Non-contact safety switches CET-AR-... with guard locking and guard lock monitoring

- **Safety switch with guard locking and integrated evaluation electronics**
- **Locking force up to 6500 N**
- **Up to 20 switches in series**
- **Short circuit monitoring**
- **2 safety outputs (semiconductor outputs)**
- **Up to category 4 / PL e according to EN ISO 13849-1**

For possible combinations see page 139

Approach direction

Horizontal
Can be adjusted in 90° steps

Safety switch
The safety switch CET is only allowed to be operated in conjunction with the actuator CET-A-BWK-50X.
Important: The actuator must be ordered separately.

Unicode evaluation
Each actuator is unique. The evaluation unit detects only the actuator that has been taught-in. Additional actuators can be taught-in.
Only the last actuator taught-in is detected.
New actuators are taught by connecting the teach-in input to U_B (only version with teach-in input).

Multicode evaluation
Every suitable actuator is detected by the evaluation unit.

Mechanical release
Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Escape release (optional)
Is used for the manual release of the guard locking from within the danger area without tools.

Wire front release (optional)
The wire front release permits remote release of the guard locking via a pull rope. Flexible routing of the pull rope permits release of the guard locking in inaccessible installation situations.

Solenoid operating voltage

▸ DC	24 V	+10%, -15%

Guard locking types

- **CET1** Guard locking by spring force
  Release by applying voltage to the guard locking solenoid.
- **CET2** Guard locking by solenoid force
  Guard locking by applying voltage to the guard locking solenoid.
  Release by spring force.
- **CET3** Guard locking by spring force with door monitoring output.
  Function as for CET1-AR, however here the door position is also monitored. The door monitoring output OUT D is set to HIGH as soon as the actuator protrudes beyond the extended lift tappet (state: door closed, guard locking not active).
  The output OUT D remains set also with guard locking active.
- **CET4** Guard locking by solenoid force with door monitoring output.
  Function as for CET2-AR, however here the door position is also monitored. The door monitoring output OUT D is set to HIGH as soon as the actuator protrudes beyond the extended lift tappet (state: door closed, guard locking not active).
  The output OUT D remains set also with guard locking active.

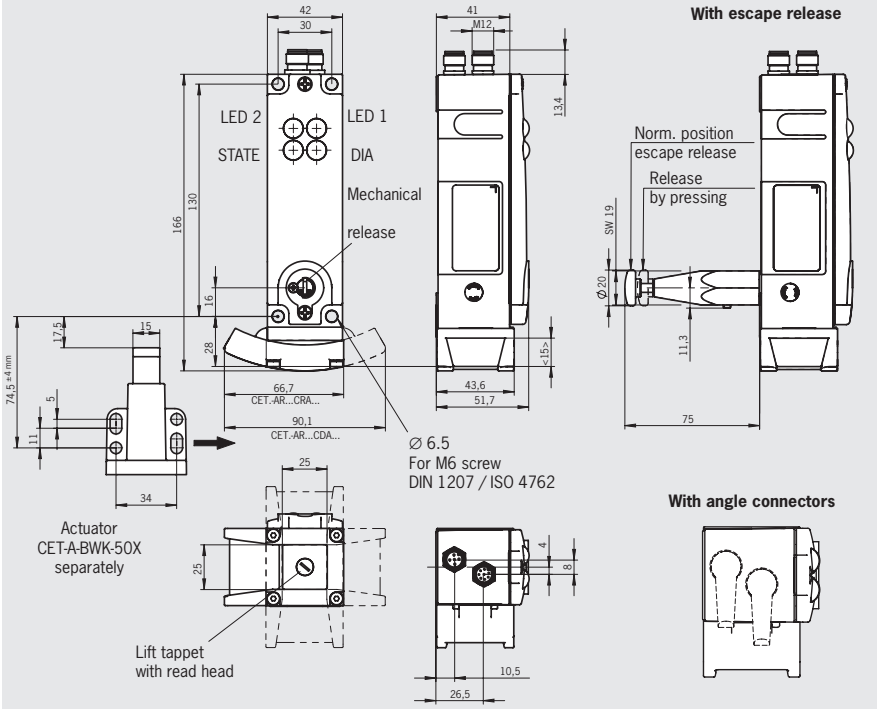
LED function display

- **LED State** Status LED
- **LED DIA** Diagnostics LED
- **LED 1 red** freely configurable
- **LED 2 green** freely configurable

Non-contact safety switch CET-AR...
with 2 plug connectors M12

Cat. 4 / PLe | 1...20

Dimension drawing



Connection cable see page 146

Additional connections

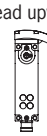
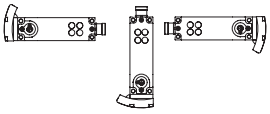
OUT	Monitoring output (semiconductor)
RST	Reset input

Category according to EN ISO 13849-1
Due to two redundant design semiconductor outputs (safety outputs) with internal monitoring suitable for:

- Category 4 / PL e according to EN ISO 13849-1

Important: To achieve the stated category in accordance with EN ISO 13849-1, both safety outputs (OA and OB) must be evaluated.

The category is dependent on the installation position of the safety switch:

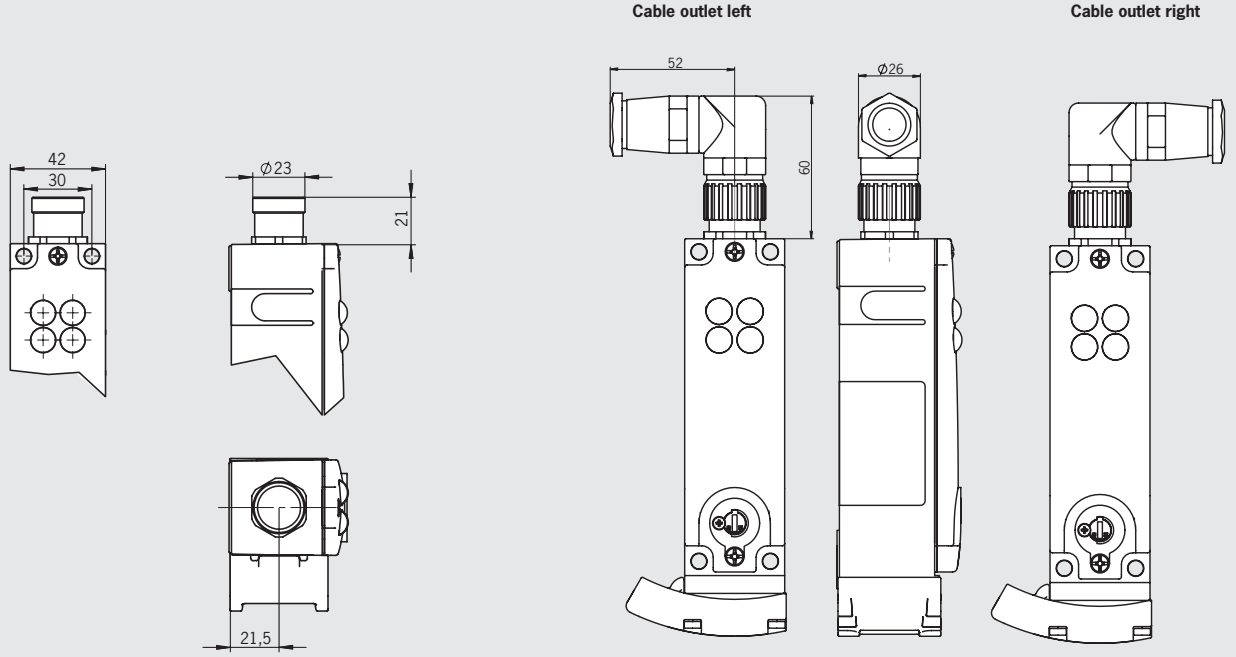
Installation position	Achievable category and PL acc. to EN ISO 13849-1
Head upward 	3 / PL e
Head downward or horizontal 	4 / PL e

For ordering table see page 155/156.

1) No UL approval for CET3 of for version with plug connector RC18

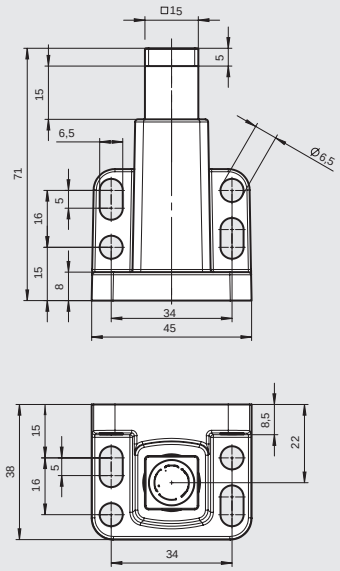
Non-contact safety switch CET-AR...
with plug connector RC18

Dimension drawing

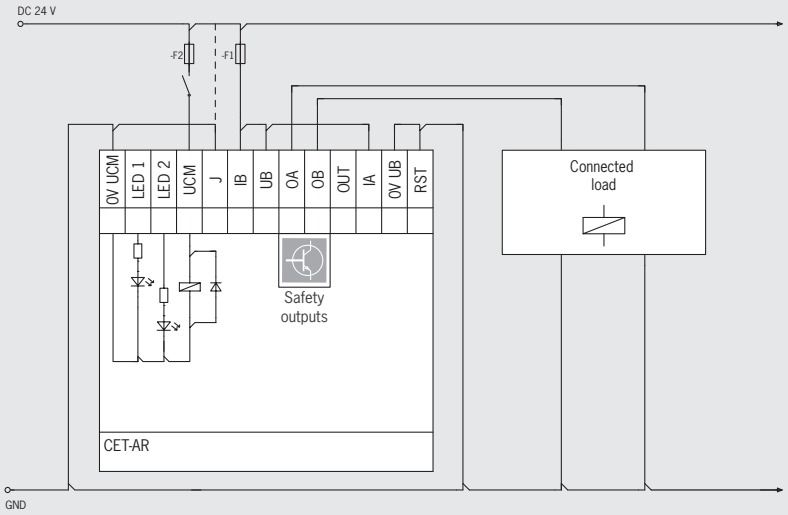


For elbow connector see page 162 and 164

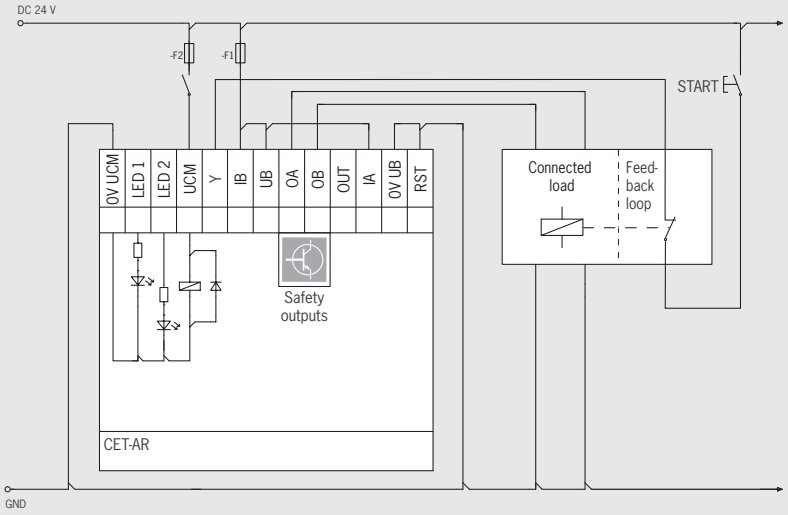
Actuator CET-A-BWK-50X
for safety switch CET-AR



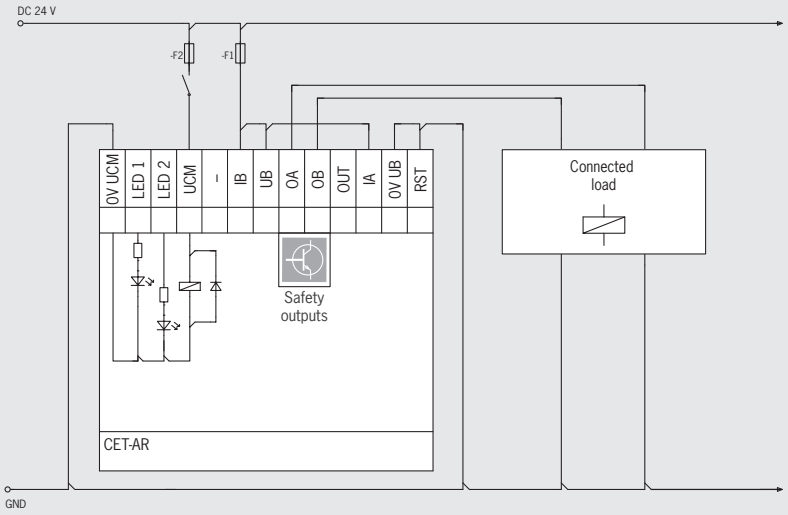
Wiring diagrams



Connection example for separate operation, version with teach-in input



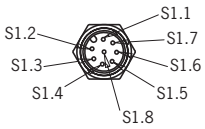
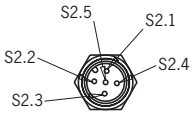
Connection example for separate operation, version with start button and feedback loop



Connection example for separate operation, version without feedback loop and without

Safety switch CET.-AR-...-SG-... (with 2 plug connectors M12)

Terminal assignment

Plug connector (view of connection side)	PIN	Designation: Door monitoring output With	Designation: Door monitoring output Without	Function	Wire color Connection cable [1]
2 x M12 	S 1.1	IB		Enable input for channel 2	WH
	S 1.2	U_B		Operating voltage AR electronics, 24 V DC	BN
	S 1.3	OA		Safety output, channel 1	GN
	S 1.4	OB		Safety output, channel 2	YE
	S 1.5	OUT		Monitoring output	GY
	S 1.6	IA		Enable input for channel 1	PK
	S 1.7	0 V U_B		Operating voltage AR electronics 0 V	BU
	S 1.8	RST		Reset input	RD
					
	S 2.1	0 V U_{CM}		Operating voltage guard locking solenoid 0 V	BN
Depending on version	S 2.2		LED 1	LED 1 red, freely configurable [2], 24 V DC	WH
		OUT D		Door monitoring output (only CET3-AR and CET4-AR)	
	S 2.3	LED 1	LED 2	LED 1 red or LED 2 green, freely configurable [2], 24 V DC	BU
	S 2.4	U_{CM}		Operating voltage guard locking solenoid, 24 V DC	BK
Depending on version	S 2.5	J		Version with teach-in input: to teach-in a new actuator, connect to 24 V DC; in normal operation connect to 0 V.	GY
		Y		Version with feedback loop: if the feedback loop is not used, connect to 24 V DC	
		-		Version without feedback loop and without teach-in output: this connection must be connected to 0 V.	

1) Only for standard EUCHNER connection cable
2) Can vary depending on version. See data sheet.

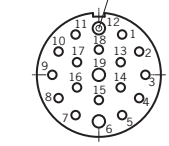
Ordering table CET.-AR-...-SG-... (with 2 plug connectors M12)

Order no. / item	Closed-circuit current principle	Open-circuit current principle	Door monitoring output	Unicode	Multicode	Single insertion slide	Double insertion slide	Teach-in input	Feedback loop	Escape release	Bowden wire	Lockout mechanism
106275 CET1-AR-CDA-AH-50X-SG-106275	●			●			●	●				
106616 CET1-AR-CRA-AH-50A-SG-106616	●			●		●			●	● 75 mm		
106159 CET1-AR-CRA-AH-50F-SG-106159	●			●		●						
111766 CET1-AR-CRA-AH-50F-SG-C2333-111766	●			●		●						●
105802 CET1-AR-CRA-AH-50S-SG-105802	●			●		●			●			
103418 CET1-AR-CRA-AH-50X-SG-103418	●			●		●		●		● 75 mm		
112121 CET1-AR-CRA-AH-50X-SG-C2333-112121	●			●		●		●		● 75 mm		●
110241 CET1-AR-CRA-CH-50F-SG-110241	●				●	●				● 75 mm		
105764 CET1-AR-CRA-CH-50S-SG-105764	●				●	●			●			
105763 CET1-AR-CRA-CH-50X-SG-105763	●				●	●						
109015 CET1-AR-CRA-CH-50X-SG-C2290-109015	●				●	●					●	
109231 CET1-AR-CDA-CH-50X-SG-109231	●				●		●					
109075 CET2-AR-CRA-AH-50S-SG-109075		●		●		●			●			
110240 CET2-AR-CRA-AH-50X-SG-110240		●		●		●		●				
109941 CET2-AR-CRA-CH-50F-SG-C2312-109941		●			●	●				● 105 mm		
110082 CET2-AR-CRA-CH-50X-SG-110082		●			●	●						
109401 [1] CET3-AR-CRA-AH-50X-SG-109401	●			●		●		●				
110114 [1] CET3-AR-CRA-CH-50X-SG-C2290-110114	●		●		●	●					●	
110905 [1] CET3-AR-CRA-CH-50F-SG-C2290-110905	●		●		●	●				● 75 mm	●	
110906 [1] CET3-AR-CRA-CH-50X-SG-110906	●		●		●	●						
110907 [1] CET3-AR-CRA-CH-50F-SG-110907	●		●		●	●				● 75 mm		

1) No UL approval

Safety switch CET.-AR-...-SH-... (with plug connector RC18)

Terminal assignment

Plug connector (view of connection side)	PIN	Designation	Function
RC18 with screen bonding clamp 	1	U_{CM}	Operating voltage guard locking solenoid, 24 V DC
	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, 24 V DC
	7	RST	Reset input
	8	OUT D	Door monitoring output (only CET3-AR and CET4-AR)
	9	-	n.c.
	10	OUT	Monitoring output
	11	-	n.c.
	12	FE	Function earth
Depending on version	13	J	Version with teach-in input: to teach-in a new actuator, connect to 24 V DC; in normal operation connect to 0 V.
		Y	Version with feedback loop: if the feedback loop is not used, connect to 24 V DC
		-	Version without feedback loop and without teach-in output: this connection must be connected to 0 V.
	14	-	n.c.
	15	LED 1	LED 1 red, freely configurable, 24 V DC
	16	LED 2	LED 2 green, freely configurable, 24 V DC
	17	-	n.c.
	18	0V U_{CM}	Operating voltage guard locking solenoid 0 V
	19	0V U_B	Operating voltage AR electronics 0 V

Ordering table CET.-AR-...-SH-... (with plug connector RC18)

Order no. / item	Closed-circuit current principle	Open-circuit current principle	Door monitoring output	Unicode	Multicode	Single insertion slide	Double insertion slide	Teach-in input	Feedback loop	Escape release	Bowden wire	Lockout mechanism
110203 [1] CET1-AR-CRA-AH-50X-SH-110203	●			●		●		●				
110943 [1] CET1-AR-CRA-AH-50F-SH-C2312-110943	●			●		●		●		● 105 mm		
110204 [1] CET1-AR-CRA-CH-50X-SH-110204	●				●	●						
110205 [1] CET2-AR-CRA-AH-50X-SH-110205		●		●		●		●				
110206 [1] CET2-AR-CRA-CH-50X-SH-110206		●			●	●						
110103 [1] CET3-AR-CRA-AH-50X-SH-110103	●		●	●		●		●				
110104 [1] CET3-AR-CRA-CH-50X-SH-110104	●		●		●	●						
111725 [1] CET3-AR-CRA-AH-50X-SH-111725	●		●	●		●		●		● 105 mm		

1) No UL approval

Accessories

Ordering table

Designation	Version/usage	Order no. / item
Actuator for read head CET-AR	Locking force 6500 N (incl. safety screws)	**096327** CET-A-BWK-50X
Safety screws M5 x 16	For actuator CET-A-BWK-50X (replacement) packaging unit: 100 ea.	**073456** M5x16/V100
Handle for wire front release (Bowden)	For safety switch CET-AR with wire front release (bowden)	**099795** Handle for wire front release (Bowden)

Technical data non-contact safety switches CET-AR...

Safety switch

Parameter	Value			Unit
	min.	typ.	max.	
General				
Material, slide	Stainless steel			
Material, safety switch housing	Die-cast aluminum			
Installation position	Any (recommendation: switch head downward)			
Degree of protection	IP 67 / IP65 with plug connector RC 18 (screwed tight with the related mating connector)			
Safety class	III			
Degree of contamination	3			
Mechanical life	1 x 10^6 operating cycles			
Ambient temperature at U_B	-20	-	+55	°C
Actuator approach speed, max.	20			m/min
Locking force F_{max}	6500			N
Locking force F_{Zh} in acc. with GS-ET-19	$F_{Zh} = F_{max}/1.3 = 5{,}000$			N
Weight	Approx. 1.0			kg
Degrees of freedom (actuator in recess) X, Y, Z	± 5			mm
Connection type (depending on version)	2 plug connectors M12, 5 and 8-pin 1 plug connector RC 18, 19-pin (as yet no UL approval)			
Operating voltage U_B (reverse polarity protected, regulated, residual ripple < 5%)	24 ± 15%			V DC
Current consumption I_B	80			mA
For the approval according to UL the following applies	Operation only with UL class 2 power supply, or equivalent measures			
Switching load according to UL	DC 24 V, class 2			
External fuse (operating voltage U_B)	0.5	-	3	A
External fuse (solenoid operating voltage U_{CM})	0.5	-	2	A
Resilience to vibration	In acc. with EN 60947-5-2			
EMC protection requirements	As per EN IEC 60947-5-3			
Safety outputs OA/OB	Semiconductor outputs, p-switching, short circuit-proof			
- Output voltage U_{OA}/U_{OB} [1] HIGH U_{OA}/U_{OB} LOW U_{OA}/U_{OB}	 U_B - 1.5 0	 - -	 U_B 1	V DC
Switching current per safety output	1	-	200	mA
Utilization category according to EN 60947-5-2	DC-13 24 V 200 mA Caution: outputs must be protected with a free-wheeling diode in case of inductive loads			
Classification acc. to EN IEC 60947-5-3	PDF-M			
Switching frequency	0.5			Hz
Repeat accuracy R acc. to EN IEC 60947-5-3	≤ 10			%
Monitoring outputs OUT and OUT D (optional)	(p-switching, short circuit-proof)			
Output voltage	0.8 x U_B	-	U_B	V DC
Max. load	-	-	50	mA
Teach-in input J or input feedback loop Y				
HIGH	15	-	U_{CM}	V
LOW	0	-	1	
Solenoid				
Solenoid operating voltage U_{CM} (reverse polarity protected, regulated, residual ripple < 5%)	DC 24 V +10%/-15%			
Current consumption solenoid I_{CM}	400			mA
Power consumption	10			W
Duty cycle	100			%
Freely configurable LEDs [2]	**LED1 red, LED2 green**			
Operating voltage	20.4	-	26.4	V DC
Reliability values according to EN ISO 13849-1	**Head downward or horizontal**		**Head upward**	
Category	4		3	
Performance Level (PL)	e		e	
PFH_d	3.1 x 10^{-9} / h		4.29 x 10^{-8} / h	
Mission time	20		20	years

1) Values at a switching current of 50 mA without taking into account the cable lengths.
2) Can vary depending on version. See data sheet.

Actuator

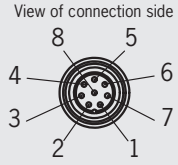
Parameter	Value			Unit
	min.	typ.	max.	
Housing material	Stainless steel			
Installation position	Active face opposite read head			
Degree of protection according to IEC/EN 60529	IP67			
Mechanical life	1 x 10^6 operating cycles			
Ambient temperature	-20	-	+55	°C
Locking force, max. (locked)	6500			N
Weight	Approx. 0.25			kg
Stroke max.	15			mm
Power supply	Inductive, via read head			

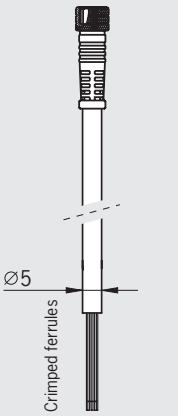
Connection cables

Flying lead
M8 female plug 8-pin

Dimension drawing

View of connection side

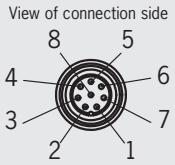


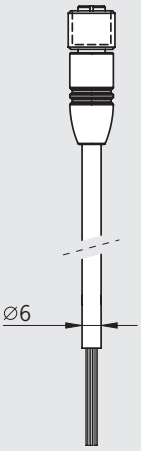


1 = WH	▶	IB
2 = BN	▶	UB
3 = GN	▶	OA
4 = YE	▶	OB
5 = GY	▶	OUT
6 = PK	▶	IA
7 = BU	▶	0 V
8 = RD	▶	RST

Flying lead
M12 female plug 8-pin

View of connection side

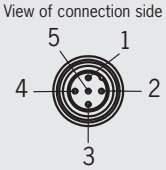


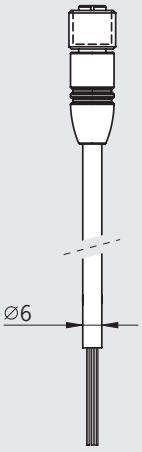


1 = WH	▶	IB
2 = BN	▶	UB
3 = GN	▶	OA
4 = YE	▶	OB
5 = GY	▶	OUT
6 = PK	▶	IA
7 = BU	▶	0 V
8 = RD	▶	RST

Flying lead
M12 female plug 5-pin

View of connection side

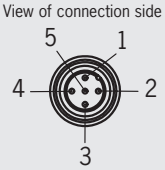


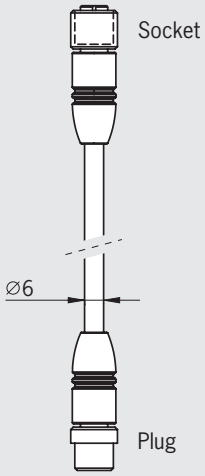


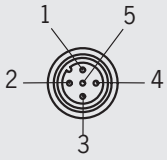
1 = BN	▶	U_B
2 = WH	▶	OA / IA
3 = BU	▶	0 V
4 = BK	▶	OB / IB
5 = GY	▶	RST

Plug on both ends
M12 male and female plug 5-pin

View of connection side







1 = BN	▶	U_B
2 = WH	▶	OA / IA
3 = BU	▶	0 V
4 = BK	▶	OB / IB
5 = GY	▶	RST

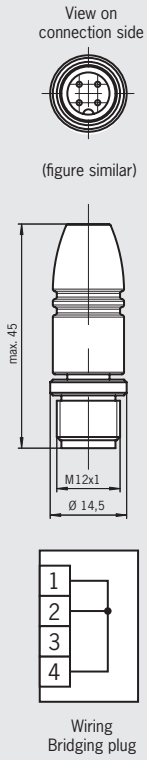
Ordering table

Series	Comment	Order no.
M8 connection cable PUR 8-core, flying lead for the connection of a CES-AR-C.2	M8 female plug 8-pin, length 5 m	**106671** C-M08F08-08X014PU05,0-ES-106671
	M8 female plug 8-pin, length 10 m	**106672** C-M08F08-08X014PU10,0-ES-106672
	M8 female plug 8-pin, length 20 m	**106673** C-M08F08-08X014PU20,0-ES-106673
M8 connection cable PVC 8-core, flying lead for the connection of a CES-AR-C.2	M8 female plug 8-pin, length 5 m	**110933** C-M08F08-08X014PV205,0-ES-106671
	M8 female plug 8-pin, length 10 m	**110934** C-M08F08-08X014PV210,0-ES-106672
	M8 female plug 8-pin, length 15 m	**110935** C-M08F08-08X014PV210,0-ES-106672
	M8 female plug 8-pin, length 20 m	**111603** C-M08F08-08X014PV220,0-ES-106673
M12 connection cable PVC 8-core, flying lead for the connection of a CES-AR-C01/ CES-AR-C.2	M12 female plug 8-pin, length 5 m	**100177** C-M12F08-08X025PV05,0-ZN-100177
	M12 female plug 8-pin, length 10 m	**100178** C-M12F08-08X025PV10,0-ZN-100178
	M12 female plug 8-pin, length 20 m	**100179** C-M12F08-08X025PV20,0-ZN-100179
M12 connection cable PVC 5-core, flying lead for the connection of the last CES-AR-C01/CES-AR-C.2 in a switch chain	M12 female plug 5-pin, length 5 m	**100183** C-M12F05-05X034PV05,0-ZN-100183
	M12 female plug 5-pin, length 10 m	**100184** C-M12F05-05X034PV10,0-ZN-100184
	M12 female plug 5-pin, length 20 m	**100185** C-M12F05-05X034PV20,0-ZN-100185
M12 connection cable PVC 5-core, connectors at both ends for the connection of two CES-AR-C01/ CES-AR-C.2 in a switch chain	M12 female plug 5-pin to M12 male plug, length 5 m	**100180** C-M12F05-05X034PV05,0-M12M05-100180
	M12 female plug 5-pin to M12 male plug, length 10 m	**100181** C-M12F05-05X034PV10,0-M12M05-100181
	M12 female plug 5-pin to M12 male plug, length 20 m	**100182** C-M12F05-05X034PV20,0-M12M05-100182

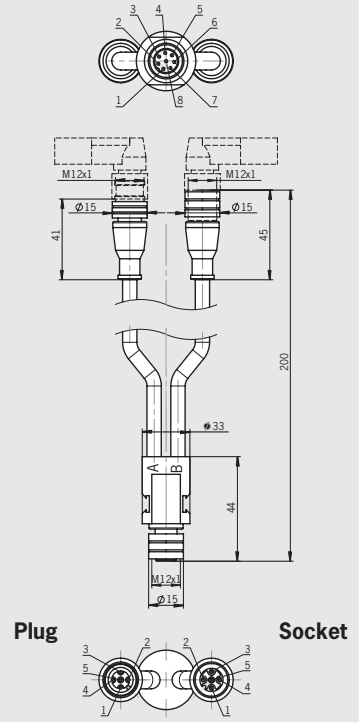
Bridging connector/Y-distributor

Bridging plug
Male plug 4-pin

Dimension drawing



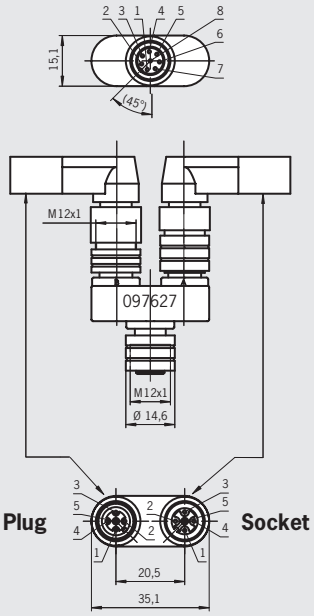
Y-distributor M12 with connection cable
1 x 8-pin, 2 x 5-pin



Pin	Function	Pin	Function
1	U_B	1	U_B
2	OA	2	IA
3	0 V	3	0 V
4	OB	4	IB
5	RST	5	RST

Note:: For the connection to the Y-distributor, 5-pin standard plug connectors M12 can be used.

Y-distributor M12
1 x 8-pin, 2 x 5-pin



Pin	Function	Pin	Function
1	U_B	1	U_B
2	OA	2	IA
3	0 V	3	0 V
4	OB	4	IB
5	RST	5	RST

Note:: For the connection to the Y-distributor, 5-pin standard plug connectors M12 can be used.

Important: Switch chains must always be terminated with a bridging plug. Switch chains up to maximum 200 m are allowed taking into account the voltage drop due to the cable resistance (see System Manual).

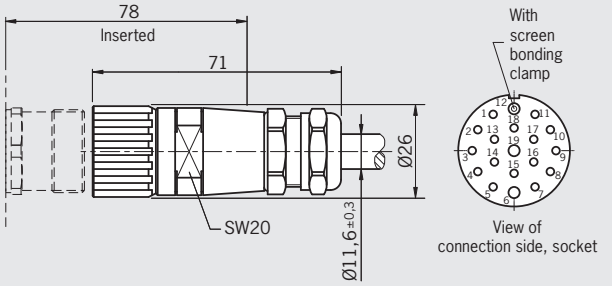
Ordering table

Series	Comment	Order no.
Bridging plug	M12 plug connector 4-pin	**097645** Bridging plug
Y-distributor M12 with connection cable	M12, 1 x 8-pin, 2 x 5-pin	**111696** Y-distributor with connection cable
Y-distributor M12	M12, 1 x 8-pin, 2 x 5-pin	**097627** Y-distributor M12

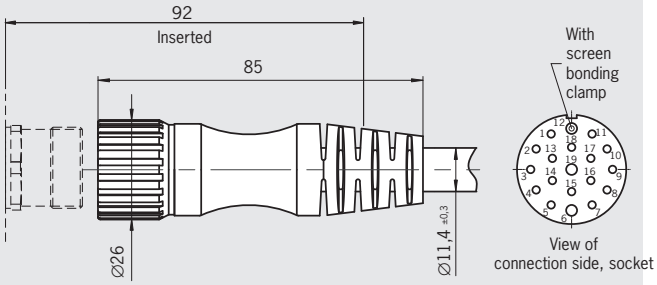
Connection cables RC18 for CET-AR

Female plug RC18 with cable
18-pin + PE

Dimension drawing

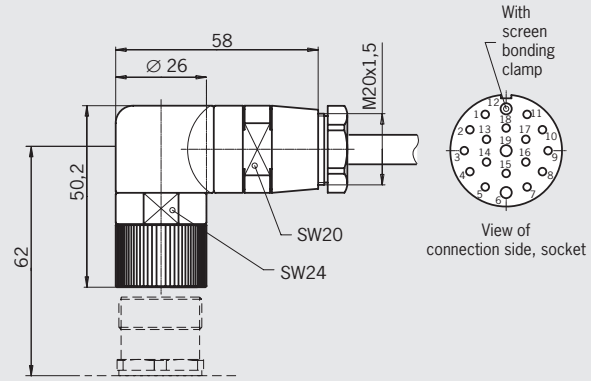


Female plug RC18 with cable halogen-free
18-pin + PE

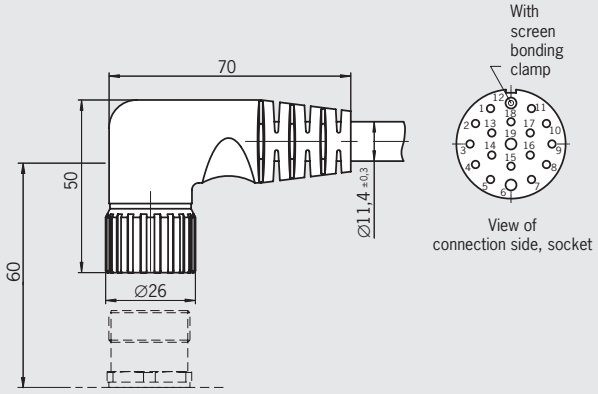


Female plug RC18 angled with cable
18-pin + PE

Dimension drawing



Female plug RC18 angled with cable halogen-free
18-pin + PE



Assignment connection cable RC18 for CET-AR

Pin	Core color	Wire cross-section [mm]	Pin	Core color	Wire cross-section [mm]
1	VT	0.5	11	BK	0.5
2	RD	0.5	12	GN/YE	1.0
3	GY	0.5	13	PK	0.5
4	RD/BU	0.5	14	BN/GY	0.5
5	GN	0.5	15	BN/YE	0.5
6	BU	1.0	16	BN/GN	0.5
7	GY/PK	0.5	17	WH	0.5
8	GN/WH	0.5	18	YE	0.5
9	YE/WH	0.5	19	BN	1.0
10	GY/WH	0.5			

Ordering table

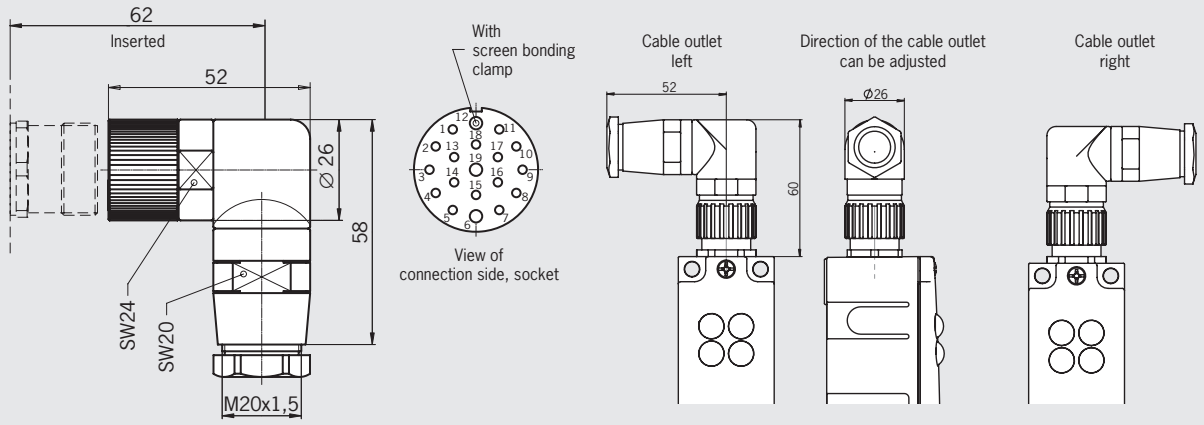
Designation	Cable length [m]	Order no./item
Female plug RC18 with cable PUR for CET-AR 18-pin + PE	1.5	**092761** RC18EF1,5M-C1825
	3	**092816** RC18EF3M-C1825
	6	**077014** RC18EF6M-C1825
	8	**077015** RC18EF8M-C1825
	10	**092898** RC18EF10M-C1825
	15	**077016** RC18EF15M-C1825
	20	**092726** RC18EF20M-C1825
	25	**092727** RC18EF25M-C1825
	30	**095993** RC18EF30M-C1825
Female plug RC18 with cable PUR halogen-free, suitable for drag chain for CET-AR 18-pin + PE	1.5	**092883** RC18EF1,5MF-C1825
	3	**092884** RC18EF3MF-C1825
	6	**092885** RC18EF6MF-C1825
	8	**092886** RC18EF8MF-C1825
	10	**092887** RC18EF10MF-C1825
	15	**092888** RC18EF15MF-C1825
	20	**092889** RC18EF20MF-C1825
	25	**092890** RC18EF25MF-C1825

Designation	Cable length [m]	Order no./item	
		Cable outlet left	Cable outlet right
Female connector RC18 angled with cable PUR for CET-AR 18-pin + PE	1.5	**092906** RC18WF1,5ML-C1825	**092907** RC18WF1,5MR-C1825
	3	**092908** RC18WF3ML-C1825	**092909** RC18WF3MR-C1825
	6	**077018** RC18WF6ML-C1825	**085194** RC18WF6MR-C1825
	8	**077019** RC18WF8ML-C1825	**085195** RC18WF8MR-C1825
	10	**092901** RC18WF10ML-C1825	**092902** RC18WF10MR-C1825
	15	**077020** RC18WF15ML-C1825	**085196** RC18WF15MR-C1825
	20	**092910** RC18WF20ML-C1825	**092911** RC18WF20MR-C1825
	25	**092912** RC18WF25ML-C1825	**092913** RC18WF25MR-C1825
Female connector RC18 angled with cable PUR halogen-free suitable for drag chain for CET-AR 18-pin + PE	1.5	**092891** RC18WF1,5MLF-C1825	**092892** RC18WF1,5MRF-C1825
	3	**092893** RC18WF3MLF-C1825	**092894** RC18WF3MRF-C1825
	6	**092697** RC18WF6MLF-C1825	**092698** RC18WF6MRF-C1825
	8	**092895** RC18WF8MLF-C1825	**092896** RC18WF8MRF-C1825
	10	**092699** RC18WF10MLF-C1825	**092700** RC18WF10MRF-C1825
	15	**092701** RC18WF15MLF-C1825	**092702** RC18WF15MRF-C1825
	20	**092704** RC18WF20MLF-C1825	**092708** RC18WF20MRF-C1825
	25	**092724** RC18WF25MLF-C1825	**092725** RC18WF25MRF-C1825

Female connector RC18 angled CET-AR

Female connector RC18 angled
18-pin + PE, direction of the cable outlet can be adjusted

Dimension drawing



Ordering table

Series	Comment	Order no.
RC18 [1] 18-pin + PE	**WF** Female plug angled	**074617** RC18WF
	Replacement pin crimp contacts Wire cross-section 19 x 0.75 - 1 mm2	**094309** Pin crimp contact RCM

1) Crimp contacts included

Miscellaneous accessories

- **Mechanical key release for safety switch CET**
- **Emergency unlocking for safety switch CET**
- **Cover for safety switch CET**

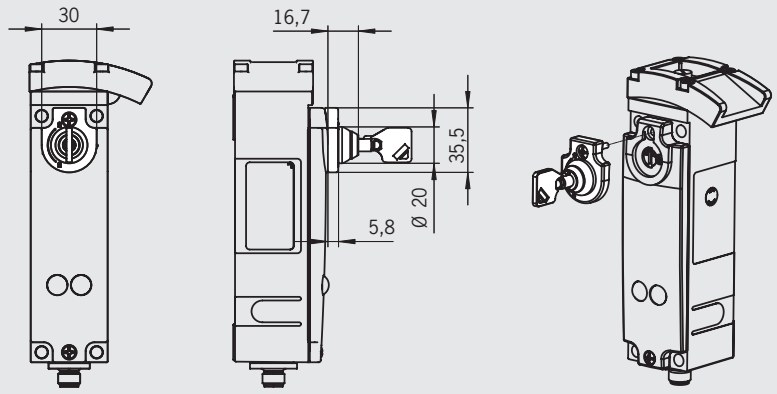
Mechanical key release

The mechanical key release is used in combination with safety switch CET. It enables authorized personnel to actuate the mechanical release using the related key. The unlocking mechanism holds the solenoid in the "unlocked" position.
A screw is used to fix the lock to the cover of the safety switch CET (over the mechanical release).
The lock is identical locking.

- Order safety switch CET separately
- 2 keys included (for spare keys see ordering table below)
- Every safety switch in the CET series can be upgraded with the mechanical key release

Mechanical key release
for safety switches CET

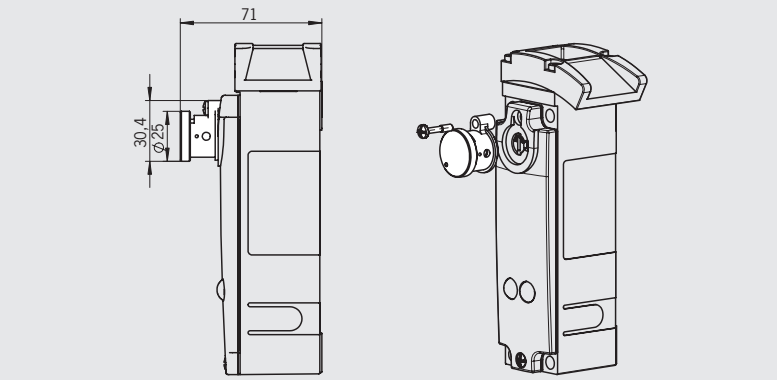
Dimension drawing



Emergency unlocking

Using the emergency unlocking the safety switch can be unlocked manually. In the locked position of the emergency unlocking, a ball detent mechanism prevents unintentional unlocking of the safety switch due to vibration or similar effects.
In the unlocked position of the emergency unlocking, an integrated bolt engages in a bore on the flange. To reset the emergency unlocking, first the bolt must be pressed inwards, out of the detent mechanism, using a tool.

Emergency unlocking
for safety switches CET

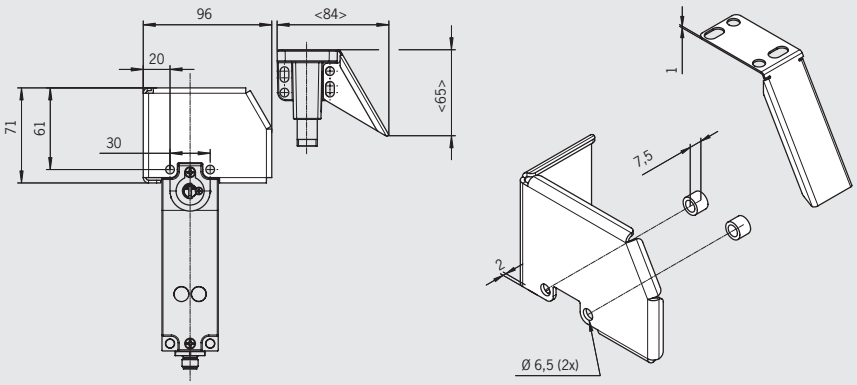


Cover

With the CET cover, tampering with the safety switch CET is effectively prevented.
The cover prevents the use of simple tools to manually press up the actuator.

Cover
for safety switch and actuator CET

Cover for door hinge on left mirror image



Ordering table

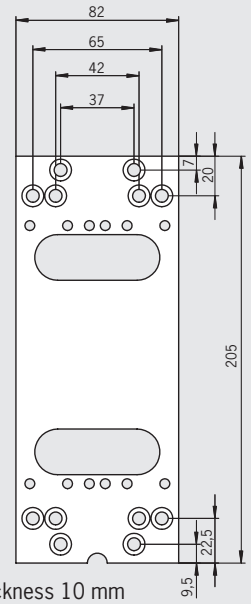
Designation	Use	Version	Order no / item
Mechanical key release	For safety switches CET	Identical locking, incl. 2 keys	**098850** Mechanical key release
Replacement key	For mechanical key release, identical locking	2 keys, identical locking	**099434** Replacement key
Emergency unlocking	For safety switches CET	Latching in both positions	**103714** Emergency unlocking CET
Cover	For safety switches CET and actuators CET	Door hinge right	**098808** CET cover right
		Door hinge left	**098807** CET cover left

Mounting plate CET

- **Mounting plate for safety switch CET for hinged or sliding doors**
- **Suitable for aluminum profiles 40 ... 45 mm**
- **Horizontal and vertical mounting**
- **Made of aluminum**
- **Suitable for CET with escape release**

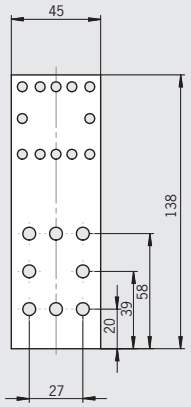
Mounting plate EMP-L-CET
for safety switches CET

Dimension drawing



Material thickness 10 mm

Mounting plate EMP-B-CET
for safety switches CET



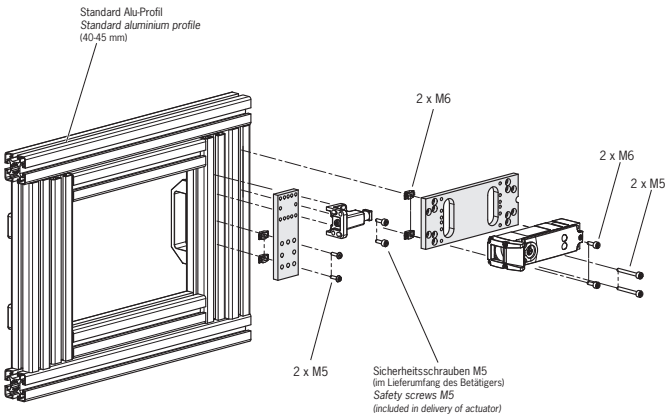
Material thickness 10 mm

Ordering table

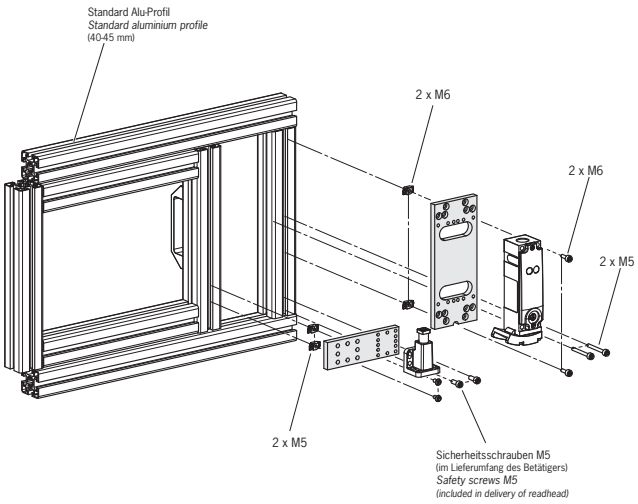
Designation	Use	Order no / item
Mounting plate EMP-L-CET	**For safety switches CET**	**106695** EMP-L-CET
Mounting plate EMP-B-CET	**For actuators CET**	**106694** EMP-B-CET
Safety screws for safety switches CES-AR-C.2-... and actuators CES-A-BLN...	M4 x 14 packaging unit 100 ea. for safety switches CES-AR-C.2-... and actuators CES-A-BLN...	**074063** Safety screws M4 x 14

Installation example mounting plates EMP-.-CET

Hinged door



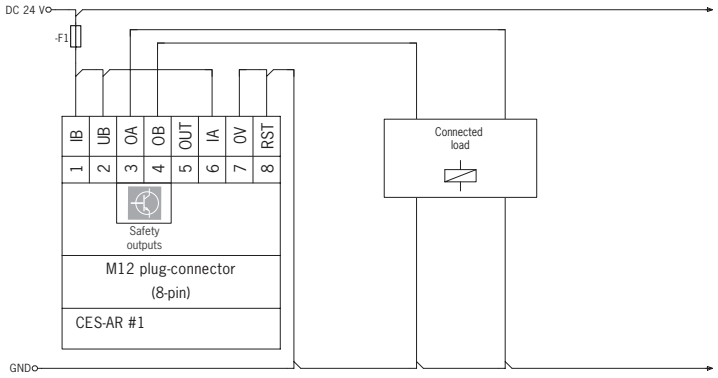
Sliding door



Connection examples CES-AR

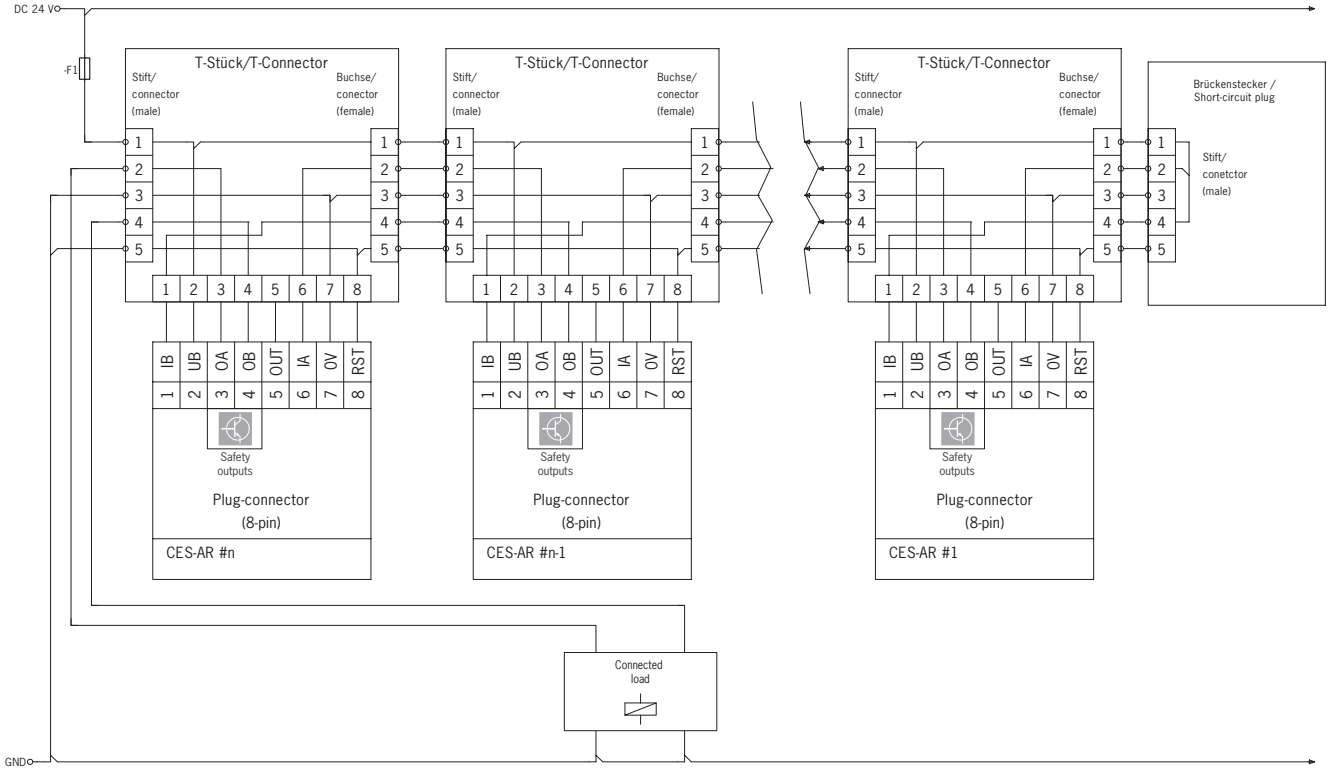
Important: To achieve the stated category in accordance with EN ISO 13849-1, both safety outputs (OA and OB) must be evaluated.

Connection of a single CES-AR-C
If a single CES-AR-C is used, connect the switch as shown in figure below. The OUT output can also be connected here to a control system as a monitoring output.
The switch can be reset via the RST input. To do this, a voltage of 24 V is applied to the RST input for at least 3 seconds. The supply voltage to the switches is interrupted during this time. If input RST is not used in your application, it should be connected to 0 V.



Connection of several CES-AR-C in series
The switches are connected in series using plug connectors and Y-distributors. If, in this connection example, a safety guard is opened or if a fault occurs on one of the switches, the system shuts down the machine. A higher level control system can, however, not detect which safety guard is open or on which switch a fault has occurred. So that a control system can detect the status of each switch in a switch chain, the monitoring output OUT must be connected separately for each switch. A special external evaluation unit is required for this purpose (see page 169).
The switches can be reset via the RST input. To do this, a voltage of 24 V is applied to the RST input for at least 3 seconds. The supply voltage to the switches is interrupted during this time. If input RST is not used in your application, it should be connected to 0 V.

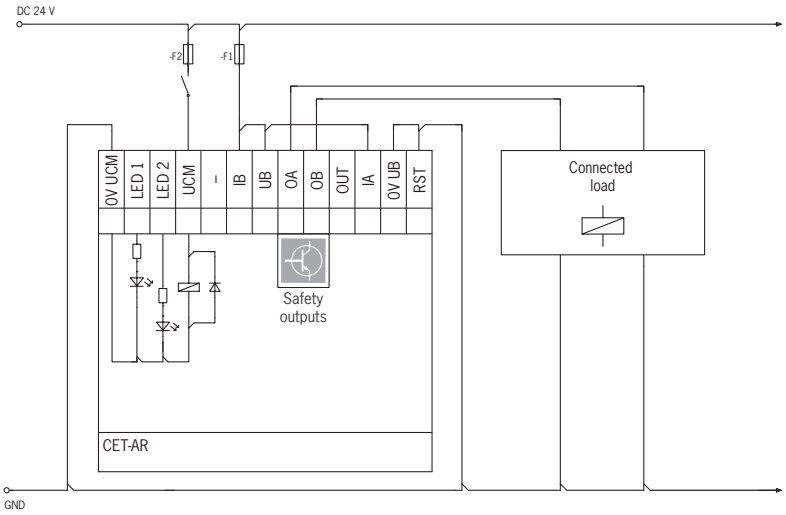
Important: Switch chains must always be terminated with a bridging plug.



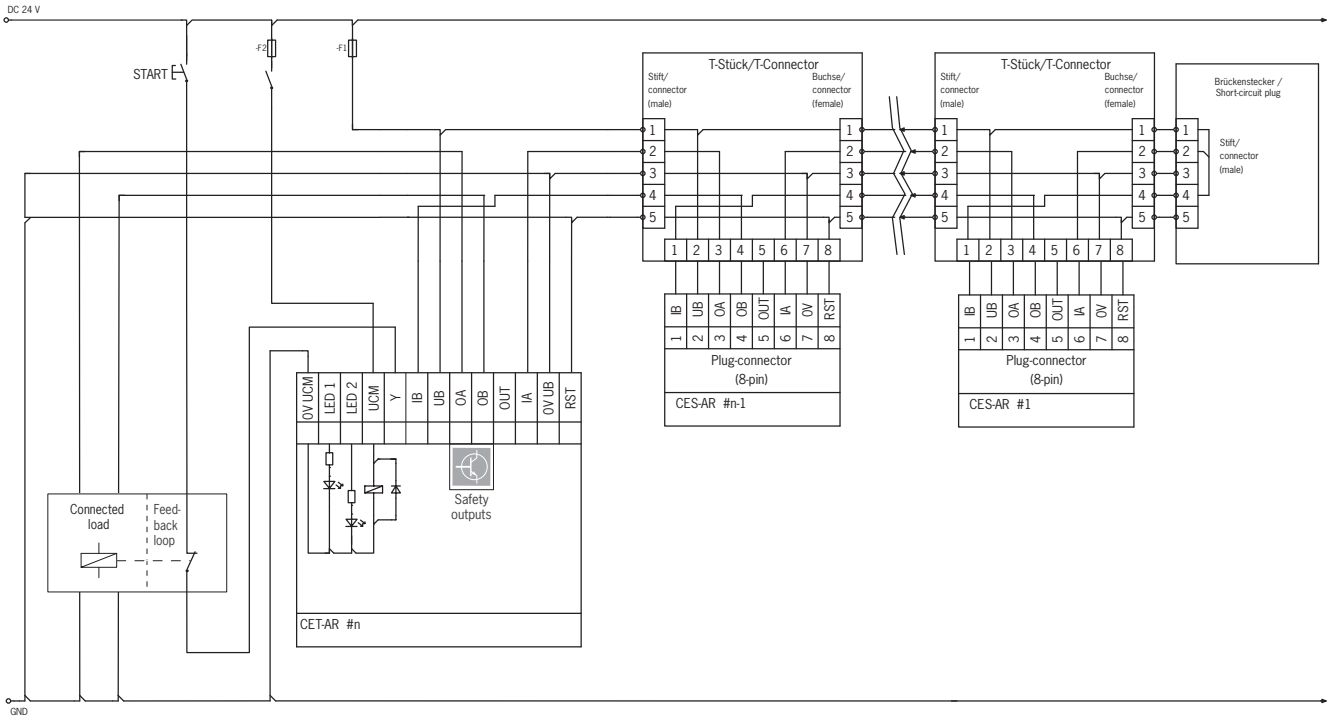
Connection examples CET-AR

Important: To achieve the stated category in accordance with EN ISO 13849-1, both safety outputs (OA and OB) must be evaluated.

Connection of a single CET-AR, version without feedback loop
If a single CET-AR is used, connect the switch as shown in figure below. The OUT output can also be connected here to a control system as a monitoring output.
The switch can be reset via the RST input. To do this, a voltage of 24 V is applied to the RST input for at least 3 seconds. The supply voltage to the switches is interrupted during this time. If input RST is not used in your application, it should be connected to 0 V.



Connection of a CET-AR in a CES-AR switch chain



Important: The subsystem CET-AR complies with PL e according to EN 13849-1. To integrate the subsystem in a category 3 or 4 structure, it is necessary to monitor the downstream load (the feedback loop must be monitored).

These examples show only an excerpt that is relevant for connection of the CET system. The example illustrated here does not show complete system planning. The user is responsible for safe integration in the overall system.