

**ITEM 124589 CET3-AP-CRA-AH-50X-SI-C2438-124589**

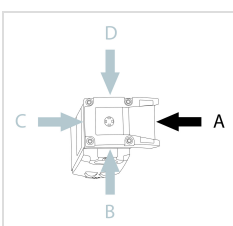
Description	Technical data	Accessories	Downloads
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**Features**

- › Safety switch with guard locking and integrated evaluation electronics
- › Locking force up to 6500 N
- › 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
- › Door monitoring output
- › 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. 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.

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## LED function display

**LED State** Status LED

**LED DIA** Diagnostic LED

**LED 1 rd** Voltage at the solenoid

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

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## Additional connections

**OUT D** Door monitoring output

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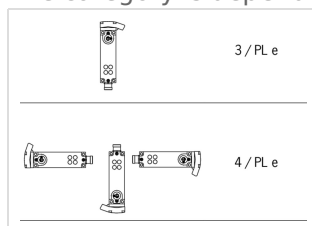
## Category according to EN ISO 13849-1

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

## 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	$\pm 4$ mm
	Y	$\pm 5$ mm
	X	$\pm 5$ 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 $U(OA) / U(OB)$	$U_B - 1,5V \dots U_B$ 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
Switch-on time	400 ms
Discrepancy time	
Both safety outputs	max.10 ms
<b>Monitoring output OUT D</b>	
Type of output	p-switching, short circuit-proof
Switching current	
OUT D	1 ... 50 mA
Output voltage	
OUT D	$0,8xU_B \dots U_B$ V DC
Switching delay from state change	max.700 ms

### Operating distance

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

### Miscellaneous

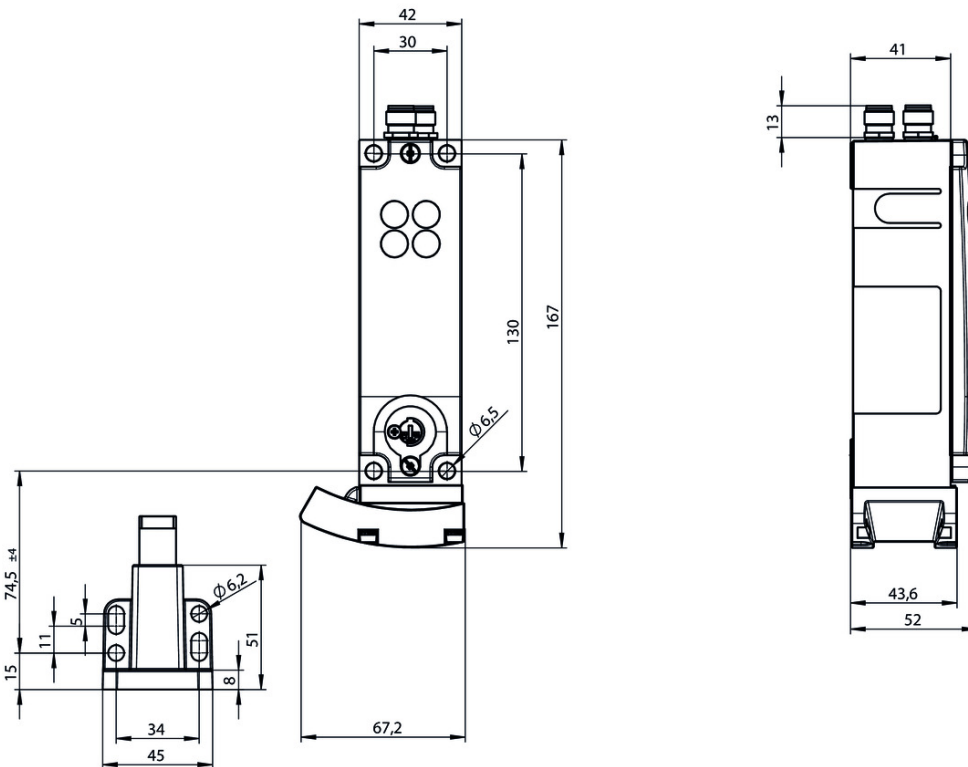
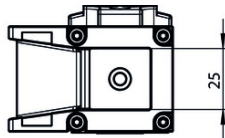
For the approval according to UL the following applies	Operation only with UL class 2 power supply, or equivalent measures see operating instructions
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### Reliability values acc. to EN ISO 13849-1

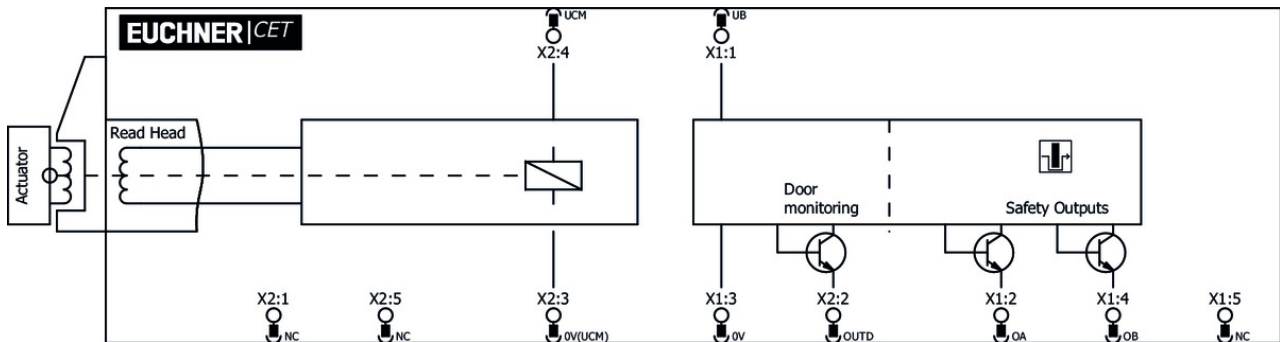
Performance Level	PL e
Category	
Head upward	3
Head downward or horizontal	4
PFH <sub>D</sub>	
Head upward	$4.29 \times 10^{-8}$
Head downward or horizontal	$3.1 \times 10^{-9}$
Mission time	20 y

- [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



## 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, 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

- ✓ 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

▣ 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
- 

▼ Y-distributor M12 with connection cable, 5-pin



**124516** AC-YD-V0,2-SBB-124516

▼ Features

- › Y-distributor M12 with connection cable, 5-pin
  - › Straight plug connector
  - › PVC cable
  - › Cable length 0.29 m
- 

## Function expansion

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▼ Mechanical key release for CET read head/switch



**098850** SCHLUESSEL-HILFSENTRIEGELUNG

▼ Features

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

▼ Emergency unlocking for CET



**103714** NOTENTSPERRUNG CET

▼ 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

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▼ 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
- 

## Spare parts

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▼ Lead seal kit

**087256** PLOMBENSATZ C1937

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▼ Replacement key for mechanical key release



**099434** ERSATZSCHLUESSEL GLEICHSCHL.0354

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## Bolt

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### ▼ 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
- 

## Mounting accessories

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### ▼ 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 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 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 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 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

▼ Actuator CET-A-BWK-50X



**096327** CET-A-BWK-50X

▼ Features

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

## 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

**Declaration of conformity**

**EU-Konformitätserklärung**

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