

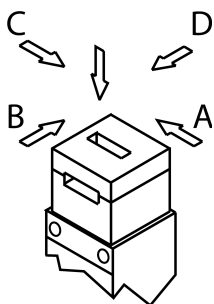
TP4-2131A024M (Order no. 084145)

Safety switch TP, cable entry M20 x 1.5, contacts for the door position

- ▶ 3 x cable entry M20 x 1.5
- ▶ Contacts for the door position
- ▶ Auxiliary release
- ▶ Open-circuit current principle



Approach direction



Horizontal and vertical

Can be adjusted in 90° steps

Increased overtravel for horizontal approach direction

If increased play is required when the door is closed, an actuator with overtravel is available. With this actuator the door can move slightly in the actuating direction when closed. This is important, for example, if safety doors have a rubber end stop. Using an actuator with overtravel, the continuous pressure from the compressed rubber can be reduced. In this way the load is reduced on the switch head and the door mechanism.

Guard locking principle

Open-circuit current (power on to lock): On a guard with guard locking based on the open-circuit current principle, the guard is locked until the power supply to the guard locking solenoid is interrupted.

Unlocking is by spring force. The term electrical guard locking is also used.

Switching element

2131 Slow-action switching contact

Contacts for guard locking: 2 positively driven contacts  + 1 NO contact

Contacts for door monitoring: 1 NC contact

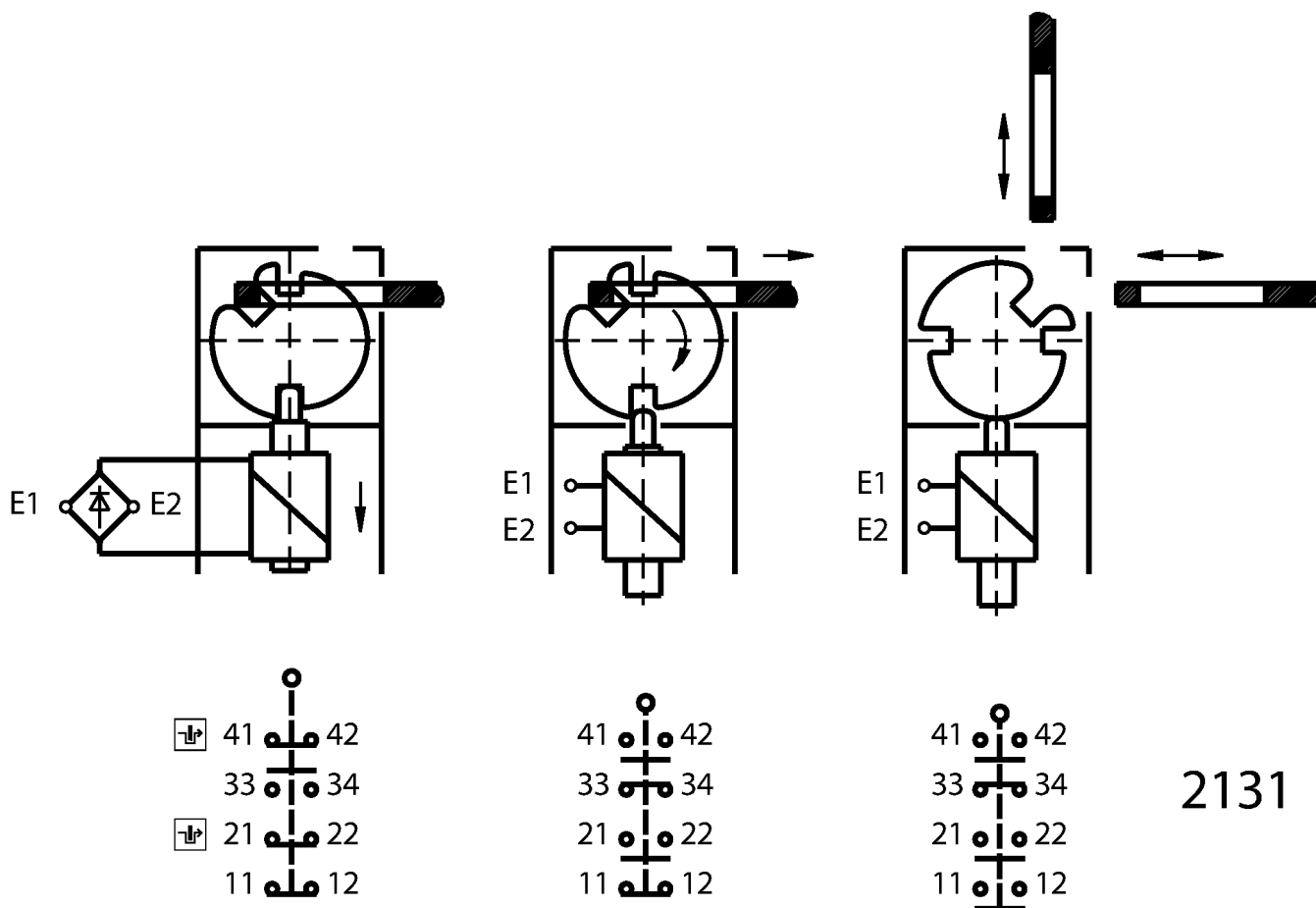
Auxiliary release

The auxiliary release on the front makes it possible to access the machine if there is a malfunction, e.g. a power failure. Unlocking is performed using a tool or a key. The auxiliary release must be protected against misuse (sealing, lacquer).

Accessories required

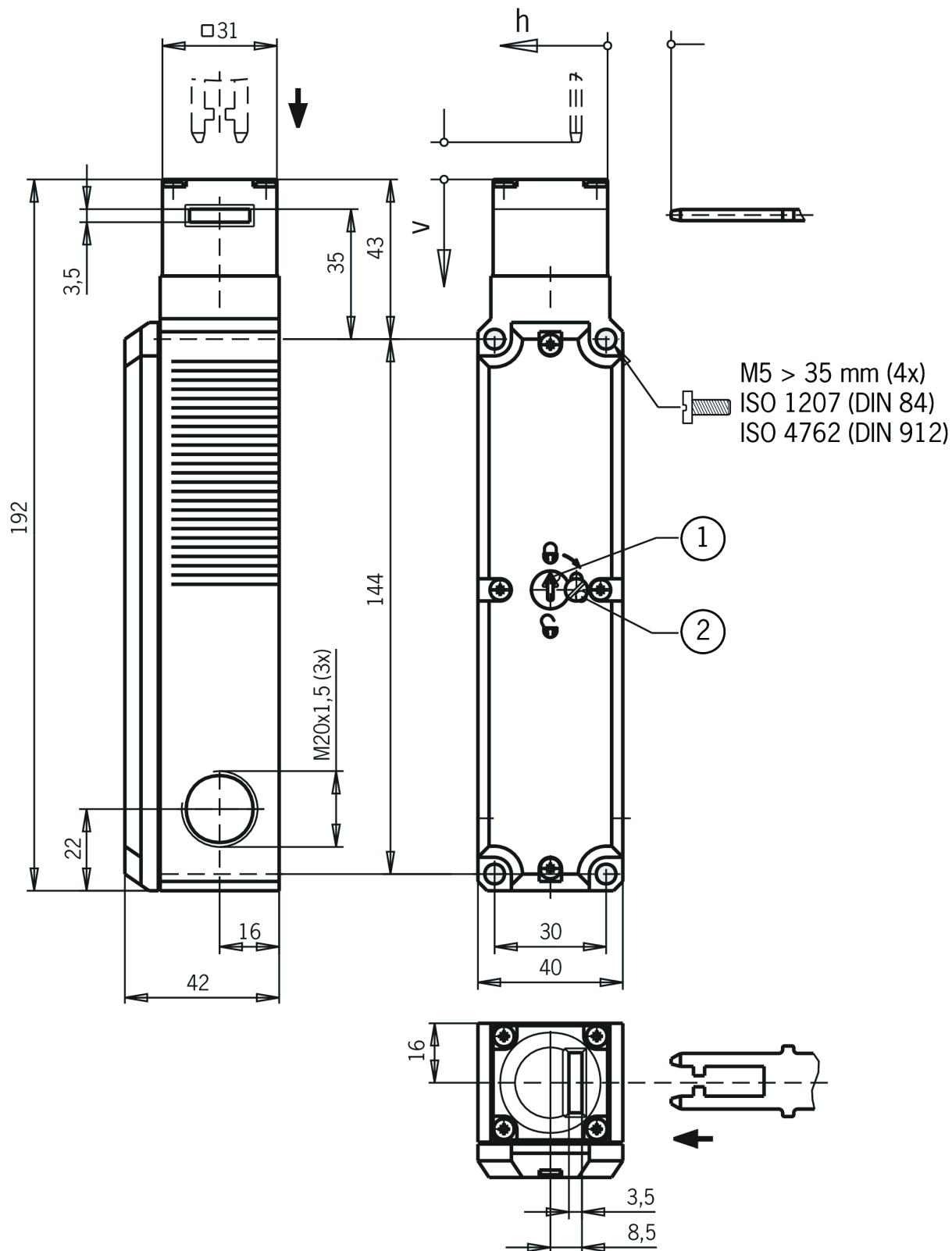
Actuator is not included.

Functional drawings



2131

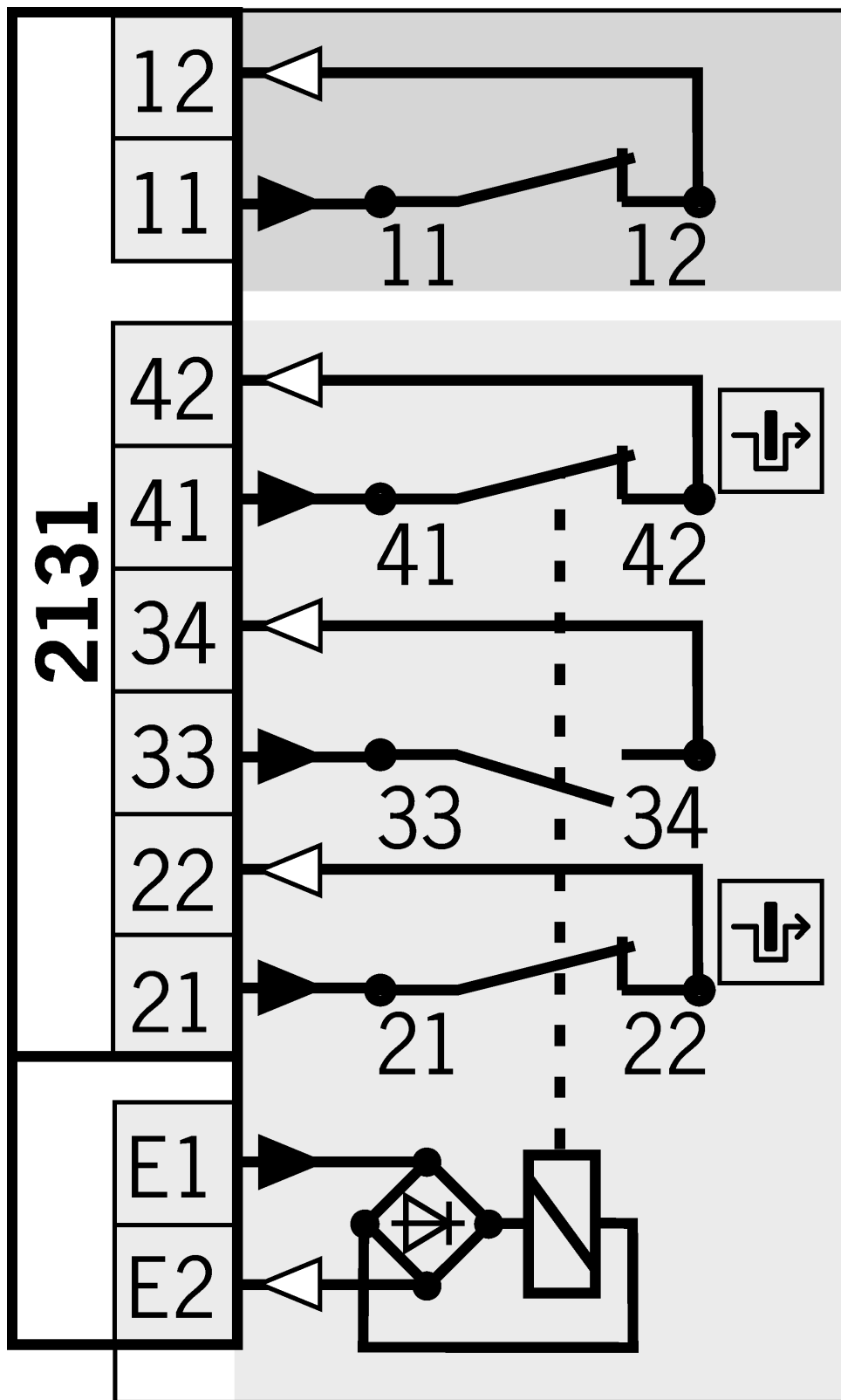
Dimensional drawings



1 Auxiliary release

2 Locking screw

Connection examples



square_grey_dark.eps Door monitoring

square_grey_light.eps Solenoid monitoring

Technical data

Approvals



Electrical connection values

Fuse	max. 4 A gG	
Power consumption	8 W	
Connection cross section	0.34 ... 1.5 mm ²	
Rated insulation voltage U _i	250 V	
Rated impulse voltage U _{imp}	2.5 kV	
Utilization category		
	DC-13	4 A 24 V
	AC-15	4 A 230 V
Solenoid operating voltage		
	AC/DC	24 V -15% ... +10%
Solenoid duty cycle	100 %	
Switching voltage		
	min. at 10 mA	12 V
Switching current		
	min. at 24 V	1 mA
thermal rated current I _{th}	4 A	

Mechanical values and environment

Anfahrgeschwindigkeit	max. 20 m/min	
Connection type		
	3 x	M20 x 1.5
Number of door position NC contacts	1	
Number of guard lock monitoring NO contacts	1	
Number of guard lock monitoring positively driven contacts	2	

Extraction force	20 N
Actuation frequency	max. 1200 1/h
Actuating force	10 N
Installation orientation	any
Storage temperature	-25 ... 70 °C
Mechanical life	1 x 10 ⁶
Retention force	10 N
Switching principle	Slow-action switching contact
Degree of protection	IP67
Ambient temperature	-20 ... 55 °C
Material	
	Contact Silver alloy, gold flashed
	Housing Reinforced thermoplastic
Locking force F_{max}	1300 N
Locking force F_{Zh}	1000 N
Guard locking principle	Open-circuit current principle

Characteristic values according to EN ISO 13849-1 and EN IEC 62061

	B10 _D	Mission time
Monitoring of guard locking	3x10 ⁶	20 y
	Important! Values valid at DC-13 100 mA/24V	

In combination with actuator ACTUATOR-P-GNT

Horizontal overtravel	7 mm
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In combination with actuator ACTUATOR-P-GT

Horizontal overtravel	2 mm
Vertical overtravel	1.5 mm

Downloads

All documentation for this material can be found on our website:

<https://www.euchner.de/en-us/a/084145/?#downloads-tab>

Ordering data

Ordernumber	084145
Item designation	TP4-2131A024M
Gross weight	0,469kg
Customs tariff number	85365019000
ECLASS	27-27-26-03 Safety switch with guard control

Accessories

Actuator

Actuator for safety switch NP/GP/TP, increased overtravel



074570

BETAETIGER-P-GN

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator



074576

BETAETIGER-P-GNT

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ Actuator with rubber bush

Actuators for safety switches NP/GP/TP



059226

BETAETIGER-P-G

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator



070046

BETAETIGER-P-GT

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ Actuator with rubber bush

Bent actuator for safety switch NP/GP/TP



059227

BETAETIGER-P-W

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator



070038

BETAETIGER-P-WT

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ Actuator with rubber bush

Bent actuator for safety switch NP/GP/TP, increased overtravel



074571

BETAETIGER-P-WN

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator



074577

BETAETIGER-P-WNT

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ Actuator with rubber bush

Hinged actuator, left/right, for safety switch NP/GP/TP



059440

RADIUSBETAETIGER-P-LR

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ For doors hinged on the right and left

Hinged actuator, left/right, for safety switch NP/GP/TP, increased overtravel



074573

RADIUSBETAETIGER-P-LRN

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ For doors hinged on the right and left

Hinged actuator, top/bottom, for safety switch NP/GP/TP



070050
RADIUSBETAETIGER-P-OU

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ For top-hinged and bottom-hinged doors

Hinged actuator, top/bottom, for safety switch NP/GP/TP, increased overtravel



074572
RADIUSBETAETIGER-P-OUN

- ▶ Actuator made of stainless steel
- ▶ Two stainless-steel safety screws per actuator
- ▶ For top-hinged and bottom-hinged doors

Connection material

Cable glands M20x1.5, cable Ø 6–12 mm



086233
EKPM20/06 086233

Function expansion

Built-in LED, light shines to front



095510
EINBAULEUCHTE LED-F M20X1,5

Built-in LED, light shines to side



087423
EINBAULEUCHTE LED M20X1,5

Emergency release for safety switch CTP/CTA/TP/STP/MGB2



099877
AE-M-A1-99877

Handle for escape release for safety switch TP/STP/STA



105329
FE-GRIFF

Handle for wire front release (bowden)



099795
AY-HDL-099795

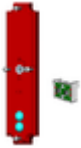
- ▶ suitable for all wire front releases

Insertion funnel for safety switch NP..A/GP/TP..A



086237
EINFUEHRTRICHTER-P

LED set



093752

TP LED SET

▶ LED set

Latch spring for increased retention force

076501

RASTFEDER NP/TP

Lock for auxiliary release for safety switch CTP/CTA/TP/STP



084177

AE-K-A1-DULK1-84177

▶ Lock unique locking
▶ Key removable in “unlocked” and “locked” positions



086236

AE-K-A1-IULK1-86236

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



109212

AE-K-A1-IUK2-109212

▶ Identical locking
▶ Key can be removed only in “unlocked” position



121917

AE-K-A1-ILK1-121917

▶ Identical locking
▶ Key removable in “locked” position

Lockout bar NP/GP/TP



096105

SPERREINSATZ TP

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

Release with automatic reset for safety switch CTP/CTA/TP/STP/MGB2/MGBS



103110

AE-R-A1-103110

Wire front release (bowden)



096230

AE-B-A1-02,0-096230

▶ Can be used as escape release or emergency release
▶ no automatic return
▶ Sheath length 2 m (rope length 6 m)



097747

AE-B-A1-02,0-F-097747

- ▶ Can be used as escape release or emergency release
- ▶ automatic return
- ▶ Sheath length 2 m (rope length 6 m)



098313

AE-B-A1-03,0-098313

- ▶ Can be used as escape release or emergency release
- ▶ no automatic return
- ▶ Sheath length 3 m (rope length 6 m)



098314

AE-B-A1-04,0-098314

- ▶ Can be used as escape release or emergency release
- ▶ no automatic return
- ▶ Sheath length 4 m (rope length 6 m)



111233

AE-B-A1-03,0-F-111233

- ▶ Can be used as escape release or emergency release
- ▶ automatic return
- ▶ Sheath length 3 m (rope length 6 m)



125582

AE-B-A1-06,0-125582

- ▶ Can be used as escape release or emergency release
- ▶ no automatic return
- ▶ Rope length 6 m (without sheath)



124770

AE-B-A1-06,0-F-124770

- ▶ Can be used as escape release or emergency release
- ▶ automatic return
- ▶ Rope length 6 m (without sheath)

Metal bolt

Bolt BTC-T/GP... without escape release for safety switches GP and TP



106301

BTC-T/GP-S-TH-00-X

- ▶ Aluminum bolt
- ▶ For doors hinged on the left or right
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included

Bolt BTM-UNIP-S... for safety switches TP, STP, STA, CTP and CTA



159951

BTM-UNIP-S-TH-00-X-159951

- ▶ Steel bolt
- ▶ For doors hinged on the left or right
- ▶ Can be locked in open position with padlocks
- ▶ Actuator not included

Bolt for safety switches GP and TP



084430
RIEGEL TP-A

- ▶ Bolt for safety switches GP and TP
- ▶ Steel bolt
- ▶ For doors hinged on the right
- ▶ Suitable for a door gap of approx. 15 mm



084432
RIEGEL TP-C

- ▶ Bolt for safety switches GP and TP...A
- ▶ Steel bolt
- ▶ For doors hinged on the left
- ▶ Suitable for a door gap of approx. 15 mm

Bolt for safety switches NP, GP and TP



073535
RIEGEL 0 NP/TP OHNE RASTUNG

- ▶ Bolt for safety switches NP... and TP...A
- ▶ Steel bolt
- ▶ For doors hinged on the left or right
- ▶ Suitable for a door gap of approx. 6 mm



073536
RIEGEL 1 NP/TP 1X RASTUNG ZU

- ▶ Bolt for safety switches NP...AS, TP...A and GP
- ▶ Steel bolt
- ▶ For doors hinged on the left or right
- ▶ Suitable for a door gap of approx. 15 mm

Mounting accessories

Mounting plates EMP-B1 for actuators for safety switches CTP, CTA, TP...A, STA, STP, TX and TZ



093457
EMP-B1

Mounting plates EMP-B2 for actuators for safety switches CTP, CTA, TP...A, STA, STP, TX and TZ



093458
EMP-B2

Mounting plates EMP-SB for safety switches CTP, CTA, TP...A, STA, STP and TX



093456
EMP-SB

- ▶ For vertical and horizontal mounting of safety switches CTP, CTA, TP...A, STA, STP and TX

Switch bracket CTP/TP/STP GFK



096613
SCHALTERAUFNAHME TP/STP GFK

- ▶ Switch bracket made of fiber glass reinforced plastic
- ▶ For doors hinged on the left or right

Switch bracket for bolt NP/TP



073539

SCHALTERAUFNAHME TP

- ▶ Switch bracket made of steel
- ▶ For doors hinged on the left or right

Plastic bolt

Bolt TP-GFK for safety switches TP and GP



096616

RIEGEL TP-GFK

- ▶ Fiber glass reinforced plastic bolt
- ▶ For doors hinged on the left or right
- ▶ Can be locked in open position with padlocks
- ▶ Actuator included