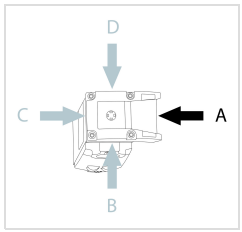
ITEM 113024 CET3-AR-CRA-AH-50X-SH-C2290-113024

Features

- 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
- Plug connector M23 (RC18)
- Unicode
- Door monitoring output
- Teach-in input
- Wire front release (bowden), 3 m, automatic return
- Approach direction A (default setting on delivery)

Approach direction



Figure

Horizontal
Can be adjusted in 90° steps

Safety switch

The device may be operated only in conjunction with the actuator CET-A-....
Important: The actuator must be ordered separately.

Unicode evaluation

Each actuator is unique. The switch detects only taught-in actuators. Additional actuators can be taught in. Only the last actuator taught in is detected.

Solenoid operating voltage

- DC 24 V +10% -15%

Guard locking type

CET3 **Closed-circuit current principle**, guard locking by spring force. Release by applying voltage to the guard locking solenoid. 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.

LED function display

LED State	Status LED
LED DIA	Diagnostic LED
LED 1 rd	freely configurable
LED 2 gn	freely configurable

Additional connections

OUT	Monitoring output (semiconductor)
OUT D	Door monitoring output
RST	Reset input
J	Teach-in input

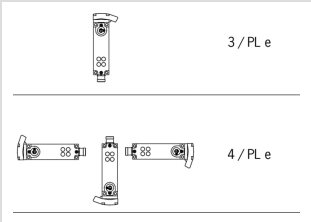
Category according to EN ISO 13849-1

Due to two redundantly designed 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:



Figure

Wire front release (bowden)

The wire front release permits remote unlocking of the guard locking via a pull wire. Flexible routing of the pull wire permits release of the guard locking in inaccessible installation situations.
Important: The wire front release (bowden) is not a safety function.

Approvals

Mechanical values and environment

Housing material	
Slide	Stainless steel
Safety switch housing	Die-cast aluminum
Weight	
Net	1 kg
Ambient temperature	
At U_B = 24V DC	-20 ... 55 °C
Degree of protection	IP65/IP67 [1]
Resilience to vibration	In acc. with EN IEC 60947-5-2
Mechanical life	1×10^6
Installation position	Any [2]
Degree of freedom	
Z	±4 mm
Y	±5 mm
X	±5 mm
Ready delay	10 s
Switching frequency	max.0,5 Hz
Connection	1 plug connector M23, 19-pin, RC18
Approach speed	20 m/min
Guard locking principle	Closed-circuit current principle
Locking force F_{max}	6500 N
Locking force F_{Zh}	5000 N FZH = FMAX/1.3

Electrical connection ratings

Operating voltage DC	
U_B	24 V DC -15% ... 15% Reverse polarity protected, regulated, residual ripple < 5%, PELV
LED	24 V DC -15% ... 10%
Current consumption	
I_B	80 mA
I_{CM}	480 mA
Utilization category according to EN 60947-5-2	
DC-13	24V 200mA [3]
Solenoid operating voltage DC	
U_{CM}	24 V DC -15% ... +10% Reverse polarity protected, regulated, residual ripple < 5%, PELV
Fusing	
External (operating voltage U_B)	0,25 ... 2 A
External (solenoid operating voltage U_{CM})	0,5 ... 8 A
Power consumption	
Solenoid	max.12 W
EMC protection requirements	In acc. with EN IEC 60947-5-3
Solenoid duty cycle	100 %
Degree of contamination (external, according to EN 60947-1)	3
Connecting cable	30V DC, 2A [4]
Safety class	
EN IEC 61140	III
Switching load	
According to UL	24V DC, class 2 [5]
	Safety outputs OA/OB
Type of output	2 semiconductor outputs, p-switching, short circuit-proof
Switching current	
Per safety output OA / OB	1 ... 200 mA
Output voltage	
High U(OA) / U(OB)	UB-1,5V ... UB V DC
Low U(OA) / U(OB)	0 ... 1 V DC
Off-state current I_r	max.0,25 mA
Risk time according to EN 60947-5-3	
Single device	max.400 ms
Delay per device	5 ms
Switch-on time	400 ms
Discrepancy time	
Both safety outputs	max.10 ms
	Monitoring output OUT
Type of output	p-switching, short circuit-proof
Switching current	
OUT	1 ... 50 mA
Output voltage	

OUT	0,8xUB ... UB V DC
Switching delay from state change	max.400 ms
	Monitoring output OUT D
Type of output	p-switching, short circuit-proof
Switching current	
OUT D	1 ... 50 mA
Output voltage	
OUT D	0,8xUB ... UB V DC
Switching delay from state change	max.700 ms
	Teach-in input
Input voltage	
High	15 ... 27,6 V DC
Low	0 ... 1 V DC

Operating distance

Repeat accuracy R	
According to EN 60947-5-2	10 %

Miscellaneous

C number	
C2290	With wire front release (bowden) mounted
For the approval according to UL the following applies	Operation only with UL class 2 power supply, or equivalent measures see operating instructions

Reliability values acc. to EN ISO 13849-1

	Monitoring of guard locking and the safety guard position
Category	
Head upward	3
Head downward or horizontal	4
Performance Level	PL e
PFH_D	
Head upward	4.29×10^{-8}
Head downward or horizontal	3.1×10^{-9}
	Control of the guard locking
Category	Depending on external control of guard locking
Performance Level	Depending on external control of guard locking
PFH_D	Depending on external control of guard locking

Mission time	20 y

[1] Screwed tight plug connector/mating component

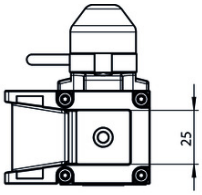
[2] Preferably head downward

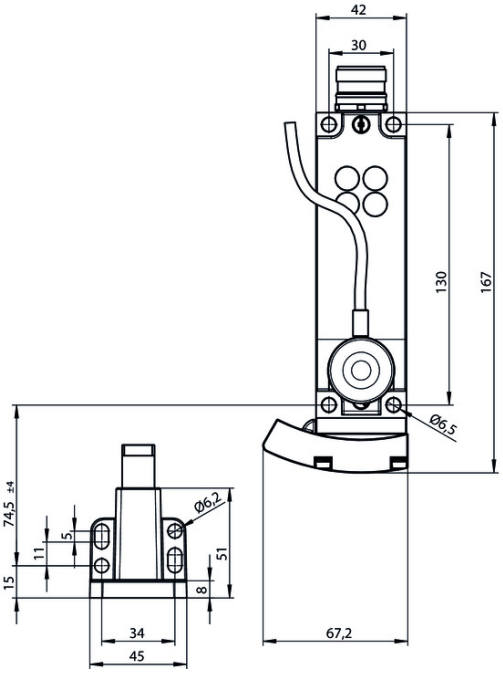
[3] Caution: outputs must be protected with a free-wheeling diode in case of inductive loads

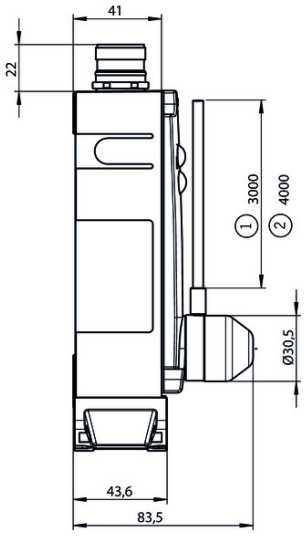
[4] For UL requirement UL category code (CYJV2/CYJV8) or (CYJV/CYJV7)

[5] For alternatives see operating instructions

Dimension drawing





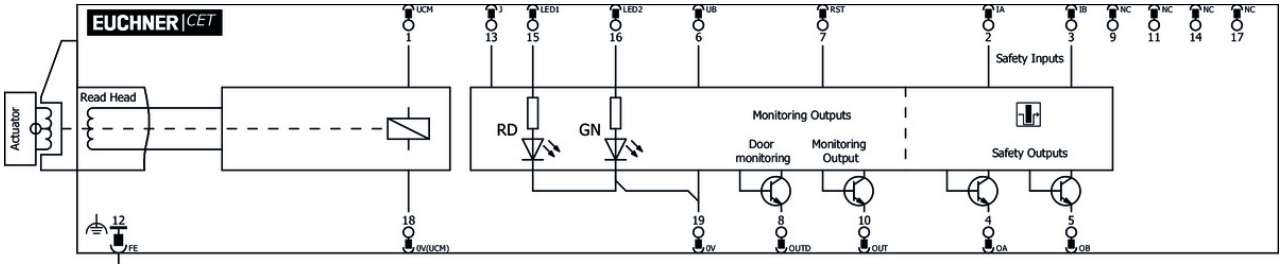


Legende

1 Hose length

2 Rope length

Block diagram



Actuator

Actuator CET-A-BWK-50X

096327 CET-A-BWK-50X

Features

- Actuator for read head/safety switch CET
- Four safety screws M5x16 included

Bolt

Bolt CET-A-C

104309 RIEGEL CET-A-C

Features

- Steel bolt
- In combination with CET
- For left or right hinged doors
- Can be locked in open position with padlocks

109672 RIEGEL CET-A-C-C2308

Features

- Steel bolt
- In combination with CET
- For left or right hinged doors
- Can be locked in open position with padlocks
- Bolt without door stop, suitable for swing doors

Connection material

Connection cable with plug connector M23 with option C1825, 3m, straight

092816 C-M23F19-19XDIFPU03,0-MA-092816

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 3 m
- With flying lead

- Cores color-coded

Connection cable with plug connector M23 with option C1825, 6m, straight

077014 C-M23F19-19XDIFPU06,0-MA-077014

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 6 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 1.5m, straight

092761 C-M23F19-19XDIFPU01,5-MA-092761

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 1.5 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 8m, straight

077015 C-M23F19-19XDIFPU08,0-MA-077015

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 8 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 10m, straight

092898 C-M23F19-19XDIFPU10,0-MA-092898

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 10 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 15m, straight

077016 C-M23F19-19XDIFPU15,0-MA-077016

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector

- PUR cable
- Cable length 15 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 20m, straight

092726 C-M23F19-19XDIFPU20,0-MA-092726

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 20 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 25m, straight

092727 C-M23F19-19XDIFPU25,0-MA-092727

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 25 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 30m, straight

095993 C-M23F19-19XDIFPU30,0-MA-095993

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 30 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 1.5m, angled

092906 C-M23F19-19XDIFPU01,5-MA-092906

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 1.5 m
- With flying lead
- Cores color-coded

092907 C-M23F19-19XDIFPU01,5-MA-092907

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 1.5 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 3m, angled

092908 C-M23F19-19XDIFPU03,0-MA-092908

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 3 m
- With flying lead
- Cores color-coded

092909 C-M23F19-19XDIFPU03,0-MA-092909

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 3 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 6m, angled

077018 C-M23F19-19XDIFPU06,0-MA-077018

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 6 m
- With flying lead
- Cores color-coded

085194 C-M23F19-19XDIFPU06,0-MA-085194

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 6 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 8m, angled

077019 C-M23F19-19XDIFPU08,0-MA-077019

Features

- RC18 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 8 m
- With flying lead
- Cores color-coded

085195 C-M23F19-19XDIFPU08,0-MA-085195

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 8 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 10m, angled

092901 C-M23F19-19XDIFPU10,0-MA-092901

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 10 m
- With flying lead
- Cores color-coded

092902 C-M23F19-19XDIFPU10,0-MA-092902

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 10 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 15m, angled

077020 C-M23F19-19XDIFPU15,0-MA-077020

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 15 m
- With flying lead
- Cores color-coded

085196 C-M23F19-19XDIFPU15,0-MA-085196

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 15 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 20m, angled

092910 C-M23F19-19XDIFPU20,0-MA-092910

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 20 m
- With flying lead
- Cores color-coded

092911 C-M23F19-19XDIFPU20,0-MA-092911

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 20 m
- With flying lead
- Cores color-coded

Connection cable with plug connector M23 with option C1825, 25m, angled

092912 C-M23F19-19XDIFPU25,0-MA-092912

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit C (left)
- PUR cable
- Cable length 25 m
- With flying lead
- Cores color-coded

092913 C-M23F19-19XDIFPU25,0-MA-092913

Features

- M23 plug connector, 18-pin + PE
- Angled plug connector
- Cable exit A (right)
- PUR cable
- Cable length 25 m
- With flying lead
- Cores color-coded

Female plug RC18 angled

074617 RC18WF

Features

- Plug connector M23, angled
- Number of pins: 19-pin with screen bonding clamp

Female plug RC18 straight

074616 RC18EF

Features

- Plug connector M23, straight
- Number of pins: 19-pin with screen bonding clamp

Female connector RC18 angled with option C1825

077026 RC18WF-C1825

Features

- Plug connector M23, angled
- Number of pins: 19-pin with screen bonding clamp

Female plug RC18 straight with option C1825

077025 RC18EF-C1825

Features

- Plug connector M23, straight
- Number of pins: 19-pin with screen bonding clamp

Connection cable with plug connector M23 with option C1825, 40m, straight

102490 C-M23F19-19XDIFPU40,0-MA-102490

Features

- M23 plug connector, 18-pin + PE
- Straight plug connector
- PUR cable
- Cable length 40 m
- With flying lead
- Cores color-coded

Function expansion

Cover for read head and actuator CET

098808 CET ABDECKUNG RECHTS

Features

- Cover for read heads / safety switches CET and actuators CET
- For approach direction A

098807 CET ABDECKUNG LINKS

Features

- Cover for read heads / safety switches CET and actuators CET
- For approach direction C

Double ramp for safety switch/read head CET

114091 CET-DR

Handle for wire front release

099795 AY-HDL-099795

Features

- Suitable for all wire front releases

124204 AY-HDL-124204

Features

- Suitable for all wire front releases

Teach-in adapter for CET 1/3

122748 AC-TA-A1-SH-122748

Features

- Teach-in adapter
- Optional accessories for teaching-in a new actuator for safety switch with M23 plug connector.

Cover for actuator CET

124979 AM-C-124979

Features

- Cover for actuator CET
- Horizontal and vertical fastening option on the actuator
- Mounting using 4 screws M5x16 (included with the actuator)
- Not suitable in combination with lockout bar for actuator CET

Lockout mechanism for CET actuator

122609 AE-L-CET-122609

Features

- Prevents unintentional closing of the door
- Can be secured with padlocks
- Not suitable in combination with cover AM-C for actuator CET

156429 AE-L-CET-156429

Features

- Prevents unintentional closing of the door
- Can be secured with padlocks

Holder for lockout mechanism CET actuator

156338 Y-CHN-A1-156338

Features

- Holder (incl. wire rope) for lockout bar CET

Lockout bar and holder for CET actuators

155865 AE-SET-LCHN-A1-155865

Features

- Prevents unintentional closing of the door
- Can be secured with padlocks

Mounting accessories

Mounting plate EMP-L-... for CET read head/switches

106695 EMP-L-CET

Features

- Mounting plate for CET read heads/switches
- For hinged or sliding doors
- Suitable for aluminum profiles 40 ... 45 mm
- Horizontal and vertical mounting
- Suitable for CET with escape release

Mounting plate EM-P switch for safety switch CET

126399 AM-P-126399

Features

- Mounting plate for CET read heads/switches
- Direct mounting on aluminum profiles of width 30/40/50 mm
- Suitable for the mounting plates AM-P-126400 and AM-P-126398

Mounting plate EM-P actuator for safety switch CET

126400 AM-P-126400

Features

- Mounting plate for CET actuator
- Suitable for mounting on aluminum profiles of width 30/40/50 mm
- Suitable for the mounting plates AM-P-126399 and AM-P-126398

Mounting plate EM-P handle for safety switch CET

126398 AM-P-126398

Features

- Mounting plate with handle (handle included)
- For hinged or sliding doors
- Horizontal and vertical assembly circuits possible
- Suitable for aluminum profiles of width 30/40/50 mm

- Suitable for the CET mounting plates AM-P-126399 and AM-P-126400

Mounting plate EMP-B-... for actuator CET

106694 EMP-B-CET

Features

- Mounting plate for actuator CET for hinged or sliding doors
- Suitable for aluminum profiles 40 ... 45 mm
- Horizontal and vertical mounting
- Made of aluminum

Instructions

Bezpečnostní informace CET (-AR/-AP)

	Doc. no.	Version	Language	Download
Sicherheitsinformation CET (-AR/-AP) Información de seguridad CET (-AR/-AP) Information de sécurité CET (-AR/-AP) Informazioni sulla sicurezza CET (-AR/-AP) Safety Information CET (-AR/-AP)	105517	14-01/17		0.7 MB
Bezpečnostní informace CET (-AR/-AP)	105517	14-01/17		0.2 MB
Informação de segurança CET (-AR/-AP)	105517	14-01/17		0.2 MB
Güvenlik bilgisi CET (-AR/-AP)	105517	14-01/17		0.3 MB
安全情報 CET (-AR/-AP)	105517	14-01/17		0.6 MB
Информация о безопасности CET (-AR/-AP)	105517	14-01/17		0.3 MB
安全信息 CET (-AR/-AP)	105517	14-01/17		0.3 MB

Návod k použití Bezpečnostní spínač s kódovaným transpondérem a jištěním ochranného krytu CET.-AR-... (Unicode/Multicode)

	Doc. no.	Version	Language	Download
Betriebsanleitung Transpondercodierter Sicherheitsschalter mit Zuhaltung CET.-AR-... (Uni-/Multicode)	2110788	12-07/18		3.3 MB
Mode d'emploi Interrupteur de sécurité à codage par transpondeur avec interverrouillage CET.-AR-... (uni-/multicode)	2110788	12-07/18		3.3 MB
Manual de instrucciones Interruptor de seguridad con codificación por transponder con bloqueo CET.-AR-... (Unicode/Multicode)	2110788	12-07/18		3.3 MB
Návod k použití Bezpečnostní spínač s kódovaným transpondérem a jištěním ochranného krytu CET.-AR-... (Unicode/Multicode)	2110788	12-07/18		3.6 MB
Operating Instructions Transponder-Coded Safety Switch With Guard Locking CET.-AR-... (Unicode/Multicode)	2110788	12-07/18		3.3 MB

Istruzioni di impiego Finecorsa di sicurezza con codifica a transponder con meccanismo di ritenuta CET.-AR-... (Unicode/Multicode)	2110788	12-07/18		3.3 MB
操作指示書トランスポンダー型コード化安全スイッチ CET.-AR-... (ユニコード/マルチコード)	2110788	12-07/18		3.7 MB
Návod na prevádzku Bezpečnostný spínač kódovaný transpondérom s istením CET.-AR-... (Uni-/Multicode)	2110788	12-07/18		3.5 MB
İşletim kılavuzu Kapalı tutmalı CET.-AR-... (Uni-/Multicode)	2110788	12-07/18		3.7 MB
使用说明书应答机编码安全开关 CET.-AR-… （特殊/通用编码	2110788	12-07/18		3.7 MB
Инструкция по эксплуатации Транспондерный предохранительный выключатель с защитной блокировкой CET.-AR-... (Uni-/Multicode)	2110788	12-07/18		3.8 MB

Catalogs

Transpondercodierte Sicherheitsschalter - Verriegelungseinrichtungen und Zuhaltungen
Transponder-coded safety switches - Interlocking devices and guard locking devices
Interruptores de seguridad con codificación por transponder - Dispositivos de enclavamiento y bloqueos Interrupteurs de sécurité à codage par transpondeur - Dispositifs de verrouillage et interverrouillages

	Doc. no.	Version	Language	Download
Transpondercodierte Sicherheitsschalter - Verriegelungseinrichtungen und Zuhaltungen	127594	02-01/18		5.2 MB
Interrupteurs de sécurité à codage par transpondeur - Dispositifs de verrouillage et interverrouillages	137558	02-01/18		5.2 MB
Interruptores de seguridad con codificación por transponder - Dispositivos de enclavamiento y bloqueos	137560	02-01/18		5.2 MB
Transponder-coded safety switches - Interlocking devices and guard locking devices	127595	02-01/18		5.1 MB

Application example

Anschluss CET3-AR an PNOZ Multi

	Doc. no.	Version	Language	Download
Anschluss CET3-AR an PNOZ Multi	AP000193	05-03/16		0.4 MB
Connection of CET3-AR to PNOZ Multi	AP000193	05-03/16		0.4 MB

Anschluss CET3-AR an Pilz PDP67

	Doc. no.	Version	Language	Download
Anschluss CET3-AR an Pilz PDP67	AP000192	05-03/16		0.4 MB
Connection of CET3-AR to Pilz PDP67	AP000192	05-03/16		0.5 MB

Anschluss CET3-AR an Sicherheits-Schaltgerät PNOZ X3.10P

	Doc. no.	Version	Language	Download

Anschluss CET3-AR an Sicherheits-Schaltgerät PNOZ X3.10P	AP000124	05-03/16		0.2 MB
Connection of CET3-AR to safety relay PNOZ X3.10P	AP000124	05-03/16		0.3 MB

Anschluss CET3-AR an Sicherheits-Schaltgerät PNOZ s5

	Doc. no.	Version	Language	Download
Anschluss CET3-AR an Sicherheits-Schaltgerät PNOZ s5	AP000129	05-03/16		0.3 MB
Connection of CET3-AR to safety relay PNOZ s5	AP000129	05-03/16		0.3 MB

Anschluss CET3-AR an Siemens ET 200S

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Anschluss CET3-AR in Reihe an Sicherheitsrelais ESM-BA..1

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Declaration of conformity

EU-Konformitätserklärung

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CAD data

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