

EUCHNER

Operating Instructions

Contents

1.	About this document	4
1.1.	Scope.....	4
1.2.	Target group	4
1.3.	Key to symbols.....	4
1.4.	Supplementary documents	4
2.	Correct use	5
3.	Exclusion of liability and warranty	6
4.	Description of the safety function	7
5.	General safety precautions	8
6.	Function	9
6.1.	Block diagram CES-AR-AES-12.....	9
7.	Mounting	9
8.	Electrical connection	10
8.1.	Notes about c(UL)us	10
8.2.	Safety in case of faults.....	10
8.3.	Power supply.....	11
8.4.	Connecting AR switch chain.....	11
8.5.	Starting behavior	12
8.5.1.	Connection for monitored, manual start.....	12
8.5.2.	Connection for automatic start.....	12
8.6.	Connecting safety contacts and feedback loop	13
8.7.	Connecting monitoring outputs of the AR evaluation unit	14
8.7.1.	Assignment of safety switches to the monitoring output.....	14
8.8.	Connection example	15
9.	Setup	16
10.	Status LEDs, control elements and terminal assignment	17
10.1.	LED displays	17
10.2.	Reset button	17
11.	System status table	18
12.	Technical data	19
12.1.	Dimension drawing	20
12.2.	System times for the AR system	20
12.2.1.	Typical system times.....	20
13.	Ordering information and accessories	21

- 14. Inspection and service 21
- 15. Service 21
- 16. Declaration of conformity 22

1. About this document





1.1. Scope

These operating instructions are valid for AR evaluation unit CES-AR-AES-12. These operating instructions, the document *Safety information* and any enclosed data sheet form the complete user information for your device.

1.2. Target group




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


1.3. Key to symbols

Symbol/depiction	Meaning
	Printed document
	Document is available for download at www.euchner.com
 DANGER WARNING CAUTION	Safety precautions Danger of death or severe injuries Warning about possible injuries Caution slight injuries possible
 NOTICE Important!	Notice about possible device damage Important information
Tip	Useful information

1.4. Supplementary documents

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

Document title (document number)	Contents	
Safety information (2525460)	Basic safety information	
Operating instructions (2098221)	(this document)	
Possibly enclosed data sheet	Item-specific information about deviations or additions	

	Important! Always read all documents to gain a complete overview of safe installation, setup and use of the device. The documents can be downloaded from www.euchner.com . For this purpose enter the doc. no. in the search box.
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2. Correct use

The AR evaluation unit is used for the central evaluation of safety-related signals in AR switch chains.

The following applies in combination with a CES switch:

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

This means:

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

The following applies in combination with a CET/CTP switch:

In combination with a movable guard and the machine control, this system prevents the guard from being opened while a dangerous machine function is being performed.

This means:

- Starting commands that cause a dangerous machine function must become active only when the guard is closed and locked.
- The guard locking must not be released until the dangerous machine function has ended.

Closing and locking a guard must not cause automatic starting of a dangerous machine function. A separate start command must be issued. For exceptions, refer to EN 12100 or relevant C-standards.

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

- EN ISO 13849-1
- EN ISO 12100
- IEC 62061

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

- EN ISO 13849-1
- EN ISO 14119
- EN 60204-1

Only safety switches that are suitable for operation in an AR switch chain can be evaluated. Check the operating instructions for the related safety switch. Combination with devices that are not suitable for use in an AR switch chain or with devices from other manufacturers is not permitted. A maximum of 12 safety switches in an AR switch chain can be connected to the AR evaluation unit CES-AR-AES-12. However, at least 2 switches must be connected.






Unicode and multicode version switches can be connected. Unicode and multicode versions can be combined in an AR switch chain.



Important!

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

Table 1: Possible combinations for CES components

Evaluation unit	Safety switch	Actuator												
		CES-A-BBA 071840	CES-A-BCA 088786	CES-A-BPA 098775	CES-A-BRN 100251	CES-A-BLN-R2-100776 100776	CES-A-BLN-L2-104510 104510	CES-A-BLN-U2-103450 103450	CES-A-BDN-06-104730 104730	CES-A-BBN-C04-115271 115,271	CES-A-BDN-06-104730 104730	CET-A-BWK-50X 096327	A-C-H- ...	ESL-H-C30
AR evaluation unit CES-AR-AES-12 098225	CES-AR-C01... from V1.1.2 (see type label on the device)	●	●	●	●									
	CES-AR-CR2... from V1.1.2 (see type label on the device)					●		●	●					
	CES-AR-CL2... from V1.1.2 (see type label on the device)						●	●	●					
	CES-I.-AR-C04 from V1.0.1 (see type label on the device)									●	●			
	CET1/2-AR... from V1.1.2 (see type label on the device)													
	CET3/4-AR... from V1.0.0 (see type label on the device)													
	CTP-AR													
	ESL-I-AR from V1.0.0													●
Key to symbols	●	Combination possible												
		Combination possible, guard locking for process protection												
		Combination possible, guard locking for personnel protection												
		Combination not permissible												

3. Exclusion of liability and warranty

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

4. Description of the safety function

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.

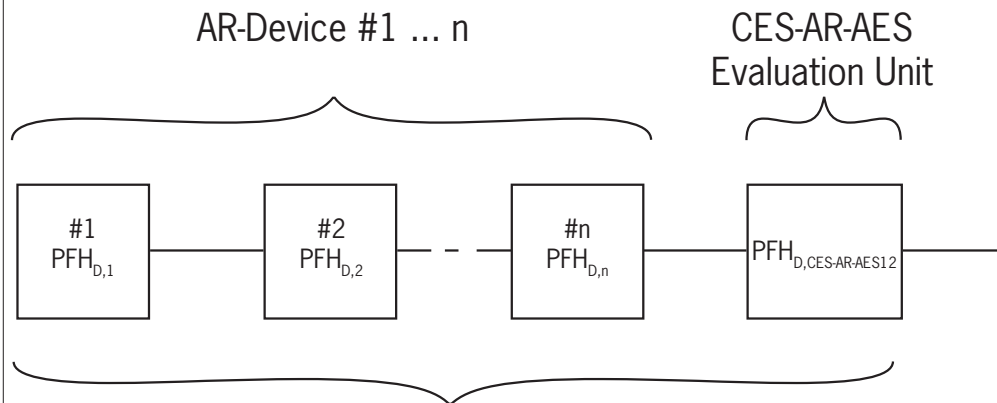
Safety function of the evaluation unit:

- The safety contacts are open when
 - one or both safety inputs F11A/F11B are switched off
 - a fault was detected in the feedback loop
- Safety characteristics: category, Performance Level, PFH_D (see chapter 12. Technical data on page 19).



NOTICE

You can regard the complete AR device chain as one subsystem during calculation. The following calculation method applies to the PFH_D value:



$$PFH_D ges = \sum_{k=1}^n PFH_{D,k} + PFH_{D,CES-AR-AES-12}$$

Alternatively, the simplified method according to section 6.3 of EN 13849-1:2015 can be used for calculation.

The AR switch chain subsystem, in combination with evaluation unit CES-AR-AES-12, complies with PL e, category 4 according to EN 13849-1.

5. General safety precautions

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

Check the safe function of the safeguard particularly

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

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



WARNING

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

- › Safety components must not be bypassed, turned away, removed or otherwise rendered ineffective. On this topic pay attention in particular to the measures for reducing the possibility of bypassing according to EN ISO 14119:2013, section 7.
- › Mounting, electrical connection and setup only by authorized personnel possessing the following knowledge:
 - specialist knowledge in handling safety components
 - knowledge about the applicable EMC directives
 - knowledge about the applicable regulations on operational safety and accident prevention.



Important!

Prior to use, read the operating instructions and keep these in a safe place. Ensure the operating instructions are always available during mounting, setup and servicing. For this reason you should archive a printed copy of the operating instructions. You can download the operating instructions from www.euchner.com.

6. Function

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 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 AR switch chain is moved out of the actuating range or if guard locking is deactivated, the AR evaluation unit opens its relay contacts and the corresponding monitoring output is switched off.

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.

6.1. Block diagram CES-AR-AES-12

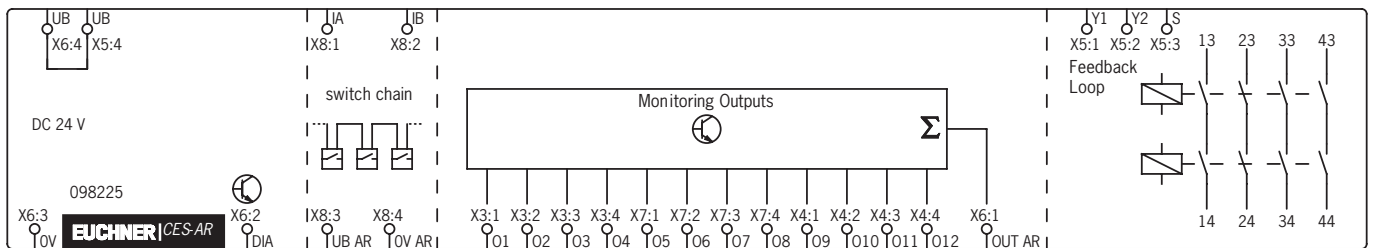


Figure 1: Block diagram of AR evaluation unit

7. Mounting



CAUTION

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




- ▶ Observe EN ISO 14119:2013, section 7, for information about reducing the possibilities for bypassing an interlocking device.
- ▶ The AR evaluation unit must be mounted in a control cabinet with a minimum degree of protection of IP54. A snap-in element on the rear of the device is used for fastening to standard rails.
- ▶ If several evaluation units are mounted side by side in a control cabinet without air circulation (e.g. fan), a minimum distance of 10 mm must be maintained between the evaluation units. This distance enables the heat from the evaluation unit to dissipate.





Important!

Follow the mounting instructions in the accompanying documents for the safety switches connected.

8. Electrical connection

	<p>WARNING</p> <p>In the event of a fault, loss of the safety function due to incorrect connection.</p> <ul style="list-style-type: none"> › Monitoring outputs must not be used as safety outputs. › Lay the connecting cables with protection to prevent the risk of short circuits.
	<p>CAUTION</p> <p>Risk of damage to equipment or malfunctions as a result of incorrect connection.</p> <ul style="list-style-type: none"> › All the electrical connections must either be isolated from the mains supply by a safety transformer according to IEC 61558-2-6 with limited output voltage in the event of a fault, or by other equivalent isolation measures (PELV). › All electrical outputs must have an adequate protective circuit for inductive loads. The outputs must be protected with a free-wheeling diode for this purpose. › The tightening torque for the screws on the connection terminals must be 0.6 ... 0.8 Nm. › Power devices which are a powerful source of interference must be installed in a separate location away from the input and output circuits for signal processing. The cable routing for safety circuits should be as far away as possible from the cables of the power circuits. › To avoid EMC interference, the physical environmental and operating conditions at the installation site of the device must comply with the requirements according to the standard EN 60204-1:2006, section 4.4.2 (EMC). › Pay attention to any interference fields from devices such as frequency converters or induction heating systems. Observe the EMC instructions in the manuals from the respective manufacturer.
	<p>Important!</p> <p>If the device does not appear to function when operating voltage is applied (e.g. green STATE LED does not flash), the device must be returned unopened to the manufacturer.</p>

8.1. Notes about

	<p>Important!</p> <ul style="list-style-type: none"> › This device is intended to be used with a <i>Class 2</i> power source in accordance with UL1310. As an alternative an LV/C (Limited Voltage/Current) power source with the following properties can be used: <ul style="list-style-type: none"> - This device shall be used with a suitable isolating source in conjunction with a fuse in accordance with UL248. The fuse shall be rated max. 3.3 A and be installed in the max. 30 V DC power supply to the device in order to limit the available current to comply with the  requirements. Please note possibly lower connection ratings for your device (see chapter 12. <i>Technical data</i>). › Use cable material made of copper wire with a temperature resistance of at least 75 °C. <p><small>1) Note on the scope of the UL approval: the devices have been tested as per the requirements of UL508 and CSA/ C22.2 no. 14 (protection against electric shock and fire).</small></p>
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8.2. Safety in case of faults

- › The operating voltage U_B is reverse polarity protected.
- › The connections U_B AR and $0V$ AR for the AR devices are not short-circuit proof.
- › A short circuit between safety contacts can be detected only by external pulsing.
- › A short circuit in the cable can be excluded by laying the cable with protection.

8.3. Power supply

The power supply of DC 24 V is supplied to the AR evaluation unit. The AR switch chain must be supplied with DC 24 V by the AR evaluation unit.

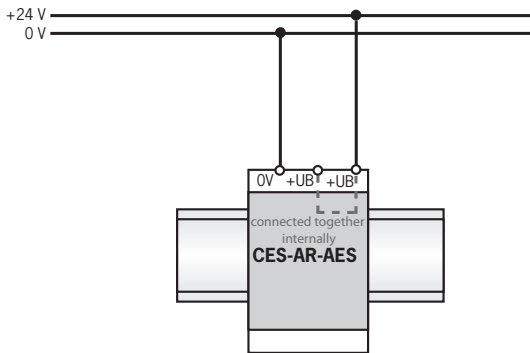


Figure 2: Power supply

8.4. Connecting AR switch chain

The AR evaluation unit has two safety inputs to which the AR switch chain is connected. Safety inputs IA and IB have short circuit and earth fault monitoring.

The AR switch chain must be supplied by the AR evaluation unit (terminals UBAR and OVAR). An additional power supply may be required for these safety switches (e.g. for guard locking), depending on which safety switches are used in the AR switch chain (see Figure 3). In case of switches with guard locking, the supply for the guard locking solenoid must be at the potential of the AR evaluation unit. Information on this is provided in the operating instructions of the respective safety switch.



Important!

- ▶ A maximum of 12 safety switches can be connected, but at least 2 switches must be connected
- ▶ Only safety switches that are suitable for operation in an AR switch chain can be connected.
- ▶ Safety switches with a start input are not suitable for connection to an AR evaluation unit.
- ▶ In the case of unicode switches, the actuators must be taught in at the AR device. See the operating instructions for the related safety switch.
- ▶ For the AR system to function, a bridging plug must be connected to the first safety switch in the AR switch chain (or a jumper between IA, IB and UB_{AR}).
- ▶ Connections UBAR and OVAR must be used only for the power supply of the AR switch chain.

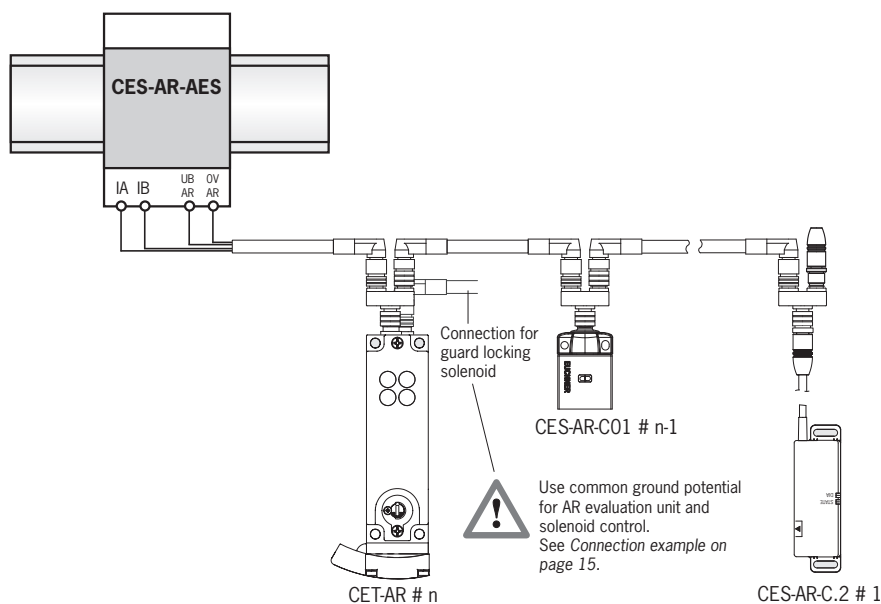


Figure 3: Schematic diagram showing connection of an AR switch chain

8.5. Starting behavior

The AR evaluation unit can be put into operation either using the autostart mode or by starting it manually.



Important!

If the configuration for the starting behavior is changed during operation (e.g. jumper removed), this change will be detected by the unit. The AR evaluation unit assumes the fault state as soon as the next request to close the safety contacts is received (see chapter 11. *System status table on page 18*).

8.5.1. Connection for monitored, manual start

For a monitored, manual start, a start button is connected to terminal S. The start button is supplied with a voltage of DC 24 V. The terminal +UB can be used for this purpose. A sticking start button, for example, will be detected by the monitoring function the next time the system is powered up.

The safety contacts close after max. 600 ms when the start button is pressed and then released again (falling edge) and if the actuators for all the safety switches connected are within the actuating range.

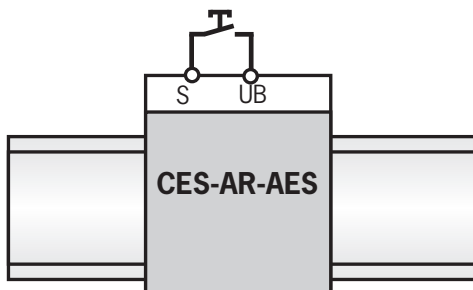


Figure 4: Monitored, manual start



Important!

The start button is allowed to be pressed only approx. 8 s after power on. If the start button is pressed earlier, the unit will switch to the fault state and the DIA LED illuminates. The STATE LED flashes (see chapter 11. *System status table on page 18*).

8.5.2. Connection for automatic start



WARNING

The safety contacts close immediately if all safety switches signal a safe state and the feedback loop is closed.

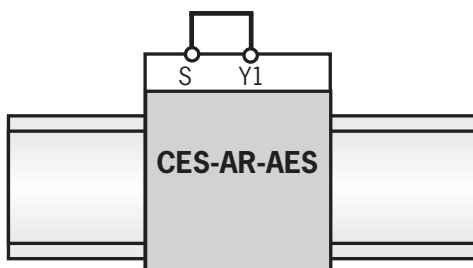


Figure 5: Automatic start

For the autostart mode, a jumper must be connected between the terminals S and Y1.

By pulsing the output signal on Y1 the device detects short circuits on starting (e.g. static DC 24 V on the input S).

8.6. Connecting safety contacts and feedback loop



Important!

If you do not connect the feedback loop, the downstream devices will not be monitored. This situation will affect the safety category of your system.

The unit has four redundant, positively driven safety contacts that switch off immediately if the actuator is removed at one of the connected safety switches or if a fault occurs. To check the switching state of a connected load, the monitoring contacts on a contactor or relay can be connected to terminals Y1 and Y2 to form a feedback loop (see *Figure 6*).

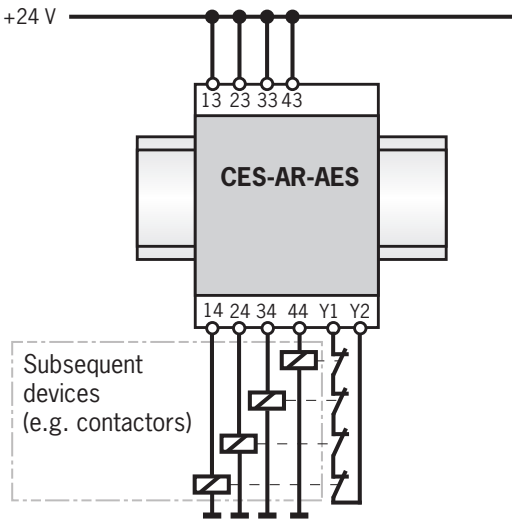


Figure 6: Safety contacts and feedback loop connected

The unit detects external short circuits on the feedback loop at the start by pulsing the output signal on Y1 (e.g. static DC 24 V on the feedback loop).

If a feedback loop is not to be connected, a jumper must be fitted to the terminals Y1 and Y2 (see *Figure 7*).

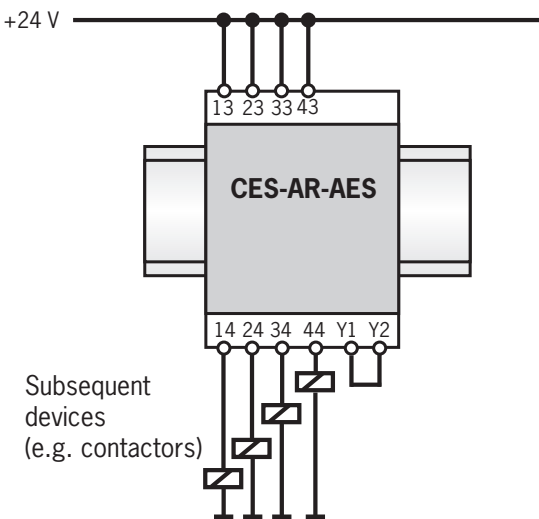


Figure 7: Safety contacts connected and jumper on the feedback loop

The following conditions must be met for the safety contacts to be closed:

For manual start

- The feedback loop is closed
- The start button has been pressed and released (switches on falling edge)
- All safety doors closed

For automatic start

- The feedback loop is closed
- All safety doors closed

If the feedback loop is open, the DIA LED flashes and the STATE LED is lit (see chapter 11. System status table on page 18). The monitoring output DIA is set.

The safety contacts remain open if the feedback loop is open at the start. The unit switches to fault state, the DIA LED is lit and the STATE LED flashes (see chapter 11. System status table on page 18).

8.7. Connecting monitoring outputs of the AR evaluation unit

The AR evaluation unit has 14 short circuit-proof semiconductor monitoring outputs that can be used to signal different operating states, e.g. to a PLC. If the monitoring output is active, a voltage of max. DC 24 V is present at the related terminal (referred to the potential at terminal 0 V).

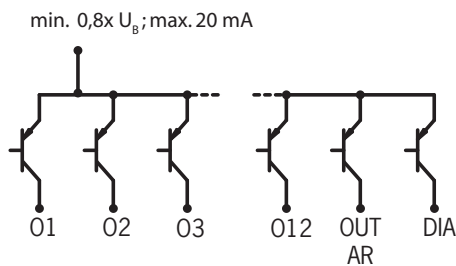


Figure 8: Monitoring outputs of the CES-AR-AES

Significance of the signals with monitoring output active:

- O1 ... O12: Status of safety switches 1 ... 12 (actuator in actuating range or guard locking status)
- OUT AR: All connected safety switches in state *Enable*. (all actuators in actuating range and all guard locking devices active)
- DIA: Fault on the AR evaluation unit or on a safety switch in the AR switch chain, or feedback loop was open during start (see 11. System status table on page 18)

8.7.1. Assignment of safety switches to the monitoring output

At least one monitoring output is assigned to each safety switch in the AR switch chain. The safety switch with bridging plug has the monitoring output O1. From here, the output assignments are incremented up to the last switch in the chain.

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	Maximum number of switches that can be connected
CES-AR ESL-AR	1 (door position or diagnostics)	12
CET1/2-AR	1 (status of guard locking)	12
CET3/4-AR CTP-AR	2 (first monitoring output: door position, second monitoring output: guard locking status)	6

8.8. Connection example

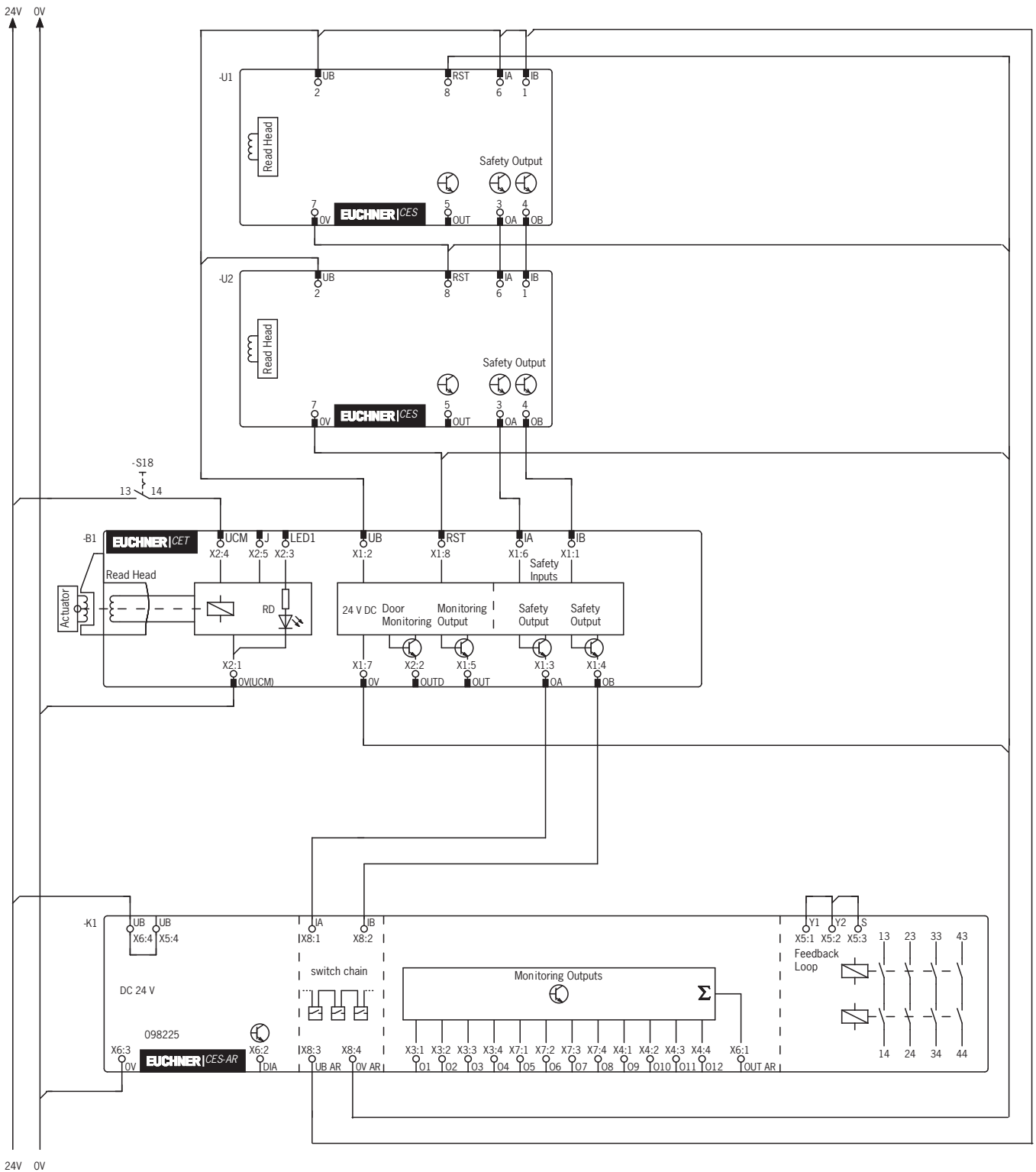


Figure 9: Connection example of a mixed switch chain with 2 x CES-AR and 1 x CET3/4-AR

9. Setup



WARNING

- › Pay attention to the notes on setup and on the teach-in process in the operating instructions for the safety switch used.
- › Observe correct connection on devices with teach-in input.

Proceed as follows:

1. Ensure nobody can be placed in danger during setup.
2. Prior to setup, check whether all connections are correct (jumpers connected, external circuit correct) and the AR switch chain is fitted with a bridging plug.
3. Close all guards and make sure that the feedback loop on the evaluation unit is closed.
4. Switch on the power supply.
 - ➔ The switches in the chain are initialized during starting. Unicode switches that have not yet learned an actuator on starting learn it automatically. This process can take up to one minute.
5. Subsequently press the RST button on the AR evaluation unit for approx. 3 s to restart the device.
 - ➔ If the AR evaluation unit is set up for automatic start, the STATE LED flashes and signals that the self-test is being performed. After the self-test, the OUT and STATE LEDs are continuously lit.

or

- ➔ If you start the AR evaluation unit manually, the STATE LED flashes and signals that the self-test is being carried out. After the self-test, the STATE LED illuminates continuously. The OUT LED flashes, since no start command has been issued yet.
6. Press the start button (necessary only for manual start).
 7. Check the correct function of the safety circuits connected. In case of problems, see chapter 11. *System status table on page 18.*



Important!

Use the system status table in chapter 11 to check the overall function. In addition, the status LEDs on the respective safety switches provide information about the status of the respective switch.

10. Status LEDs, control elements and terminal assignment

The AR evaluation unit has status LEDs for the most important operating states. The significance of the individual LED states is explained in the system status table in chapter 11.

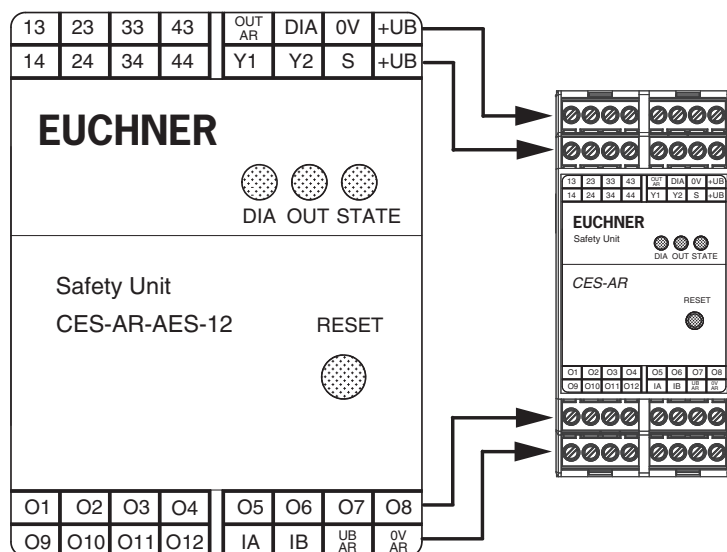


Figure 10: Terminal assignment, LEDs and reset button

10.1. LED displays

LED	Color	Meaning
STATE	green	Device status
OUT	yellow	Switch chain status
DIA	red	Fault display

10.2. Reset button

With the reset button pressed, the power supply for the AR evaluation unit and as a result for the entire AR switch chain is interrupted. After it is released, the AR evaluation unit and the switches connected restart with a self-test.

11. System status table

Operating mode	Actuator/door position	Safety outputs OA and OB	Indicator LEDs			Monitoring outputs		State
			DIA (red)	OUT (yel-low)	STATE (green)	OUT AR	DIA	
Self-test	X	off	○	○	☀ 15 Hz (10 s)	off	off	Self-test after power-up
Normal operation	open	off	○	○	☀	off	off	Normal operation, at least one door open
	closed	on	○	☀	☀	on	off	Normal operation, all doors closed
	closed	off	○	☀ 3 Hz	☀	on	off	Normal operation, all doors closed, start button not pressed or fault in the feedback loop
	closed	off	☀ 4 x	○	☀	on	on	Normal operation, all doors closed, feedback loop was open during attempt to start
	X	X	☀	X	☀ 7 x	off	on	Faulty data transmission for status signals (safety circuit not affected)
Fault display	X	off	☀	○	☀ 1 x	off	on	Fault in the AR switch chain (e.g. fault on starting the switch chain or more than 12 devices connected)
	X	off	☀	○	☀ 2 x	off	on	Fault on the safety outputs or on the start button (e.g. start configuration changed in operation, no/erroneous signals from the switch chain, broken cable on one of the channels I _A or I _B , or short circuit/ground fault on one of the channels I _A or I _B)
	X	off	☀	○	☀ 4 x	off	on	Fault on the safety relay, re-start device. If fault is still indicated, contact manufacturer.
	X	off	☀	○	☀ 5 x	off	on	Internal component fault, re-start device. If fault is still indicated, contact manufacturer.
	X	off	☀	○	☀ 6 x	off	on	- Fault in feedback loop, e.g. - Feedback loop not connected on power up - missing jumper between Y1/Y2 or - Fault on the start button, e.g. - On autostart: jumper between S/U _B instead of S/Y1 - Start button stuck
	X	off	☀	○	○	off	on	Start failed three times, contact manufacturer

Key to symbols	○		LED not illuminated
	☀		LED illuminated
	☀ 15 Hz (10 s)		LED flashes for 10 seconds at 15 Hz
	☀ 3 x		LED flashes three times
	X		Any state



Important!

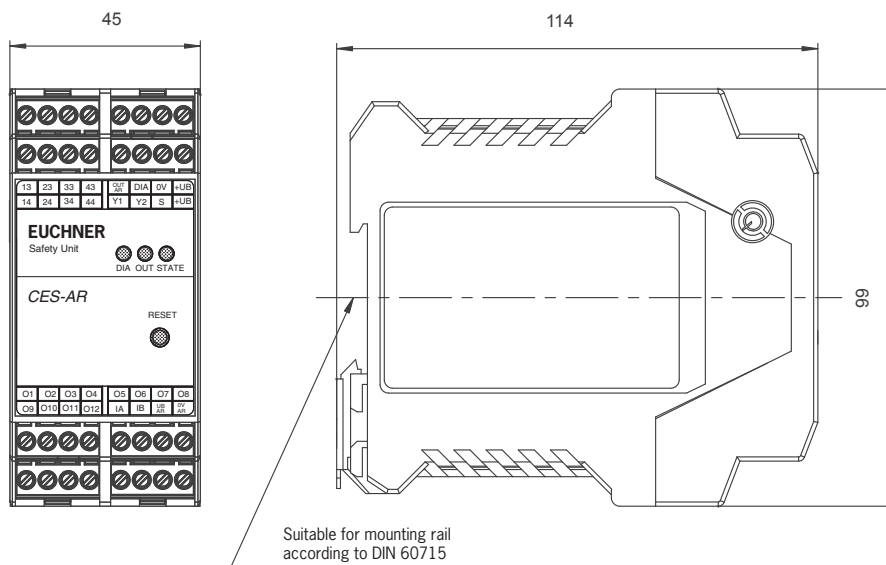
If you do not find the displayed device status in the system status table, this indicates an internal device fault. In this case, you should contact the manufacturer.

12. Technical data

Parameter	Value			Unit
	min.	typ.	max.	
Housing material	PA6.6 plastic			
Dimensions	114 x 99 x 45			mm
Weight	0.25			kg
Ambient temperature at $U_B = DC 24 V$	-20	-	+55	°C
Atmospheric humidity, not condensing	-	-	80	%
Degree of protection	IP20			
Degree of contamination	2			
Mounting	Mounting rail 35 mm acc. to EN 60715			
Connection (plug-in screw terminals, coded)	0.14	-	2.5	mm ²
Operating voltage U_B (regulated, residual ripple < 5%)	24 ± 10%			V DC
Current consumption I_B (with relay energized) ¹⁾	-	1,200 ¹⁾	-	mA
External fuse (operating voltage U_B)	-	2.5	8	A gG
Safety contacts	4 relays with internally monitored contacts			
Switching current (relay outputs)				
- at switching voltage AC/DC 21 ... 60 V	1	-	300	mA
- at switching voltage AC/DC 5 ... 30 V	10	-	6,000	
- at switching voltage AC 5 ... 230 V	10	-	5,000	
External fuse (safety circuit) acc. to EN 60269-1	6 AgG or 6 A circuit breaker (characteristic B or C)			
Utilization category acc. to EN 60947-5-1	AC-12 60 V 0.3 A / DC-12 60 V 0.3 A AC-12 30 V 6 A / DC-12 30 V 6 A AC-15 230 V 5 A / DC-13 24 V 5 A			
Rated insulation voltage U_i	250			V
Rated impulse withstand voltage U_{imp}	4			kV
Conditional short-circuit current	-	100	-	A
Resilience to vibration	Acc. to EN 60947-5-2			
Mechanical operating cycles (relays)	10 x 10 ⁶			
Current via feedback loop Y1/Y2	5	8	10	mA
Permissible resistance via feedback loop	-	-	600	Ω
Monitoring outputs (O1 ... O12, DIA and OUT AR, semiconductor outputs, p-switching, short circuit-proof)				
- Output voltage	0.8 x U_B	-	U_B	V DC
- Max. load	-	-	20	mA
- Switching frequency	-	1	-	Hz
Start button S inputs				
- Input voltage LOW	0	-	2	V DC
- Input voltage HIGH	15	-	U_B	
- Input current HIGH	5	8	10	
Safety inputs IA, IB	2 (for AR switch chain)			
- Input current	-	10	-	mA
Number of connectible safety switches	2	-	12	
EMC protection requirements	Acc. to EN 60947-5-3			
Reliability values acc. to EN ISO 13849-1 as a function of the switching current at 24 V DC				
	≤ 0.1 A	≤ 1 A	≤ 3 A	
Category	4			
Performance Level (PL)	e			
PFF _D	1.5 x 10 ⁻⁸			
Mission time	20			years
Number of switching cycles/year	720,000	540,000	107,000	

1) Taking into account the load currents at the monitoring outputs (20 mA each)

12.1. Dimension drawing



12.2. System times for the AR system

12.2.1. Typical system times

Ready delay: After switching on, the unit carries out a self-test for 10 s. The system is ready for operation only after this time.

Risk time according to EN 60947-5-3: If an actuator leaves the actuating range, the safety contacts of the AR evaluation unit are opened after 520 ms at the latest.

Difference time: The safety contacts on the AR evaluation unit switch with a slight time offset. They have the same signal state at the latest after a difference time of 10 ms.



Important!

The system times shown are maximum values for a circuit arrangement with 12 safety switches connected in an AR switch chain. Shorter times can also be achieved in circuits with fewer switches.

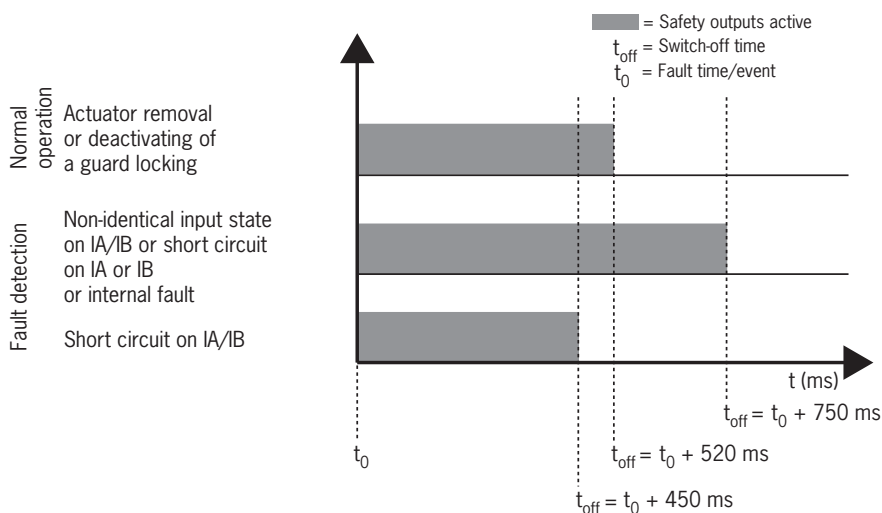


Figure 11: System times for AR evaluation unit on an AR switch chain with 12 safety switches

13. Ordering information and accessories



Tip!

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

14. Inspection and service



WARNING

Loss of the safety function because of damage to the device.

- › In case of damage, the entire device must be replaced.
- › Only accessories or spare parts that can be ordered from EUCHNER may be replaced.

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

- › Check the switching function
- › Check the secure mounting of the devices and the connections
- › Check for soiling (e.g. the ventilation slots on the housing)

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



NOTICE

The year of manufacture can be seen in the lower right corner of the rating plate. The current version number in the format (VX.X.X) can also be found on the device.

15. Service

If servicing is required, please contact:

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

Service telephone:

+49 711 7597-500

E-mail:

support@euchner.de

Internet:

www.euchner.com

16. Declaration of conformity



EUCHNER

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

Original DE
Translation EN
Traduction FR
Traduzione IT
Traducción ES

2109923-14-03/19

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

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

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

Folgende Normen sind angewandt: a: EN 60947-5-3:2013 e: EN 50364:2010
Following standards are used: b: EN ISO 14119:2013 f: EN 300 330 V2.1.1
Les normes suivantes sont appliquées: c: EN ISO 13849-1:2015
Vengono applicate le seguenti norme: d: EN 50581:2012 (RoHS)
Se utilizan los siguientes estándares:

Bezeichnung der Bauteile Description of components Description des composants Descrizione dei componenti Descripción de componentes	Type Type Type Tipo Tipo	Richtlinie Directives Directive Direttiva Directivas	Normen Standards Normes Norme Estándares	Zertifikats-Nr. No. of certificate Número du certificat Numero del certificato Número del certificado
Sicherheitsschalter Safety Switches	CES-AP-CR2-... CES-AP-CL2-...	I, II, III	a, b, c, d, e, f	ET 19007
Interrupteurs de sécurité Fincorsa di sicurezza Interruptores de seguridad	CES-AP-C01-CH-SA CES-AR-C01-... CES-AR-CL2-... CES-AR-CR2-...			
Betätiger Actuator Actionneur Azionatore Actuador	CES-A-BLN... CES-A-BDN... CES-A-BBA... CES-A-BCA... CES-A-BPA... CES-A-BRN...	I, II, III	a, b, c, d, e, f	ET 19007 ET 19009 ET 18055

Benannte Stelle
Notified Body
Organisme notifié
Sede indicata
Entidad citada

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



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Bezeichnung der Bauteile <i>Description of components</i> <i>Description des composants</i> <i>Descrizione dei componenti</i> <i>Descripción de componentes</i>	Type <i>Type</i> <i>Type</i> <i>Tipo</i> <i>Typo</i>	Richtlinie <i>Directives</i> <i>Directive</i> <i>Direttiva</i> <i>Directivas</i>	Normen <i>Standards</i> <i>Normes</i> <i>Norma</i> <i>Estándares</i>	Prüfbericht <i>Test report</i> <i>Rapport du test</i> <i>Rapporto di prova</i> <i>Informe de prueba</i>
Sicherheitsschalter <i>Safety Switches</i>	CES-AH-C03-AH-SM-106300	I, II, III	a, b, c, d, e, f	Euchner QS PB 21/2010
Interrupteurs de sécurité <i>Finecorsa di sicurezza</i> <i>Interruptores de seguridad</i>	CES-AP-C01...	I, II, III	a, b, c, d, e, f	Euchner QS PB 76/2010
Auswertegerät <i>Safety Unit</i>	CES-AR-AES-12	I, II, III	a, b, c, d, e, f	Euchner QS PB 53/2007
Analyseur <i>Centralina</i> <i>Unidad de evaluación</i>	CES-FD-AP...	I, II, III	a, b, c, d, e, f	UQS 116784
Betätiger <i>Actuator</i> <i>Actionneur</i> <i>Azionatore</i> <i>Actuador</i>	CES-A-BBN... CES-A-BMB...	I, II, III	a, b, c, d, e, f	UQS 116783 UQS 116784
Lesekopf <i>Read head</i> <i>Tête de lecture</i> <i>Testina di lettura</i> <i>Cabeza lectora</i>	CES-A-LMN-SC...			I, II, III

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

0035
TÜV Rheinland Industrie Service GmbH
Alboinstr. 56, 12103 Berlin
Germany

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

EUCHNER GmbH + Co. KG
Kohlhammerstraße 16
70771 Leinfelden-Echterdingen
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Leinfelden, März 2019

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