

TP3-4141A024SEM4AS1 (Order no. 088256)

Safety switch TP ASi, plug connector(s) M12

AS-Interface

Plug connector M12

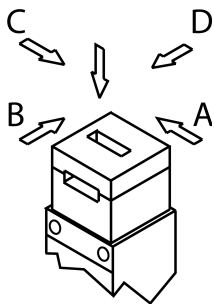
Auxiliary release

LED indicator

Closed-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

Power to unlock: On a guard with guard locking based on the closed-circuit current principle, the guard is locked by spring force until the guard locking solenoid is supplied with power. Unlocking is by solenoid force. The term mechanical guard locking is also used.

Control of the guard locking solenoid

The guard locking solenoid is controlled via AS-Interface bit D0. In order to achieve safe control of the guard locking, the auxiliary voltage must also be switched safely.

Auxiliary voltage

The ASi auxiliary voltage is required to supply the guard locking solenoid.

AS-Interface inputs

D0, D1 Monitoring of the guard position

D2, D3 Guard lock monitoring

AS-Interface outputs

D0 Control of guard locking

D1 LED red

D2 LED green

LED indicator

The Power LED indicates the operating voltage on the bus.

The Fault LED indicates if a fault has been detected on the AS-Interface bus.

The green and the red LEDs can be controlled as required by the control system via the bus using bits D1 and D2.

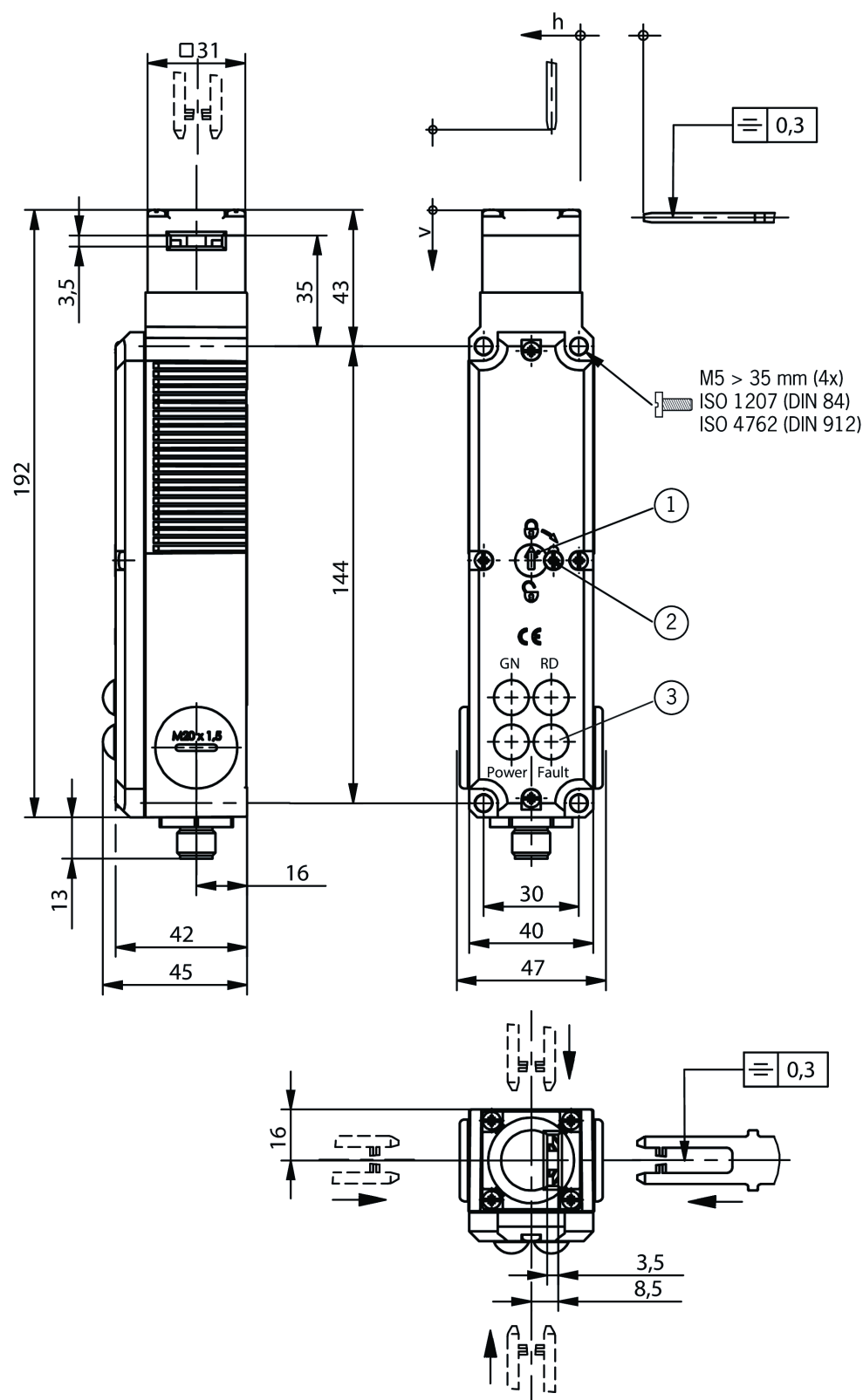
Auxiliary release

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.

Dimensional drawings

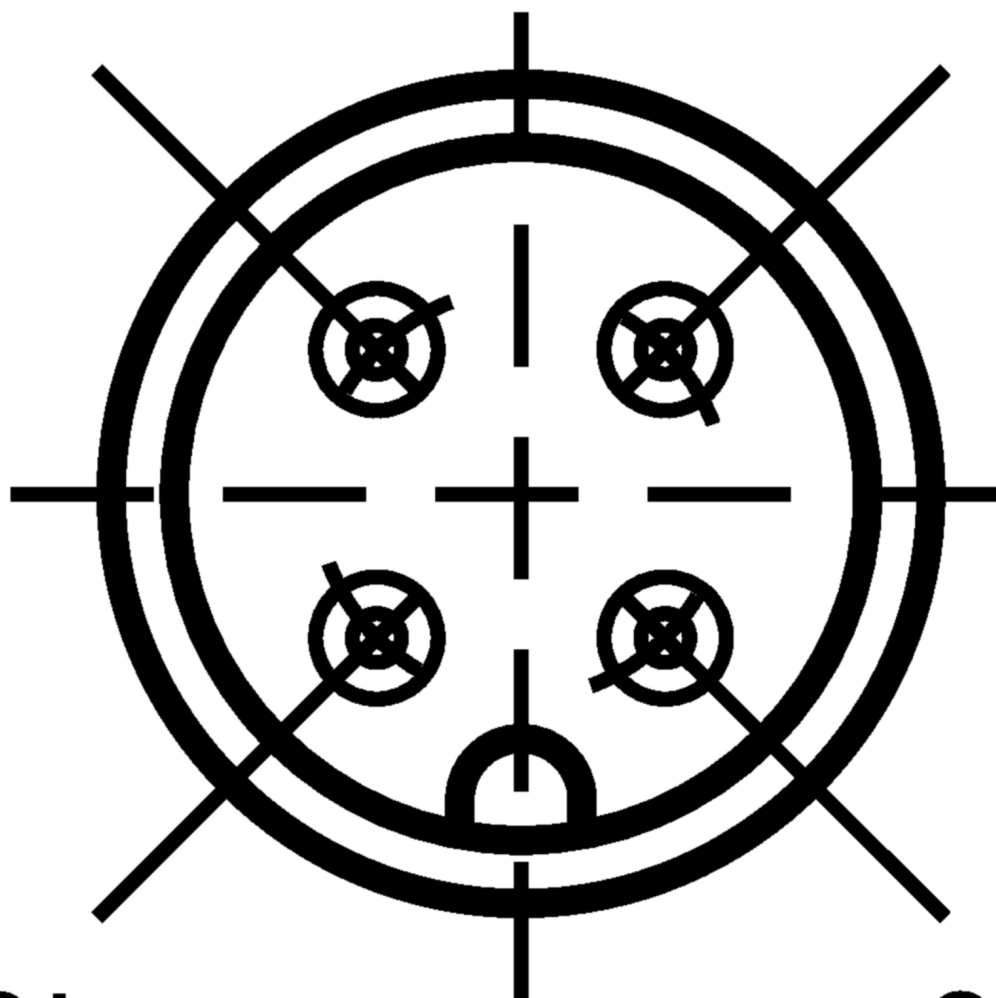


- 1 Auxiliary release
- 2 Locking screw
- 3 LED indicator

Connection examples

24 V

ASi -



ASi +

0 V

View of plug side

Technical data

Approvals



Electrical connection values

ASi operating current	max. 45 mA
AS-Interface auxiliary voltage	20.4 ... 24 ... 26.4 V
Auxiliary current AS-Interface	300 mA
AS-Interface LED	
green	Power
red	Fault
AS-Interface protocol	ASi-3
ASi data out	D0 = control of guard locking, D1 = red LED, D2 = green LED
ASi data in	D0, D1 = door position, D2, D3 = guard locking
AS-Interface slave type	ID-Code: B, EA-Code: 7
ASi voltage	22.5 ... 30 ... 31.6 V
Solenoid duty cycle	100 %

Mechanical values and environment

Anfahrsgeschwindigkeit	max. 20 m/min
Connection type	
	1 x Plug connector M12 (4-pin)
Number of door position positively driven contacts	
according to AS-i Safety at Work	1 (D0,D1 / 1 = door closed)
Number of guard lock monitoring positively driven contacts	
according to AS-i Safety at Work	D2,D3 (1 = locked)
Extraction force	20 N

Actuation frequency	max. 1200 1/h
Actuating force	10 N
Installation orientation	any
Vertical insertion depth	29.5 mm
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	
	Housing Reinforced thermoplastic
	Contact Silver alloy, gold flashed
Locking force F _{max}	1300 N
Locking force F _{Zh}	1000 N
Guard locking principle	Closed-circuit current principle

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

	B10 _D	Mission time
Guard lock monitoring	3x10 ⁶	20 y
Important! Values valid at DC-13 100 mA/24V		

	PL	Maximum SIL	Category	Mission time
Control of guard locking	Depending on external control of guard locking			20 y

In combination with actuator ACTUATOR-P-GNT

Horizontal insertion depth	28 mm
Horizontal overtravel	7 mm

In combination with actuator ACTUATOR-P-GT

Horizontal insertion depth	28 mm
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Vertical insertion depth 29.5 mm

Horizontal overtravel 2 mm

Vertical overtravel 1.5 mm

Downloads

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

<https://www.euchner-usa.com/en-us/a/088256/?#downloads-tab>

Ordering data

Ordernumber	088256
Item designation	TP3-4141A024SEM4AS1
Gross weight	0,464kg
Customs tariff number	85365019000
ECLASS 11.0	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



175439
A-P-RLR-SS-175439

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



175746

A-P-RLR-LN-175746

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



176043

A-P-ROU-SS-176043

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



176044

A-P-ROU-LN-176044

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

Connection material

Bus coupling module with plug connector M12, 5-pin



105756

BCM-A-P2-SEM4-1

Conversion from M12 to ribbon cable
Very compact design
Easy handling

Function expansion

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



099877

AE-M-A1-99877

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

AM-F-P-086237

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

Plastic bolt

Bolt for safety switches TP and GP



096616
RIEGEL TP-GFK

Bolt for safety switches TP and GP
Fiber glass reinforced plastic bolt
For doors hinged on the left or right
Suitable for a door gap of approx. 7 mm