to an input module on a control system.

Designation	Version	Order no.	
2x M12 AP Adapter for connection to IP 67 field modules 	M12 (socket) 2x M12 (plug) 5 pin	124516 AC-YD-V0,2-SBB-124516	For detailed information, enter the order number for the product in the search box at www.euchner.com .

Bolts

C01

C05

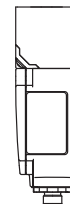
Bolts for housing design C01/C05**Notice:** The actuators are included with these bolts.**For mounting:**CES-AP-C01-...
CES-AR-C01-...

C01



CESA-5...

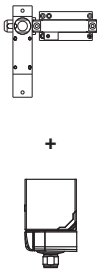
C05



Designation		Detent mechanism/ door gap	Material	Version	Order no.	
C01 C05 	Bolt CES-A-C	Closed position: ball detent mechanism Open position: none/ door gap: 15 mm	Steel	For doors hinged on the right or left	082220	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	Bolt CES-A-C/F	Closed position: ball detent mechanism Open position: detent knob/ door gap: 15 mm	Steel	Emergency release lever, for doors hinged on the right or left	098357	

Bolt sets (complete with switch)

Notice: The actuators are included with these bolts.

Designation	Detent mechanism/ door gap	Material	Version	Order no.	
  Bolt CES-AC...C01	Closed position: ball detent mechanism/ door gap: 7 mm	Steel	Bolt with pre-assembled safety switch CES-AR-C01-AH-SA-098941 for doors hinged on the right or left	109358	For detailed information, enter the order number for the product in the search box at www.euchner.com.
	Closed position: ball detent mechanism/ door gap: 7 mm	Steel	Bolt with pre-assembled safety switch CES-AP-C01-AH-SB-111145 for doors hinged on the right or left	113986	
	Closed position: ball detent mechanism Open position: detent knob/ door gap: 15 mm	Steel	Bolt with pre-assembled safety switch CES-AR-C01-AH-SA-098941 and safety plate ¹⁾ for doors hinged on the right or left	104028	
	Closed position: ball detent mechanism Open position: detent knob/ door gap: 15 mm	Steel	Bolt with pre-assembled safety switch CES-AR-C01-AH-SA-098941 and safety plate ¹⁾ for doors hinged on the right or left, emergency release lever	105619	
	Closed position: ball detent mechanism Open position: detent knob/ door gap: 7 mm	Steel	Bolt with pre-assembled safety switch CES-AP-C01-AH-SB-111145 and safety plate for doors hinged on the right or left, emergency release lever	124401	
	Closed position: ball detent mechanism Open position: detent knob/ door gap: 15 mm	Steel	Bolt with pre-assembled safety switch CES-AP-C01-AH-SB-111145 and safety plate ¹⁾ for doors hinged on the right or left, emergency release lever	116246	
	Closed position: ball detent mechanism Open position: detent knob/ door gap: 15 mm	Steel	Bolt with pre-assembled safety switch CES-AP-C01-CH-SB-111708 and safety plate ¹⁾ for doors hinged on the right or left, emergency release lever	115732	
	Closed position: ball detent mechanism/ door gap: 15 mm	Steel	Bolt with pre-assembled safety switch ¹⁾ CES-AP-C01-CH-SB-106798 for doors hinged on the right or left	110355	
	Closed position: ball detent mechanism/ door gap: 15 mm	Steel	Bolt with pre-assembled safety switch ¹⁾ CES-AP-C01-CH-SB-111708 for doors hinged on the right or left	110354	

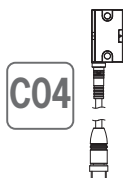
1) The safety plate prevents the use of a padlock in closed bolt position.

Bolts for housing design C04

Notice: The actuators are **not** included with these bolts.

For mounting:

CES-AP-.-C04-...
CES-AR-.-C04-...



Designation	Detent mechanism/ door gap	Material	Version	Order no.	
 Bolt BTC-CES04-...	Closed position: spring catch Open position: none/ door gap: 7 mm	Aluminum	For doors hinged on right and left, can be locked in open position with padlocks	121646	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	Closed position: spring catch Open position: detent knob/ door gap: 7 mm	Aluminum	Emergency release lever, for doors hinged on right and left, can be locked in open position with padlocks	123583	

Bolts for housing design CTP

Notice: The actuators are included with these bolts.

For mounting:

CTP-...-



Designation	Detent mechanism/ door gap	Material	Version	Order no.	
Bolt CTP-AC	None/ door gap: 15 mm	Steel	For doors hinged on right and left, can be locked in open position with padlocks	123653	For detailed information, enter the order number for the product in the search box at www.euchner.com.
Bolt CTP-ACF	Closed position: none Open position: detent knob/ door gap: 15 mm	Steel	Emergency release lever, for doors hinged on right and left, can be locked in open position with padlocks	123655	
Bolt CTP-AC-C2308	None/ door gap: 15 mm	Steel	For doors hinged on the right and left; bolt can be opened outward and inward (no end stop)	137354	
Bolt BTC-CTP-S-TH-00-X	None/ door gap: 15 mm	Die-cast aluminum	For doors hinged on right and left, can be locked in open position with padlocks	123659	
Bolt BTC-CTP-S-TH-01-F	Closed position: none Open position: detent knob/ door gap: 15 mm	Die-cast aluminum	Emergency release lever for doors hinged on the right and left; can be locked in open position with padlocks	123660	
Bolt CTP-GFK	None/ door gap: 7 mm	Plastic	For doors hinged on right and left; can be locked in open position with padlocks	123657	
Bolt CTP-GFK-F	Closed position: none Open position: detent knob/ door gap: 7 mm	Plastic	Emergency release lever, for doors hinged on right and left; can be locked in open position with padlocks	123658	
Switch bracket	–	Plastic	For safety switch CTP	096613	

CTP

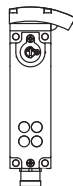


Bolts for housing design CET

Notice: - Actuators are **not** included with these bolts.
 - Cover (protection against tampering) for CET actuators included.

For mounting:

CET.-A.-...



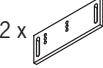
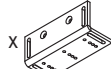
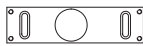
Designation	Detent mechanism/ door gap	Material	Version	Order no.	
Bolt CET-A-C	None/ door gap: 15 mm	Steel	For doors hinged on the right or left	104309	For detailed information, enter the order number for the product in the search box at www.euchner.com .
Bolt CET-A-C/F	Closed position: none Open position: detent knob/ door gap: 15 mm	Steel	For doors hinged on the right or left, for CET with escape release	106172	
Bolt CET-A-C/F-C2282	Closed position: none Open position: detent knob/ door gap: 15 mm	Steel, guide strip made of stainless steel	For doors hinged on the right or left, for CET with escape release	106350	
Bolt CET-A-C-C2308	None/ door gap: 15 mm	Steel	For doors hinged on the right or left. Bolt can be opened outward and inward (no end stop).	109672	

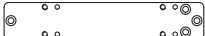
CET



Fixing material

Mounting sets/mounting plates

Series		Use	Order no./item	
C04	Mounting set AM-SET-PP  2 x	For safety switch and actuator design C04 Set comprising: 2 x mounting plates	119690 AM-SET-PP-119690	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	Mounting set AM-SET-PPB  1 x  1 x  1 x	For safety switch and actuator design C04 Set comprising: 1 x mounting plate 1 x angle mounting plate 1 x spacer	119694 AM-SET-PPB-119694	
	Mounting bracket AM-B-126230 	For actuator CEM-...-C40	126230 AM-B-126230	
CTP	Mounting bracket AM-B-126231 	For safety switch CEM-...-C40	126231 AM-B-126231	
	Angle mounting plate EMP-SB 	For safety switch CTP	093456 EMP-SB	
	Mounting plate EMP-B2 	For actuator CTP	093458 EMP-B2	
	Mounting plate EMP-B1 	For actuator CTP and actuator CET	093457 EMP-B1	
	Mounting plate AM-P 	For safety switch CTP	126026 AM-P-126026	

Series	Use	Order no./item	
Mounting plate EMP-L-CET 	For safety switch CET	106695 EMP-L-CET	For detailed information, enter the order number for the product in the search box at www.euchner.com .
Mounting plate EMP-B-CET 	For actuator CET	106694 EMP-B-CET	
Mounting plate EMP-B1 	For actuator CTP and actuator CET	093457 EMP-B1	
Mounting plate AM-P 	For safety switch CET	126399 AM-P-126399	
Mounting plate AM-P 	For actuator CET	126400 AM-P-126400	
Mounting plate with handle 	Can be combined with mounting plates AM-P-126399 and AM-P-126400	126398 AM-P-126398	

CET

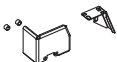
Miscellaneous accessories

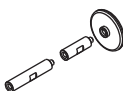
Safety screws

Fixing material/screw size	Version/usage	Packaging unit [qty.]	Order no.
Safety screws, stainless steel M4 x 14 (small head)	Actuators CES-A-BBA, CES-A-BCA	20	071863
Safety screws, stainless steel M4 x 14 (large head)	Safety switch CES-...C.2, actuator CES-A-BLN.2 and actuator CTP (straight/angled)	100	086232
Safety screws, stainless steel M4 x 20	Safety switch CES-AP-...C04 and actuator CES-A-BBN-C04-...	20	116978
Safety screws, stainless steel M5 x 10	Safety switch CES-...C01, actuator CES-A-BPA and hinged actuator CTP (left/right)	100	073455
Safety screws M5 x 16	Actuators CES-A-BRN, CET-A-BWK and actuator A-C40	100	073456
Safety screws M5 x 25	Hinged actuator CTP (top/bottom)	100	073457

Miscellaneous accessories

Designation	Use	Version	Order no
ATEX housing protection 	For safety switch CES-C04	–	137528 AM-C-C04-EX-137528
Lockout bar 	For safety switch design C40	–	123625 AE-L-C40-123625
Mechanical key release 	For safety switch CTP	Identical locking, including two keys	086236
		Identical locking, key removable only in <i>unlocked</i> position, including two keys	109212
		Unique locking, including two keys	084177
		Identical locking, key removable in <i>locked</i> position, including two keys	121917
	For mechanical key release, identical locking	Two keys, identical locking	099434
Release 	For safety switch CTP	Resetting	103110
Emergency unlocking 	For safety switch CTP	–	099877
Lead seal kit	For emergency unlocking	–	087256

Designation	Use	Version	Order no
CTP 	For safety switch CTP	Resetting, sheath length 2 m (rope length 6 m)	097747 AE-B-A1-02,0-F-097747
		Resetting, sheath length 3 m (rope length 6 m)	111233 AE-B-A1-03,0-F-111233
	Suitable for all safety switches with wire front release		099795 AY-HDL-099795
			124204 AY-HDL-124204
	Lockout bar	–	123411
CET 	Lockout bar	For actuator CET	Suitable for shackle diameter 5 mm - 6 mm 122609 AE-L-CET-122609
	Lockout bar	For actuator CET	Suitable for shackle diameter 5 mm - 9 mm 156429 AE-L-CET-156429
	Holder for lockout bar	For lockout bar AE-L-CET-156420	Including wire rope and ring to hang the wire rope onto the lockout bar 156338 AY-CHN-A1-156338
	Lockout bar + holder set	For actuator CET	Suitable for shackle diameter 5 mm - 9 mm. Holder including wire rope and ring to hang the wire rope onto the lockout bar. 155865 AE-SET-LCHN-A1-155865
	Mechanical key release	For safety switch CET	Identical locking, including two keys 098850
	Replacement key	For mechanical key release, identical locking	Two keys, identical locking 099434
	Emergency unlocking	For safety switch CET	Latching in both positions 103714
	Lead seal kit	For emergency unlocking	– 087256
Cover 	For safety switch CET and actuator CET	Door hinge right	098808
		Door hinge left	098807
	For actuator CET	Horizontal and vertical fastening option on the actuator	124979 AM-C-124979

Designation	Use	Version	Order no
Double ramp 	For safety switch CET	—	114091
 Handle for wire front release 	Suitable for all safety switches with wire front release		099795 AY-HDL-099795
			124204 AY-HDL-124204
	Extension for escape release 	For safety switch CET	 127377 AFE-E-80-127377

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