

Selection table for accessories

Actuators												
	Insertion funnels											
		Montageplatten/Montagewinkel										
			Connection									
			SGLF	Plug connector; M12; 4-pin								
				SR6	Plug connector; 6-pin + PE							
					SR11	Plug connector; 11-pin + PE						
						RC18	Plug connector; 18-pin + PE					
							Cable glands					
								LED displays				
									Miscellaneous			
										Bolts for safety guards		
Actuators	Insertion funnels	Mounting plates/ mounting brackets	Plug connectors				Cable glands	LED displays	Miscellaneous	Bolts		Page
			SGLF	SR6	SR11	RC18				Metal	Plastic	
•												74 - 82
	•											83
		•										84 / 85
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Actuators for safety switches NP/GP/TP

- ▶ Actuators made of stainless steel
- ▶ Two stainless safety screws per actuator
- ▶ Actuators with optional rubber bushings

Straight actuator

The straight actuator is used on sliding doors or hinged doors with door radii greater than 1000 mm. Safety screws prevent unscrewing of the actuator.

Actuator with overtravel

- ▶ **2 mm** for doors with normal play
- ▶ **7 mm** for doors with large play (optional)

Actuator with rubber bush

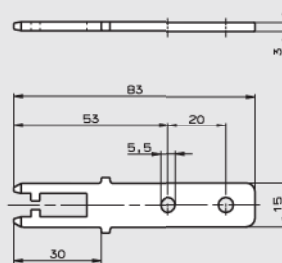
For flexible mounting of the actuator.

Screws made of stainless steel

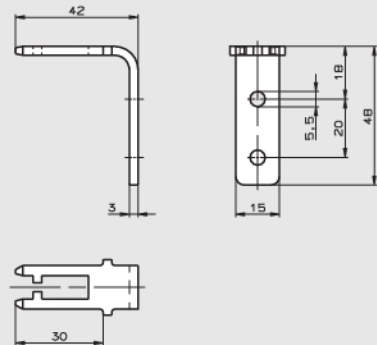
The safety screws included can be inserted with a normal tool, but cannot be removed again.

Actuator P-G straight Overtravel 2 mm

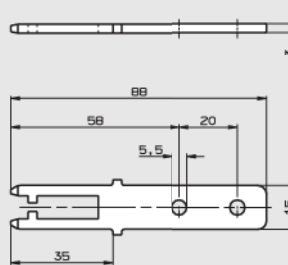
Dimension drawings



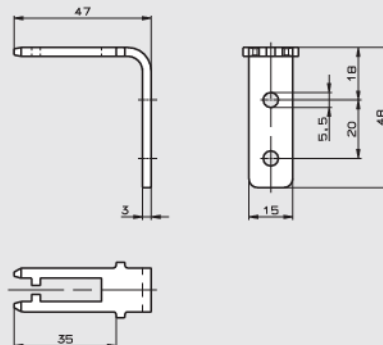
Actuator P-W bent Overtravel 2 mm



Actuator P-GN straight Overtravel 7 mm



Actuator P-WN bent Overtravel 7 mm

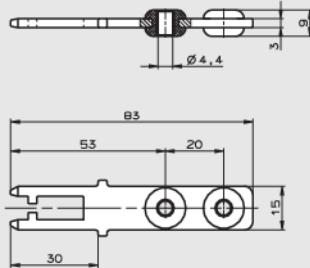


Ordering table

Designation	Version	Min. door radius r [mm]	Packaging unit	Order No.
Actuator straight	P-G Overtravel 2 mm incl. 2 safety screws M5 x 10	1000	1 ea.	059 226 ACTUATOR-P-G
Actuator bent	P-W Overtravel 2 mm incl. 2 safety screws M5 x 10	1000	1 ea.	059 227 ACTUATOR-P-W
Actuator straight overtravel	P-GN Overtravel 7 mm incl. 2 safety screws M5 x 10	1000	1 ea.	074 570 ACTUATOR-P-GN
Actuator bent overtravel	P-WN Overtravel 7 mm incl. 2 safety screws M5 x 10	1000	1 ea.	074 571 ACTUATOR-P-WN

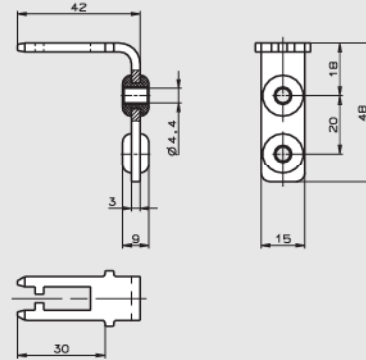
Actuator P-GT straight

Rubber bush, overtravel 2 mm



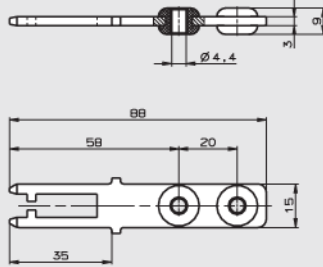
Actuator P-WT bent

Rubber bush, overtravel 2 mm



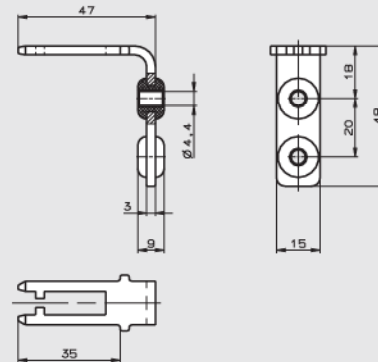
Actuator P-GNT straight

Rubber bush, overtravel 7 mm



Actuator P-WNT bent

Rubber bush, overtravel 7 mm



Ordering table

Designation	Version	Min. door radius r [mm]	Packaging unit	Order No.
Actuator straight rubber bush	P-GT Overtravel 2 mm incl. 2 safety screws M4 x 14	1000	1 ea.	070 046 ACTUATOR-P-GT
Actuator bent rubber bush	P-WT Overtravel 2 mm incl. 2 safety screws M4 x 14	1000	1 ea.	070 038 ACTUATOR-P-WT
Actuator straight rubber bush, overtravel	P-GNT Overtravel 7 mm incl. 2 safety screws M4 x 14	1000	1 ea.	074 576 ACTUATOR-P-GNT
Actuator bent rubber bush, overtravel	P-WNT Overtravel 7 mm incl. 2 safety screws M4 x 14	1000	1 ea.	074 577 ACTUATOR-P-WNT

Hinged actuators for safety switches NP/GP/TP

- ▶ **Actuators made of stainless steel**
- ▶ **Two stainless safety screws per actuator**
- ▶ **For top and bottom hinged doors**
- ▶ **For right and left hinged doors**

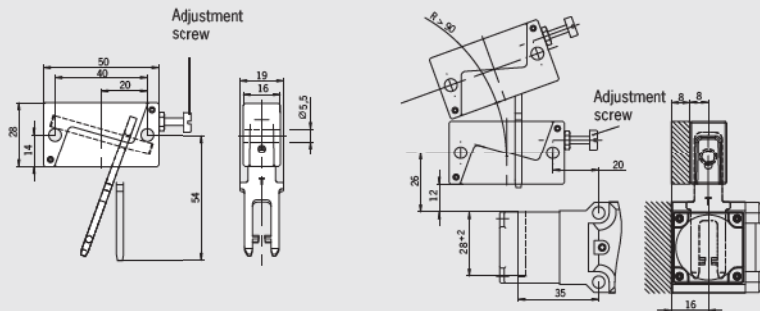
Hinged actuator

For door radii less than 1000 mm a hinged actuator should be used. The spring action movement of the actuator prevents damage due to the actuator jamming in the actuating head. Depending on the movement of the safety guard, the actuator must be selected for left/right or top/bottom.

Hinged actuator P-OU

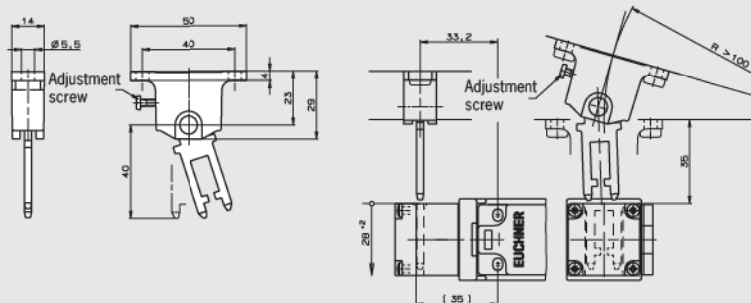
Safety guard hinged at top/bottom, overtravel 2 mm

Dimension drawings



Hinged actuator P-LR

Safety guard hinged on left/right, overtravel 2 mm

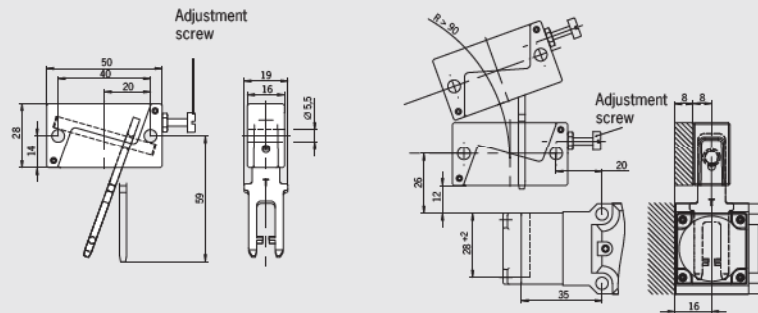


Ordering table

Designation	Version	Min. door radius r [mm]	Packaging unit	Order No.
Hinged actuator	P-OU For top and bottom hinged doors overtravel 2 mm incl. 2 safety screws M5 x 25	90	1 ea.	070 050 HINGED ACTUATOR P-OU
	P-LR For left and right hinged doors overtravel 2 mm incl. 2 safety screws M5 x 10	100	1 ea.	059 440 HINGED ACTUATOR P-LR

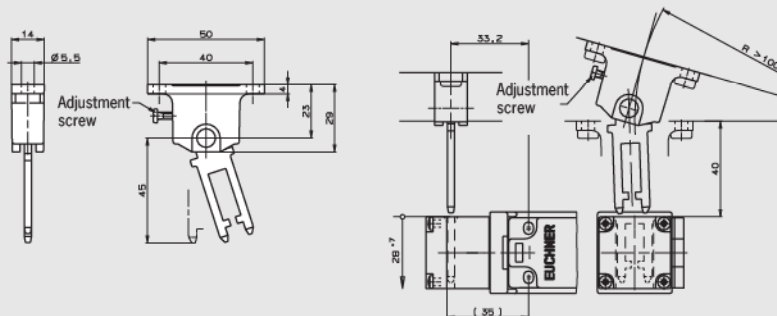
Hinged actuator P-OUN

Safety guard hinged at top/bottom, overtravel 7 mm



Hinged actuator P-LRN

Safety guard hinged on left/right, overtravel 7 mm



Ordering table

Designation	Version	Min. door radius r [mm]	Packaging unit	Order No.
Hinged actuator	P-OUN For top and bottom hinged doors overtravel 7 mm incl. 2 safety screws M5 x 25	90	1 ea.	074 572 HINGED ACTUATOR P-OUN
	P-LRN For left and right hinged doors overtravel 7 mm incl. 2 safety screws M5 x 10	100	1 ea.	074 573 HINGED ACTUATOR P-LRN

Insertion funnels/adapters

- Insertion funnel
- Adapter NP-K

Insertion funnel

If an insertion funnel is used, even inexactly positioned actuators are inserted reliably in the actuating head due to the large opening aperture, thus protecting the safety switch against mechanical influences.

- Cannot be used in conjunction with TP safety switches with increased overtravel from top
- The insertion funnel for TP can only be used in conjunction with an actuator with long overtravel
- The insertion funnel for STP can only be used in conjunction with an actuator for insertion funnel

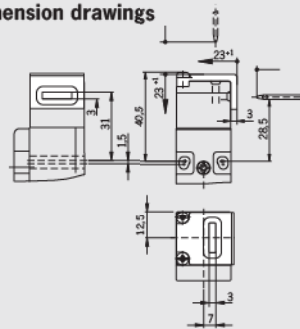
Adapter NP-K

The adapter NP-K is used for top entry overtravel applications for the NP series.

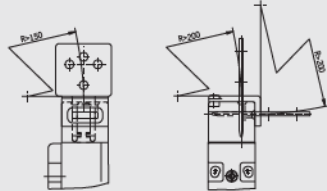
- The adapter **cannot** be used for safety switches of the GP/TP series
- 4 screws 3 x 38 (not safety screws) are supplied

Insertion funnel For safety switches NM..VZ

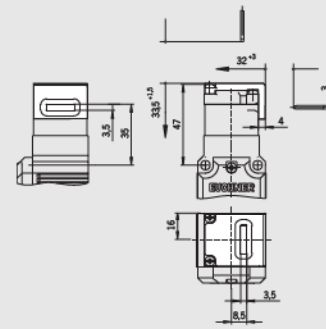
Dimension drawings



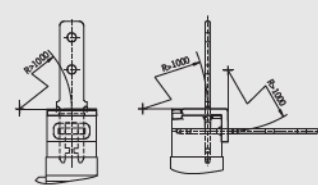
Minimum door radii with insertion funnel



Insertion funnel For safety switches NP..A/GP/TP..A

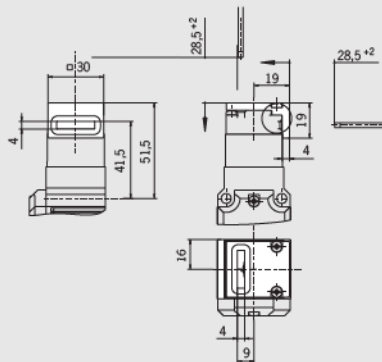


Minimum door radii with insertion funnel



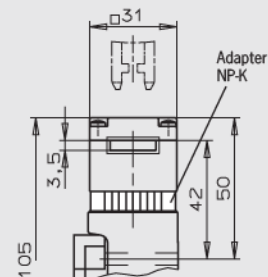
Insertion funnel For safety switches SGP/STA/STP/STM

Dimension drawings



Minimum door radius with insertion funnel
R > 300 mm

Adapter NP-K For safety switches NP



Ordering table

Designation	Version	Use	Order No.
Insertion funnel	Incl. 2 fastening screws	For safety switches NM..VZ	083 565 Insertion funnel M
		For safety switches NP..A/GP/TP..A without adapter	086 237 Insertion funnel NP/GP/TP
		For safety switches SGP/STA/STP/STM	093 157 Insertion funnel STP/STM
Adapter NP-K	Incl. 4 fastening screws	For safety switches NP	074 578 Adapter NP-K

Mounting plates EMP for safety switches TP...A, STA, and STP

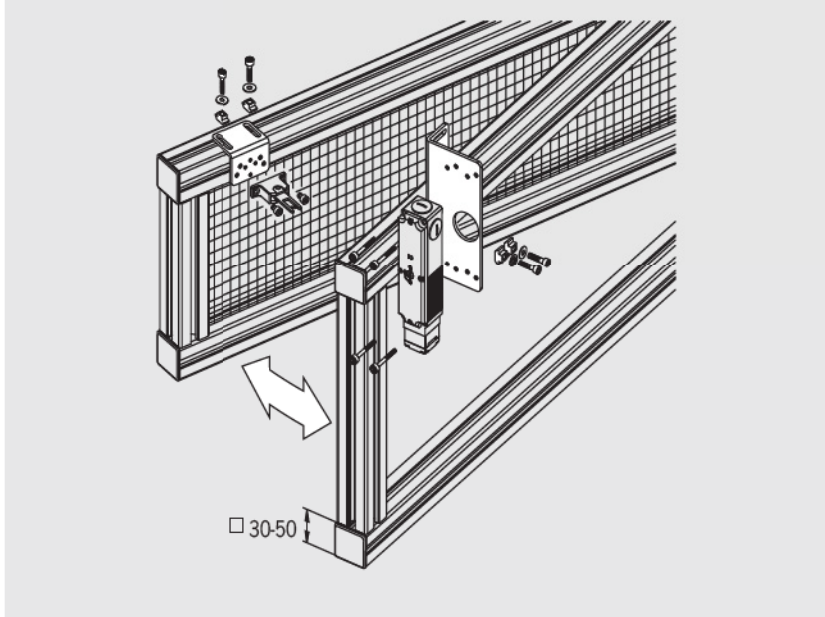
- For vertical and horizontal mounting of safety switches TP...A, STA and STP

The mounting plates are used for fastening safety switches TP...A, STA and STP and actuators to safety guards. The safety switches can be attached vertically and horizontally.

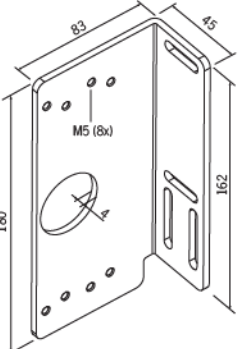
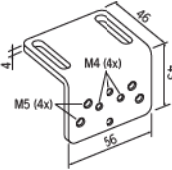



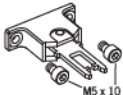
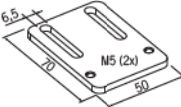
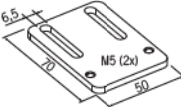
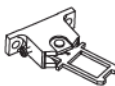
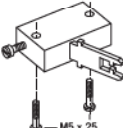
Note

- Mounting plate material: St37 galvanized

Mounting example, safety switch vertical



Ordering table

Switch	Installation method switch	Mounting plate switch	Mounting plate actuator	Actuator		Minimum distance hinged axis to switch	
				ST...	TP...A	ST...	TP...A
TP...A... STA... STP...	A Vertical	093 456 EMP-SB 	093 457 EMP-B1 	095 740  page 80	070 038 074 577  page 77	> 300 mm	> 1000 mm
				095 315 096 697  page 81/82	059 440 074 573  page 78/79	> 200 mm	> 100 mm
	B Horizontal	093 458 EMP-B2 		096 838 096 844  page 81/82	070 050 074 572  page 78/79	> 100 mm	> 90 mm

Plug connectors SR6 and SR11

- ▶ Plugs and sockets
- ▶ Crimp contacts
- ▶ 90° angled optional
- ▶ Cable optional
- ▶ Coding shells

Angled plug connector

On plug connectors without cables the direction of the cable exit can be chosen.

Male socket

For fitting in safety switches.

Coding shells

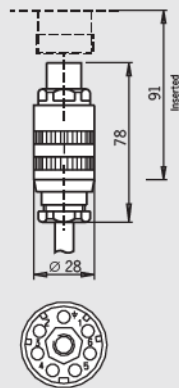
Two coding shells and screws. If used only matching connectors can be mated.

Cable (optional)

Cable sleeve PUR, color gray, wire cross-section 1.0 mm² (individual lines numbered).

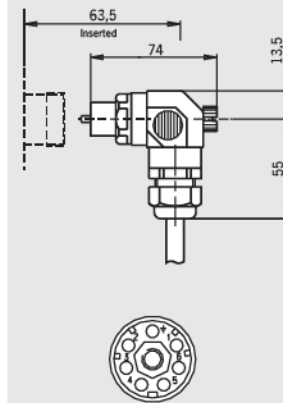
Female plug SR6 EF 6-pin + PE

Dimension drawings



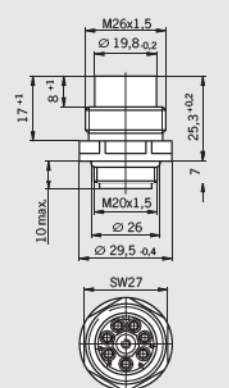
View of connection side, socket

Female plug SR6 WF angled 6-pin + PE



View of connection side, socket

Male socket SR6 AM 6-pin + PE

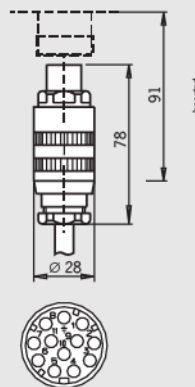


View of connection side, plug

Pin assignment for plug with cable

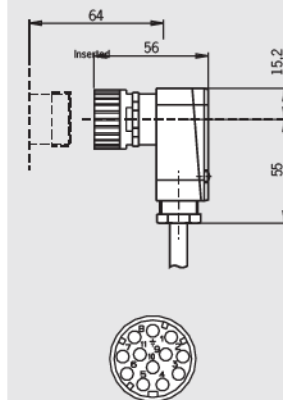
SR6		SR11	
Pin	Wire	Pin	Wire
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
⊕	7	7	7
		8	8
		9	9
		10	10
		11	11
		⊕	12

Female plug SR11 EF 11-pin + PE



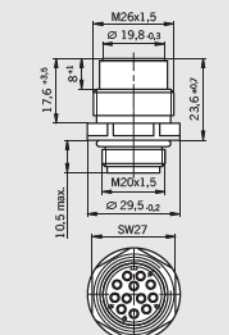
View of connection side, socket

Female plug SR11 WF angled 11-pin + PE



View of connection side, socket

Male socket SR11 AM 11-pin + PE



View of connection side, plug

Ordering table

Designation	Version	Cable				
		None	5 m	10 m	15 m	25 m
SR6 ¹⁾ 6-pin + PE	EF Female plug	013 176 SR6EF	077 632 SR6EF-5000	077 633 SR6EF-10000	077 634 SR6EF-15000	-
	WF Female plug angled	024 999 SR6WF	077 638 SR6WF-5000	077 639 SR6WF-10000	077 640 SR6WF-15000	-
	K Coding shells	013 178 SR6K	-	-	-	-
	AM Male socket, connection M20 x 1.5	087 180 SR6AM2-M20	-	-	-	-
SR11 ¹⁾ 11-pin + PE	EF Female plug	070 859 SR11EF	077 629 SR11EF-5000	077 630 SR11EF-10000	077 631 SR11EF-15000	094 749 SR11EF-25000
	WF Female plug angled	054 773 SR11WF	077 635 SR11WF-5000	077 636 SR11WF-10000	077 637 SR11WF-15000	-
	AM Male socket, connection M20 x 1.5	091 296 SR11AM2-M20	-	-	-	-
SR6 and SR11	Socket crimp contacts Wire cross-section 0.5 - 1.5 mm	071 260 SRF	-	-	-	-
	Pin crimp contacts Wire cross-section 0.5 - 1.5 mm	071 261 SRM	-	-	-	-

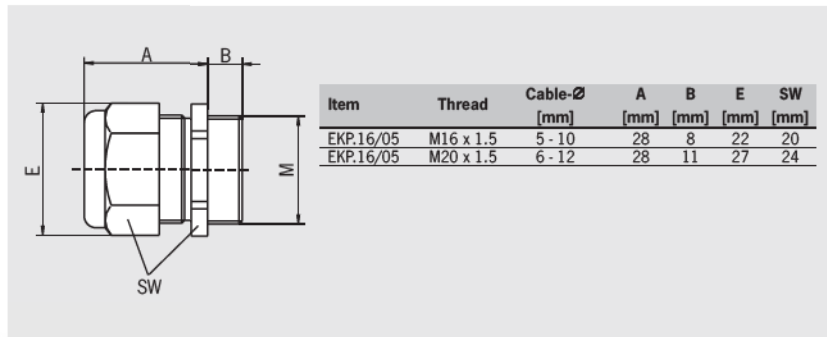
1) Crimp contacts supplied. For information on crimp contacts see page 98.

Cable glands

- M16 x 1.5
- M20 x 1.5

Cable glands

Suitable for various cable diameters. Versions available in plastic and metal.



Ordering table

Thread	Version	Material	
		Metal	Plastic
M16 x 1.5	Cable diameter 5 – 10 mm	-	084 572
			EKPM16/05
M20 x 1.5	Cable diameter 6 – 12 mm	-	086 233
			EKPM20/06

LED displays for safety switches GP/ TP and STP

- LED set
- Built-in LED

LED set
For safety switches TP/STP

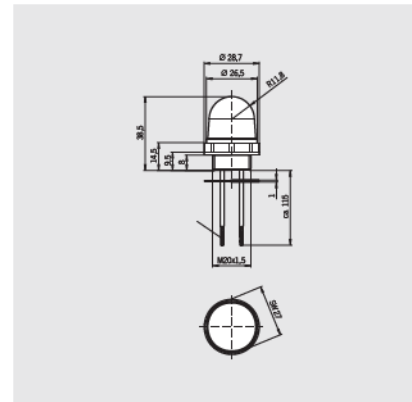
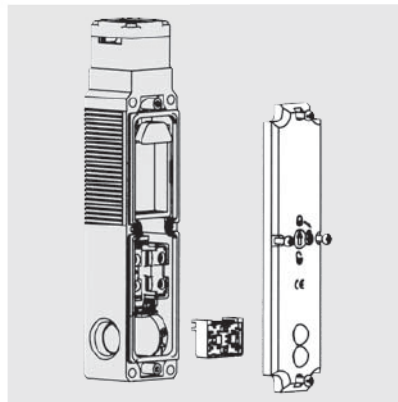
Built-in LED
For safety switches GP/TP/STP/STA

LED set

Consisting of cover with lamp caps, LED module with rectifier and two LEDs (green/red). For retrofitting safety switches TP and STP with an LED display.
Operating voltage AC/DC 24 V +10%, -15%.

Built-in LED

The built-in LED is suitable for direct installation in one of the M20 x 1.5 threads of the three cable entries of the safety switches GP/TP/STP. The built-in LED indicates to the user whether the switch is locked or whether the door is open/closed.
The switching element can be wired individually.
Operating voltage DC 24 V +10%, -15%.



Ordering table

Designation	Version	Use	Packaging unit	Order No.
LED set	Incl. cover with lamp caps and LED module with rectifier and 2 LEDs (red/green)	For safety switches TP	1 ea.	093 752 LED set TP
		For safety switches STP	1 ea.	098 035 LED set STP
Built-in LED (IP65)	Color red for cable entry M20 x 1.5, with seal light radiation to side	For safety switches GP/TP/STA/STP	1 ea.	087 423 LED M20x1.5
	Color red for cable entry M20 x 1.5, with seal light radiation to front	For safety switches GP/TP/STA/STP	1 ea.	095 510 LED-F M20x1.5

Miscellaneous accessories

- ▶ **Latch spring for increased retention force**
- ▶ **Lockout bar**
- ▶ **Lock for mechanical release**

Latch spring

Provides an increased retention force of approx. 30N for the safety switches NP and GP or TP in unlocked condition.

May only be used in conjunction with the straight actuator with rubber bush (Order No. 070 046).

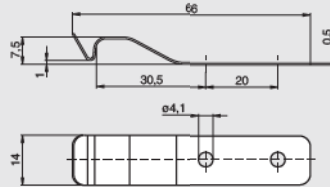
Lockout bar

With the safety door open, can be slid into the actuating head on a switch with separate actuator (NP/GP/TP) instead of an actuator. Removal can be prevented using a commercially available padlock (max. 2 ea.). For the protection of people in areas with a possible hazard.

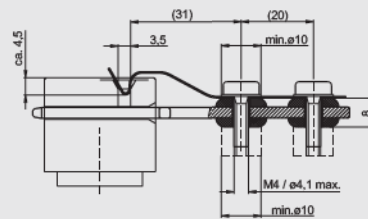
Latch spring for increased retention force

For safety switches NP/GP/TP

Dimension drawings

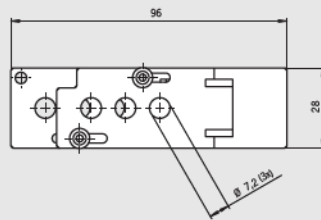
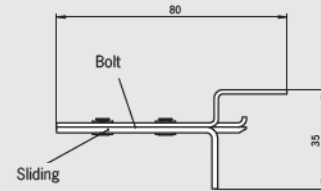


Installation example



Lockout bar

For safety switches NP/GP/TP



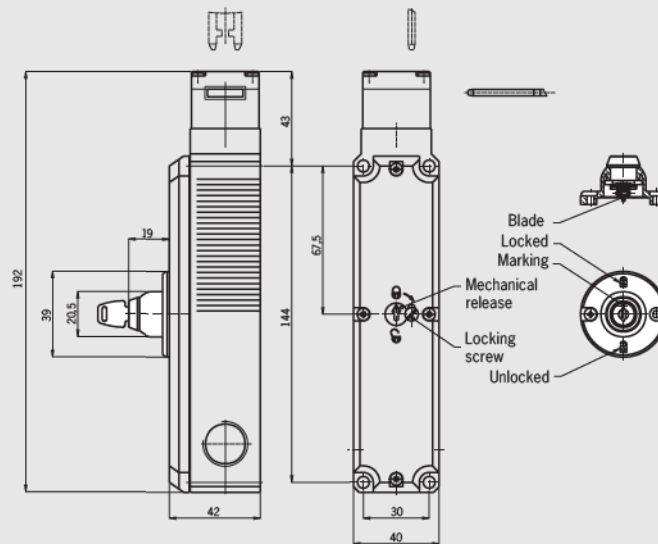
Lock

The lock is used in combination with safety switch TP/STP. The mechanical key release enables authorized personnel to actuate the mechanical release using the related key in certain situations. The unlocking mechanism holds the solenoid in the "unlocked" position. Two screws are used to fix the lock to the cover of the safety switch TP/STP (above the mechanical release).

- ▶ Order safety switch TP/STP separately
- ▶ 2 keys are included
- ▶ Every safety switch of the series TP/STP can be upgraded to include a lock

Lock

For safety switches TP/STP



Ordering table

Designation	Version	Use	Order No.
Lockout bar	2 holes	For safety switches NP/GP/TP	096 105 Lockout bar
Latch spring		For safety switches NP/GP/TP	076 501 Latch spring NP/TP
Lock	Unique locking (unique key needed to open)	For safety switches TP/STP	084 177 Lock TP
	Identical locking (identical locks)	For safety switches TP/STP	086 236 Lock TP
	Replacement key (2 ea.) for identical locking	For safety switches TP/STP/SGP-TW	099 434 Replacement key for identical TP

Miscellaneous accessories

- **Emergency unlocking for safety switches TP/STP**
- **Emergency unlocking for safety switches STA**
- **Emergency unlocking with automatic reset for safety switches TP/STP**
- **Triangular key for safety switches TK**

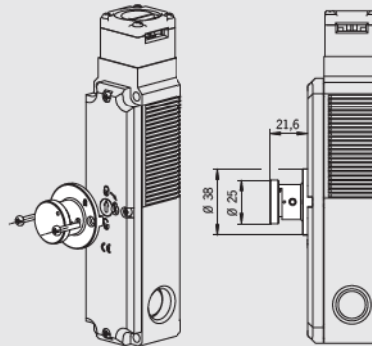
Emergency unlocking

Is used for the manual release of the guard locking without tools. The emergency unlocking mechanism must be returned to the locked state manually. A sealing wire can be fitted to protect against tampering.

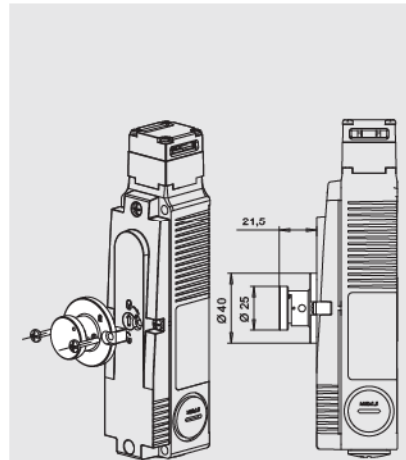
Attention: Prior to mounting, the locking screw for the mechanical release must be removed.

Emergency unlocking For safety switches TP/STP

Dimension drawings



Emergency unlocking For safety switches STA

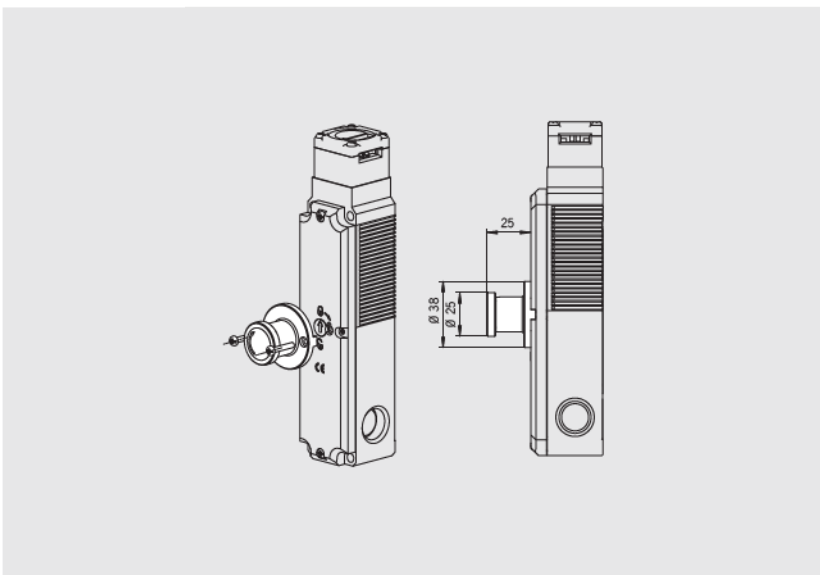


Release

Is used for manual unlocking of the guard locking. The integrated spring automatically resets the release to the locked state.

Attention: Prior to mounting, the locking screw for the mechanical release must be removed.

Emergency unlocking with automatic reset For safety switches TP/STP



Ordering table

Designation	Version	Use	Best. Nr.
Emergency unlocking	Incl. 2 screws M3 x 17	For safety switches TP/STP	099 877 Emergency unlocking TP/STP
	Incl. 2 screws M3 x 17	For safety switches STA	099 876 Emergency unlocking STA
Emergency unlocking with automatic reset	Incl. 2 screws M3 x 17	For safety switches TP/STP	103 110 Emergency unlocking with automatic reset TP/STP
Triangular key	DIN 22417 M5 100 mm	For safety switches TK	103 057 Triangular key

Miscellaneous accessories

- ▶ **Wire front release (bowden)**
- ▶ **Handle for wire front release (bowden)**
- ▶ **Safety screws**
- ▶ **Replacement screws**

Wire front release (bowden)

Flexible routing of the cabling rope permits release of the guard locking in all installation situations.

- ▶ Use as emergency unlocking in the case of inaccessible mounting of the safety switch.
- ▶ Use as escape release for release of the guard locking from within the danger area.
- ▶ Can be retrofitted on all safety switches series TP/STP.

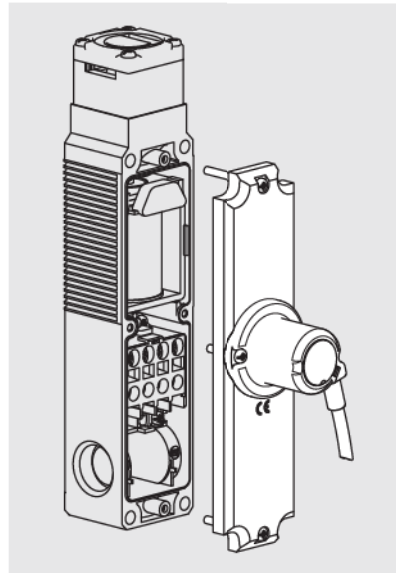
Safety screws

To prevent unscrewing of actuators and actuating heads. The screws can be tightened using a normal tool, but cannot be removed again.

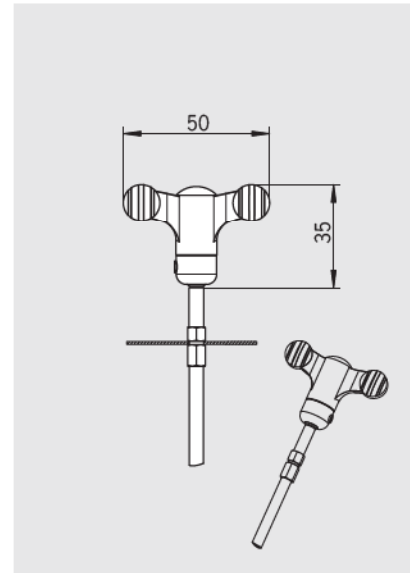
Replacement screws

For mounting actuating heads (not safety screws).

Front wire release (bowden)
For safety switches TP/STP



Handle for front wire release
For safety switches TP/STP

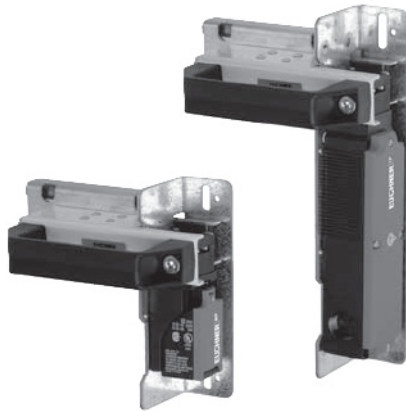


Ordering table

Designation	Version	Use	Order No.
Front wire release (bowden) pre-assembled incl. cover and pull wire	Length 3 m (2 m sheathed)	For safety switches TP	096 230 BW-TP-C-2000
	Length 4 m (3 m sheathed)	For safety switches TP	098 313 BW-TP-C-3000
	Length 5 m (4 m sheathed)	For safety switches TP	098 314 BW-TP-C-4000
	Length 3 m (2 m sheathed)	For safety switches STP	097 952 BW-STP-C-2000
Handle for wire front release		For safety switches TP/STP	099 795 BW handle
Safety screws VPE: 100 ea.	M5 x 25	For hinged actuators for top and bottom hinged doors of series NM..VZ, NP..., GP... and TP...	073 457 M5x25/V100
	M5 x 10 Material: stainless steel	For actuators straight/bent/hinged actuators for right and left hung doors of series NM..VZ, NP..., GP... and TP...	073 455 M5x10/V100
	M4 x 14	For all actuators in series NM..VZ	074 063 M4x14/V100
	M4 x 14 Material: stainless steel	For actuators straight/bent/hinged with bush of series NP..., GP... and TP...	086 232 M4x14/V100
	PL3x30	Cap screws for series NP...A, GP... and TP...A	075 532 PL3x30/V100
	PL3x26	Cap screws for series NM..AL, NM..AG, NM..AK, NM..AV and NM..VZ	085 576 PL3x26/V100
	PL3x8	Cap screws for series NM..HB, NM..KB, NM..RB and NM..WO	085 577 PL3x8/V100
Replacement screws VPE: 100 ea. (not safety screws)	PL3x30 Material: stainless steel	Cap screws for series NP...A, GP... and TP...A	082 237 PL3x30/V100
	PL3x38	Cap screws for series NP...K and TP...K	076 755 PL3x38/V100

Bolt for safety guards for safety switches NP, GP and TP

- ▶ For left or right hinged doors



Features

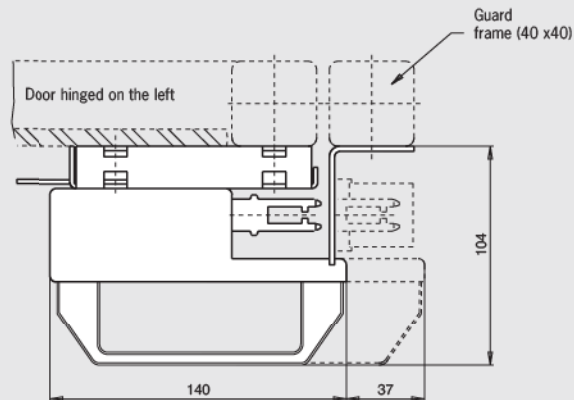
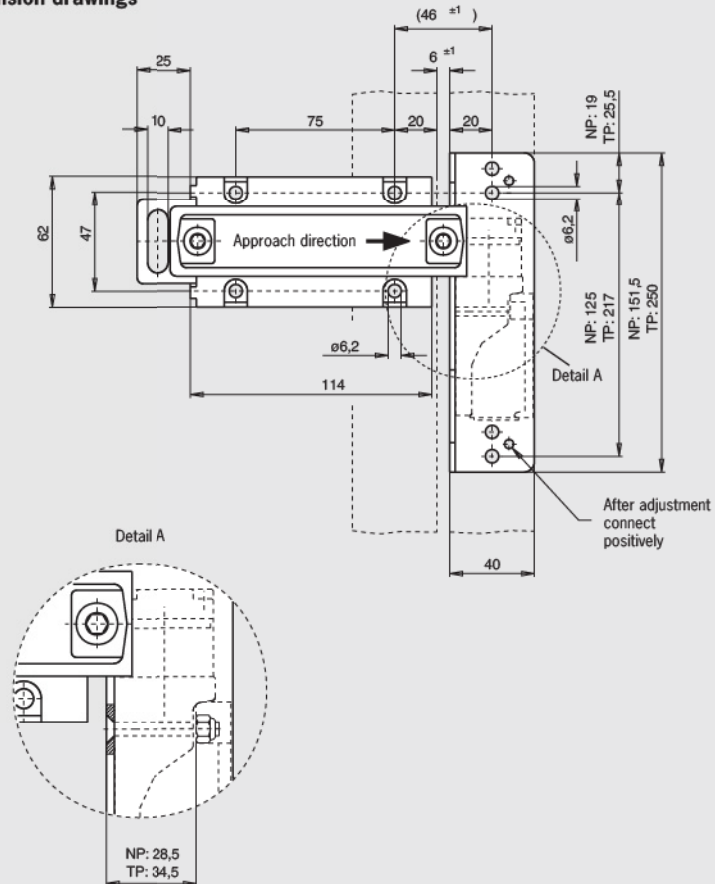
- ▶ Easily fitted to standard aluminum profiles and machine covers by screw connection
- ▶ Distinctive yellow color for easy recognition
- ▶ Symmetrical design for doors hinged on the right or left
- ▶ No additional door handle necessary
- ▶ Automatic detent mechanism when bolt is moved to the locked position (only available on **bolt 1 NP/TP** version)
- ▶ Detent mechanism prevents unintentional opening of the hinged door
- ▶ Slot on the bolt permits attachment of padlocks
- ▶ Identical bolt for safety switches series **NP...AS** and **TP...A**

Notes

- ▶ Switch bracket **NP** is suitable only for the series **NP...AS**
- ▶ Switch bracket **TP** is suitable only for the series **TP...A** and **GP**
- ▶ Actuator included
- ▶ Please order safety switch and switch bracket separately

Bolt for safety switches NP..AS/GP.../TP...A

Dimension drawings



Ordering table

Designation	Detent mechanism	Version	Order No.
Bolt 0 NP/TP	None	For right or left hinged doors (also for GP)	073 535 Bolt 0 NP/TP
Bolt 1 NP/TP	1 x detent mechanism closed	For right or left hinged doors (also for GP)	073 536 Bolt 1 NP/TP
Switch bracket NP		Separate	073 538 Switch bracket NP
Switch bracket TP		Separate (also for GP)	073 539 Switch bracket TP

Bolt for safety guards for safety switches GP and TP

- ▶ Lever for escape release from the danger area (optional)



Special features

(only for bolt TP-AF and TP-CF with escape release)

- ▶ Bolt with detent mechanism
The bolt latches in open position to prevent unintended closing
- ▶ Lever for escape release from the danger area

Features

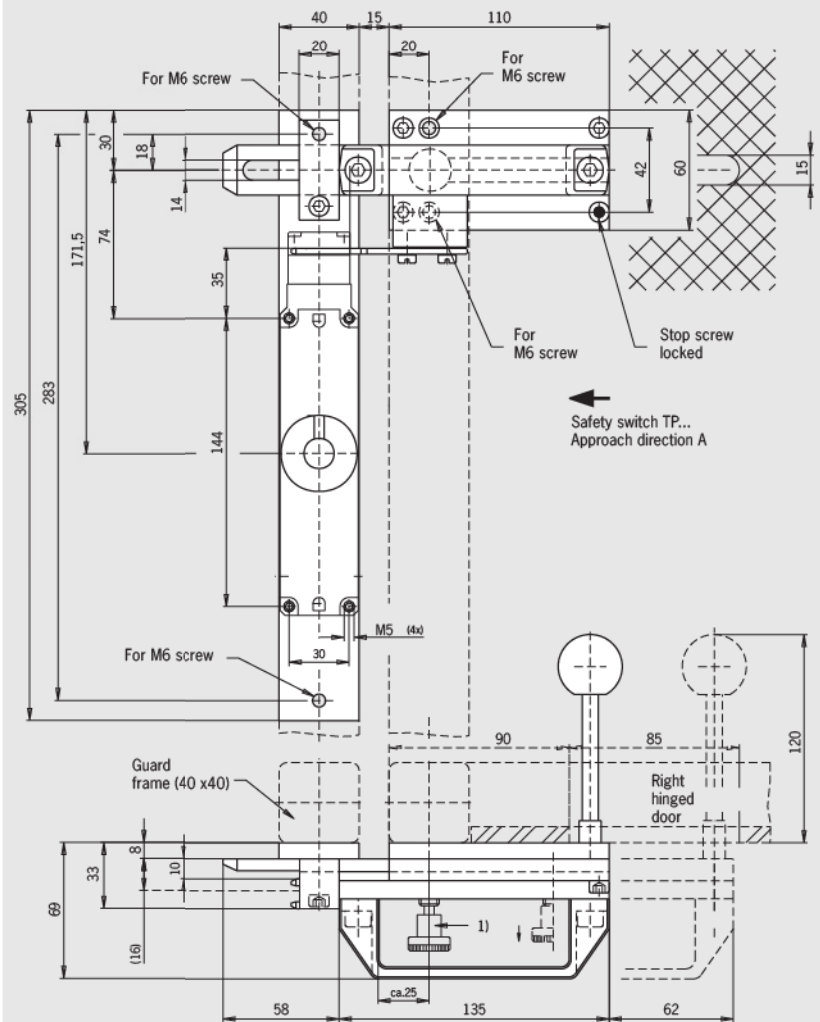
- ▶ Easily fitted to standard aluminum profiles and machine covers by screw connection
- ▶ Distinctive yellow color for easy recognition
- ▶ Robust version for heavy doors
- ▶ No additional door handle necessary
- ▶ Slot on the bolt permits attachment of padlocks

Notes

- ▶ The bolts are suitable only for the series **TP...A** and **GP**
- ▶ Actuator included
- ▶ Please order safety switch separately

Bolt for safety switches GP.../TP...A/TP.A.-C1743/TP...A.-C1993

Dimension drawings (here: shown with escape release)



1) Bolt with detent mechanism (only for bolt TP-AF and TP-CF with escape release):
Latches in open position and prevents unintended closing of the bolt.
Unlocked by pulling the detent knob upward.

Ordering table

Designation	Detent mechanism	Version	Order No.
Bolt TP-AF	Detent knob	For right hinged doors with escape release	086 186 Bolt TP-AF
Bolt TP-CF	Detent knob	For left hinged doors with escape release	086 188 Bolt TP-CF
Bolt TP-A	None	For right hinged doors without escape release (also for GP)	084 430 Bolt TP-A
Bolt TP-C	None	For left hinged doors without escape release (also for GP)	084 432 Bolt TP-C

Bolt for safety guards for safety switches GP, SGP, TP, STA and STP

- ▶ **Material:** reinforced plastic
- ▶ **Lever for escape release from the danger area**
- ▶ **For left or right hinged doors**



Special features

- ▶ Bolt with detent mechanism (only for bolts with escape release)
The bolt latches in open position to prevent unintended closing

Features

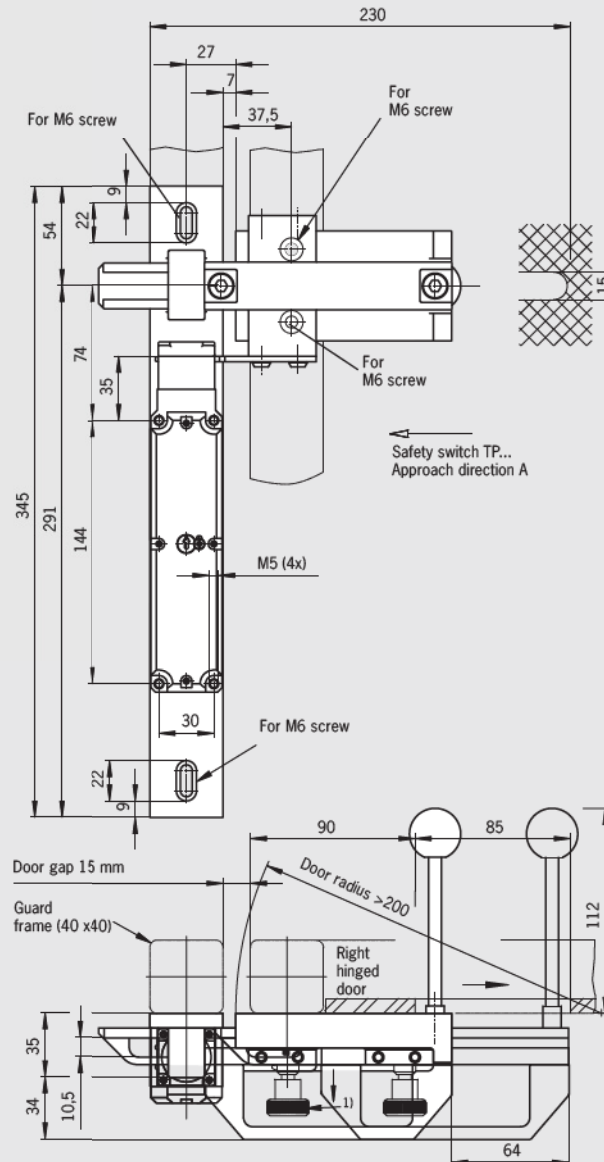
- ▶ Easily fitted to standard aluminum profiles and machine covers by screw connection
- ▶ Distinctive yellow color for easy recognition
- ▶ Robust version for heavy doors
- ▶ No additional door handle necessary
- ▶ Slot on the bolt permits attachment of padlocks

Notes

- ▶ Functions only in conjunction with switch bracket **TP-GFK**
- ▶ Actuator included
- ▶ Please order safety switch separately
- ▶ Order switch bracket separately

Bolt for safety switches GP.../TP...A/TP..A.-C1743/TP...A.-C1993

Dimension drawings (here: shown with escape release)



- 1) Bolt with detent mechanism (only for bolts with escape release):
Latches in open position and prevents unintended closing of the bolt.
Unlocked by pulling the detent knob upward.

Ordering table

Designation	Detent mechanism	Version	Order No.
Bolt TP-GFK-F	Detent knob	For right or left hinged doors with escape release (also for GP)	097 602 Bolt TP-GFK-F
Bolt TP-GFK	without	For right or left hinged doors without escape release (also for GP)	096 616 Bolt TP-GFK
Bolt STP-GFK	without	For right or left hinged doors without escape release (also for SGP/STA)	098 121 Bolt STP-GFK
Switch bracket TP-GFK		Separate (also for GP/SGP/STP/STA)	096 613 Switch bracket TP-GFK