

CET3-AP-CRA-CH-50F-SA-C2312-157287 (ORDER NO. 157287)

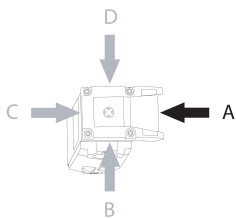
Non-contact safety switch CET-AP-..., M12

- ▶ Safety switch with guard locking and integrated evaluation electronics
- ▶ Locking force up to 6,500 N
- ▶ Short circuit monitoring
- ▶ 2 safety outputs (semiconductor outputs)
- ▶ Category 4/PL e according to EN ISO 13849-1
- ▶ With 1 plug connector M12, 8-pin
- ▶ Multicode
- ▶ Door monitoring output OUT
- ▶ Monitoring output OUT
- ▶ Indication of the door position by LED
- ▶ Escape release, 105 mm long
- ▶ Approach direction A (delivery state)



DESCRIPTION

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.

Multicode evaluation

Every suitable actuator is detected by the switch.

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 illuminates when the solenoid is energized

LED 2 gn illuminates when door is closed

Additional connections

OUT Monitoring output (semiconductor)

OUT D Door monitoring output (semiconductor)

Category according to EN ISO 13849-1

Due to two redundantly designed semiconductor outputs (safety outputs) with internal monitoring suitable for:

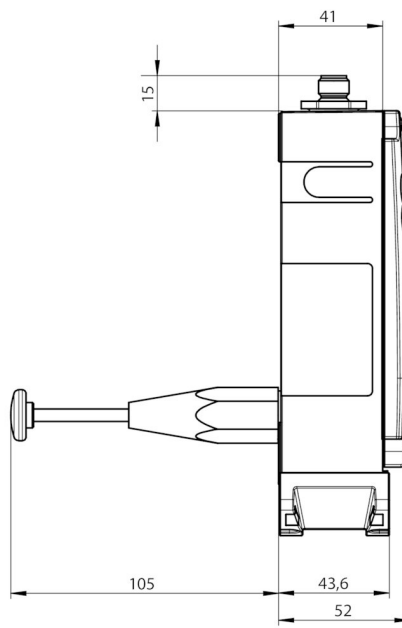
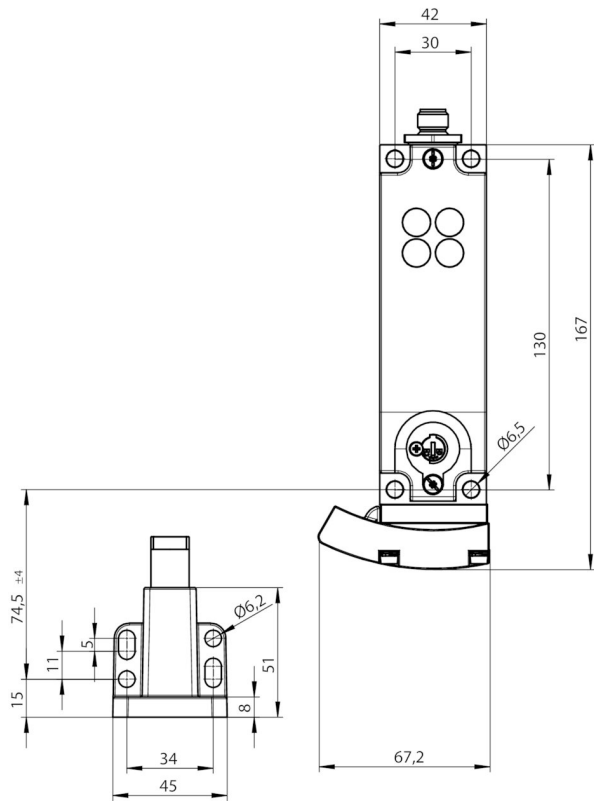
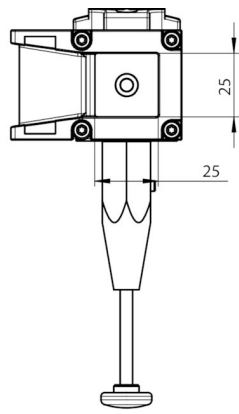
- ▶ Category 4/PL e according to EN ISO 13849-1
- ▶ The stated safety characteristics apply to any installation orientations of the safety switch.

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

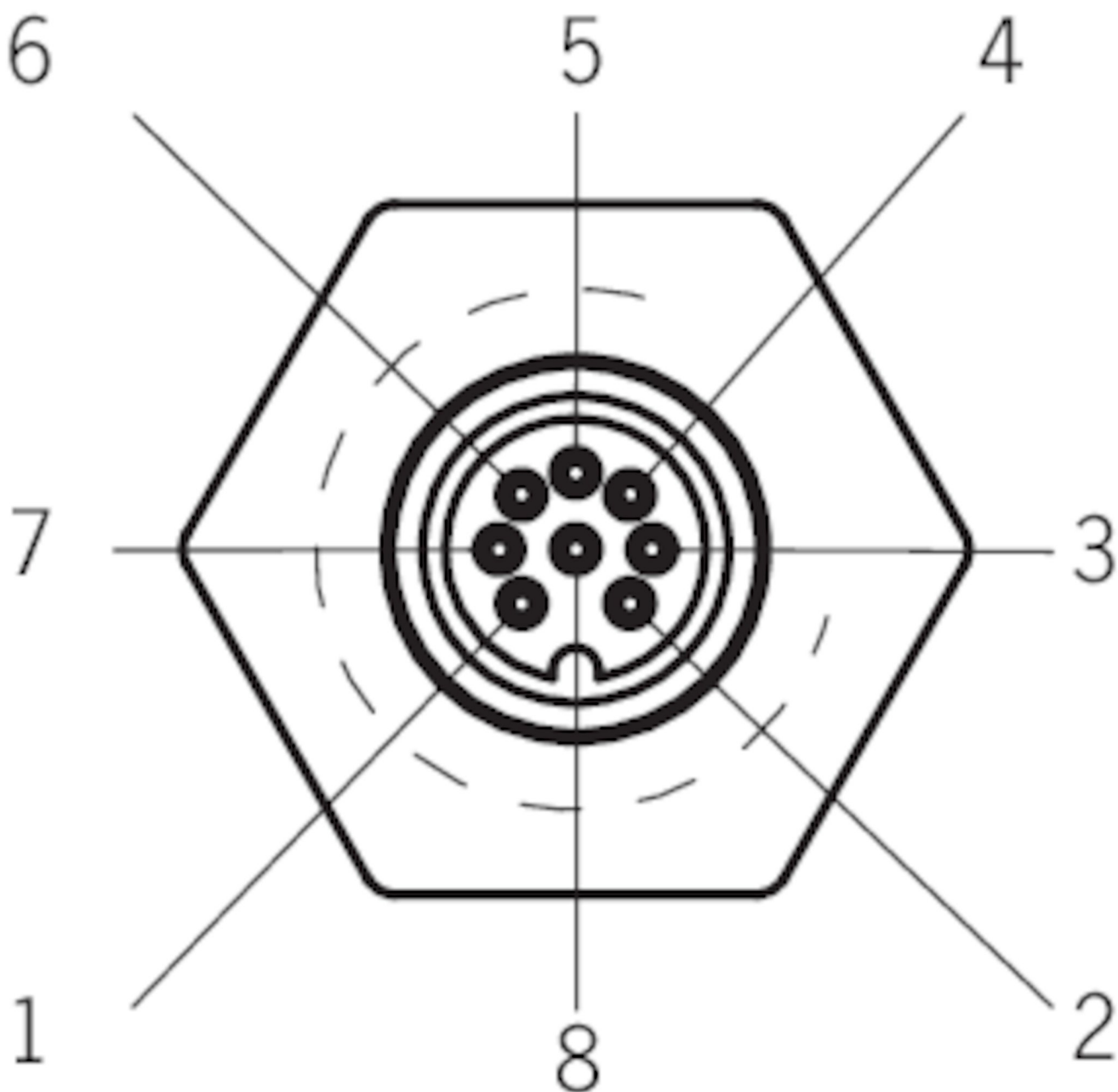
Escape release

This is used for manual release of guard locking from the danger zone without tools.

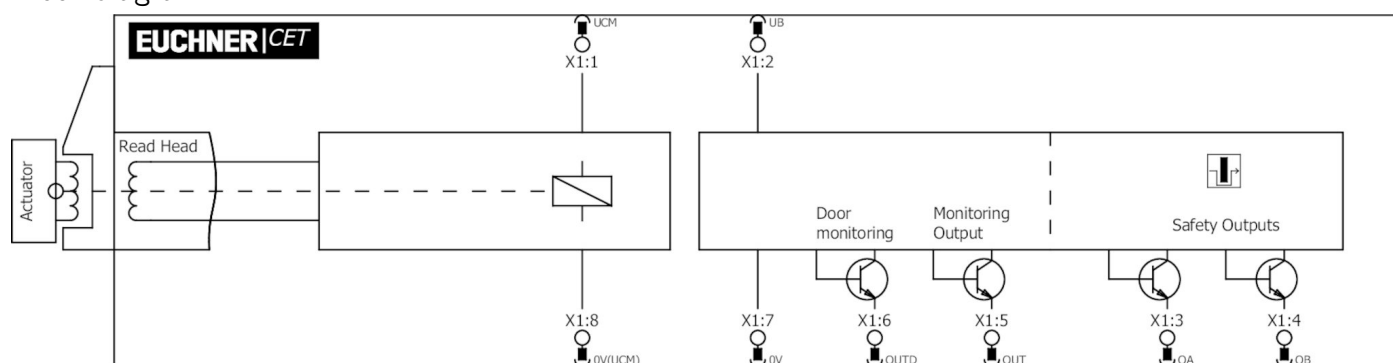
Dimension drawing



Wiring diagram



Block diagram



TECHNICAL DATA

Approvals



Mechanical values and environment

Housing material

	Slide	Stainless steel
	Safety switch housing	Die-cast aluminum

Weight

	Net	1 kg
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Ambient temperature

	At $U_B = 24V$ DC	-20 ... 55 °C
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Degree of protection	IP67 (Screwed tight plug connector/mating component)
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Resilience to vibration	In acc. with EN IEC 60947-5-2
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Mechanical life	1 x 10 ⁶
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Installation orientation	Any (Preferably head downward)
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Degree of freedom

	Z	±4 mm
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	Y	±5 mm
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	X	±5 mm
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Ready delay	1 s
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Switching frequency	max.0,5 Hz
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Connection	1 plug connector M12, 8-pin
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Approach speed	max.20 m/min
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Guard locking principle	Closed-circuit current principle
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Locking force F_{max}	6500 N
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Locking force F_{Zh}	5000 N ($F_{ZH} = F_{MAX}/1.3$)
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Electrical connection ratings

Operating voltage DC

	U_B	24 V DC -15% ... 15% Reverse polarity protected, regulated, residual ripple < 5%, PELV (The device tolerates voltage interruptions of up to 5ms)
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	LED	24 V DC -15% ... 10%
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Current consumption

	I_{CM}	450 mA
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	I_B	80 mA
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Utilization category according to EN 60947-5-2

	DC-13	24V 200mA (Caution: outputs must be protected with a free-wheeling diode in case of inductive loads)
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Solenoid operating voltage DC

	U_{CM}	24 V DC -15% ... +10% Reverse polarity protected, regulated, residual ripple < 5%, PELV
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Fusing

	External (operating voltage U_B)	0,25 ... 8 A
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	External (solenoid operating voltage U_{CM})	0,5 ... 8 A
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Power consumption

	Solenoid	11 W
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EMC protection requirements	In acc. with EN IEC 60947-5-3
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Solenoid data sheet	100 000
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Solenoid duty cycle	100 %
Degree of contamination (external, according to EN 60947-1)	3
Connecting cable	30V DC, 2A (For UL requirement UL category code (CYJV/CYJV7))
Safety class	
	EN IEC 61140 III
Switching load	
	According to UL 24V DC, class 2 (For alternatives see operating instructions)
	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
	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
Turn-on time	400 ms
Discrepancy time	
	Both safety outputs max.10 ms
Work area	
Repeat accuracy R	
	According to EN 60947-5-2 10 %
Other	
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 according to EN ISO 13849-1

Monitoring of guard locking and the safety guard position

Category	
Any installation orientation	4
Performance Level	PL e
PFH _D	
Any installation orientation	3.1 x 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

ACCESSORIES

Actuator

Actuator CET-A-BWK-50X



096327
CET-A-BWK-50X

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

Bolt

Bolt CET-A-C/F with escape release



106172
RIEGEL CET-A-C/F

- ▶ Steel bolt
- ▶ For doors hinged on the left or right
- ▶ In combination with CET with escape release
- ▶ Detent knob in open position
- ▶ Can be locked in open position with padlocks



106350
RIEGEL CET-A-C/F-C2282

- ▶ Steel bolt
- ▶ Stainless steel guide strip
- ▶ For doors hinged on the left or right
- ▶ In combination with CET with escape release
- ▶ Detent knob in open position
- ▶ Can be locked in open position with padlocks

Connection material

Connection cable with angled plug connector M12, 8-pin, 10m



113188
C-M12F08-08X025PU10,0-MA-113188

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet A (right)
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead



113189
C-M12F08-08X025PU10,0-MA-113189

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet C (left)

- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead

Connection cable with angled plug connector M12, 8-pin, 20m



120998
C-M12F08-08X025PU20,0-MA-120998

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet A (right)
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead



120999
C-M12F08-08X025PU20,0-MA-120999

- ▶ M12 female plug, 8-pin
- ▶ Angled plug connector
- ▶ Cable outlet C (left)
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead

Connection cable with plug connector M12, 8-pin, 5m



100177
C-M12F08-08X025PV05,0-MA-100177

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 5 m
- ▶ With flying lead



115112
C-M12F08-08X025PU05,0-MA-115112

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 5 m
- ▶ With flying lead

Connection cable with plug connector M12, 8-pin, 10m



100178
C-M12F08-08X025PV10,0-MA-100178

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 10 m
- ▶ With flying lead



115113
C-M12F08-08X025PU10,0-MA-115113

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 10 m
- ▶ With flying lead

Connection cable with plug connector M12, 8-pin, 20m



100179
C-M12F08-08X025PV20,0-MA-100179

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 20 m
- ▶ With flying lead



115114
C-M12F08-08X025PU20,0-MA-115114

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 20 m
- ▶ With flying lead

Connection cable with plug connector M12, 8-pin, 30m



115116
C-M12F08-08X025PV30,0-MA-115116

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PVC cable
- ▶ Cable length 30 m
- ▶ With flying lead



115257
C-M12F08-08X025PU30,0-MA-115257

- ▶ M12 female plug, 8-pin
- ▶ Straight plug connector
- ▶ PUR cable
- ▶ Cable length 30 m
- ▶ With flying lead

Function expansion

Cover for actuator CET



124979
AM-C-124979

- ▶ Cover for actuator CET
- ▶ Horizontal and vertical fastening option on the actuator
- ▶ Mounting using 4 screws M5x16 (included with the actuator)
- ▶ Suitable for combination with the lockout bar for CET actuator AE-L-CET-156429

Cover for read head and actuator CET



098808
CET ABDECKUNG RECHTS

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



098807
CET ABDECKUNG LINKS

- ▶ 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

Emergency unlocking for CET



103714
AE-M-CET-103714



159080
AE-M-CET-159080

Holder for lockout mechanism CET actuator



156338
Y-CHN-A1-156338

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

Lockout bar and holder for CET actuators



155865
AE-SET-LCHN-A1-155865

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

Lockout mechanism for CET actuator



122609
AE-L-CET-122609

- ▶ 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

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

Mechanical key release for CET read head/switch



098850
SCHLUESSEL-HILFSENTRIEGELUNG

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

Mounting accessories

Efficient protection against tampering for safety switch mounting



161344
AM-C-SW4-V3-161344

- ▶ Plastic inserts for hexagon socket screws a/f 4
- ▶ Efficient protection against tampering for safety switch mounting
- ▶ The packaging includes inserts for 18 screws



161348
AM-C-SW5-V3-161348

- ▶ Plastic inserts for hexagon socket screws a/f 5
- ▶ Efficient protection against tampering for safety switch mounting
- ▶ The packaging includes inserts for 18 screws

Mounting plate EM-P actuator for safety switch CET



126400
AM-P-126400

- ▶ 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

- ▶ 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

- ▶ 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-B-... for actuator CET



106694
EMP-B-CET

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

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



106695
EMP-L-CET

- ▶ 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

Contacts

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

☎ +49 711 7597-0

📠 +49 711 753316

✉ [info\(at\)euchner.de](mailto:info(at)euchner.de)