

Transponder-coded safety switches

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 700 people around the world.

16 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



General	4	
Selection criteria	5	
Safety switches without guard locking	10	
Safety switches with guard locking	11	
Function expansion	12	
System family A	14	
Safety switches CES-A-5...	16	A
System family AH	18	
Safety switch CES-AH-C03...	20	AH
System family AP	22	
Safety switches CES-AP-C01...	24	AP
Safety switches CES-AP-C.2...	26	
Safety switches CES-I-AP-.C04...	30	
Safety switch CTP-...-AP-...	34	
Safety switch CET.-AP-...	42	
System family AR	50	
Safety switches CES-AR-C01...	52	AR
Safety switches CES-AR-C.2...	54	
Safety switches CES-I-AR-.C04...	58	
Safety system ESL-IH-AR...	62	
Safety switch CEM-I2-AR-.C40...	64	
Safety switch CTP-L.-AR-...	66	
Transponder-coded safety switch CET.-AR-...	72	
AR evaluation unit CES-AR-AES-12	82	
System family AY	84	
Safety switch CEM-I2-AY-.C40...	86	AY
Accessories	88	
Connection material	90	
Bolt	104	
Fixing material	110	
Miscellaneous accessories	112	
Index	114	
Index by item designation	114	
Index by order number	117	

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 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.

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

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 official Russian standard EAC.

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.

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

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. Up to 3 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 4 A.

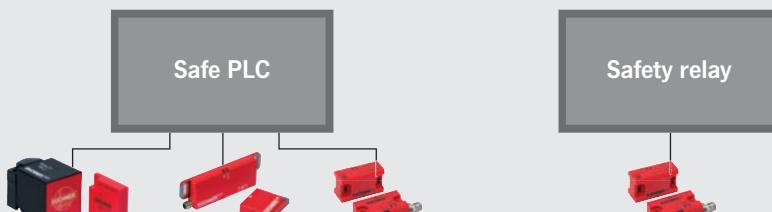
In operation the device regularly switches off the safety outputs for a few milliseconds to check the safe switching function.

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 pe-

ripheral 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. The AR devices generate test pulses on the safety outputs for short circuit monitoring.

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 control cabinet

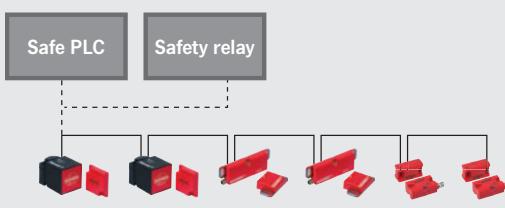
Wiring takes place in the control cabinet. All information about the status of individual AR devices can be forwarded directly to the control system.

■ Series connection in the field

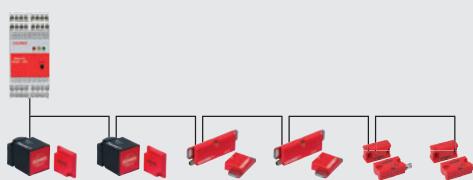
For field wiring EUCHNER offers the option of using M12 plugs and Y-pieces to connect together several AR devices. Instead of the Y-plug connectors it is also possible to use a passive distribution module.

Examples for series connection in the field

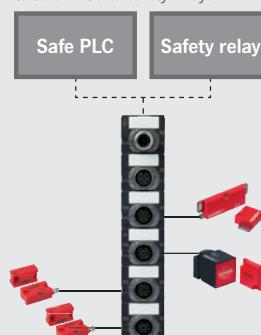
Series connection with Y-distributors and connection to several safe PLCs or safety relays



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



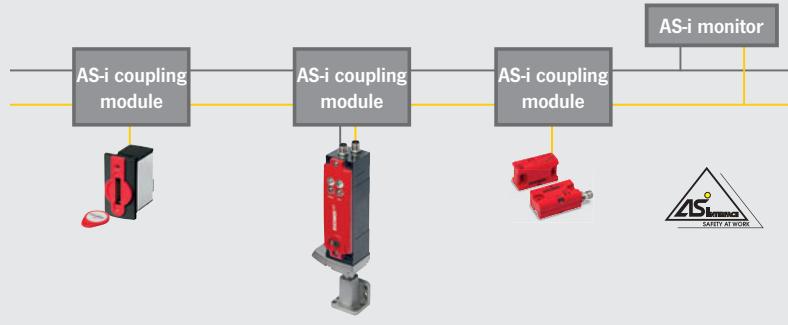
Series connection with passive distribution module and connection to safe PLCs or safety relays



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 has a 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. Only if the two bit patterns are identical is the actuator detected and the enable paths are closed. 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 prior to delivery at EUCHNER. 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

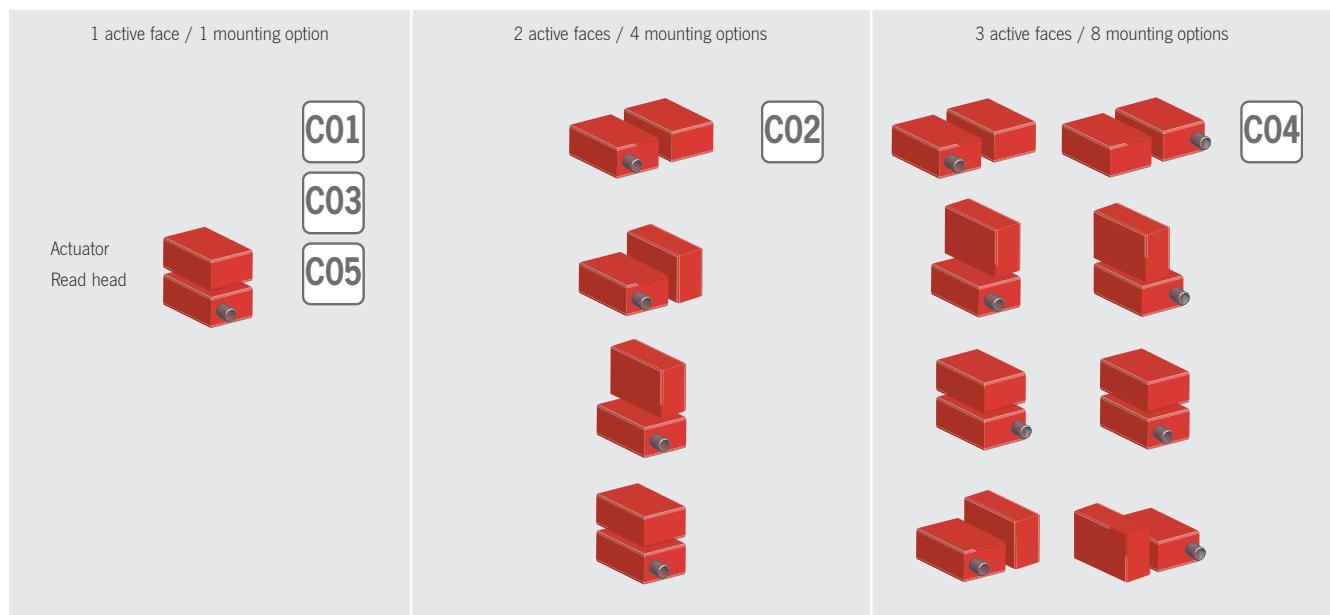
The operating distances indicate the distance between the actuator and sensor from with a switching process is triggered. The active faces on the actuator and switch define these distances. The faces must be parallel to each other on approach.

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 are, depending on the design of the device, different.



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).

Switch-on distance, switch-off distance and hysteresis

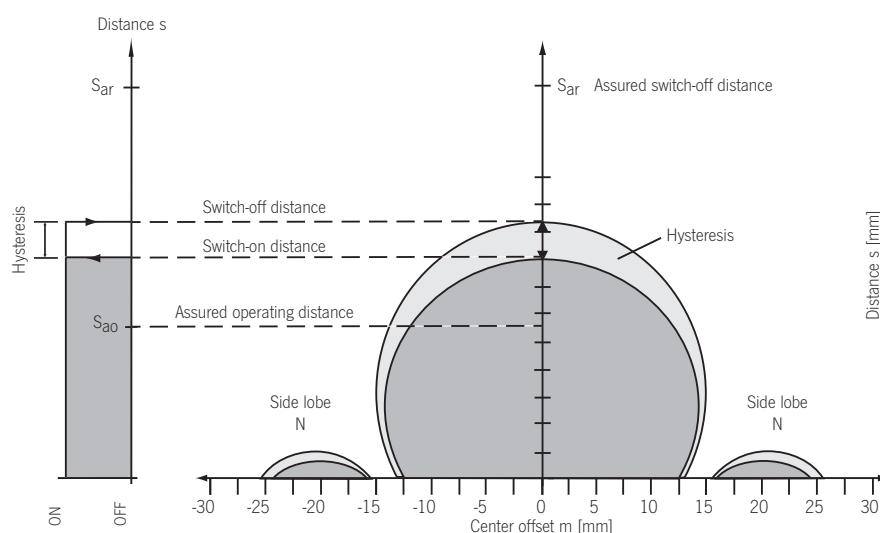
On moving an actuator toward a switch, a switching signal is triggered on reaching the switch-on distance. The actuator is detected and the safety outputs are switched on.

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 switch-on 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}

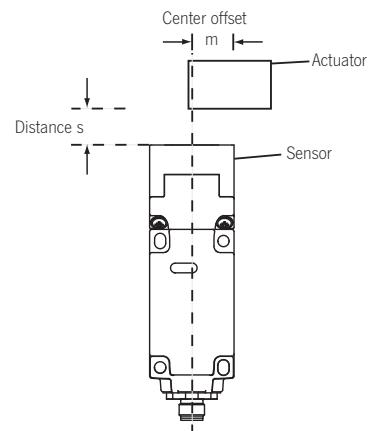
According to EN 60947-5-3, the assured switch-off distance is the distance from the active sensor face outside which the actuator is no longer detected under any environmental conditions, manufacturing tolerances and fault conditions, so that the system switches off.

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.

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, e.g. with plastic. 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.

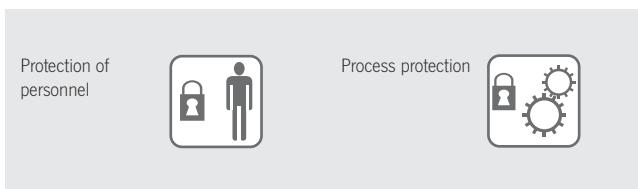


Guard locking type

Process protection or protection of personnel?

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, 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 for process protection is not monitored. The safety function of these devices is limited to position monitoring for the safety door. The monitoring of the state of the guard locking is not part of the safety function.

Principle of operation of the guard locking

At Euchner there are two guard locking methods:

■ Electromechanical guard locking

Here a guard locking pin is moved that 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

At EUCHNER there are two guard locking principles:

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

Safety switches without guard locking

C01

- ▶ Compact, square design
- ▶ 1 active face, can be repositioned in 5 directions
- ▶ Large operating distance
- ▶ Diagnostics via 2 LEDs
- ▶ Limit-range indication
- ▶ Degree of protection IP67
- ▶ Standard housing (EN 60947-5-2)



C02

- ▶ Narrow, elongated design
- ▶ Two active faces
- ▶ Direct mounting on aluminum profiles
- ▶ Diagnostics via 2 LEDs
- ▶ Limit-range indication
- ▶ Large temperature range
- ▶ Degree of protection IP67 / IP69 / IP69K



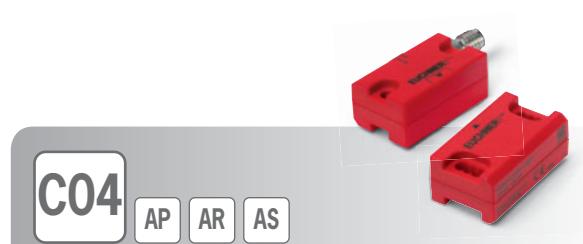
C03

- ▶ Switches loads up to 4 A
- ▶ Very large operating distance
- ▶ 1 active face, not adjustable
- ▶ Diagnostics via 2 LEDs
- ▶ Standard housing (EN 60947-5-2)



C04

- ▶ Smallest design
- ▶ Three active faces
- ▶ Limit-range indication
- ▶ Diagnostics via 2 x 2 LEDs
- ▶ Version with AS-Interface available
- ▶ Degree of protection IP67 / IP69 / IP69K
- ▶ Actuator can be positioned in 3 steps by means of slot



C05

- ▶ Standard housing (EN 60947-5-2)
- ▶ 1 active face, can be repositioned in 5 directions
- ▶ Very large operating distance
- ▶ Diagnostics via 2 LEDs
- ▶ 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)



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



CEM

AR

AY



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
- ▶ 3 approach directions, head can be rotated in 90°-steps
- ▶ High locking force of 2600 N
- ▶ Version with AS-Interface available



CTP

AP

AR

AS



CET

- ▶ Guard locking for personnel protection according to EN 14119
- ▶ Very high locking force up to 6500 N
- ▶ 2 safety outputs (semiconductor outputs)
- ▶ Head can be rotated in 90°-steps
- ▶ Version with AS-Interface available



CET

AP

AR

AS



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, the 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 bars 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 in 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. There is a bolt 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 accessories for your device very simply at www.euchner.com.

Connection material

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

System
family

A

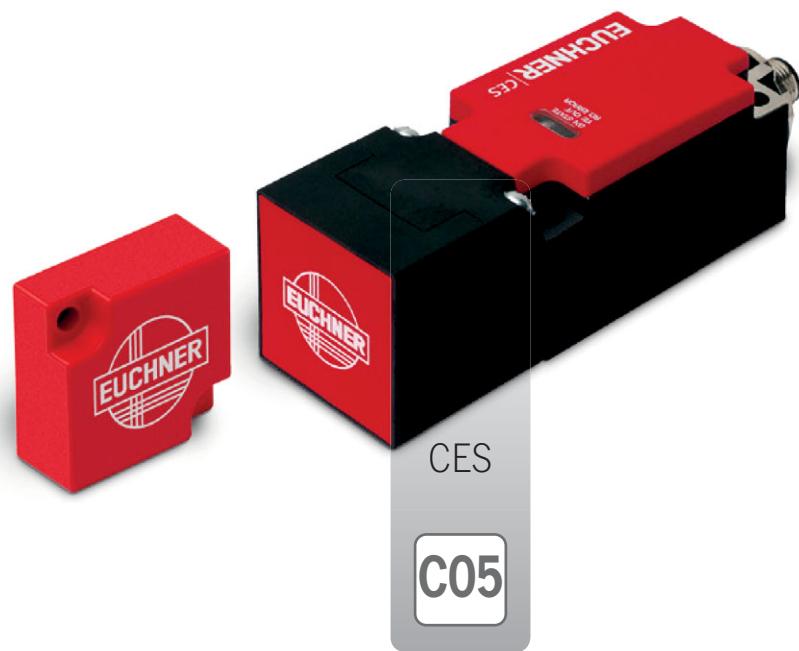
»Connect pulsed signals
via the safe semiconductor
outputs on up to three
safety switches in series.«

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

System
family

A

A



Safety switches CES-A-5...

- ▶ Standard housing (EN 60947-5-2)
- ▶ 1 active face, can be repositioned in 5 directions
- ▶ Diagnostics via 2 LEDs
- ▶ Large operating distance
- ▶ PL e/category 3 or 4
- ▶ EX 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 acc. to EN ISO 13849-1
- ▶ CES-A-C5H-01/CES-A-W5H-01, category 4/PL e acc. to EN ISO 13849-1

LED indicator

STATE Status

OUT/ERROR Safety outputs status/diagnostics (combined)

Additional connections

OUT Monitoring output (semiconductor)

EX-version

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

Important: Only use EX actuators for EX 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	 M12 8 pin	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	
		097945¹⁾ CES-A-C5H-01-EX	

1) II3G Ex ic nA IIB T5 Gc, 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	30	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
CES-A-BPA-EX-102125		40 x 40	30	102125 CES-A-BPA-EX-102125
CES-A-BBA-EX-098158		42 x 25	20	098158 CES-A-BBA-EX-098158

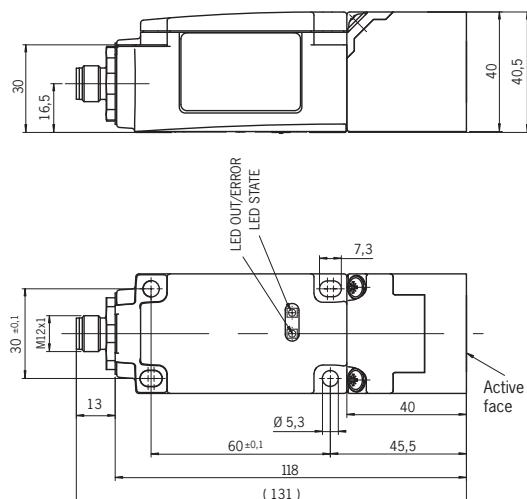
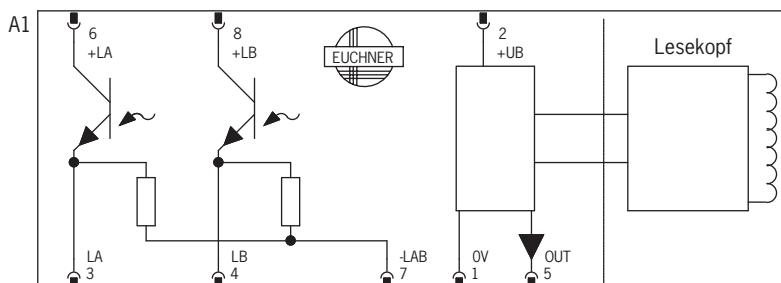
For detailed information, enter the order number for the product in the search box at www.euchner.com.

M12
8 pin

C05

Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	M12 8 pin
Bolts	Bolts for housing design C05	
Fixing material	Safety screws	Page 112

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
6	+ LA	Input channel 1
7	-LAB	Common ground inputs channel 1 and channel 2
8	+LB	Input channel 2

»The power pack –
switch loads up to 4 A
without additional relays
or contactors.«

- ▶ Safety outputs with an output current up to 4 A for switching loads directly
- ▶ Very large operating distance
- ▶ Two safe semiconductor outputs
- ▶ PL d / category 3 acc. to EN ISO 13849-1
- ▶ Cable lengths up to 50 m possible

System
family

AH**AH**

Safety switch CES-AH-CO3-...

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.

- 1 active face, not adjustable
- Diagnostics via 2 LEDs
- PL d/category 3

Ordering table**Safety switch**

Series	Version	Order No./item	
CES-AH-CO3-AH-... Unicode		106300 CES-AH-CO3-AH-SM-106300	For detailed information, enter the order number for the product in the search box at www.euchner.com .

Actuator

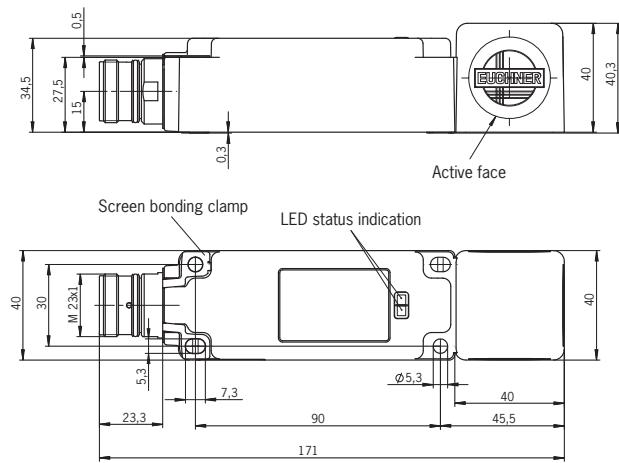
Series	Design	Typ. operating distance [mm]	Order No./item	
CES-A-BRN		80 x 40	27	 For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BPA		40 x 40	22	
CES-A-BBA		42 x 25	20	
CES-A-BCA	 Material: PE-HD	42 x 25	20	

Accessories

Type	Version	
Connection material	Female plug (for self-assembly) 	
Fixing material	Safety screws	Page 101 Page 112

M23
9
pin

C03

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	OV	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 IP67 field modules for various decentral peripheral systems
(depending on version)
 - ▶ Two safe semiconductor outputs
 - ▶ Own pulsing for short circuit detection
 - ▶ PL e / category 4 acc. to EN ISO 13849-1
 - ▶ Cable lengths up to 200 m possible
 - ▶ Large selection of devices
 - ▶ Various guard locking devices available

System
family**AP****AP**

Safety switches CES-AP-C01...

- ▶ 1 active face, can be repositioned in 5 directions
- ▶ Diagnostics via 2 LEDs
- ▶ Large operating distance
- ▶ Standard housing acc. to EN 60947-5-2
- ▶ Limit-range indication

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 IP67 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

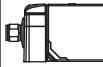
DIA	Diagnostics output (semiconductor)
------------	------------------------------------

RST	Reset input
------------	-------------

(i) 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	       	Without monitoring output	111145 CES-AP-C01-AH-SB-111145
CES-AP-C01-CH-... Multicode			111708 CES-AP-C01-CH-SB-111708
CES-AP-C01-CH-SB Multicode		With monitoring output	106798 CES-AP-C01-CH-SB-106798
CES-AP-C01-CH-SA Multicode		With monitoring output	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
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

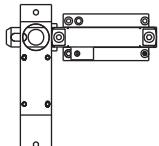
For detailed information, enter the order number for the product in the search box at www.euchner.com.

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

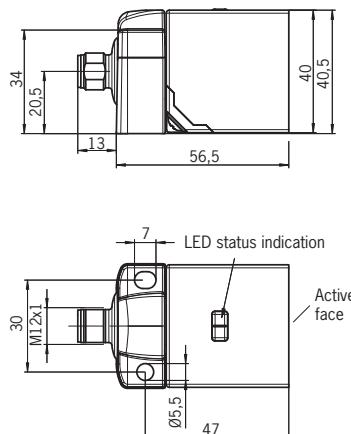
M12 5 pin M12 8 pin

C01

Accessories

Type	Version	
Connection material	Connecting cable with plug connector	 
		Page 93 Page 95
Bolts	Bolts for housing design C01	
Fixing material	Safety screws	Page 104
		Page 112

Dimension drawing



Terminal assignment

8 pin	5 pin	Without monitoring output (pin 5 not used)	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 (diagnostics output)
6	-	-	-	Not used
7	3	3	OV	Ground DC 0 V
8	-	-	RST	Reset input

Safety switches CES-AP-C.2-...

- ▶ Diagnostics via 2 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.

Connection to IP67 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 connection 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)
------------	-----------------------------------

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 .
		With monitoring output	105294 CES-AP-CL2-AH-SF-105294	
		With monitoring output	106552 CES-AP-CR2-AH-SB-106552	
		Without monitoring output	106553 CES-AP-CL2-AH-SB-106553	
		Without monitoring output	111748 CES-AP-CR2-AH-SB-111748	
	 	With monitoring output	111747 CES-AP-CL2-AH-SB-111747	
		With monitoring output	105601 CES-AP-CR2-AH-L05-105601	
		With monitoring output	105603 CES-AP-CL2-AH-L05-105603	
		With monitoring output	106191 CES-AP-CR2-AH-L10-106191	
		With monitoring output	106192 CES-AP-CL2-AH-L10-106192	

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

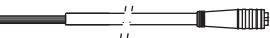
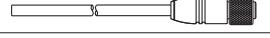
Series	Version	Door hinge ¹⁾	Order No./item	
CES-AP-C.2-CH-... Multicode	 click 6 pin	With monitoring output	 100775 CES-AP-CR2-CH-SF-100775	
			 104509 CES-AP-CL2-CH-SF-104509	
	 M12 5 pin	With monitoring output	 106550 CES-AP-CR2-CH-SB-106550	
			 106551 CES-AP-CL2-CH-SB-106551	
		Without monitoring output	 109168 CES-AP-CR2-CH-SB-109168	
			 109167 CES-AP-CL2-CH-SB-109167	
	 PVC 2m	With monitoring output	 123922 CES-AP-CR2-CH-SB-123922	
			 105600 CES-AP-CR2-CH-L05-105600	
	 5m	With monitoring output	 105602 CES-AP-CL2-CH-L05-105602	
			 106189 CES-AP-CR2-CH-L10-106189	
	 6 wire PVC 10m	With monitoring output	 106190 CES-AP-CL2-CH-L10-106190	
			 106193 CES-AP-CR2-CH-L20-106193	
	 20m	With monitoring output	 106194 CES-AP-CL2-CH-L20-106194	

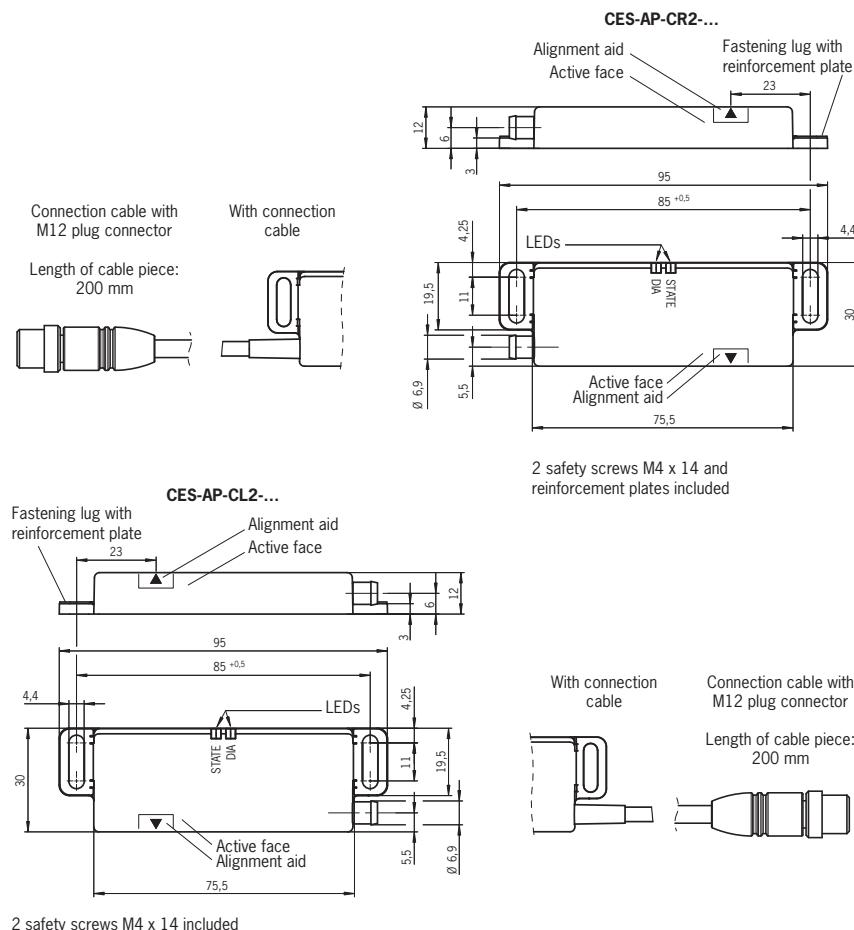
1) Applies for following alignment: connection/cable outlet pointing downward

Actuator

Series	Design	Typ. operating distance [mm]	Order No./item	
CES-A-BDN-06	 Ø6 x 26	19	104730 CES-A-BDN-06-104730	
CES-A-BLN-...	 95 x 30	15	100776 CES-A-BLN-R2-100776	
	 55 x 30	15	104510 CES-A-BLN-L2-104510	
	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 90
	Connecting cable with plug connector 	M12 5 pin Page 93
Fixing material	Safety screws	Page 112

Dimension drawing



Terminal assignment

6 pin	5 pin	Without monitoring output (pin 5 not used)	Designation	Function	Wire color
With monitoring output	With monitoring output				
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	GY
6	-	-	-	Not used	PK

Safety switches CES-I-AP-..-C04-...

- ▶ Smallest design
- ▶ Three active faces
- ▶ Diagnostics via 2 LEDs
- ▶ Limit-range indication
- ▶ Rubber support for protection against soiling

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 IP67 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
-----------	--

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 M12 5 pin PUR 0,1m 0,22m 5m 10m 20m	Without monitoring output Without monitoring output With monitoring output With monitoring output With monitoring output With monitoring output	115324 CES-I-AP-U-C04-SK-115324 115150 CES-I-AP-U-C04-USI-115150 116502 CES-I-AP-U-C04-USB-116502 116503 CES-I-AP-U-C04-U05-116503 116504 CES-I-AP-U-C04-U10-116504 116505 CES-I-AP-U-C04-U20-116505
			For detailed information, enter the order number for the product in the search box at www.euchner.com .

Series	Version	Order No./item	
CES-I-AP-M-C04-... Multicode	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 .
	Without monitoring output With monitoring output	117323 CES-I-AP-M-C04-USI-117323	
	With monitoring output	117324 CES-I-AP-M-C04-USB-117324	
	With monitoring output	117328 CES-I-AP-M-C04-U05-117328	
	With monitoring output	117329 CES-I-AP-M-C04-U10-117329	
	With monitoring output	117330 CES-I-AP-M-C04-U20-117330	

Actuator

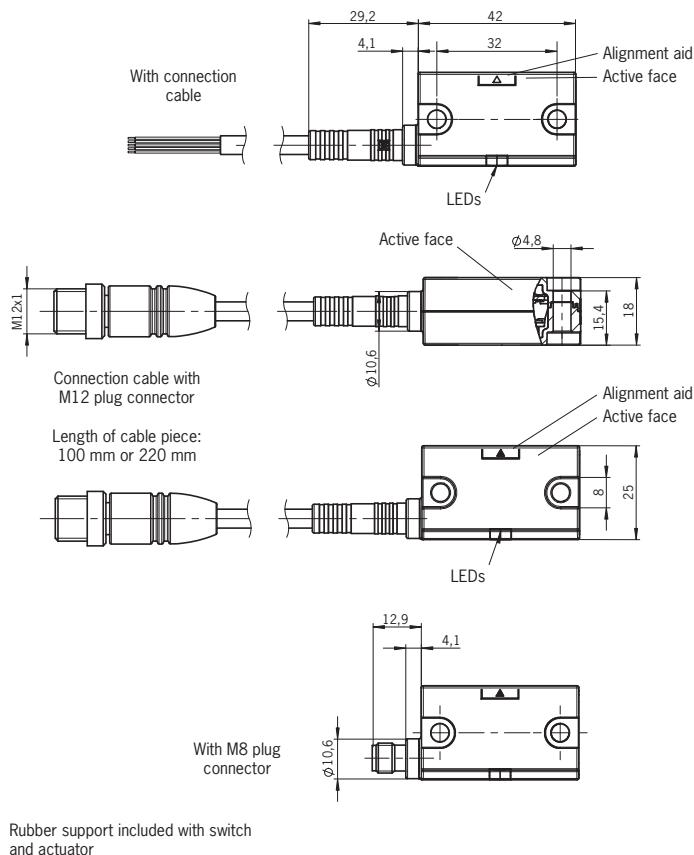
Series	Design	Typ. operating distance [mm]	Order No./item	
CES-A-BDN-06	Ø6 x 26	19	104730 CES-A-BDN-06-104730	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BBN-C04	42 x 25	15	115271 CES-A-BBN-C04-115271	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	Page 91
	Connecting cable with plug connector 	Page 93
Bolts	Bolts for housing design C04 	Page 106
Fixing material	Mounting sets 	Page 110
	Safety screws	Page 112



Dimension drawing



Terminal assignment

5 pin 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	OV	Ground DC 0 V	BU
4	4	4	FO1B	Safety output, channel 2	BK
5	-	-	OD	Monitoring output	GY

Safety switch CTP-...-AP-...

With guard locking



- ▶ Safety switch with guard locking
- ▶ Locking force up to 2600 N
- ▶ Diagnostics via 3 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. |
| I1 | As for L1, however without guard lock monitoring. Guard locking for process protection only. |
| I2 | As for L2, however 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 escape releases

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

Connection to IP67 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. 38
- ▶ Accessories and spare parts see p. 37
- ▶ 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 2 plug connectors M12

	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 39
CTP-L1 Closed-circuit current principle				
124468 CTP-L1-AP-U-HA-AZ-SII-124468	U			
127640 CTP-L1-AP-U-HA-AE-SII-127640	U	●		

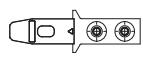
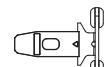
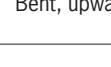
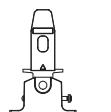
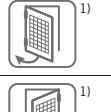
CTP-...-AP-...-SA-... with plug connector M12

	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 39
CTP-L1 Closed-circuit current principle				
124225 CTP-L1-AP-U-HA-AZ-SA-124225	U			
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			
136841 CTP-L2-AP-U-HA-AE-SA-136841	U	●		
124729 CTP-L2-AP-M-HA-AZ-SA-124729	M			
CTP-I1 Process protection guard locking, closed-circuit current principle				
136595 CTP-I1-AP-U-HA-AEC-SA-136595	U	●		
CTP-I2 Process protection guard locking, open-circuit current principle				
126258 CTP-I2-AP-U-HA-AZC-SA-126258	U			

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

M23 19 pin	Order No./item	Coding U = unicode M = multicode	Escape release	Guard locking Personne/process protection	For wiring diagram see page 39
CTP-L1 Closed-circuit current principle					
123364 CTP-L1-AP-U-HA-AZ-SH-123364		U			
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			
123371 CTP-L2-AP-M-HA-AZ-SH-123371		M			

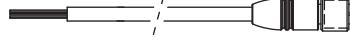
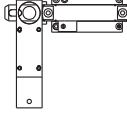
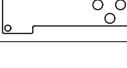
Actuator

Series	Design	Order No./item	
A-C-H...	 Straight	122666 A-C-H-G-SST-122666	
	 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 actuators	122675 A-C-H-RO-LS-122675	
	 Hinged actuators	122676 A-C-H-RU-LS-122676	

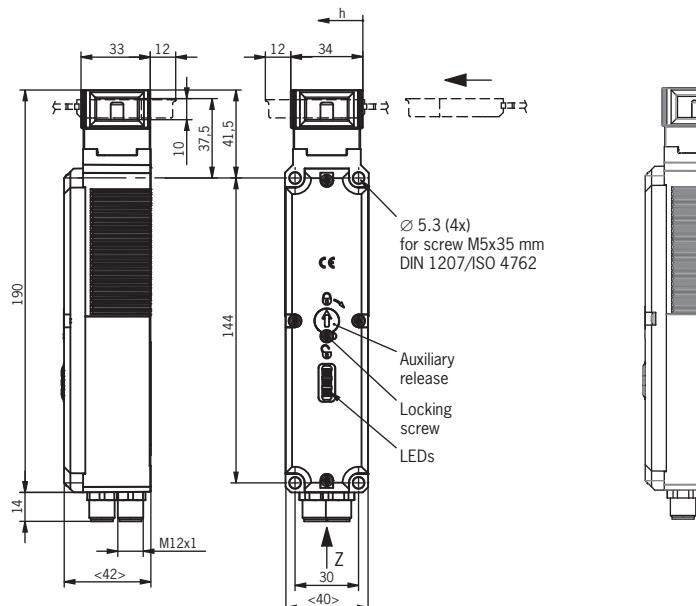
1) Applies for following alignment: connection/cable outlet pointing downward

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

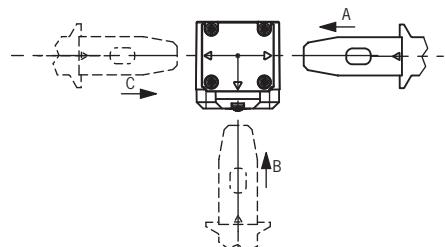
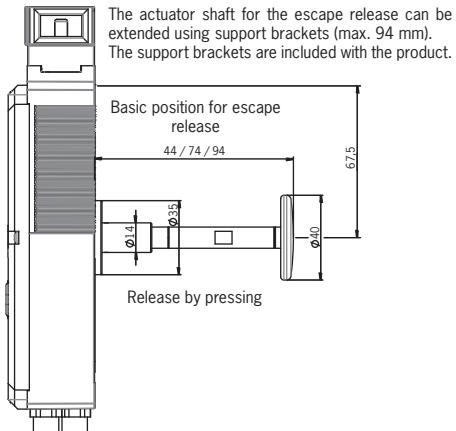
Accessories

Type	Version	
Connection material	Connection cable with plug connectors 	M12 5 pin 8 pin Page 93 Page 95
	Connection cable with plug connectors 	M23 19 pin Page 99/100
	Female plug (for self-assembly) 	M23 19 pin Page 101
Bolts	Bolt for housing design CTP 	Page 107
Fixing material	Mounting plates 	Page 110
	Safety screws 	Page 112
Miscellaneous accessories	Mechanical key release 	
	Release 	
	Emergency unlocking 	
	Wire front release 	Page 112 f.
	Handle for wire front release 	
	Lockout bar 	

Dimension drawing



With escape release





CTP

Terminal assignment



Wiring diagram A

Pin	Designation	Function
X 1.1	U _B	Operating voltage, DC 24 V
X 1.2	F01A	Safety output, channel 1
X 1.3	0 V U _B	Operating voltage, DC 0 V
X 1.4	F01B	Safety output, channel 2
X 1.5	-	Not used
X 2.1	-	Not used
X 2.2	-	Not used
X 2.3	IMM	Control input guard locking solenoid, DC 0 V
X 2.4	IMP	Control input guard locking solenoid, DC 24 V
X 2.5	-	Not used



Wiring diagram B

Pin	Designation	Function
1	IMP	Control input guard locking solenoid, DC 24 V
2	U _B	Operating voltage, DC 24 V
3	F01A	Safety output, channel 1
4	F01B	Safety output, channel 2
5	OI	Diagnostics output
6	OD	Door monitoring output
7	0 V U _B	Operating voltage, DC 0 V
8	IMM	Control input guard locking solenoid, DC 0 V



Wiring diagram C

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

M23 **19
pin**

D **M23** **19
pin** **Wiring diagram D**

Pin	Designation	Function
1	IMP	Control input 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, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostics 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	Control input guard locking solenoid, DC 0 V
19	OV U _B	Operating voltage, DC 0 V

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



- ▶ Safety switch with guard locking
- ▶ Locking force up to 6500 N
- ▶ Metal housing
- ▶ Diagnostics via 4 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

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.

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.

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 release 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 only be taught-in by switching the teach-in input. In this way the protection against tampering is additionally increased.

Lockout bar (optional)

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 with up to three locks.

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 113).

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

DIA Diagnostic output

Further information

▶ Dimension drawings see p. 46

▶ Accessories and spare parts see p. 45

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

Ordering table

CET.-AP-...-SI-... with 2 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⁾	Lockout bar	For wiring diagram see page 48
CET3 Closed-circuit current principle									
111346 CET3-AP-CRA-AH-50X-SI-113141	U								
114223 CET3-AP-CRA-AH-50X-SI-C2333-114223	U							●	
121367 CET3-AP-CRA-AH-50X-SI-C2290-121367	U						5 m		
114626 CET3-AP-CRA-AH-50F-SI-C2357-114626	U					105 mm		●	
114073 CET3-AP-CRA-AH-50F-SI-114073	U					75 mm			
114516 CET3-AP-CRA-AH-50F-SI-C2333-114516	U					75 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 112).

CET.-AP-...-SI-... with 2 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⁾	Lockout bar	For wiring diagram see page 48
CET3 Closed-circuit current principle									
124589 CET3-AP-CRA-AH-50X-SI-C2438-124589	U								
124594 CET3-AP-CRA-AH-50F-SI-C2438-127594	U					75 mm			
129541 CET3-AP-CRA-AH-50F-SI-C2469-124601	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 112).

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⁾	Lockout bar	For wiring diagram see page 48
CET3 Closed-circuit current principle									
122398 CET3-AP-CRA-AH-50X-SA-122389									
121579 CET3-AP-CRA-CH-50X-SA-121579	U	M							
124601 CET3-AP-CRA-AH-50F-SA-124601	U	U				75 mm			
122406 CET3-AP-CRA-AH-50X-SA-122406	U	U							
122409 CET3-AP-CRA-CH-50X-SA-122409	M	M							
CET4 Open-circuit current principle									
122415 CET4-AP-CRA-AH-50X-SA-122415	U	U							
122413 CET4-AP-CRA-CH-50X-SA-122413	M	M							

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 112).

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

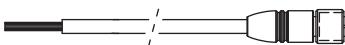
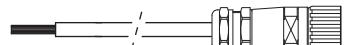
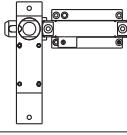
M23 19 pin	Order No./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1) ¹⁾	Lockout bar	For wiring diagram see page 49
CET3 Closed-circuit current principle									
119106 CET3-AP-CRA-AH-50F-SH-C2312-119106									
U				●		105 mm			

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 112).

Actuator

Series	Design	Order No./item	
CES-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 .

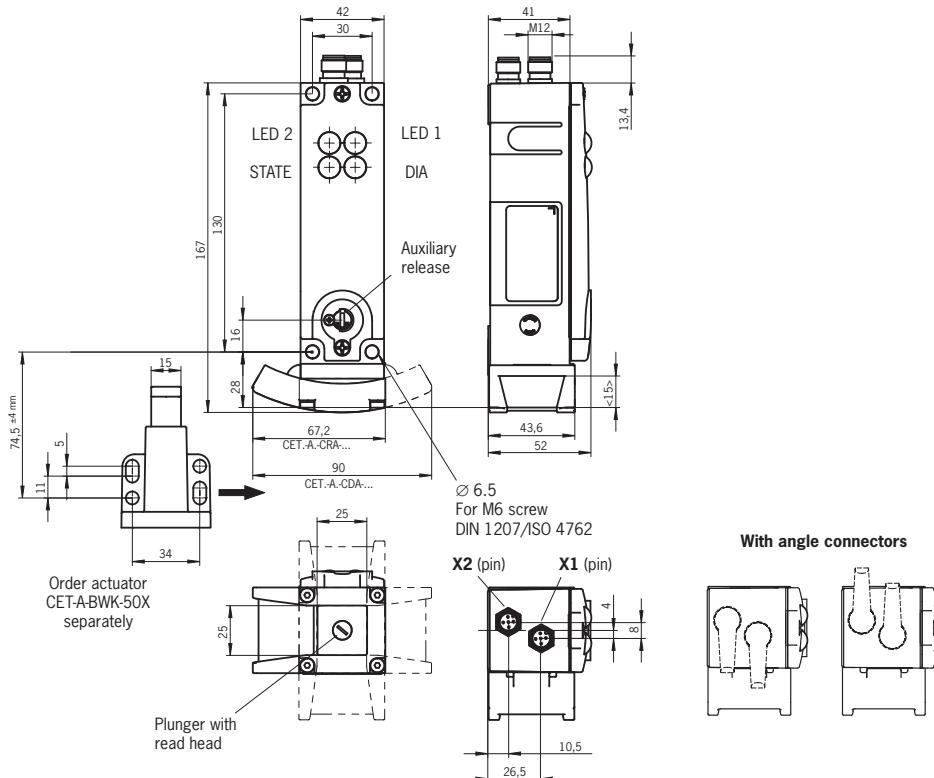
Accessories

Type	Version	
Connection material	Connection cable with plug connectors 	 
	Connection cable with plug connectors 	
	Female plug (for self-assembly) 	
	Adapter for connection to IP67 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. 	 
Bolts	Bolts for housing design CET 	Page 107
Fixing material	Mounting plates 	Page 110
	Safety screws 	Page 112
Miscellaneous accessories	Lockout bar 	
	Mechanical key release 	
	Emergency unlocking 	
	Cover 	Page 112 f.
	Double ramp 	
	Handle for wire front release 	

Dimension drawing

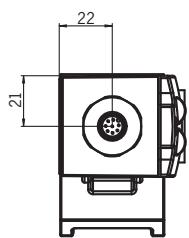
**2x
M12**

With 2 plug connectors M12



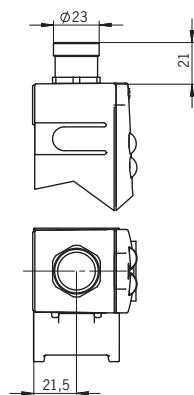
M12

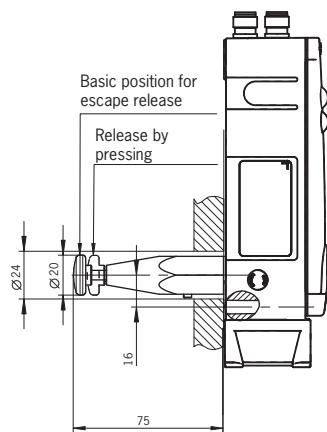
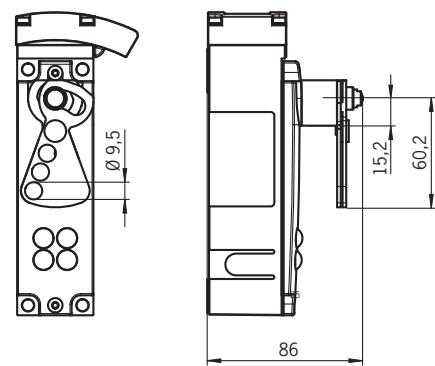
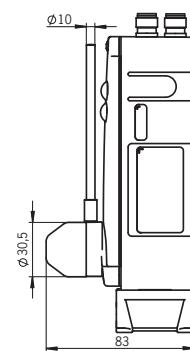
With 1 plug connector M12



M23

With plug connector M23



With escape release**With lockout bar****With wire front release**



Terminal assignment



Wiring diagram 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	$0 \text{ V } U_B$	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	OUT D	Not used (for connection to decentralized peripheral equipment) Door monitoring output	● ●
X 2.3	$0 \text{ V } U_{CM}$	Operating voltage guard locking solenoid, DC 0 V	● ●
X 2.4	U_{CM}	Operating voltage guard locking solenoid, DC 24 V	● ●
X 2.5	-	Not used	● ●



Wiring diagram C and D

Pin	Designation	Function	M12
			C D
1	U_{CM}	Operating voltage 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	●
	DIA	Monitoring output	●
6	OUT D	Door monitoring output	● ●
7	$0 \text{ V } U_B$	Operating voltage, DC 0 V	● ●
8	$0 \text{ V } U_{CM}$	Operating voltage guard locking solenoid, DC 0 V	● ●

M23 **19**
pin

CET

E

M23

Wiring diagram E

Pin	Designation	Function
1	U_{CM}	Operating voltage 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
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 guard locking solenoid, DC 0 V
19	0V U_B	Operating voltage, DC 0 V

System
family**AR**

»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 in acc. with EN ISO 13849-1
- ▶ Switch chains with cable lengths up to 200 m possible
- ▶ Large selection of devices
- ▶ Various guard locking devices available

System
family**AR****AR**

Safety switches CES-AR-C01...

- ▶ Up to 20 switches in series
- ▶ 1 active face, can be repositioned in 5 directions
- ▶ Diagnostics via 2 LEDs
- ▶ Large operating distance
- ▶ Standard housing acc. 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

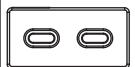
Further information

- ▶ Dimension drawings see p. 53
- ▶ Accessories and spare parts see p. 53
- ▶ 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 device on page 5.

Ordering table**Safety switch**

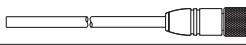
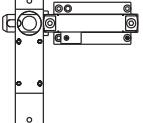
Series	Version	Order No./item	
CES-AR-C01-AH-SA Unicode	 M12 8 pin	098941 CES-AR-C01-AH-SA	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-AR-C01-CH-SA Multicode		098942 CES-AR-C01-CH-SA	
CES-AR-C01-EH-SA Fixcode (actuator CES-A-BPA included)		098582 CES-AR-C01-EH-SA	

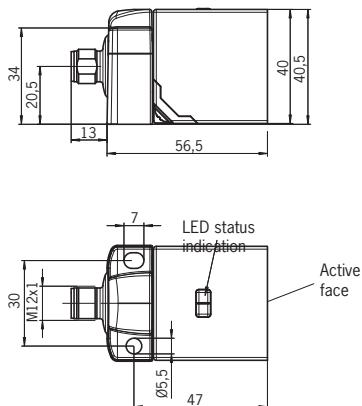
Actuator

Series	Design	Typ. operating distance [mm]	Order No./item	
CES-A-BRN		80 x 40	27	100251 CES-A-BRN-100251
CES-A-BPA		40 x 40	22	
CES-A-BBA		42 x 25	18	
CES-A-BCA		42 x 25 Material: PE-HD	18	

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

M12
8 pin
C01
Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	M12 8 pin Page 95
	Strapping plug/Y-distributor	M12 Page 96
	Passive distribution module	M12 Page 97
Bolts	Bolts for housing design C01 	Page 104
Fixing material	Safety screws	Page 112

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
6	IA	Enable input for channel 1
7	OV	Ground DC 0 V
8	RST	Reset input

Safety switches CES-AR-C.2-...

- ▶ Diagnostics via 2 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 connection 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

i Further information

- ▶ Dimension drawings see p. 56
- ▶ Accessories and spare parts see p. 56
- ▶ 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 device on page 5.

Ordering table**Safety switch**

Series	Version	Door hinge ¹⁾	Order No./item	
CES-AR-C.2-AH-... Unicode	M8 8 pin		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	
	M12 8 pin PUR 1m		105746 CES-AR-CR2-AH-SA-105746	
			105748 CES-AR-CL2-AH-SA-105748	
	5m		109046 CES-AR-CR2-AH-L05-109046	
			109047 CES-AR-CL2-AH-L05-109047	
	8 wire PUR 10m		109050 CES-AR-CR2-AH-L10-109050	
			109051 CES-AR-CL2-AH-L10-109051	
	20m		109054 CES-AR-CR2-AH-L20-109054	
			109055 CES-AR-CL2-AH-L20-109055	

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

Series	Version	Door hinge ¹⁾	Order No./item	
CES-AR-C.2-CH-... Multicode	 M8 		105750 CES-AR-CR2-CH-SG-105750	
			105752 CES-AR-CL2-CH-SG-105752	
	 M12 		115792 CES-AR-CR2-CH-SA-115792	
			115793 CES-AR-CL2-CH-SA-115793	
			105745 CES-AR-CR2-CH-SA-105745	
			105747 CES-AR-CL2-CH-SA-105747	
	 PVC 		112928 CES-AR-CR2-CH-SA-112928	
			112929 CES-AR-CL2-CH-SA-112929	
	 8 wire  PUR 		109044 CES-AR-CR2-CHL05-109044	
			109045 CES-AR-CL2-CHL05-109045	
			109048 CES-AR-CR2-CH-L10-109048	
			109049 CES-AR-CL2-CH-L10-109049	
			109052 CES-AR-CR2-CHL20-109052	
			109053 CES-AR-CL2-CHL20-109053	

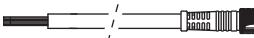
1) Applies for following alignment: connection/cable outlet pointing downward

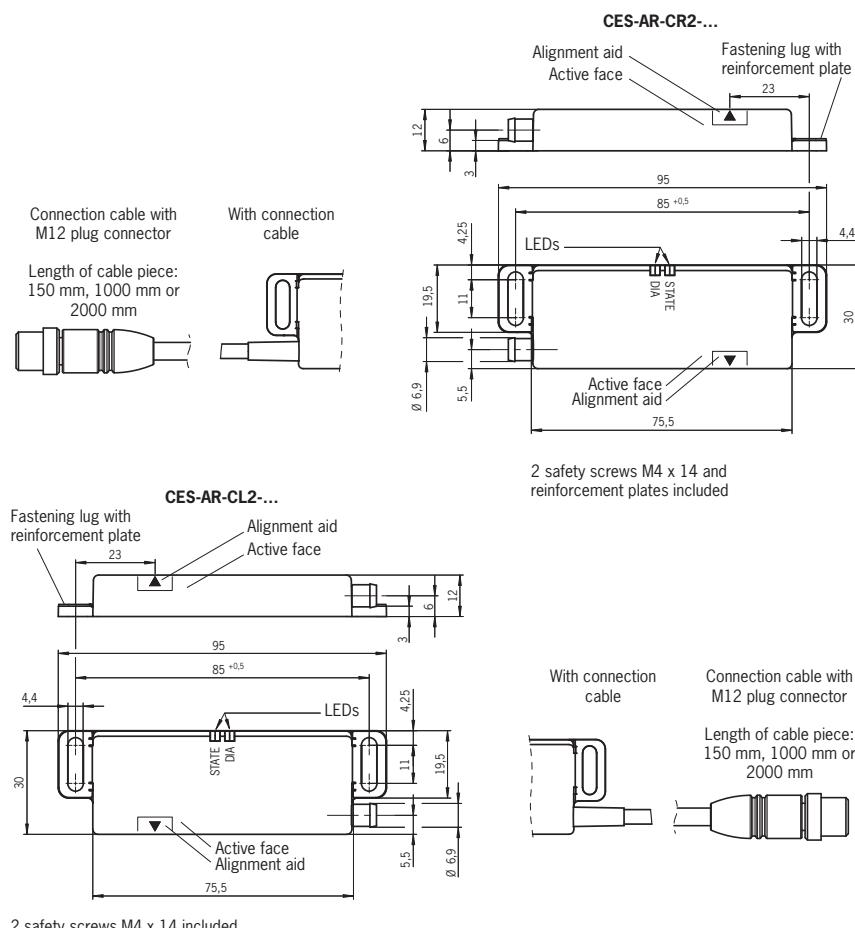
For detailed information, enter the order number for the product in the search box at www.euchner.com.

Actuator

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

Accessories

Type	Version		
Connection material	Connecting cable with plug connector 	M8 8 pin	Page 92
	Connecting cable with plug connector 	M12 8 pin	Page 95
	Strapping plug/Y-distributor	M12	Page 96
	Passive distribution module	M12	Page 97
Fixing material	Safety screws		Page 112

Dimension drawing



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	GY
6	IA	Enable input for channel 1	PK
7	OV	Ground DC 0 V	BU
8	RST	Reset input	RD

Safety switches CES-I-AR--C04-...

- ▶ Smallest design
- ▶ Three active faces
- ▶ Diagnostics via 2 LEDs
- ▶ Limit-range indication
- ▶ Rubber support for protection against soiling

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

Further information

- ▶ Dimension drawings see p. 60
- ▶ Accessories and spare parts see p. 59
- ▶ 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 device 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

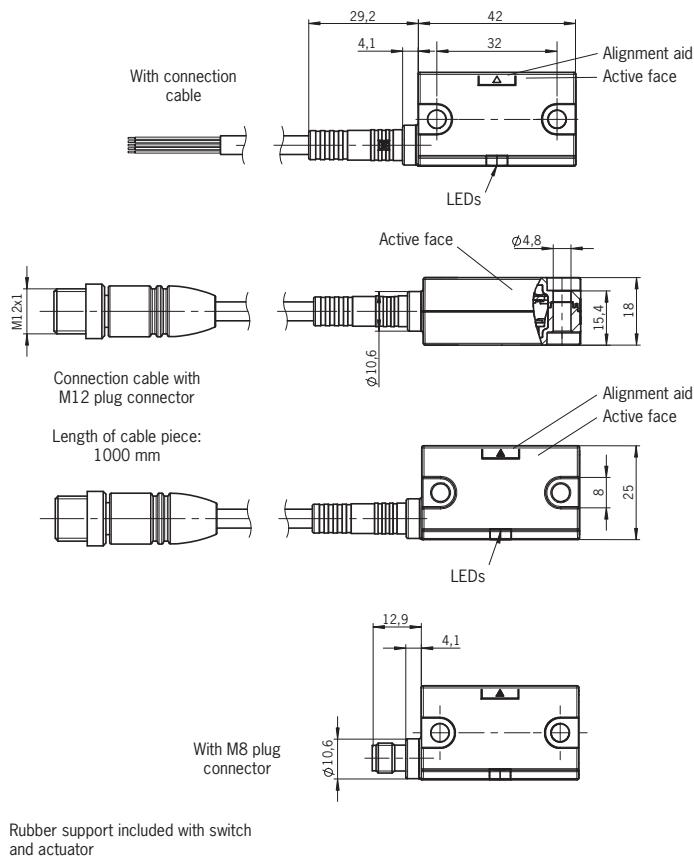
Series	Design	Typ. operating distance [mm]	Order No./item	
CES-A-BDN-06	Ø6 x 26	19	104730 CES-A-BDN-06-104730	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-A-BBN-C04	42 x 25	15	115271 CES-A-BBN-C04-115271	

Accessories

Type	Version	
Connection material	Connecting cable with plug connector 	M8 8 pin Page 92
	Connecting cable with plug connector 	M12 8 pin Page 95
	Strapping plug/Y-distributor 	M12 Page 96
	Passive distribution module 	M12 Page 97
Bolts	Bolts for housing design C04 	 Page 106
Fixing material	Mounting sets 	 Page 110
	Safety screws 	 Page 112



Dimension drawing



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	F01A	Safety output, channel 1	GN
4	F01B	Safety output, channel 2	YE
5	OD	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 2 LEDs

Details**Available coding options**

- ▶ Unicode evaluation
- ▶ Multicode evaluation

Change over for right/left doors

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

Lock (optional)

To protect against an unintended machine state, 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. 63
- ▶ Accessories and spare parts see p. 62
- ▶ 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 device 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

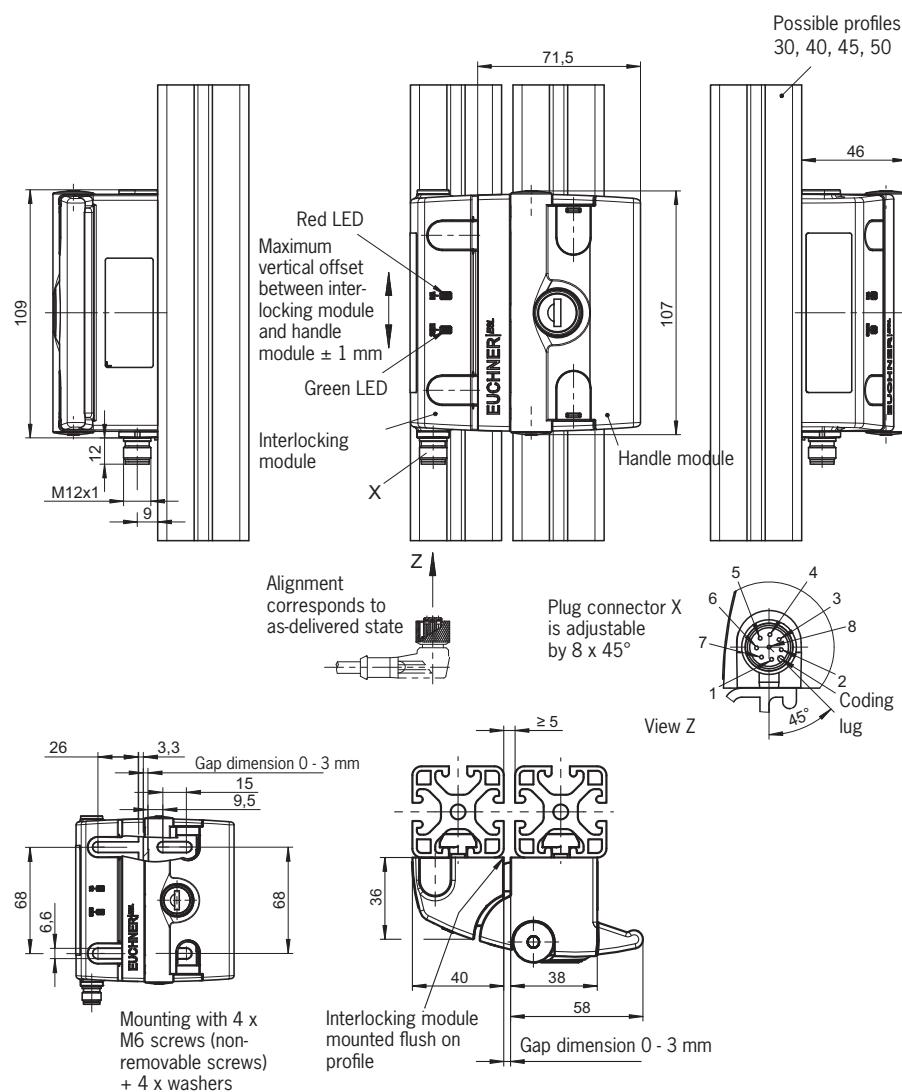
Type	Version	
Connection material	Connection cable with plug connectors 	Page 95
	Strapping plug/Y-distributor	Page 96
	Passive distribution module	Page 97
Fixing material	Safety screws	Page 112

M12

8 pin

ESL

Dimension drawing



Terminal assignment

Pin	Designation	Function
1	FI1B	Enable input for channel 2
2	UB	Operating voltage, 24 V DC
3	FO1A	Safety output, channel 1
4	FO1B	Safety output, channel 2
5	OD	Monitoring output
6	FI1A	Enable input for 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 4 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 Parameter-Key (order no. 125481) in steps of 0 N, 30 N (default setting on delivery) and 50 N. The adhesive force is active if the 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

(i) 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 device on page 5.

Ordering table**Safety switch**

Series	Version	Order No./item	
CEM-I2-AR-... Unicode		124937 CEM-I2-AR-U-C40-SH-124937	
CEM-I2-AR-... Multicode		113739 CEM-I2-AR-M-C40-SH-113739	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	
Parameter-Key		125481 A-TI-001-125481	For detailed information, enter the order number for the product in the search box at www.euchner.com .

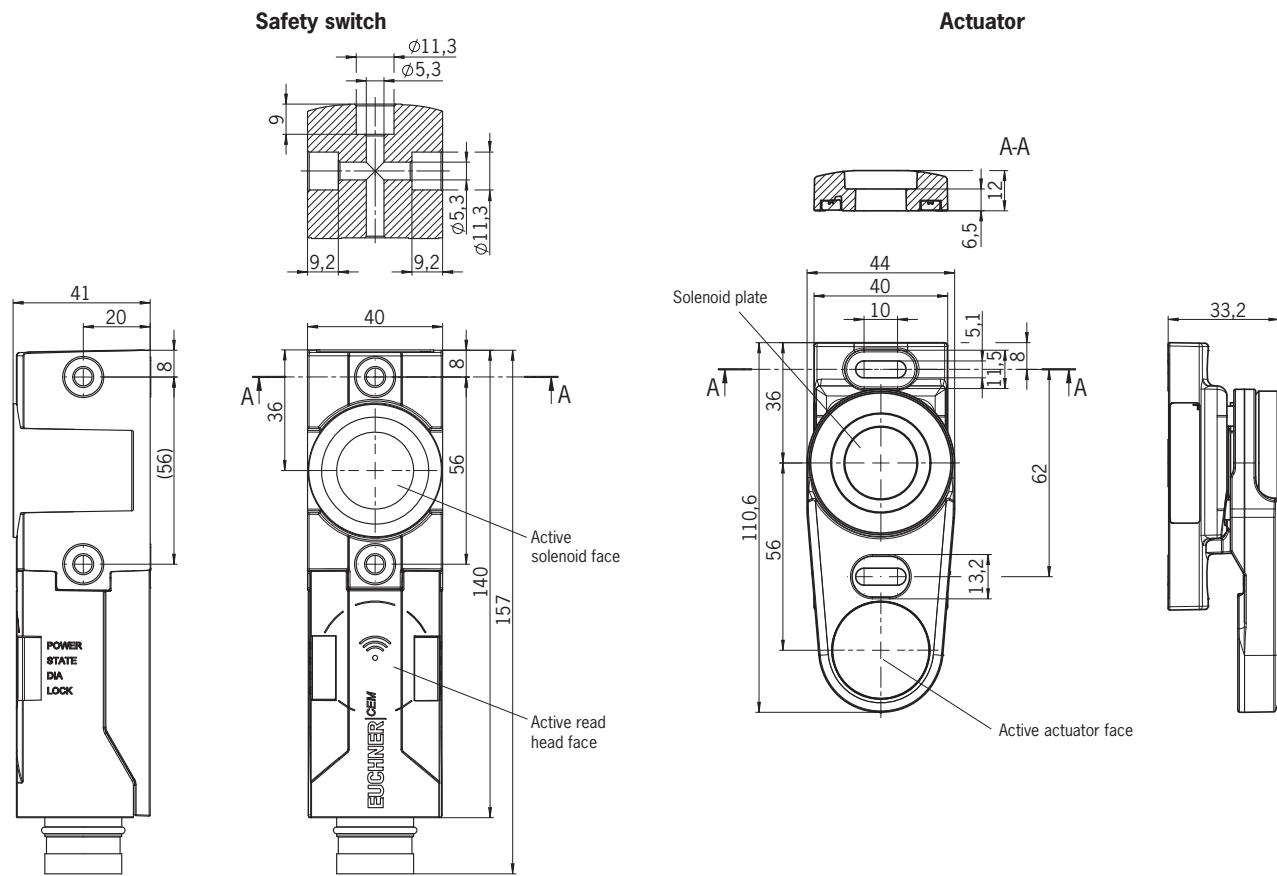
Accessories

Type	Version	
Connection material	Connection cable with plug connectors 	 Page 99
	Female plug (for self-assembly) 	 Page 101
Fixing material	Mounting bracket 	 Page 110
	Safety screws	 Page 112
Miscellaneous accessories	Lockout bar 	 Page 112

M23
19
pin

CEM

Dimension drawing



Terminal assignment

Pin	Designation	Function
1	IMP	Control voltage, guard locking solenoid, 24 V DC
2	FI1A	Enable input for channel 1
3	FI1B	Enable input for 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	Diagnostics 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 2600 N
- ▶ Diagnostics via 3 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. |

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 escape 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. 70
- ▶ Accessories and spare parts see p. 69
- ▶ 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 device on page 5.

1) German Social Accident Insurance approval pending

Ordering table

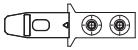
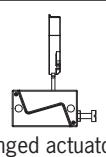
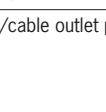
CTP-L.-AR-...-SAB-... with 2 plug connectors M12

Order No./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 71
CTP-L1 Closed-circuit current principle				
122812 CTP-L1-AR-U-HA-AZ-SAB-122812	U			
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	●		
CTP-L2 Open-circuit current principle				
122814 CTP-L2-AR-U-HA-AZ-SAB-122814	U			
123361 CTP-L2-AR-M-HA-AZ-SAB-123361	M			

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

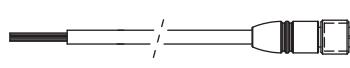
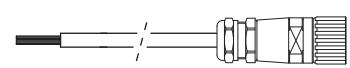
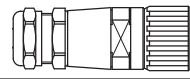
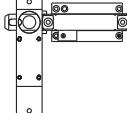
Order No./item	Coding U = unicode M = multicode	Escape release	Guard locking Personnel/process protection	For wiring diagram see page 71
CTP-L1 Closed-circuit current principle				
123362 CTP-L1-AR-U-HA-AZ-SH-123362	U			
123373 CTP-L1-AR-U-HA-AE-SH-123373	U	●		
123363 CTP-L1-AR-M-HA-AZ-SH-123363	M			
123374 CTP-L1-AR-M-HA-AE-SH-123374	M	●		
CTP-L2 Open-circuit current principle				
123366 CTP-L2-AR-U-HA-AZ-SH-123366	U			
123369 CTP-L2-AR-M-HA-AZ-SH-123369	M			

Actuator

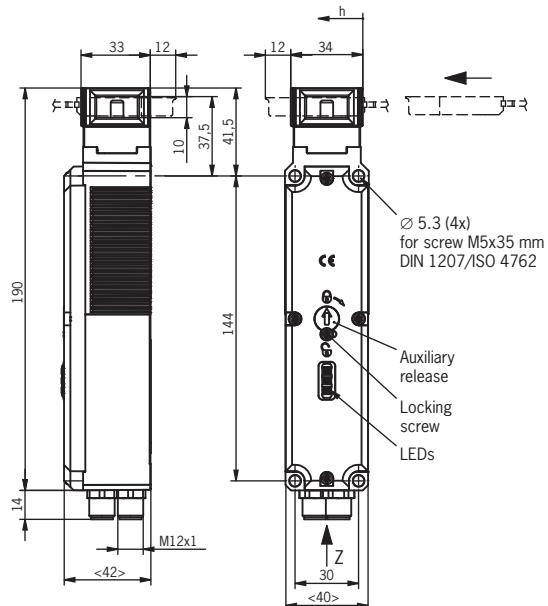
Series	Design	Order No./item	
A-C-H-...	 Straight	122666 A-C-H-G-SST-122666	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	 Bent, upward ¹⁾	122667 A-C-H-W-SST-122667	
	 Bent, downward ¹⁾	122668 A-C-H-W-SST-122668	
	 Hinged actuator	122671 A-C-H-RL-LS-122671	
	 Hinged actuators	122672 A-C-H-RR-LS-122672	
	 Hinged actuators	122675 A-C-H-RO-LS-122675	
		122676 A-C-H-RU-LS-122676	

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

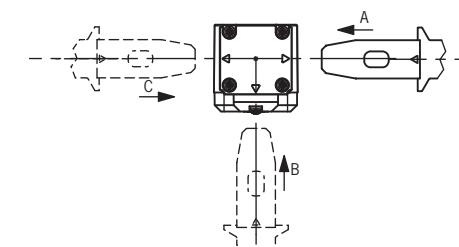
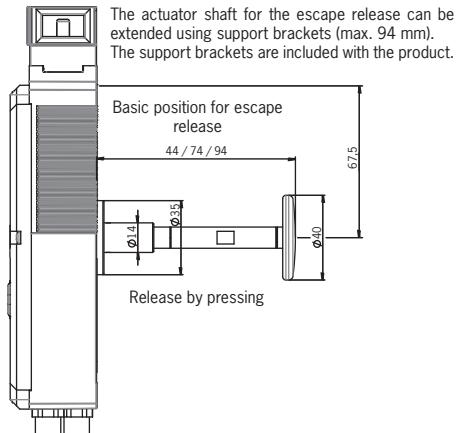
Accessories

Type	Version	
Connection material	Connection cable with plug connectors 	M12 5 pin 8 pin
	Connection cable with plug connectors 	M23 19 pin
	Female plug (for self-assembly) 	M23 19 pin
	Strapping plug/Y-distributor 	M12
	Passive distribution module 	M12
Bolts	Bolt for housing design CTP 	Page 107
Fixing material	Mounting plates 	Page 110
	Safety screws 	Page 112
	Mechanical key release 	
	Release 	
	Emergency unlocking 	
Miscellaneous accessories	Wire front release 	Page 112
	Handle for wire front release 	
	Lockout bar 	

Dimension drawing

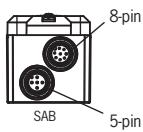


With escape release



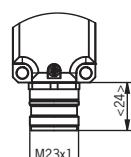
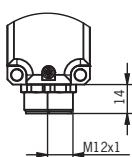
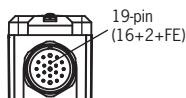
A

2x
M12



B

M23



2x M12 **5 pin** **8 pin** **M23** **19 pin**

CTP

Terminal assignment

A

2x M12

Wiring diagram A

Pin	Designation	Function
X 1.1	FI1B	Channel 2 enable input
X 1.2	U _B	Operating voltage, 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	Channel 1 enable input
X 1.7	0 V U _B	Operating voltage, DC 0 V
X 1.8	RST	Reset input
X 2.1	IMM	Control input guard locking solenoid, DC 0 V
X 2.2	OD	Door monitoring output
X 2.3	OI	Diagnostics output
X 2.4	IMP	Control input guard locking solenoid, DC 24 V
X 2.5	-	Not used

B

M23

Wiring diagram B

Pin	Designation	Function
1	IMP	Control input guard locking solenoid, DC 24 V
2	FI1A	Channel 1 enable input
3	FI1B	Channel 2 enable input
4	FO1A	Safety output, channel 1
5	FO1B	Safety output, channel 2
6	U _B	Operating voltage, DC 24 V
7	RST	Reset input
8	OD	Door monitoring output
9	OI	Diagnostics 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	Control input guard locking solenoid, DC 0 V
19	0V U _B	Operating voltage, DC 0 V

Transponder-coded safety switch CET.-AR-...

With guard locking



- ▶ Safety switch with guard locking
- ▶ Locking force up to 6500 N
- ▶ Metal housing
- ▶ Diagnostics via 4 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 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.

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 release 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 only be taught-in by switching the teach-in input. In this way the protection against tampering is additionally increased.

Lockout bar (optional)

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 with up to three locks.

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 113).

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. 78
- ▶ Accessories and spare parts see p. 77
- ▶ 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 device on page 5.

Ordering table

CET.-AR-...-SG-... with 2 plug connectors M12, without door monitoring

Order No./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1) ¹⁾	Lockout bar	For wiring diagram see page 80
CET1 Closed-circuit current principle								
106275 CET1-AR-CDA-AH-50X-SG-106275	U		●					
106616 CET1-AR-CRA-AH-50A-SG-106616	U			●	75 mm			
106159 CET1-AR-CRA-AH-50F-SG-106159	U		●		75 mm			
111766 CET1-AR-CRA-AH-50F-SG-C2333-111766	U		●		75 mm		●	
105802 CET1-AR-CRA-AH-50S-SG-105802	U			●				
103418 CET1-AR-CRA-AH-50X-SG-103418	U		●					
112121 CET1-AR-CRA-AH-50X-SG-C2333-112121	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							
113272 CET1-AR-CRA-CH-50F-SG-C2333-113272	M				75 mm		●	
CET2 Open-circuit current principle								
109075 CET2-AR-CRA-AH-50S-SG-109075	U			●				
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 112).



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

A

B

A

A

CET.-AR-...-SG-... with 2 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⁾	Lockout bar	For wiring diagram see page 80		
CET3											
Closed-circuit current principle											
110114 CET3-AR-CRA-CH-50X-SG-C2290-110114	M						3 m				
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				
114512 CET3-AR-CRA-AH-50X-SG-C2333-114512	U			●				●			
113965 CET3-AR-CRA-AH-50F-SG-113965	U			●		75 mm					
114508 CET3-AR-CRA-AH-50F-SG-C2333-114508	U			●		75 mm		●			
112921 CET3-AR-CRA-CH-50F-SG-C2333-112921	M					75 mm		●			
112992 CET3-AR-CRA-CH-50S-SG-112992	M				●						
113958 CET3-AR-CRA-CH-50F-SG-C2357-113958	M					105 mm		●			
114090 CET3-AR-CDA-CH-50F-SG-114090	M										
CET4											
Open-circuit current principle											
111683 CET4-AR-CRA-AH-50X-SG-111683	U			●							
128193 CET4-AR-CRA-AH-50X-SG-C2290-128193	U			●			3 m				
120246 CET4-AR-CRA-AH-50X-SG-C2333-120246	U							●			
111684 CET4-AR-CRA-CH-50X-SG-111684	M										
113767 CET4-AR-CRA-CH-50X-SG-C2333-113767	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										

1) L1 = sleeve length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see accessories page 112).

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



CET.-AR-...-SH-... with plug connector RC18 M23 (no UL approval), without door monitoring output

Order No./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1) ¹⁾	Lockout bar	For wiring diagram see page 81	
CET1 Closed-circuit current principle									
110203 CET1-AR-CRA-AH-50X-SH-110203	U		●					 E	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								
113255 CET1-AR-CDA-CH-50X-SH-113255	M							 E	
CET2 Open-circuit current principle									
110205 CET2-AR-CRA-AH-50X-SH-110205	U		●					 E	For detailed information, enter the order number for the product in the search box at www.euchner.com .
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 112).

CET.-AR-...-SH-... with plug connector M23 (no UL approval), with door monitoring output

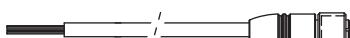
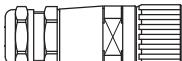
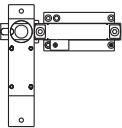
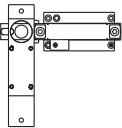
M23 19 pin	Order No./item	Coding U = unicode M = multicode	Ramp	Teach-in input	Feedback loop	Escape release	Wire front release (L1) ¹⁾	Lockout bar	For wiring diagram see page 81
CET3 Closed-circuit current principle									
110103 CET3-AR-CRA-AH-50X-SH-110103	U			●					
111725 CET3-AR-CRA-AH-50F-SH-C2312-111725	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			
113151 CET3-AR-CRA-AH-50X-SH-C2333-113151	U			●				●	
114088 CET3-AR-CRA-AH-50X-SH-C2290-114088	U			●			5 m		
114505 CET3-AR-CRA-AH-50F-SH-C2333-114505	U			●	75 mm			●	
113148 CET3-AR-CRA-AH-50F-SH-113148	U			●	75 mm				
115202 CET3-AR-CRA-AH-50X-SH-C2375-115202	U					105 mm			
129491 CET3-AR-CRA-AH-50F-SH-C2467-129491	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			●					
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 112).

Actuator

Series	Design	Order No./item	For detailed information, enter the order number for the product in the search box at www.euchner.com .
CES-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 .

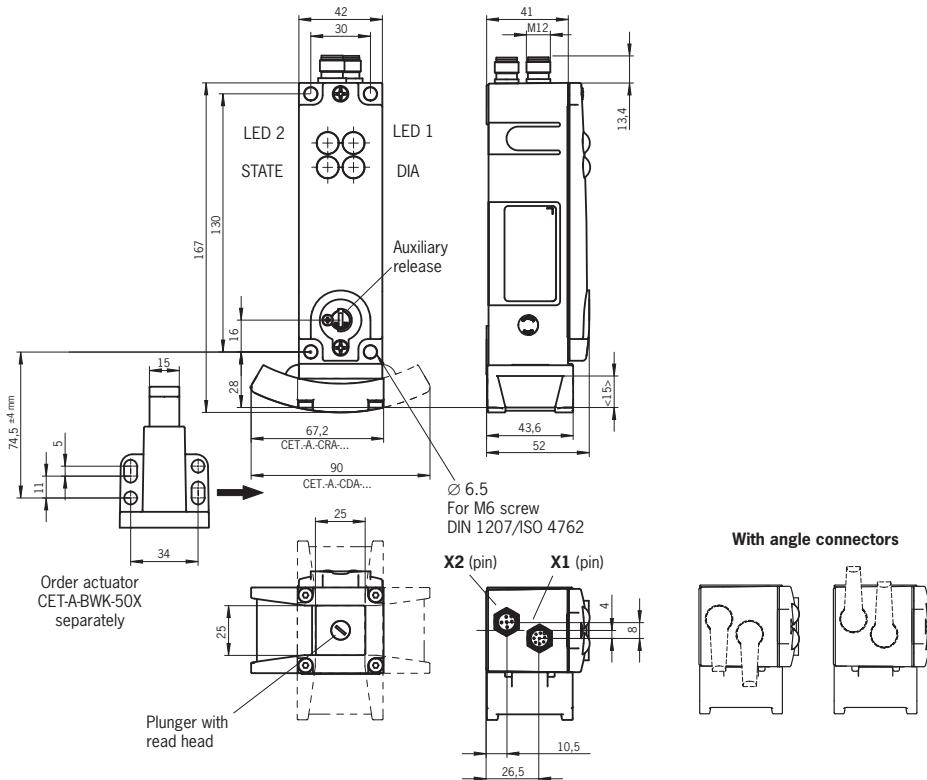
Accessories

Type	Version	
Connection material	Connection cable with plug connectors 	M12 5 pin Page 93
		M12 8 pin Page 95
	Connection cable with plug connectors 	M23 19 pin Page 99/100
	Female plug (for self-assembly) 	M23 19 pin Page 101
	Strapping plug/Y-distributor 	M12 Page 96
Bolts	Passive distribution module 	M12 Page 97
	Bolts for housing design CET 	Page 107
Fixing material	Mounting plates 	Page 110
	Safety screws 	Page 112
Miscellaneous accessories	Lockout bar 	Page 112
	Mechanical key release 	
	Emergency unlocking 	
	Cover 	
	Double ramp 	
	Handle for wire front release 	

Dimension drawing

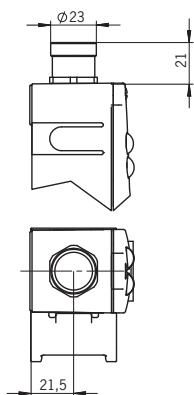
**2x
M12**

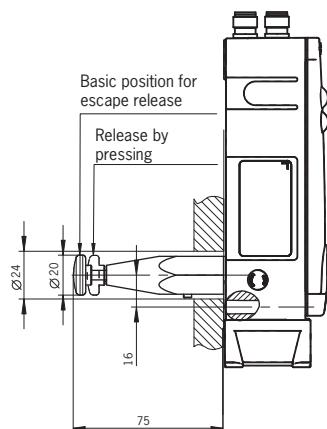
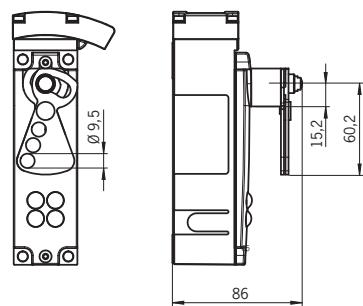
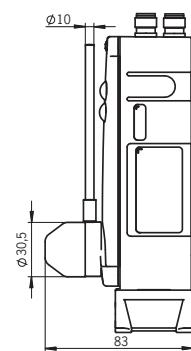
With 2 plug connectors M12



M23

With plug connector M23



With escape release**With lockout bar****With wire front release**



Terminal assignment

A ... **D**

Wiring diagram A to D

Pin	Designation	Function	2x M12			
			A	B	C	D
X 1.1	IB	Enable input for channel 2	●	●	●	●
X 1.2	U _B	Operating voltage 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 AR electronics, DC 0 V	●	●	●	●
X 1.8	RST	Reset input	●	●	●	●
X 2.1	0 V U _{CM}	Operating voltage guard locking solenoid, DC 0 V	●	●	●	●
X 2.2	LED 1	LED 1 red, freely configurable, DC 24 V	●			
		LED 1 red, solenoid energized		●		
X 2.3	OUT D	Door monitoring output			●	●
	LED 1	LED 1 red, freely configurable, DC 24 V			●	
X 2.4	LED 2	LED 2 green, freely configurable, DC 24 V	●	●		
	OUT	Monitoring output				●
X 2.5	U _{CM}	Operating voltage guard locking solenoid, DC 24 V	●	●	●	●
X 2.5	J	Version with teach-in input	●		●	
	Y	Version with feedback loop	●		●	
	-	Version without feedback loop and without teach-in input	●		●	
	FE	Function earth		●		
	-	Not used				●

M23
19
pin

CET

E

Wiring diagram E

Pin	Designation	Function	M23
1	U_{CM}	Operating voltage 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	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 guard locking solenoid, DC 0 V	●
19	0V U_B	Operating voltage 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.

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 2 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. 83
- ▶ Accessories and spare parts see p. 82
- ▶ 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 device on page 5.

Ordering table**AR evaluation unit**

Series	Order No./item	
CES-AR-AES-12 Unicode	098225 CES-AR-AES-12	

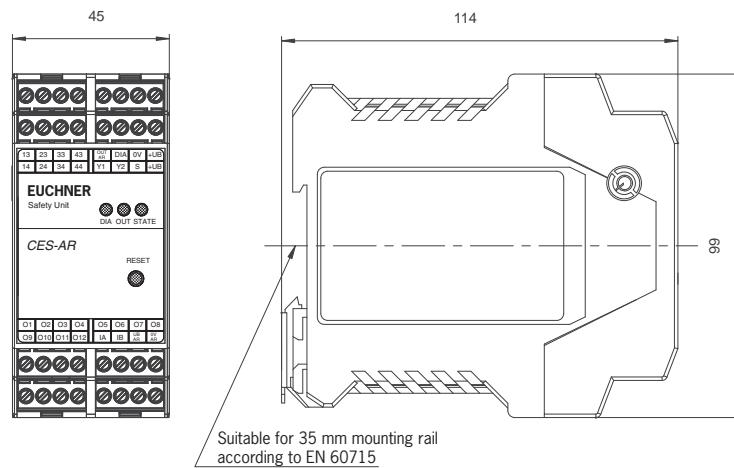
Accessories

Type	Version	
Connection material	Connection kits for AR evaluation unit CES-AR-AES-12	 Page 102

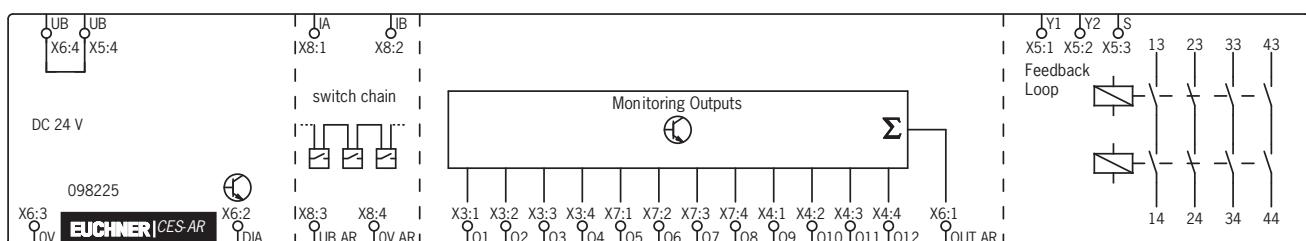
Which safety switches can be connected?

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

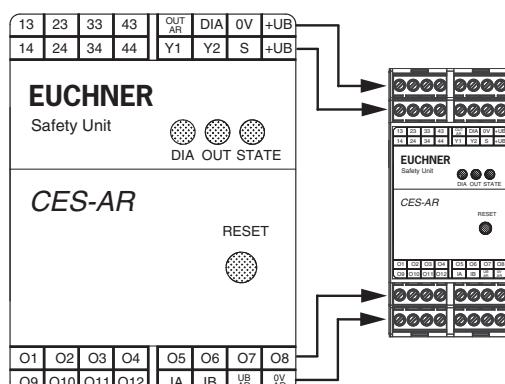
Dimension drawing



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)

System
family**AY**

»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 acc. to EN ISO 13849-1

System
family

AY



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 4 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 Parameter-Key (order no. 125481) in steps of 0 N, 30 N (default setting on delivery) and 50 N. The adhesive force is active if the 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

(i) 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.

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	
Parameter-Key		125481 A-TI-001-125481	For detailed information, enter the order number for the product in the search box at www.euchner.com .

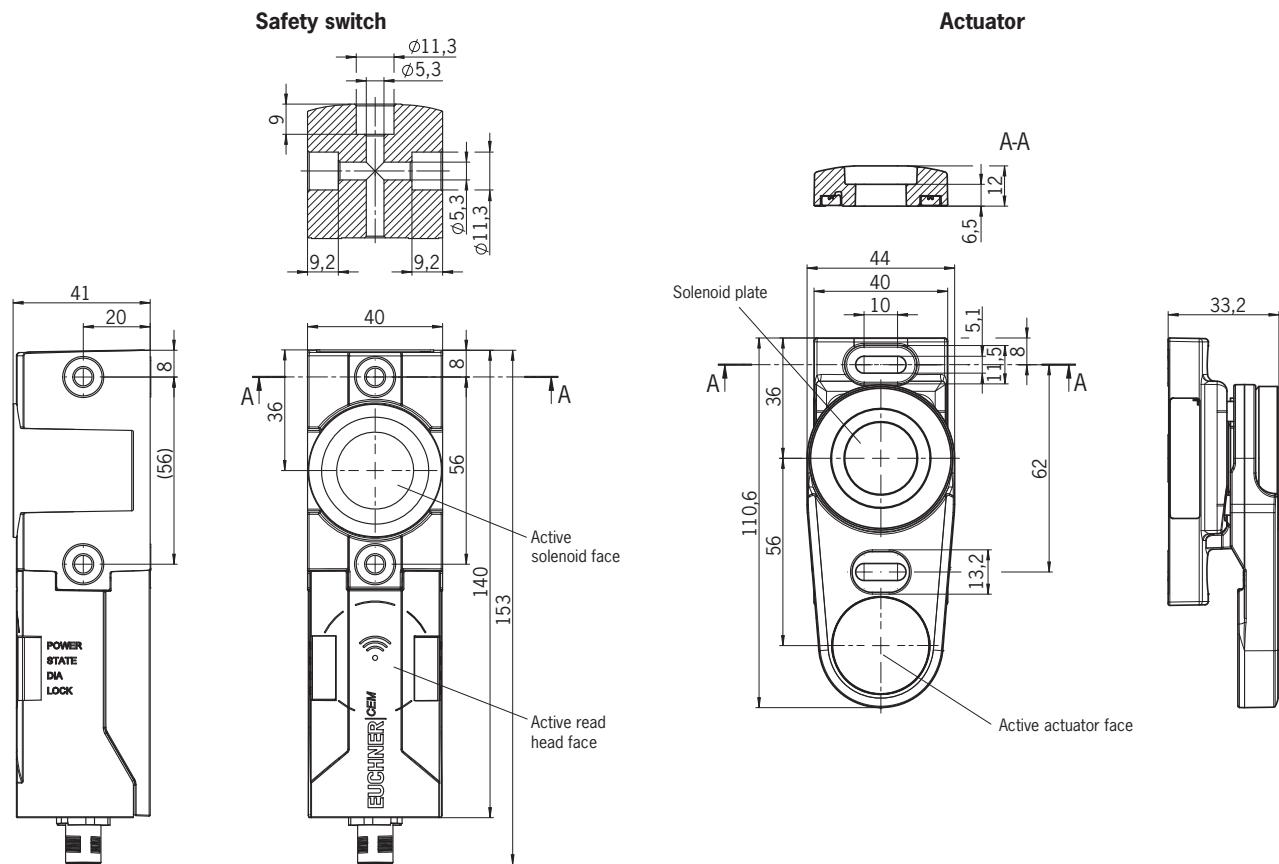
Accessories

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

M12
8
pin

CEM

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	Diagnostics output
6	OT	Door monitoring output
7	OL	Guard locking monitoring output
8	0 V UB	Operating voltage, 0 V

Accessories

»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.

Accessories

Connection material

click **6 pin** **PVC**

Connection cables with snap-on

For the connection of:

CES-AP-C.2..-SF



Version	Order No./item	
click	5m	103556 C-R08F06-06X014PV05,0-ES-103556
6 pin	10m	103557 C-R08F06-06X014PV10,0-ES-103557
PVC	15m	103558 C-R08F06-06X014PV15,0-ES-103558
	20m	103559 C-R08F06-06X014PV20,0-ES-103559
	25m	103560 C-R08F06-06X014PV25,0-ES-103560

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

M8
4
pin
PVC
PUR

Connection cables with plug connectors

For the connection of:

CES-I-AP,-C04-SK



Version	Order No./item	
2m	088812 C-M08F04-04X025PV02,0-ES-088812	
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	
Connection cable with female plug, flying lead, 4 x 0.25 mm² 	084703 C-M08F04-04X025PV10,0-ES-084703	For detailed information, enter the order number for the product in the search box at www.euchner.com .
10m	116049 C-M08F04-04X034PU05,0-ES-116049	
5m	116050 C-M08F04-04X034PU10,0-ES-116050	
10m	116051 C-M08F04-04X034PU20,0-ES-116051	
20m	120241 C-M08F04-04X034PU50,0-ES-120241	
50m		

M8
**4
pin**
PVC

M8
**4
pin**
PUR

M8**8
pin****PVC****PUR**

Connection cables with plug connectors

For the connection of:

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



CESI-AR.-C04-SG



Version	Order No./item	
M8 8 pin PVC	5m 110933 C-M08F08-08X014PV05,0-ES-110933	
	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	5m 106671 C-M08F08-08X014PU05,0-ES-106671	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	10m 106672 C-M08F08-08X014PU10,0-ES-106672	
	20m 106673 C-M08F08-08X014PU20,0-ES-106673	

M12 5 pin PVC PUR

Connection 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

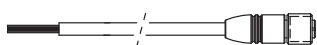
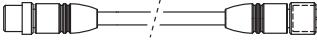
Terminal plug not aligned.
Cable outlet not defined

For the device installation position shown the following applies:

Cable outlet C
(left)
Cable outlet A
(right)

Version	Cable outlet	Order No./item	
Connection cable with female plug, flying lead, 5 x 0.34 mm² 	5m	100183 C-M12F05-05X034PV05,0-MA-100183	
	10m	100184 C-M12F05-05X034PV10,0-MA-100184	
	20m	100185 C-M12F05-05X034PV20,0-MA-100185	
Extension, plug connectors at both ends for connection to decentralized peripheral equipment 	5m	100180 C-M12F05-05X034PV05,0-M12M05-100180	 For detailed information, enter the order number for the product in the search box at www.euchner.com .
	10m	100181 C-M12F05-05X034PV10,0-M12M05-100181	
	20m	100182 C-M12F05-05X034PV20,0-M12M05-100182	
Connection cable with female plug, flying lead, 5 x 0.25 mm² 	10m	113190 C-M12F05-05X025PU10,0-MA-113190	
	C	113187 C-M12F05-05X025PU10,0-MA-113187	
	A	115566 C-M12F05-05X025PU10,0-M12M05-115566	
Extension, plug connectors at both ends for connection to decentralized peripheral equipment 	10m	115565 C-M12F05-05X025PU10,0-M12M05-115565	
	C		
	A		

M12**5 pin****PUR**

Version	Cable outlet	Order No./item	
Connection cable with female plug, flying lead, 5 x 0.34 mm² 	5m	113620 C-M12F05-05X034PU05,0-MA-113620	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	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	

M12 8 pin PVC PUR

Connection 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					For the device installation position shown the following applies: Cable outlet C (left) Cable outlet A (right)

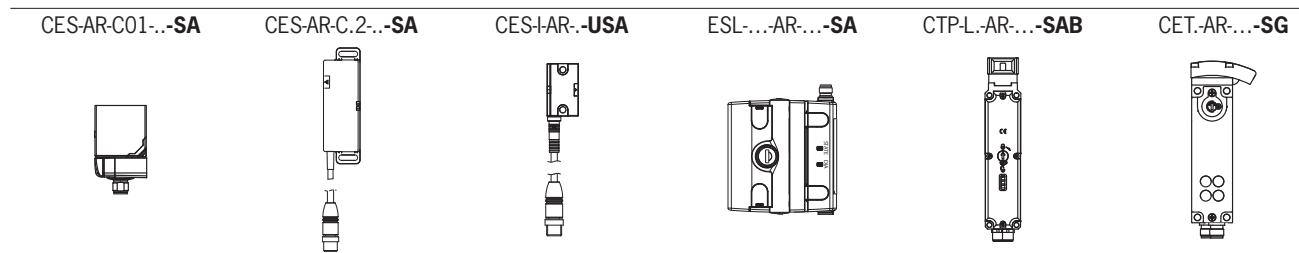
Version	Cable outlet	Order No./item	
M12 8 pin PVC	5m	100177 C-M12F08-08X025PV05,0-MA-100177	
	10m	100178 C-M12F08-08X025PV10,0-MA-100178	
	20m	100179 C-M12F08-08X025PV20,0-MA-100179	
	30m	115116 C-M12F08-08X025PV30,0-MA-115116	
	5m	115112 C-M12F08-08X025PU05,0-MA-115112	
M12 8 pin	10m	115113 C-M12F08-08X025PU10,0-MA-115113	
	20m	115114 C-M12F08-08X025PU20,0-MA-115114	
	30m	115257 C-M12F08-08X025PU30,0-MA-115257	
	10m	113189 C-M12F08-08X025PU10,0-MA-113189	
PUR	A	113188 C-M12F08-08X025PU10,0-MA-113188	
	C	120999 C-M12F08-08X025PU20,0-MA-120999	
	20m	120998 C-M12F08-08X025PU20,0-MA-120998	
	A		

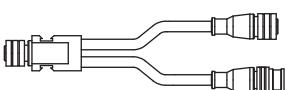
For detailed information,
enter the order number
for the product in
the search box at
www.euchner.com.

Strapping plug/Y-distributors

For the series connection of devices on the output family AR

For the connection of:



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

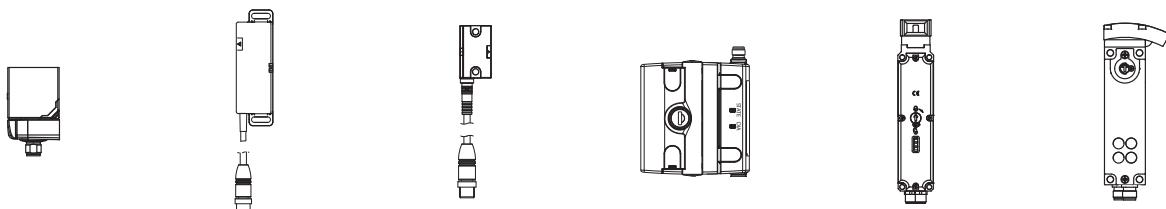
M12
AR

Passive distribution module

For the series connection of devices on the output family AR

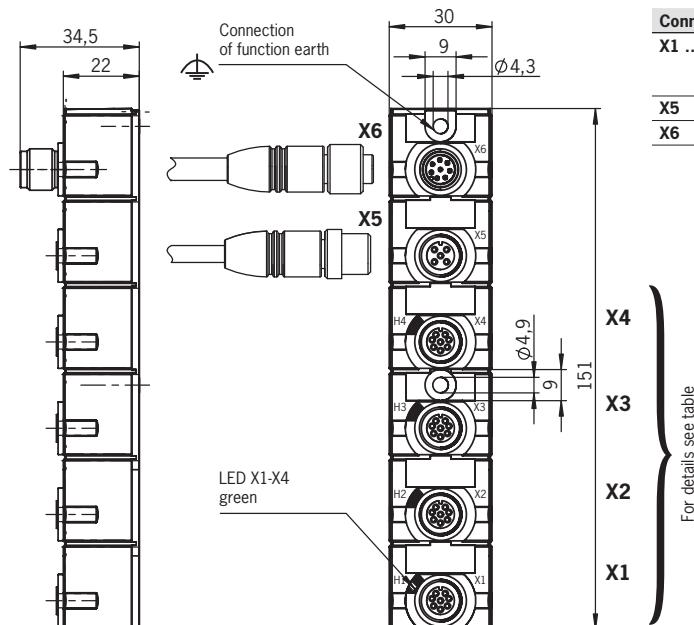
For the connection of:

CES-AR-C01..-SA CES-AR-C.2..-SA CES-I-AR..-USA ESL...-AR...-SA CTP-L-AR...-SAB CET-AR...-SG

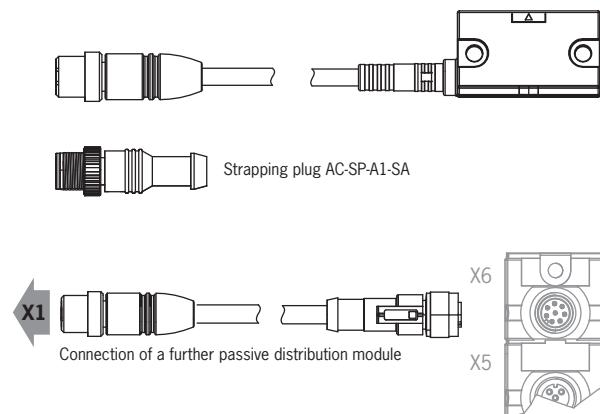


	Version	Order no.	
M12	8 pin 5x	120861 AC-DP-04-SAA-120861	
AR	5 pin 1x		For detailed information, enter the order number for the product in the search box at www.euchner.com .
	Strapping plug for bypassing unused connections on the passive distribution module (male plug)	123340 AC-SP-A1-SA-123340	

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

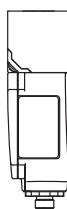


M12
8 pin
PVC

Screened connection cables with plug connector

For the connection of:

CES-A.5



Version	Order No./item	
M12 8 pin PVC Connection cable with female plug, screened¹⁾, 8 x 0.25 mm² 	5m 077751 C-M12F08-08X025PV05.0-MW-077751	 For detailed information, enter the order number for the product in the search box at www.euchner.com .
	10m 077752 C-M12F08-08X025PV10.0-MW-077752	
	15m 077753 C-M12F08-08X025PV15.0-MW-077753	
	20m 077871 C-M12F08-08X025PV20.0-MW-077871	
	25m 077872 C-M12F08-08X025PV25.0-MW-077872	
	50m 077873 C-M12F08-08X025PV50.0-MW-077873	

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

M23 19 pin PUR

Connection cable with straight plug connector

For the connection of:

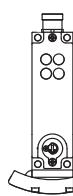
CEM-...-AR-...-SH



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



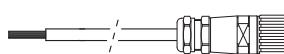
CET.-AR-...-SH



Version	Order no./item	
1,5m	092761 C-M23F19-19XDIFPU01,5-MA-092761	
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	

M23
19
pin
PUR

Connection cable with female
plug,
flying lead



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

M23

19
pin

PUR

Connection cable with angled plug connector

For the connection of:

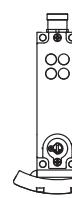
CEM-...-AR-...-SH



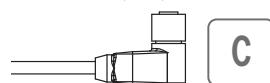
CTP-...-AR-...-SH



CET-AR-...-SH



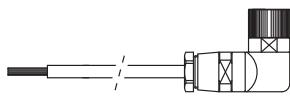
For the device installation position shown the following applies:

Cable outlet C
(left)Cable outlet A
(right)

Version	Order no./item Cable outlet		
	C	A	
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
19
pin
PUR

Female connector angled
with cable,
halogen-free



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:

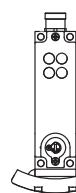
CEM-...-AR-...-SH



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	
Female connector angled (for self-assembly)	WF Female connector angled For conductor cross-section 19 x 0.75 - 1 mm ²	074617	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	WF-C1825 Female connector angled 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 plug EF and WF Conductor cross-section 19 x 0.75 - 1 mm ²	094309	For detailed information, enter the order number for the product in the search box at www.euchner.com .
	For female plug 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 adapters

For connection to safety switch CET

Version	Comment	Order no.	
CET Teach-in adapters AC-TA-A-....	For safety switches CET1/CET3	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 switches CET2/CET4	125497 AC-TA-A2-SG-125497	
	For safety switches CET1/CET3	122748 AC-TA-A1-SH-122748	
	For safety switches CET2/CET4	122749 AC-TA-A2-SH-122749	

Adapter for connection to IP67 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 IP67 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 .

Bolt

C01 C05

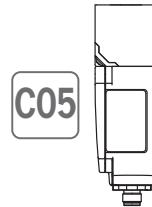
Bolts for housing design C01/C05

Notice: The actuators are included with these bolts.

For mounting:

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

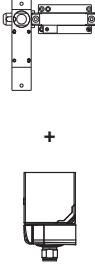
CES-A-5...



Designation	Detent mechanism/ door gap	Material	Version	Order no.	
	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.	
 CO1  Bolt CES-AC...CO1	Closed position: Ball detent mechanism/ door gap: 7 mm	Steel	Bolt with pre-assembled safety switch CES-AR-CO1-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-CO1-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-CO1-AH-SA-098941 and safety plate 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-CO1-AH-SA-098941 and safety plate 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-CO1-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-CO1-AH-SB-111145 and safety plate 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-CO1-CH-SB-111708 and safety plate 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 CES-AP-CO1-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 CES-AP-CO1-CH-SB-111708 for doors hinged on the right or left	110354	

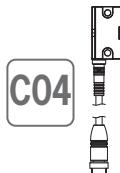
C04

Bolts for housing design C04

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

For mounting:

CES-IAP-.C04...
CES-IAR-.C04...



Designation	Detent mechanism/ door gap	Material	Version	Order no.	
 Bolts 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-L.-...



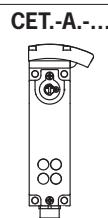
Designation	Detent mechanism/ door gap	Material	Version	Order no.	
Bolt CTP-AC	None/ door gap: 15 mm	Steel	For doors hinged on right and left, can be locked in open position with padlocks	123653	 <p>For detailed information, enter the order number for the product in the search box at www.euchner.com.</p>
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	
Bolts 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	
Bolts 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 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 switches CTP	096613	



Bolts for housing design CET

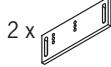
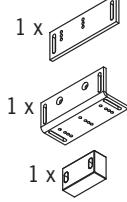
Notice: The actuators are **not** included with these bolts.

For mounting:



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 stop).	109672	

Fixing material**Mounting sets/mounting plates**

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

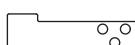
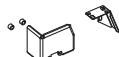
Series	Use	Order No./item	
Mounting plate EMP-L-CET 	For safety switches CET	106695 EMP-L-CET	 For detailed information, enter the order number for the product in the search box at www.euchner.com .
Mounting plate EMP-B-CET 	For actuators CET	106694 EMP-B-CET	
Mounting plate EMP-B1 	For actuators CTP and actuators CET	093457 EMP-B1	
Mounting plate AM-P 	For safety switches CET	126399 AM-P-126399	
Mounting plate AM-P 	For actuators 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	

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 switches CES-..-C.2, actuators CES-A-BLN-2 and actuators CTP (straight/angled)	100	086232
Safety screws, stainless steel M4 x 20	Safety switches CES-IAP-...-C04 and actuators CES-A-BBN-C04...	20	116978
Safety screws, stainless steel M5 x 10	Safety switches CES-..-C01, actuators CES-A-BPA and hinged actuators CTP (left/right)	100	073455
Safety screws M5 x 16	Actuators CES-A-BRN, CET-A-BWK and actuators A-C40	100	073456
Safety screws M5 x 25	Hinged actuators CTP (top/bottom)	100	073457

Miscellaneous accessories

Designation	Use	Version	Order no
C40 	For safety switches design C40	–	123625 AE-L-C40-123625
Mechanical key release 	For safety switches CTP	Identical locking, incl. 2 keys	086236
		Identical locking, key can only be removed in locked position, incl. 2 keys	109212
		Unique locking, incl. 2 keys	084177
Replacement key	For mechanical key release, identical locking	2 keys, identical locking	099434
Release 	For safety switches CTP	Resetting	103110
Emergency unlocking 	For safety switches CTP	–	099877
Lead seal kit	For emergency unlocking	–	087256
Wire front release 	For safety switches 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

Designation	Use	Version	Order no
Handle for wire front release  CTP	For safety switches CTP		099795 AY-HDL-099795
			124204 AY-HDL-124204
Lockout bar 	For safety switches CTP	–	123411
Lockout bar 	For safety switches CET	–	122609 AE-L-CET-122609
Mechanical key release 	For safety switches CET	Identical locking, incl. 2 keys	098850
Replacement key	For mechanical key release, identical locking	2 keys, identical locking	099434
Emergency unlocking 	For safety switches CET	Latching in both positions	103714
Lead seal kit	For emergency unlocking	–	087256
Cover 	For safety switches CET and actuators CET	Door hinge right	098808
		Door hinge left	098807
Cover 	For actuators CET	–	124979 AM-C-124979
Double ramp 	For safety switches CET	–	114091
Handle for wire front release 	For safety switches CET		099795 AY-HDL-099795
			124204 AY-HDL-124204

Index by item designation

Item	Order no.	Page
A-C-H-G-SST-122666	122666	36, 66
A-C-H-RL-LS-122671	122671	36, 66
A-C-H-RO-LS-122675	122675	36, 66
A-C-H-RR-LS-122672	122672	36, 66
A-C-H-RU-LS-122676	122676	36, 66
A-C-H-W-SST-122667	122667	36, 66
A-C-H-W-SST-122668	122668	36, 66
A-C40-113869	113869	62, 84
A-TI-001-125481	125481	62, 84
AC-DP-04-SAA-120861	120861	95
AC-SP-A1-SA-123340	123340	95
AC-TA-A1-SG-125496	125496	100
AC-TA-A1-SH-122748	122748	100
AC-TA-A2-SG-125497	125497	100
AC-TA-A2-SH-122749	122749	100
AC-YD-V0,2-SBB-124516	124516	100
AE-L-C40-123625	123625	110
AE-B-A1-02,0-F-097747	097747	110
AE-B-A1-03,0-F-111233	111233	110
AE-L-CET-122609	122609	111
AM-P-126026	126026	108
AM-P-126399	126399	109
AM-P-126400	126400	109
AM-B-126230	126230	108
AM-B-126231	126231	108
AM-C-124979	124979	111
AM-P-126398	126398	109
AM-SET-PP-119690	119690	108
AM-SET-PPB-119694	119694	108
AY-HDL-099795	099795	111
AY-HDL-124204	124204	111
C-M23F19-19XDIFPU01,5-MA-092761	092761	97
C-M23F19-19XDIFPU01,5-MA-092906	092906	98
C-M23F19-19XDIFPU01,5-MA-092907	092907	98
C-M23F19-19XDIFPU03,0-MA-092816	092816	97
C-M23F19-19XDIFPU03,0-MA-092908	092908	98
C-M23F19-19XDIFPU03,0-MA-092909	092909	98
C-M23F19-19XDIFPU06,0-MA-077014	077014	97
C-M23F19-19XDIFPU06,0-MA-077018	077018	98
C-M23F19-19XDIFPU06,0-MA-085194	085194	98
C-M23F19-19XDIFPU08,0-MA-077015	077015	97
C-M23F19-19XDIFPU08,0-MA-077015	092898	97
C-M23F19-19XDIFPU08,0-MA-077019	077019	98
C-M23F19-19XDIFPU08,0-MA-085195	085195	98
C-M23F19-19XDIFPU10,0-MA-092901	092901	98
C-M23F19-19XDIFPU10,0-MA-092902	092902	98
C-M23F19-19XDIFPU15,0-MA-077016	077016	97
C-M23F19-19XDIFPU15,0-MA-077020	077020	98
C-M23F19-19XDIFPU15,0-MA-085196	085196	98
C-M23F19-19XDIFPU20,0-MA-092726	092726	97
C-M23F19-19XDIFPU20,0-MA-092910	092910	98
C-M23F19-19XDIFPU20,0-MA-092911	092911	98
C-M23F19-19XDIFPU25,0-MA-092727	092727	97
C-M23F19-19XDIFPU25,0-MA-092912	092912	98
C-M23F19-19XDIFPU25,0-MA-092913	092913	98
C-M23F19-19XDIFPU30,0-MA-095993	095993	97
C-M23F19-19XDIFPU40,0-MA-102490	102490	97
C-M08F04-04X025PV02,0-ES-088812	088812	89
C-M08F04-04X025PV05,0-ES-088813	088813	89
C-M08F04-04X025PV10,0-ES-084703	084703	89
C-M08F04-04X025PV10,0-ES-088814	088814	89
C-M08F04-04X025PV15,0-ES-088815	088815	89
C-M08F04-04X025PV25,0-ES-095035	095035	89

Item	Order no.	Page
C-M08F04-04X025PV50,0-ES-097100	097100	89
C-M08F04-04X034PU05,0-ES-116049	116049	89
C-M08F04-04X034PU10,0-ES-116050	116050	89
C-M08F04-04X034PU20,0-ES-116051	116051	89
C-M08F04-04X034PU50,0-ES-120241	120241	89
C-M08F08-08X014PU05,0-ES-106671	106671	90
C-M08F08-08X014PU10,0-ES-106672	106672	90
C-M08F08-08X014PU20,0-ES-106673	106673	90
C-M08F08-08X014PV05,0-ES-110933	110933	90
C-M08F08-08X014PV10,0-ES-110934	110934	90
C-M08F08-08X014PV15,0-ES-110935	110935	90
C-M08F08-08X014PV20,0-ES-111603	111603	90
C-M12F05-05X025PU10,0-M12M05-115565	115565	91
C-M12F05-05X025PU10,0-M12M05-115566	115566	91
C-M12F05-05X025PU10,0-MA-113187	113187	91
C-M12F05-05X025PU10,0-MA-113190	113190	91
C-M12F05-05X034PU05,0-M12M05-119932	119932	92
C-M12F05-05X034PU05,0-MA-113620	113620	92
C-M12F05-05X034PU10,0-M12M05-119947	119947	92
C-M12F05-05X034PU10,0-MA-113640	113640	92
C-M12F05-05X034PU20,0-M12M05-119971	119971	92
C-M12F05-05X034PU20,0-MA-113682	113682	92
C-M12F05-05X034PU30,0-MA-113682	122784	92
C-M12F05-05X034PV05,0-M12M05-100180	100180	91
C-M12F05-05X034PV05,0-MA-100183	100183	91
C-M12F05-05X034PV10,0-M12M05-100181	100181	91
C-M12F05-05X034PV10,0-MA-100184	100184	91
C-M12F05-05X034PV20,0-M12M05-100182	100182	91
C-M12F05-05X034PV20,0-MA-100185	100185	91
C-M12F08-08X025PU05,0-MA-115112	115112	93
C-M12F08-08X025PU10,0-MA-113188	113188	93
C-M12F08-08X025PU10,0-MA-113189	113189	93
C-M12F08-08X025PU10,0-MA-115113	115113	93
C-M12F08-08X025PU20,0-MA-115114	115114	93
C-M12F08-08X025PU20,0-MA-120998	120998	93
C-M12F08-08X025PU20,0-MA-120999	120999	93
C-M12F08-08X025PU30,0-MA-115257	115257	93
C-M12F08-08X025PV05,0-MA-100177	100177	93
C-M12F08-08X025PV05,0-MW-077751	077751	96
C-M12F08-08X025PV10,0-MA-100178	100178	93
C-M12F08-08X025PV10,0-MW-077752	077752	96
C-M12F08-08X025PV15,0-MW-077753	077753	96
C-M12F08-08X025PV20,0-MA-100179	100179	93
C-M12F08-08X025PV20,0-MW-077871	077871	96
C-M12F08-08X025PV25,0-MW-077872	077872	96
C-M12F08-08X025PV30,0-MA-115116	115116	93
C-M12F08-08X025PV50,0-MW-077873	077873	96
C-R08F06-06X014PV05,0-ES-103556	103556	88
C-R08F06-06X014PV10,0-ES-103557	103557	88
C-R08F06-06X014PV15,0-ES-103558	103558	88
C-R08F06-06X014PV20,0-ES-103559	103559	88
C-R08F06-06X014PV25,0-ES-103560	103560	88
CEM12-AR-U-C40-SH-124937	124937	62
CEM12-AY-U-C40-SA-128103	128103	84
CEM12-AR-M-C40-SH-113739	113739	62
CES-A-BBA	071840	16, 20, 24, 50
CES-A-BBA-EX-098158	098158	16
CES-A-BBN-C04-115271	115271	31, 57
CES-A-BCA	088786	16, 20, 24, 50
CES-A-BDN-06-104730	104730	27, 31, 53, 57

Item	Order no.	Page	Item	Order no.	Page
CES-ABLN-L2-104510	104510	27, 53	CES-AR-CR2-CH-L10-109048	109048	53
CES-ABLN-R2-100776	100776	27, 53	CES-AR-CR2-CH-L20-109052	109052	53
CES-ABLN-U2-103450	103450	27, 53	CES-AR-CR2-CH-SA-105745	105745	53
CES-A-BPA	098775	16, 20, 24, 50	CES-AR-CR2-CH-SA-112928	112928	53
CES-A-BPA-EX-102125	102125	16	CES-AR-CR2-CH-SA-115792	115792	53
CES-ABRN-100251	100251	20, 24, 50	CES-AR-CR2-CH-SG-105750	105750	53
CES-A-C5E-01	077750	16	CES-EA-TC-AK08-104776	104776	100
CES-A-C5H-01	091458	16	CES-EA-TC-KK08-112629	112629	100
CES-A-C5H-01-EX	097945	16	CES-I-AP-M-C04-SK-117325	117325	31
CES-A-W5H-01	097525	16	CES-I-AP-M-C04-U05-117328	117328	31
CES-AH-C03-AH-SM-106300	106300	20	CES-I-AP-M-C04-U10-117329	117329	31
CES-AP-C01-AH-SB-111145	111145	24	CES-I-AP-M-C04-U20-117330	117330	31
CES-AP-C01-CH-SA-100250	100250	24	CES-I-AP-M-C04-USB-117324	117324	31
CES-AP-C01-CH-SB-106798	106798	24	CES-I-AP-M-C04-USI-117323	117323	31
CES-AP-C01-CH-SB-111708	111708	24	CES-I-AP-U-C04-SK-115324	115324	30
CES-AP-CL2-AH-L05-105603	105603	26	CES-I-AP-U-C04-U05-116503	116503	30
CES-AP-CL2-AH-L10-106192	106192	26	CES-I-AP-U-C04-U10-116504	116504	30
CES-AP-CL2-AH-L20-106196	106196	26	CES-I-AP-U-C04-U20-116505	116505	30
CES-AP-CL2-AH-SB-106553	106553	26	CES-I-AP-U-C04-USB-116502	116502	30
CES-AP-CL2-AH-SB-111747	111747	26	CES-I-AP-U-C04-USI-115150	115150	30
CES-AP-CL2-AH-SF-105294	105294	26	CES-I-AR-M-C04-SG-119474	119474	57
CES-AP-CL2-CH-L05-105602	105602	27	CES-I-AR-M-C04-U05-119475	119475	57
CES-AP-CL2-CH-L10-106190	106190	27	CES-I-AR-M-C04-U10-119476	119476	57
CES-AP-CL2-CH-L20-106194	106194	27	CES-I-AR-M-C04-U20-119477	119477	57
CES-AP-CL2-CH-SB-106551	106551	27	CES-I-AR-M-C04-USA-119479	119479	57
CES-AP-CL2-CH-SB-109167	109167	27	CES-I-AR-U-C04-SG-119469	119469	56
CES-AP-CL2-CH-SF-104509	104509	27	CES-I-AR-U-C04-U05-119470	119470	56
CES-AP-CR2-AHL05-105601	105601	26	CES-I-AR-U-C04-U10-119471	119471	56
CES-AP-CR2-AHL10-106191	106191	26	CES-I-AR-U-C04-U20-119472	119472	56
CES-AP-CR2-AHL20-106195	106195	26	CES-I-AR-U-C04-USA-119473	119473	56
CES-AP-CR2-AH-SB-106552	106552	26	CET-A-BWK-50X	096327	43, 74
CES-AP-CR2-AH-SB-111748	111748	26	CET1-AR-CDA-AH-50X-SG-106275	106275	71
CES-AP-CR2-AH-SF-105295	105295	26	CET1-AR-CDA-CH-50X-SG-109231	109231	71
CES-AP-CR2-CH-L05-105600	105600	27	CET1-AR-CDA-CH-50X-SH-113255	113255	73
CES-AP-CR2-CH-L10-106189	106189	27	CET1-AR-CRA-AH-50A-SG-106616	106616	71
CES-AP-CR2-CH-L20-106193	106193	27	CET1-AR-CRA-AH-50F-SG-106159	106159	71
CES-AP-CR2-CH-SB-106550	106550	27	CET1-AR-CRA-AH-50F-SG-C2333-111766	111766	71
CES-AP-CR2-CH-SB-109168	109168	27	CET1-AR-CRA-AH-50F-SH-C2312-110943	110943	73
CES-AP-CR2-CH-SB-123922	123922	27	CET1-AR-CRA-AH-50F-SH-C2353-113021	113021	73
CES-AP-CR2-CH-SF-100775	100775	27	CET1-AR-CRA-AH-50S-SG-105802	105802	71
CES-AR-AES-12	098225	80	CET1-AR-CRA-AH-50S-SG-C2290-113320	113320	71
CES-AR-C01-AH-SA	098941	50	CET1-AR-CRA-AH-50X-SG-103418	103418	71
CES-AR-C01-CH-SA	098942	50	CET1-AR-CRA-AH-50X-SG-C2333-112121	112121	71
CES-AR-C01-EH-SA	098582	50	CET1-AR-CRA-AH-50X-SH-110203	110203	73
CES-AR-CL2-AH-L05-109047	109047	52	CET1-AR-CRA-AH-50X-SH-C2290-113022	113022	73
CES-AR-CL2-AH-L10-109051	109051	52	CET1-AR-CRA-CH-50F-SG-110241	110241	71
CES-AR-CL2-AH-L20-109055	109055	52	CET1-AR-CRA-CH-50F-SG-C2333-113272	113272	71
CES-AR-CL2-AH-SA-105748	105748	52	CET1-AR-CRA-CH-50S-SG-105764	105764	71
CES-AR-CL2-AH-SG-105753	105753	52	CET1-AR-CRA-CH-50X-SG-105763	105763	71
CES-AR-CL2-CH-L05-109045	109045	53	CET1-AR-CRA-CH-50X-SG-C2290-109015	109015	71
CES-AR-CL2-CHL10-109049	109049	53	CET1-AR-CRA-CH-50X-SH-110204	110204	73
CES-AR-CL2-CHL20-109053	109053	53	CET2-AR-CDA-AH-50S-SG-109075	109075	71
CES-AR-CL2-CH-SA-105747	105747	53	CET2-AR-CRA-AH-50X-SG-110240	110240	71
CES-AR-CL2-CH-SA-112929	112929	53	CET2-AR-CRA-AH-50X-SH-110205	110205	73
CES-AR-CL2-CH-SA-115793	115793	53	CET2-AR-CRA-CH-50F-SG-C2312-109941	109941	71
CES-AR-CL2-CH-SG-105752	105752	53	CET2-AR-CRA-CH-50X-SG-110082	110082	71
CES-AR-CR2-AH-L05-109046	109046	52	CET2-AR-CRA-CH-50X-SH-110206	110206	73
CES-AR-CR2-AH-L10-109050	109050	52	CET3-AP-CRA-AH-50F-SA-124601	124601	42
CES-AR-CR2-AH-L20-109054	109054	52	CET3-AP-CRA-AH-50F-SH-C2312-119106	119106	42
CES-AR-CR2-AH-SA-105746	105746	52	CET3-AP-CRA-AH-50F-SI-114073	114073	41
CES-AR-CR2-AH-SG-105751	105751	52	CET3-AP-CRA-AH-50F-SI-C2333-114516	114516	41
CES-AR-CR2-CHL05-109044	109044	53	CET3-AP-CRA-AH-50F-SI-C2357-114626	114626	41

Item	Order no.	Page
CET3-AP-CRA-AH-50F-SI-C2438-127594	124594	41
CET3-AP-CRA-AH-50F-SI-C2469-124601	129541	41
CET3-AP-CRA-AH-50X-SA-122389	122398	42
CET3-AP-CRA-AH-50X-SA-122406	122406	42
CET3-AP-CRA-AH-50X-SI-113141	111346	41
CET3-AP-CRA-AH-50X-SI-C2290-121367	121367	41
CET3-AP-CRA-AH-50X-SI-C2333-114223	114223	41
CET3-AP-CRA-AH-50X-SI-C2438-124589	124589	41
CET3-AP-CRA-CH-50X-SA-121579	121579	42
CET3-AP-CRA-CH-50X-SA-122409	122409	42
CET3-AR-CDA-AH-50F-SH-114647	114647	74
CET3-AR-CDA-CH-50F-SG-114090	114090	72
CET3-AR-CRA-AH-50F-SG-113965	113965	72
CET3-AR-CRA-AH-50F-SG-C2333-114508	114508	72
CET3-AR-CRA-AH-50F-SH-113148	113148	74
CET3-AR-CRA-AH-50F-SH-C2312-111725	111725	74
CET3-AR-CRA-AH-50F-SH-C2333-114505	114505	74
CET3-AR-CRA-AH-50F-SH-C2353-113023	113023	74
CET3-AR-CRA-AH-50F-SH-C2467-129491	129491	74
CET3-AR-CRA-AH-50X-SG-109401	109401	72
CET3-AR-CRA-AH-50X-SG-C2290-113139	113139	72
CET3-AR-CRA-AH-50X-SG-C2333-114512	114512	72
CET3-AR-CRA-AH-50X-SH-110103	110103	74
CET3-AR-CRA-AH-50X-SH-C2290-113024	113024	74
CET3-AR-CRA-AH-50X-SH-C2290-114088	114088	74
CET3-AR-CRA-AH-50X-SH-C2333-113151	113151	74
CET3-AR-CRA-AH-50X-SH-C2375-115202	115202	74
CET3-AR-CRA-CH-50F-SG-110907	110907	72
CET3-AR-CRA-CH-50F-SG-C2290-110905	110905	72
CET3-AR-CRA-CH-50F-SG-C2333-112921	112921	72
CET3-AR-CRA-CH-50F-SG-C2357-113958	113958	72
CET3-AR-CRA-CH-50S-SG-112992	112992	72
CET3-AR-CRA-CH-50X-SG-110906	110906	72
CET3-AR-CRA-CH-50X-SG-C2290-110114	110114	72
CET3-AR-CRA-CH-50X-SH-110104	110104	74
CET4-AP-CRA-AH-50X-SA-122415	122415	42
CET4-AP-CRA-AH-50X-SI-112082	112082	41
CET4-AP-CRA-AH-50X-SI-C2438-126763	126763	41
CET4-AP-CRA-CH-50X-SA-122413	122413	42
CET4-AR-CDA-CH-50X-SG-114712	114712	72
CET4-AR-CRA-AH-50F-SH-116285	116285	74
CET4-AR-CRA-AH-50X-SG-111683	111683	72
CET4-AR-CRA-AH-50X-SG-C2290-128193	128193	72
CET4-AR-CRA-AH-50X-SG-C2333-120246	120246	72
CET4-AR-CRA-AH-50X-SH-110201	110201	74
CET4-AR-CRA-CH-50F-SG-114650	114650	72
CET4-AR-CRA-CH-50S-SG-113081	113081	72
CET4-AR-CRA-CH-50X-SG-111684	111684	72
CET4-AR-CRA-CH-50X-SG-C2333-113767	113767	72
CET4-AR-CRA-CH-50X-SG-C2355-113609	113609	72
CET4-AR-CRA-CH-50X-SH-110202	110202	74
CTP-I2-AP-U-HA-AZC-SA-126258	126258	35
CTP-L1-AP-M-HA-AE-SH-123376	123376	36
CTP-L1-AP-M-HA-AZ-SA-124727	124727	35
CTP-L1-AP-M-HA-AZ-SH-123365	123365	36
CTP-L1-AP-U-HA-AE-SA-126912	126912	35
CTP-L1-AP-U-HA-AE-SH-123375	123375	36
CTP-L1-AP-U-HA-AE-SII-127640	127640	35
CTP-L1-AP-U-HA-AZ-SA-124225	124225	35
CTP-L1-AP-U-HA-AZ-SH-123364	123364	36
CTP-L1-AP-U-HA-AZ-SII-124468	124468	35
CTP-L1-AR-M-HA-AE-SAB-123308	123308	65
CTP-L1-AR-M-HA-AE-SH-123374	123374	65

Item	Order no.	Page
CTP-L1-AR-M-HA-AZ-SAB-123307	123307	65
CTP-L1-AR-M-HA-AZ-SH-123363	123363	65
CTP-L1-AR-U-HA-AE-SAB-122813	122813	65
CTP-L1-AR-U-HA-AE-SH-123373	123373	65
CTP-L1-AR-U-HA-AZ-SAB-122812	122812	65
CTP-L1-AR-U-HA-AZ-SH-123362	123362	65
CTP-L2-AP-M-HA-AZ-SA-124729	124729	35
CTP-L2-AP-M-HA-AZ-SH-123371	123371	36
CTP-L2-AP-U-HA-AZ-SA-124728	124728	35
CTP-L2-AP-U-HA-AZ-SH-123370	123370	36
CTP-L2-AR-M-HA-AZ-SAB-123361	123361	65
CTP-L2-AR-M-HA-AZ-SH-123369	123369	65
CTP-L2-AR-U-HA-AZ-SAB-122814	122814	65
CTP-L2-AR-U-HA-AZ-SH-123366	123366	65
CTP-I1-AP-U-HA-AEC-SA-136595	136595	35
CTP-L2_AP-U-HA-AE-SA-136841	136841	35
EMP-B-CET	106694	109
EMP-B1	093457	108, 109
EMP-B2	093458	108
EMP-L-CET	106695	109
EMP-SB	093456	108
ESL-IH-AR-M-R30-SA-114943	114943	60
ESL-IH-AR-M-R30-SA-120646	120646	60
ESL-IH-AR-U-R30-SA-115320	115320	60
ESL-IH-AR-U-R30-SA-120824	120824	60

Index by order number

Order no.	Item	Page	Order no.	Item	Page
071840	CES-A-BBA	16, 20, 24, 50	097100	C-M08F04-04X025PV50,0-ES-097100	89
071863		110	097525	CES-A-W5H-01	16
073455		110	097627		94
073456		110	097645		94
073457		110	097747	AE-B-A1-02,0-F-097747	110
074616		99	097945	CES-A-C5H-01-EX	16
074617		99	098158	CES-A-BBA-EX-098158	16
077014	C-M23F19-19XDIFPU06,0-MA-077014	97	098225	CES-AR-AES-12	80
077015	C-M23F19-19XDIFPU08,0-MA-077015	97	098357		102
077016	C-M23F19-19XDIFPU15,0-MA-077016	97	098582	CES-AR-C01-EH-SA	50
077018	C-M23F19-19XDIFPU06,0-MA-077018	98	098775	CES-A-BPA	16, 20, 24, 50
077019	C-M23F19-19XDIFPU08,0-MA-077019	98	098807		111
077020	C-M23F19-19XDIFPU15,0-MA-077020	98	098808		111
077025		99	098850		111
077026		99	098941	CES-AR-C01-AH-SA	50
077750	CES-A-C5E-01	16	098942	CES-AR-C01-CH-SA	50
077751	C-M12F08-08X025PV05,0-MW-077751	96	099434		110, 111
077752	C-M12F08-08X025PV10,0-MW-077752	96	099795	AY-HDL-099795	111
077753	C-M12F08-08X025PV15,0-MW-077753	96	099877		110
077871	C-M12F08-08X025PV20,0-MW-077871	96	100177	C-M12F08-08X025PV05,0-MA-100177	93
077872	C-M12F08-08X025PV25,0-MW-077872	96	100178	C-M12F08-08X025PV10,0-MA-100178	93
077873	C-M12F08-08X025PV50,0-MW-077873	96	100179	C-M12F08-08X025PV20,0-MA-100179	93
082220		102	100180	C-M12F05-05X034PV05,0-M12M05-100180	91
084177		110	100181	C-M12F05-05X034PV10,0-M12M05-100181	91
084703	C-M08F04-04X025PV10,0-ES-084703	89	100182	C-M12F05-05X034PV20,0-M12M05-100182	91
085194	C-M23F19-19XDIFPU06,0-MA-085194	98	100183	C-M12F05-05X034PV05,0-MA-100183	91
085195	C-M23F19-19XDIFPU08,0-MA-085195	98	100184	C-M12F05-05X034PV10,0-MA-100184	91
085196	C-M23F19-19XDIFPU15,0-MA-085196	98	100185	C-M12F05-05X034PV20,0-MA-100185	91
086232		110	100250	CES-AP-C01-CH-SA-100250	24
086236		110	100251	CES-A-BRN-100251	20, 24, 50
087256		110, 111	100775	CES-AP-CR2-CH-SF-100775	27
088786	CES-A-BCA	16, 20, 24, 50	100776	CES-A-BLN-R2-100776	27, 53
088812	C-M08F04-04X025PV02,0-ES-088812	89	102125	CES-A-BPA-EX-102125	16
088813	C-M08F04-04X025PV05,0-ES-088813	89	102490	C-M23F19-19XDIFPU40,0-MA-102490	97
088814	C-M08F04-04X025PV10,0-ES-088814	89	103110		110
088815	C-M08F04-04X025PV15,0-ES-088815	89	103418	CET1-AR-CRA-AH-50X-SG-103418	71
091458	CES-A-C5H-01	16	103450	CES-A-BLN-U2-103450	27, 53
092726	C-M23F19-19XDIFPU20,0-MA-092726	97	103556	C-R08F06-06X014PV05,0-ES-103556	88
092727	C-M23F19-19XDIFPU25,0-MA-092727	97	103557	C-R08F06-06X014PV10,0-ES-103557	88
092761	C-M23F19-19XDIFPU01,5-MA-092761	97	103558	C-R08F06-06X014PV15,0-ES-103558	88
092816	C-M23F19-19XDIFPU03,0-MA-092816	97	103559	C-R08F06-06X014PV20,0-ES-103559	88
092898	C-M23F19-19XDIFPU08,0-MA-077015	97	103560	C-R08F06-06X014PV25,0-ES-103560	88
092901	C-M23F19-19XDIFPU10,0-MA-092901	98	103714		111
092902	C-M23F19-19XDIFPU10,0-MA-092902	98	104028		103
092906	C-M23F19-19XDIFPU01,5-MA-092906	98	104309		106
092907	C-M23F19-19XDIFPU01,5-MA-092907	98	104509	CES-AP-CL2-CH-SF-104509	27
092908	C-M23F19-19XDIFPU03,0-MA-092908	98	104510	CES-A-BLN-L2-104510	27, 53
092909	C-M23F19-19XDIFPU03,0-MA-092909	98	104730	CES-A-BDN-06-104730	27, 31, 53, 57
092910	C-M23F19-19XDIFPU20,0-MA-092910	98	104776	CES-EA-TC-AK08-104776	100
092911	C-M23F19-19XDIFPU20,0-MA-092911	98	105294	CES-AP-CL2-AH-SF-105294	26
092912	C-M23F19-19XDIFPU25,0-MA-092912	98	105295	CES-AP-CR2-AH-SF-105295	26
092913	C-M23F19-19XDIFPU25,0-MA-092913	98	105600	CES-AP-CR2-CH-L05-105600	27
093456	EMP-SB	108	105601	CES-AP-CR2-AH-L05-105601	26
093457	EMP-B1	108, 109	105602	CES-AP-CL2-CH-L05-105602	27
093458	EMP-B2	108	105603	CES-AP-CL2-AH-L05-105603	26
094309		99	105619		103
094310		99	105745	CES-AR-CR2-CH-SA-105745	53
095035	C-M08F04-04X025PV25,0-ES-095035	89	105746	CES-AR-CR2-AH-SA-105746	52
095993	C-M23F19-19XDIFPU30,0-MA-095993	97	105747	CES-AR-CL2-CH-SA-105747	53
096327	CET-A-BWK-50X	43, 74	105748	CES-AR-CL2-AH-SA-105748	52
096613		105	105750	CES-AR-CR2-CH-SG-105750	53

Order no.	Item	Page
105751	CES-AR-CR2-AH-SG-105751	52
105752	CES-AR-CL2-CH-SG-105752	53
105753	CES-AR-CL2-AH-SG-105753	52
105763	CET1-AR-CRA-CH-50X-SG-105763	71
105764	CET1-AR-CRA-CH-50S-SG-105764	71
105802	CET1-AR-CRA-AH-50S-SG-105802	71
106159	CET1-AR-CRA-AH-50F-SG-106159	71
106172		106
106189	CES-AP-CR2-CH-L10-106189	27
106190	CES-AP-CL2-CH-L10-106190	27
106191	CES-AP-CR2-AH-L10-106191	26
106192	CES-AP-CL2-AH-L10-106192	26
106193	CES-AP-CR2-CH-L20-106193	27
106194	CES-AP-CL2-CH-L20-106194	27
106195	CES-AP-CR2-AH-L20-106195	26
106196	CES-AP-CL2-AH-L20-106196	26
106275	CET1-AR-CDA-AH-50X-SG-106275	71
106300	CES-AH-C03-AH-SM-106300	20
106350		106
106550	CES-AP-CR2-CH-SB-106550	27
106551	CES-AP-CL2-CH-SB-106551	27
106552	CES-AP-CR2-AH-SB-106552	26
106553	CES-AP-CL2-AH-SB-106553	26
106597		99
106616	CET1-AR-CRA-AH-50A-SG-106616	71
106671	C-M08F08-08X014PU05,0-ES-106671	90
106672	C-M08F08-08X014PU10,0-ES-106672	90
106673	C-M08F08-08X014PU20,0-ES-106673	90
106694	EMP-B-CET	109
106695	EMP-L-CET	109
106798	CES-AP-C01-CH-SB-106798	24
109015	CET1-AR-CRA-CH-50X-SG-C2290-109015	71
109044	CES-AR-CR2-CH-L05-109044	53
109045	CES-AR-CL2-CH-L05-109045	53
109046	CES-AR-CR2-AH-L05-109046	52
109047	CES-AR-CL2-AH-L05-109047	52
109048	CES-AR-CR2-CH-L10-109048	53
109049	CES-AR-CL2-CH-L10-109049	53
109050	CES-AR-CR2-AH-L10-109050	52
109051	CES-AR-CL2-AH-L10-109051	52
109052	CES-AR-CR2-CH-L20-109052	53
109053	CES-AR-CL2-CH-L20-109053	53
109054	CES-AR-CR2-AH-L20-109054	52
109055	CES-AR-CL2-AH-L20-109055	52
109075	CET2-AR-CRA-AH-50S-SG-109075	71
109167	CES-AP-CL2-CH-SB-109167	27
109168	CES-AP-CR2-CH-SB-109168	27
109212		110
109231	CET1-AR-CDA-CH-50X-SG-109231	71
109358		103
109401	CET3-AR-CRA-AH-50X-SG-109401	72
109672		106
109941	CET2-AR-CRA-CH-50F-SG-C2312-109941	71
110082	CET2-AR-CRA-CH-50X-SG-110082	71
110103	CET3-AR-CRA-AH-50X-SH-110103	74
110104	CET3-AR-CRA-CH-50X-SH-110104	74
110114	CET3-AR-CRA-CH-50X-SG-C2290-110114	72
110201	CET4-AR-CRA-AH-50X-SH-110201	74
110202	CET4-AR-CRA-CH-50X-SH-110202	74
110203	CET1-AR-CRA-AH-50X-SH-110203	73
110204	CET1-AR-CRA-CH-50X-SH-110204	73
110205	CET2-AR-CRA-AH-50X-SH-110205	73
110206	CET2-AR-CRA-CH-50X-SH-110206	73

Order no.	Item	Page
110240	CET2-AR-CRA-AH-50X-SG-110240	71
110241	CET1-AR-CRA-CH-50F-SG-110241	71
110354		103
110355		103
110905	CET3-AR-CRA-CH-50F-SG-C2290-110905	72
110906	CET3-AR-CRA-CH-50X-SG-110906	72
110907	CET3-AR-CRA-CH-50F-SG-110907	72
110933	C-M08F08-08X014PV05,0-ES-110933	90
110934	C-M08F08-08X014PV10,0-ES-110934	90
110935	C-M08F08-08X014PV15,0-ES-110935	90
110943	CET1-AR-CRA-AH-50F-SH-C2312-110943	73
111145	CES-AP-C01-AH-SB-111145	24
111233	AE-B-A1-03,0-F-111233	110
111346	CET3-AP-CRA-AH-50X-SI-113141	41
111603	C-M08F08-08X014PV20,0-ES-111603	90
111683	CET4-AR-CRA-AH-50X-SG-111683	72
111684	CET4-AR-CRA-CH-50X-SG-111684	72
111696		94
111708	CES-AP-C01-CH-SB-111708	24
111725	CET3-AR-CRA-AH-50F-SH-C2312-111725	74
111747	CES-AP-CL2-AH-SB-111747	26
111748	CES-AP-CR2-AH-SB-111748	26
111766	CET1-AR-CRA-AH-50F-SG-C2333-111766	71
112082	CET4-AP-CRA-AH-50X-SI-112082	41
112121	CET1-AR-CRA-AH-50X-SG-C2333-112121	71
112395		94
112446	CET2-AR-CDA-AH-50X-SH-112446	73
112629	CES-EA-TC-KK08-112629	100
112921	CET3-AR-CRA-CH-50F-SG-C2333-112921	72
112928	CES-AR-CR2-CH-SA-112928	53
112929	CES-AR-CL2-CH-SA-112929	53
112992	CET3-AR-CRA-CH-50S-SG-112992	72
113021	CET1-AR-CRA-AH-50F-SH-C2353-113021	73
113022	CET1-AR-CRA-AH-50X-SH-C2290-113022	73
113023	CET3-AR-CRA-AH-50F-SH-C2353-113023	74
113024	CET3-AR-CRA-AH-50X-SH-C2290-113024	74
113081	CET4-AR-CRA-CH-50S-SG-113081	72
113139	CET3-AR-CRA-AH-50X-SG-C2290-113139	72
113148	CET3-AR-CRA-AH-50F-SH-113148	74
113151	CET3-AR-CRA-AH-50X-SH-C2333-113151	74
113187	C-M12F05-05X025PU10,0-MA-113187	91
113188	C-M12F08-08X025PU10,0-MA-113188	93
113189	C-M12F08-08X025PU10,0-MA-113189	93
113190	C-M12F05-05X025PU10,0-MA-113190	91
113255	CET1-AR-CDA-CH-50X-SH-113255	73
113272	CET1-AR-CRA-CH-50F-SG-C2333-113272	71
113320	CET1-AR-CRA-AH-50S-SG-C2290-113320	71
113609	CET4-AR-CRA-CH-50X-SG-C2355-113609	72
113620	C-M12F05-05X034PU05,0-MA-113620	92
113640	C-M12F05-05X034PU10,0-MA-113640	92
113682	C-M12F05-05X034PU20,0-MA-113682	92
113739	CEMH2-AR-M-C40-SH-113739	62
113767	CET4-AR-CRA-CH-50X-SG-C2333-113767	72
113869	A-C40-113869	62, 84
113958	CET3-AR-CRA-CH-50F-SG-C2357-113958	72
113965	CET3-AR-CRA-AH-50F-SG-113965	72
113986		103
114073	CET3-AP-CRA-AH-50F-SI-114073	41
114088	CET3-AR-CRA-AH-50X-SH-C2290-114088	74
114090	CET3-AR-CDA-CH-50F-SG-114090	72
114091		111
114223	CET3-AP-CRA-AH-50X-SI-C2333-114223	41
114505	CET3-AR-CRA-AH-50F-SH-C2333-114505	74

Order no.	Item	Page	Order no.	Item	Page
114508	CET3-AR-CRA-AH-50F-SG-C2333-114508	72	121579	CET3-AP-CRA-CH-50X-SA-121579	42
114512	CET3-AR-CRA-AH-50X-SG-C2333-114512	72	121646		104
114516	CET3-AP-CRA-AH-50F-SI-C2333-114516	41	122398	CET3-AP-CRA-AH-50X-SA-122389	42
114626	CET3-AP-CRA-AH-50F-SI-C2357-114626	41	122406	CET3-AP-CRA-AH-50X-SA-122406	42
114647	CET3-AR-CDA-AH-50F-SH-114647	74	122409	CET3-AP-CRA-CH-50X-SA-122409	42
114650	CET4-AR-CRA-CH-50F-SG-114650	72	122413	CET4-AP-CRA-CH-50X-SA-122413	42
114712	CET4-AR-CDA-CH-50X-SG-114712	72	122415	CET4-AP-CRA-AH-50X-SA-122415	42
114943	ESL-IH-AR-M-R30-SA-114943	60	122609	AE-L-CET-122609	111
115112	C-M12F08-08X025PU05,0-MA-115112	93	122666	A-C-H-G-SST-122666	36, 66
115113	C-M12F08-08X025PU10,0-MA-115113	93	122667	A-C-H-W-SST-122667	36, 66
115114	C-M12F08-08X025PU20,0-MA-115114	93	122668	A-C-H-W-SST-122668	36, 66
115116	C-M12F08-08X025PV30,0-MA-115116	93	122671	A-C-H-RL-LS-122671	36, 66
115150	CES-I-AP-U-C04-USI-115150	30	122672	A-C-H-RR-LS-122672	36, 66
115202	CET3-AR-CRA-AH-50X-SH-C2375-115202	74	122675	A-C-H-R0-LS-122675	36, 66
115257	C-M12F08-08X025PU30,0-MA-115257	93	122676	A-C-H-RU-LS-122676	36, 66
115271	CES-A-BBN-C04-115271	31, 57	122748	AC-TA-A1-SH-122748	100
115320	ESL-IH-AR-U-R30-SA-115320	60	122749	AC-TA-A2-SH-122749	100
115324	CES-I-AP-U-C04-SK-115324	30	122784	C-M12F05-05X034PU30,0-MA-113682	92
115565	C-M12F05-05X025PU10,0-M12M05-115565	91	122812	CTP-L1-AR-U-HA-AZ-SAB-122812	65
115566	C-M12F05-05X025PU10,0-M12M05-115566	91	122813	CTP-L1-AR-U-HA-AE-SAB-122813	65
115732		103	122814	CTP-L2-AR-U-HA-AZ-SAB-122814	65
115792	CES-AR-CR2-CH-SA-115792	53	123307	CTP-L1-AR-M-HA-AZ-SAB-123307	65
115793	CES-AR-CL2-CH-SA-115793	53	123308	CTP-L1-AR-M-HA-AE-SAB-123308	65
116049	C-M08F04-04X034PU05,0-ES-116049	89	123340	AC-SP-A1-SA-123340	95
116050	C-M08F04-04X034PU10,0-ES-116050	89	123361	CTP-L2-AR-M-HA-AZ-SAB-123361	65
116051	C-M08F04-04X034PU20,0-ES-116051	89	123362	CTP-L1-AR-U-HA-AZ-SH-123362	65
116246		103	123363	CTP-L1-AR-M-HA-AZ-SH-123363	65
116285	CET4-AR-CRA-AH-50F-SH-116285	74	123364	CTP-L1-AP-U-HA-AZ-SH-123364	36
116502	CES-I-AP-U-C04-USB-116502	30	123365	CTP-L1-AP-M-HA-AZ-SH-123365	36
116503	CES-I-AP-U-C04-U05-116503	30	123366	CTP-L2-AR-U-HA-AZ-SH-123366	65
116504	CES-I-AP-U-C04-U10-116504	30	123369	CTP-L2-AR-M-HA-AZ-SH-123369	65
116505	CES-I-AP-U-C04-U20-116505	30	123370	CTP-L2-AP-U-HA-AZ-SH-123370	36
116978		110	123371	CTP-L2-AP-M-HA-AZ-SH-123371	36
117323	CES-I-AP-M-C04-USI-117323	31	123373	CTP-L1-AR-U-HA-AE-SH-123373	65
117324	CES-I-AP-M-C04-USB-117324	31	123374	CTP-L1-AR-M-HA-AE-SH-123374	65
117325	CES-I-AP-M-C04-SK-117325	31	123375	CTP-L1-AP-U-HA-AE-SH-123375	36
117328	CES-I-AP-M-C04-U05-117328	31	123376	CTP-L1-AP-M-HA-AE-SH-123376	36
117329	CES-I-AP-M-C04-U10-117329	31	123411		111
117330	CES-I-AP-M-C04-U20-117330	31	123583		104
119106	CET3-AP-CRA-AH-50F-SH-C2312-119106	42	123625	AE-L-C40-123625	110
119469	CES-I-AR-U-C04-SG-119469	56	123653		105
119470	CES-I-AR-U-C04-U05-119470	56	123655		105
119471	CES-I-AR-U-C04-U10-119471	56	123657		105
119472	CES-I-AR-U-C04-U20-119472	56	123658		105
119473	CES-I-AR-U-C04-USA-119473	56	123659		105
119474	CES-I-AR-M-C04-SG-119474	57	123660		105
119475	CES-I-AR-M-C04-U05-119475	57	123922	CES-AP-CR2-CH-SB-123922	27
119476	CES-I-AR-M-C04-U10-119476	57	124204	AY-HDL-124204	111
119477	CES-I-AR-M-C04-U20-119477	57	124225	CTP-L1-AP-U-HA-AZ-SA-124225	35
119479	CES-I-AR-M-C04-USA-119479	57	124401		103
119690	AM-SET-PP-119690	108	124468	CTP-L1-AP-U-HA-AZ-SII-124468	35
119694	AM-SET-PPB-119694	108	124516	AC-YD-V0,2-SBB-124516	100
119932	C-M12F05-05X034PU05,0-M12M05-119932	92	124589	CET3-AP-CRA-AH-50X-SI-C2438-124589	41
119947	C-M12F05-05X034PU10,0-M12M05-119947	92	124594	CET3-AP-CRA-AH-50F-SI-C2438-127594	41
119971	C-M12F05-05X034PU20,0-M12M05-119971	92	124601	CET3-AP-CRA-AH-50F-SA-124601	42
120241	C-M08F04-04X034PU50,0-ES-120241	89	124727	CTP-L1-AP-M-HA-AZ-SA-124727	35
120246	CET4-AR-CRA-AH-50X-SG-C2333-120246	72	124728	CTP-L2-AP-U-HA-AZ-SA-124728	35
120646	ESL-IH-AR-M-R30-SA-120646	60	124729	CTP-L2-AP-M-HA-AZ-SA-124729	35
120824	ESL-IH-AR-U-R30-SA-120824	60	124937	CEM-I2-AR-U-C40-SH-124937	62
120861	AC-DP-04-SAA-120861	95	124979	AM-C-124979	111
120998	C-M12F08-08X025PU20,0-MA-120998	93	125481	A-TI-001-125481	62, 84
120999	C-M12F08-08X025PU20,0-MA-120999	93	125496	AC-TA-A1-SG-125496	100
121367	CET3-AP-CRA-AH-50X-SI-C2290-121367	41	125497	AC-TA-A2-SG-125497	100

Order no.	Item	Page
126026	AM-P-126026	108
126230	AM-B-126230	108
126231	AM-B-126231	108
126258	CTP-I2-AP-U-HA-AZC-SA-126258	35
126398	AM-P-126398	109
126399	AM-P-126399	109
126400	AM-P-126400	109
126763	CET4-AP-CRA-AH-50X-SI-C2438-126763	41
126912	CTP-L1-AP-U-HA-AE-SA-126912	35
127640	CTP-L1-AP-U-HA-AE-SII-127640	35
128103	CEM-I2-AY-U-C40-SA-128103	84
128193	CET4-AR-CRA-AH-50X-SG-C2290-128193	72
129491	CET3-AR-CRA-AH-50F-SH-C2467-129491	74
129541	CET3-AP-CRA-AH-50F-SI-C2469-124601	41
136595	CTP-I1-AP-U-HA-AEC-SA-136595	35
136841	CTP-L2_AP-U-HA-AE-SA-136841	35

A series of 25 horizontal grey lines spaced evenly down the page, intended for handwritten notes.

Representatives

International

Austria

EUCHNER GmbH
Süddruckgasse 4
2512 Tribuswinkel
Tel. +43 2252 42191
Fax +43 2252 45225
info@euchner.at

Benelux

EUCHNER (BENELUX) BV
Visschersbuurt 23
3356 AE Papendrecht
Tel. +31 78 615-4766
Fax +31 78 615-4311
info@euchner.nl

Brazil

EUCHNER Com.Comp.
Eletronicos Ltda.
Av. Prof. Luiz Ignácio Anhaia Mello,
no. 4387
Vila Graciosa
São Paulo - SP - Brasil
CEP 03295-000
Tel. +55 11 29182200
Fax +55 11 23010613
euchner@euchner.com.br

Canada

IAC & Associates Inc.
2105 Fasan Drive
Oldcastle, ON N0R 1L0
Tel. +1 519 737-0311
Fax +1 519 737-0314
sales@iacassociates.com

China

EUCHNER (Shanghai)
Trading Co., Ltd.
No. 15 building,
No. 68 Zhongchuang Road,
Songjiang
Shanghai, 201613, P.R.C
Tel. +86 21 5774-7090
Fax +86 21 5774-7599
info@euchner.com.cn

Czech Republic

EUCHNER electric s.r.o.
Vidéřská 134/102
61900 Brno
Tel. +420 533 443-150
Fax +420 533 443-153
info@euchner.cz

Denmark

Duelco A/S
Systemvej 8 - 10
9200 Aalborg SV
Tel. +45 7010 1007
Fax +45 7010 1008
info@duelco.dk

Finland

Sähkolehto Oy
Holkkitie 14
00880 Helsinki
Tel. +358 9 7746420
office@sahkolehto.fi

France

EUCHNER France S.A.R.L.
Parc d'Affaires des Bellevues
Allée Rosa Luxemburg
Bâtiment le Colorado
95610 ERAGNY sur OISE
Tel. +33 1 3909-9090
Fax +33 1 3909-9099
info@euchner.fr

Hungary

EUCHNER Ges.mbH
Magyarországi Fióktelep
FSD Park 2.
2045 Törökbalint
Tel. +36 2342 8374
Fax +36 2342 8375
info@euchner.hu

India

EUCHNER (India) Pvt. Ltd.
401, Bremen Business Center,
City Survey No. 2562,
University Road
Aundh, Pune - 411007
Tel. +91 20 64016384
Fax +91 20 25885148
info@euchner.in

Israel

Ilan & Gavish Automation Service Ltd.
26 Shenkar St. Qiryat Arie 49513
P.O. Box 10118
Petach Tikva 49001
Tel. +972 3 9221824
Fax +972 3 9240761
mail@ilan-gavish.com

Italy

TRITECNICA SpA
Viale Lazio 26
20135 Milano
Tel. +39 02 541941
Fax +39 02 55010474
info@tritecnica.it

Japan

EUCHNER Co., Ltd.
1662-3 Komakihashinden
Komaki-shi, Aichi-ken
485-0012, Japan
Tel. +81 568 42 0157
Fax +81 568 42 0159
info@euchner.jp

Korea

EUCHNER Korea Co., Ltd.
115 Gasan Digital 2 - Ro
(Gasan-dong, Daeryung
Techno Town 3rd Rm 810)
153 - 803 Kumchon-Gu, Seoul
Tel. +82 2 2107-3500
Fax +82 2 2107-3999
info@euchner.co.kr

Mexico

EUCHNER México S de RL de CV
Conjunto Industrial PK Co.
Carretera Estatal 431 km. 1+300
Ejido El Colorado, El Marqués
76246 Querétaro, México
Tel. +52 442 402 1485
Fax +52 442 402 1486
info@euchner.mx

Poland

ELTRON
Pi. Wołności 7B
50-071 Wrocław
Tel. +48 71 3439755
Fax +48 71 3441141
eltron@eltron.pl

Republic of South Africa

RUBICON
ELECTRICAL DISTRIBUTORS
4 Reith Street, Sidwell
6061 Port Elizabeth
Tel. +27 41 451-4359
Fax +27 41 451-1296
sales@rubiconelectrical.com

Essen

Thomas Kreißl
fördern - steuern - regeln
Hackenberghang 8a
45133 Essen
Tel. +49 201 84266-0
Fax +49 201 84266-66
info@kreiss-essen.de

Freiburg

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Tippgarten 3
59427 Unna
Tel. +49 2308 9337284
Fax +49 2308 9337285
christian.schimke@euchner.de

Romania

First Electric SRL
Str. Ritmului Nr. 1 Bis
Ap. 2, Sector 2
021675 Bucuresti
Tel. +40 21 2526218
Fax +40 21 3113193
office@firstelectric.ro

Russia

VALEX electro
Uliza Karjer dom 2, Str. 9, Etash 2
117449 Moskwa
Tel. +7 495 41196-35
Fax +7 495 41196-36
info@valex-electro.ru

Singapore

Sentronics
Automation & Marketing Pte Ltd.
Blk 3, Ang Mo Kio Industrial Park 2A
#05-06
Singapore 568050
Tel. +65 6744 8018
Fax +65 6744 1929
info@sentronics-asia.com

Slovakia

EUCHNER electric s.r.o.
Videriská 134/102
61900 Brno
Tel. +420 533 443-150
Fax +420 533 443-153
info@euchner.cz

Slovenia

SMM proizvodni sistemi d.o.o.
Jaskova 18
2000 Maribor
Tel. +386 2 4502326
Fax +386 2 4625160
franc.kit@smm.si

Spain

EUCHNER, S.L.
Gurutzegi 12 - Local 1
Polígono Belarza
20018 San Sebastian
Tel. +34 943 316-760
Fax +34 943 316-405
info@euchner.es

Sweden

Censit AB
Box 331
33123 Värnamo
Tel. +46 370 691010
Fax +46 370 18888
info@censit.se

Switzerland

EUCHNER AG
Falknisstrasse 9a
7320 Sargans
Tel. +41 81 720-4590
Fax +41 81 7204599
info@euchner.ch

Taiwan

Daybreak Int'l (Taiwan) Corp.
3F, No. 124, Chung-Cheng Road
Shihlin 11145, Taipei
Tel. +886 2 8866-1234
Fax +886 2 8866-1239
day111@ms23.hinet.net

Turkey

EUCHNER Endüstriyel Emniyet
Teknolojileri Ltd. Şti.
Hattat Bahattin Sok.
Ceylan Apt. No. 13/A
Göztepe Mah.
34730 Kadıköy / İstanbul
Tel. +90 216 359-5656
Fax +90 216 359-5660
info@euchner.com.tr

United Kingdom

EUCHNER (UK) Ltd.
Unit 2 Petre Drive,
Sheffield
South Yorkshire
S4 7PZ
Tel. +44 114 2560123
Fax +44 114 2425333
sales@euchner.co.uk

USA

EUCHNER USA Inc.
6723 Lyons Street
East Syracuse, NY 13057
Tel. +1 315 701-0315
Fax +1 315 701-0319
info@euchner-usa.com

EUCHNER USA Inc.
Detroit Office
130 Hampton Circle
Rochester Hills, MI 48307
Tel. +1 248 537-1092
Fax +1 248 537-1095
info@euchner-usa.com

Germany

Augsburg

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Julius-Spokojny-Weg 8
86153 Augsburg
Tel. +49 821 56786540
Fax +49 821 56786541
peter.klopfer@euchner.de

Berlin

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Ulfstraße 115a
12621 Berlin
Tel. +49 30 50508214
Fax +49 30 56582139
alexander.walz@euchner.de

Chemnitz

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Am Vogelherd 2
09627 Bobritzsch-Hilbersdorf
Tel. +49 37325 906000
Fax +49 37325 906004
jens.zehnert@euchner.de

Düsseldorf

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Tippgarten 3
59427 Unna
Tel. +49 2308 9337284
Fax +49 2308 9337285
christian.schimke@euchner.de

Lübeck

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Am Strand 13
23556 Lübeck
Tel. +49 451 88048371
Fax +49 451 88184364
martin.pape@euchner.de

Nürnberg

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Steiner Straße 22a
90522 Oberasbach
Tel. +49 911 6693829
Fax +49 911 6696722
ralf.paulus@euchner.de

Stuttgart

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Kohlhammerstraße 16
70771 Leinfelden-Echterdingen
Tel. +49 711 7597-0
Fax +49 711 7597-303
oliver.laier@euchner.de
uwe.kupka@euchner.de

Wiesbaden

EUCHNER GmbH + Co. KG
Ingenieur- und Vertriebsbüro
Adolfsallee 3
68185 Wiesbaden
Tel. +49 611 98817644
Fax +49 611 98895071
giancarlo.pasquesi@euchner.de



EUCHNER

More than safety.



Support hotline

You have technical questions about our products or how they can be used?
For further questions please contact your local sales representative.



Comprehensive download area

You are looking for more information about our products?
You can simply and quickly download operating instructions, CAD or ePLAN data and accompanying software for our products at www.euchner.com.



Customer-specific solutions

You need a specific solution or have a special requirement?
Please contact us. We can manufacture your custom product even in small quantities.



EUCHNER near you

You are looking for a contact at your location? Along with the headquarters in Leinfelden-Echterdingen, the worldwide sales network includes 16 subsidiaries and numerous representatives in Germany and abroad – you will definitely also find us near you.

www.euchner.com

EUCHNER GmbH + Co. KG

Kohlhammerstraße 16
70771 Leinfelden-Echterdingen
Germany
Tel. +49 711 7597-0
Fax +49 711 753316
info@euchner.de
www.euchner.com

EUCHNER

More than safety.