

## ITEM 111346 CET3-AP-CRA-AH-50X-SI-111346

Description	Technical data	Accessories	Downloads
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### Features

- › Safety switch with guard locking and integrated evaluation electronics
- › Locking force up to 6500 N
- › Direct connection to decentralized peripheral systems (e.g. ET200pro)
- › Short circuit monitoring
- › 2 safety outputs (semiconductor outputs)
- › Up to category 4/PL e according to EN ISO 13849-1
- › With 2 plug connectors M12
- › Unicode
- › Indication of the door position by LED
- › Approach direction A (default setting on delivery)

### Approach direction



- › Figure  
Horizontal

Can be adjusted in 90° steps

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## Safety switch

The device may be operated only in conjunction with the actuator CET-A-....

**Important:** The actuator must be ordered separately.

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## 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.

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## Solenoid operating voltage

› DC 24 V +10% -15%

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## Guard locking type

**CET3 Closed-circuit current principle**, guard locking by spring force.

Release by applying voltage to the guard locking solenoid.

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## LED function display

**LED State** Status LED

**LED DIA** Diagnostic LED

**LED 1 rd** illuminates when the solenoid is energized

**LED 2 gn** illuminates when door is closed

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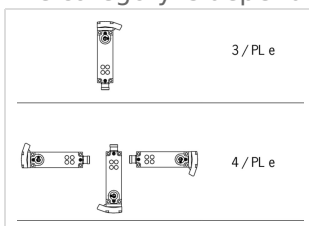
## Category according to EN ISO 13849-1

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.

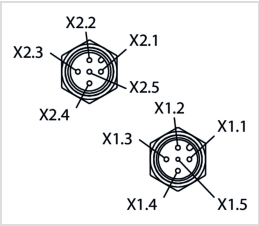
The category is dependent on the installation position of the safety switch:



› Figure

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## Connector assignment

Plug connector (view of connection side)	Pin	Designation	Function	Conductor coloring of connecting cable
	X 1.1	U	Operating voltage 24 V DC	BN
	X 1.2	OA	Safety output, channel 1	WH
	X 1.3	0V	Operating voltage 0 V	BU
	X 1.4	OB	Safety output, channel 2	BK
	X 1.5	-	n.c.	GY
	X 2.1	-	n.c.	BN
	X 2.2	-	n.c.	WH
	X 2.3	0VU	0V solenoid	BU
	X 2.4	U	Operating voltage of guard locking solenoid 24 V DC	BK
	X 2.5	-	n.c.	GY

## 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		IP67 [1]
Resilience to vibration		In acc. with EN IEC 60947-5-2
Mechanical life		$1 \times 10^6$
Installation position		Any [2]
Degree of freedom		

	Z	±4 mm
	Y	±5 mm
	X	±5 mm
Ready delay		1 s
Switching frequency		max.0,5 Hz
Connection		2 plug connectors M12, 5-pin
Approach speed		20 m/min
Guard locking principle		Closed-circuit current principle
Locking force $F_{max}$		6500 N
Locking force $F_{Zh}$		5000 N

## 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]
		<b>Safety outputs OA/OB</b>
Type of output		2 semiconductor outputs, p-switching, short circuit-proof
Switching current		
Per safety output OA / OB		1 ... 200 mA
Output voltage	High $U(OA)$ / $U(OB)$	$U_B-1,5V$ ... $U_B$ V DC

Low U(OA) / U(OB)	0 ... 1 V DC
Off-state current I <sub>r</sub>	max.0,25 mA
Risk time according to EN 60947-5-3	
Single device	max.400 ms
Switch-on time	400 ms
Discrepancy time	
Both safety outputs	max.10 ms

## Operating distance

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

## Miscellaneous

For the approval according to UL the following applies	Operation only with UL class 2 power supply, or equivalent measures see operating instructions
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## 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 <sub>D</sub>		
	Head upward	4.29 x 10 <sup>-8</sup>
	Head downward or horizontal	3.1 x 10 <sup>-9</sup>
		Control of the guard locking
Category		Depending on external control of guard locking
Performance Level		Depending on external control of guard locking
PFH <sub>D</sub>		Depending on external control of guard locking
Mission time		20 y

[1] Screwed tight plug connector/mating component

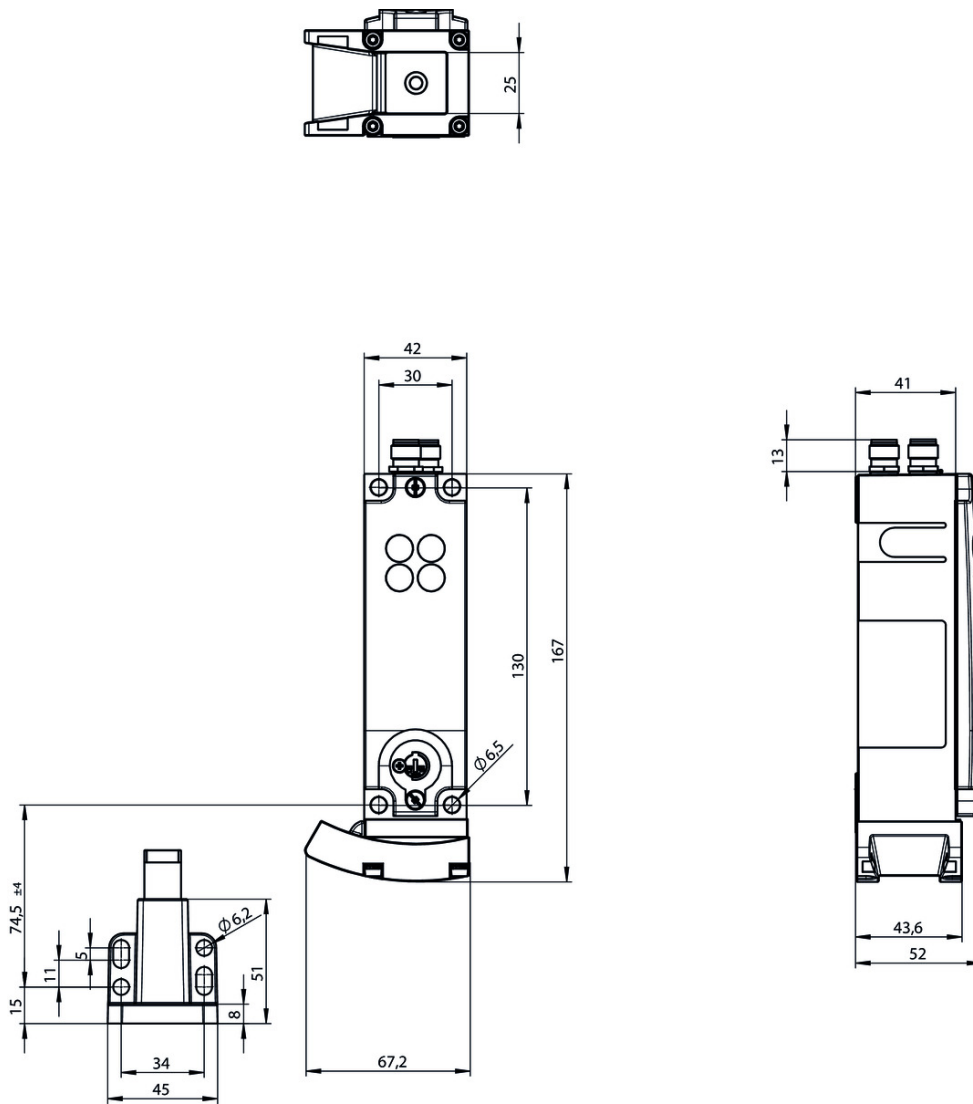
[2] Preferably head downward

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

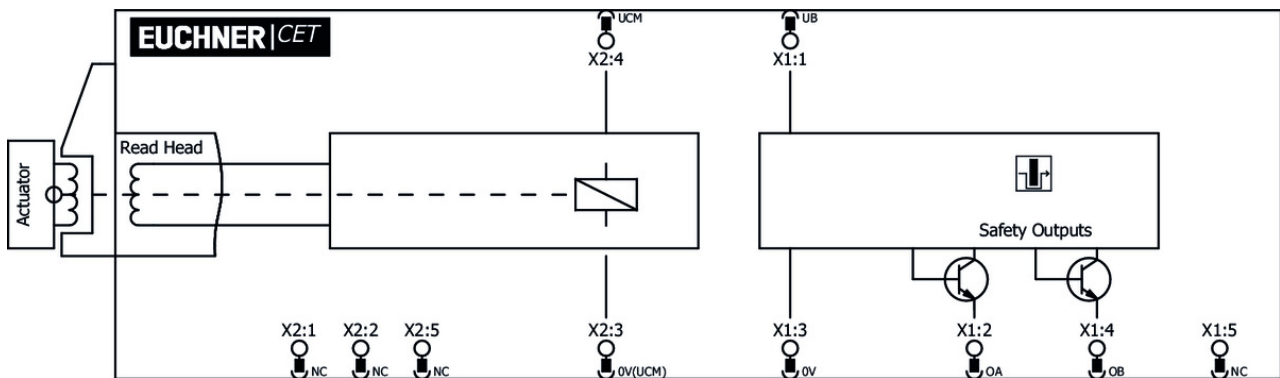
[4] For UL requirement UL category code (CYJV/CYJV7)

[5] For alternatives see operating instructions

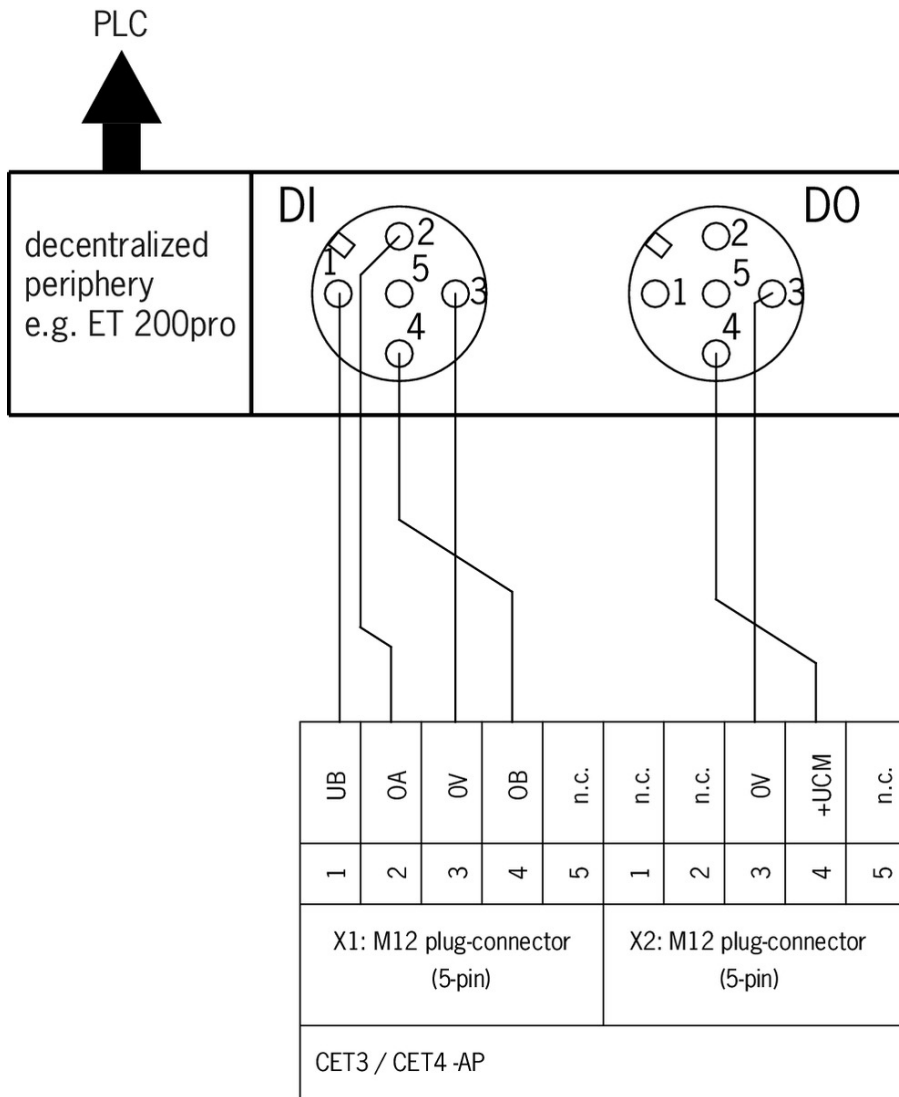
### Dimension drawing



### Block diagram



## Wiring diagram



## Connection material

- Connection cable with 2 plug connectors M12, 5-pin, 5m



**100180** C-M12F05-05X034PV05,0-M12M05-100180

### Features

- M12 female plug to M12 plug connector, 5-pin
- Straight female plug and plug connector
- PVC cable
- Cable length 5 m



**119932** C-M12F05-05X034PU05,0-M12M05-119932

### Features

- M12 female plug to M12 plug connector, 5-pin
- Straight female plug and plug connector
- PUR cable
- Cable length 5 m

- Connection cable with 2 plug connectors M12, 5-pin, 20m



**100182** C-M12F05-05X034PV20,0-M12M05-100182

▣ Features

- › M12 female plug to M12 plug connector, 5-pin
- › Straight female plug and plug connector
- › PVC cable
- › Cable length 20 m



**119971** C-M12F05-05X034PU20,0-M12M05-119971

▣ Features

- › M12 female plug to M12 plug connector, 5-pin
- › Straight female plug and plug connector
- › PUR cable
- › Cable length 20 m

▣ Connection cable with 2 plug connectors M12, 5-pin, 10m



**100181** C-M12F05-05X034PV10,0-M12M05-100181

▣ Features

- › M12 female plug to M12 plug connector, 5-pin
- › Straight female plug and plug connector
- › PVC cable
- › Cable length 10 m



**119947** C-M12F05-05X034PU10,0-M12M05-119947

▣ Features

- › M12 female plug to M12 plug connector, 5-pin
- › Straight female plug and plug connector
- › PUR cable
- › Cable length 10 m

▣ M12 extension PUR 5-pin, plug connectors at both ends, 10m



**115565** C-M12F05-05X025PU10,0-M12M05-115565

▣ Features

- › M12 female plug, 5-pin (angled) to M12 plug connector (straight)
- › Connectors at both ends
- › PUR cable
- › Cable length 10 m
- › With cable exit A (right)



**115566** C-M12F05-05X025PU10,0-M12M05-115566

▣ Features

- › M12 female plug, 5-pin (angled) to M12 plug connector (straight)
- › Connectors at both ends
- › PUR cable
- › Cable length 10 m
- › With cable exit C (left)

▣ Connection cable with angled plug connector M12, 5-pin, 10m

**113187** C-M12F05-05X025PU10,0-MA-113187





- ▼ Features
    - › M12 female plug, 5-pin
    - › Angled plug connector
    - › PUR cable
    - › Cable length 10 m
    - › Cable exit A (right)
    - › With flying lead
- 



- ▼ **113190** C-M12F05-05X025PU10,0-MA-113190
  - ▼ Features
    - › M12 female plug, 5-pin
    - › Angled plug connector
    - › PUR cable
    - › Cable length 10 m
    - › Cable exit C (left)
    - › With flying lead
- 

- ▼ Connection cable with straight plug connector M12, 5-pin, 5m



- ▼ **100183** C-M12F05-05X034PV05,0-MA-100183
  - ▼ Features
    - › M12 female plug, 5-pin
    - › Straight plug connector
    - › PVC cable
    - › Cable length 5 m
    - › With flying lead
- 



- ▼ **113620** C-M12F05-05X034PU05,0-MA-113620
  - ▼ Features
    - › M12 female plug, 5-pin
    - › Straight plug connector
    - › PUR cable
    - › Cable length 5 m
    - › With flying lead
- 

- ▼ Connection cable with plug connector M12, 5-pin, 10m



- ▼ **100184** C-M12F05-05X034PV10,0-MA-100184
  - ▼ Features
    - › M12 female plug, 5-pin
    - › Straight plug connector
    - › PVC cable
    - › Cable length 10 m
    - › With flying lead
- 

- ▼ Connection cable with plug connector M12, 5-pin, 20m



- ▼ **100185** C-M12F05-05X034PV20,0-MA-100185
- ▼ Features
  - › M12 female plug, 5-pin
  - › Straight plug connector
  - › PVC cable
  - › Cable length 20 m

- › With flying lead

- 
- ▼ Connection cable with straight plug connector M12, 5-pin, 30 m



**122784** C-M12F05-05X034PU30,0-MA-122784

▼ Features

- › M12 female plug, 5-pin
- › Straight plug connector
- › PUR cable
- › Cable length 30 m
- › With flying lead

- 
- ▼ Connection cable with straight plug connector M12, 5-pin, 20 m



**113682** C-M12F05-05X034PU20,0-MA-113682

▼ Features

- › M12 female plug, 5-pin
- › Straight plug connector
- › PUR cable
- › Cable length 20 m
- › With flying lead

- 
- ▼ Connection cable with straight plug connector M12, 5-pin, 10m



**113640** C-M12F05-05X034PU10,0-MA-113640

▼ Features

- › M12 female plug, 5-pin
- › Straight plug connector
- › PUR cable
- › Cable length 10 m
- › With flying lead

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## Function expansion

- 
- ▼ Emergency unlocking for CET



**103714** NOTENTSPERRUNG CET

- 
- ▼ Mechanical key release for CET read head/switch



**098850** SCHLUESSEL-HILFSENTRIEGELUNG

▼ Features

- › Identical locking
- › Key removable in “unlocked” and “locked” positions

- 
- ▼ 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

#### ✔ 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

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### ▼ 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 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 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 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
- 

## Actuator

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### ▼ 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

## Instructions

### Betriebsanleitung Transpondercodierter Sicherheitsschalter mit Zuhaltung CET.-AP-... (Uni-/Multicode)

	Doc. no.	Version	Language	Download
Betriebsanleitung Transpondercodierter Sicherheitsschalter mit Zuhaltung CET.-AP-... (Uni-/Multicode)	2122242	04-05/18		2.5 MB
Mode d'emploi Interrupteur de sécurité à codage par transpondeur avec interverrouillage CET.-AP-... (uni-/multicode)	2122242	04-05/18		2.6 MB
Manual de instrucciones Interruptor de seguridad con codificación por transponder con bloqueo CET.-AP-... (Unicode/Multicode)	2122242	04-05/18		2.6 MB
Operating Instructions Transponder-Coded Safety Switch With Guard Locking CET.-AP-... (Unicode/Multicode)	2122242	04-05/18		2.5 MB
Istruzioni di impiego Finecorsa di sicurezza con codifica a transponder con meccanismo di ritenuta CET.-AP-... (Unicode/Multicode)	2122242	04-05/18		2.5 MB
使用说明书 应答机编码安全开关 CET.-AP-... (特殊/通用编码)	2122242	04-05/18		2.9 MB

## ▼ Bezpečnostní informace CET (-AR/-AP)

	Doc. no.	Version	Language	Download
Sicherheitsinformation CET (-AR/-AP)	105517	14-01/17		 0.7 MB
Información de seguridad CET (-AR/-AP)				
Information de sécurité CET (-AR/-AP)				
Informazioni sulla sicurezza CET (-AR/-AP)				
Safety Information CET (-AR/-AP)				
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





## 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-AP an Beckhoff CX1030 / CX1010 (EL-Klemmen)

	Doc. no.	Version	Language	Download
Anschluss CET3-AP an Beckhoff CX1030 / CX1010 (EL-Klemmen)	AP000180	04-11/16		 0.2 MB
Connection of CET3-AP to Beckhoff CX1030/CX1010 (EL-module)	AP000180	04-11/16		 0.3 MB





### ▼ Anschluss CET3-AP an MURR MVK-MPNIO

	Doc. no.	Version	Language	Download
Anschluss CET3-AP an MURR MVK-MPNIO	AP000161	06-03/16		 0.2 MB
Connection of CET3-AP to MURR MVK-MPNIO	AP000161	06-03/16		 0.2 MB





▼ Anschluss CET3-AP an Siemens ET 200S

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
Anschluss CET3-AP an Siemens ET 200S	AP000102	05-03/16		 0.3 MB
Anschluss CET3-AP an Siemens ET 200S	AP000102	05-03/16		 0.3 MB





▼ Anschluss CET3-AP an Siemens ET 200S

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
Anschluss CET3-AP an Siemens ET 200S	AP000133	05-03/16		 0.3 MB
Connection of CET3-AP to Siemens ET 200S	AP000133	05-03/16		 0.3 MB

▼ Anschluss CET3-AP an Siemens ET 200pro







	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
Anschluss CET3-AP an Siemens ET 200pro	AP000194	04-03/16		 0.2 MB
Connection of CET3-AP to Siemens ET 200pro	AP000194	04-03/16		 0.3 MB

▼ Connection of CET3-AP to Siemens ET 200pro

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
Anschluss CET3-AP an Siemens ET 200pro	AP000106	07-03/16		 0.3 MB
Connection of CET3-AP to Siemens ET 200pro	AP000106	07-03/16		 0.3 MB

### Declaration of conformity

▼ EU-Konformitätserklärung

	<b>Doc. no.</b>	<b>Version</b>	<b>Language</b>	<b>Download</b>
EU-Konformitätserklärung	2110802	10-01/17		 0.3 MB
Declaración UE de conformidad				
Déclaration UE de conformité				
Dichiarazione di conformità				
EU declaration of conformity				

### CAD data

CAD data for this item on TraceParts