

Position Switches Series 8070

- Explosion protection to
 - CENELEC
 - IEC
- For use in
 - Zone 1 and Zone 2
 - Zone 21 and Zone 22
- Enclosures have protection class "increased safety"
- Dimensions and functional measurements to EN 50041
- Replaceable contact elements in flameproof enclosure
- Positive opening contacts
- Category 1 safety position switch with:
 - extended plunger
 - roller plunger
 - roller lever plunger
 - roller lever
 - adjustable roller lever plunger
 - angled roller lever plunger
 - actuating rod
- All attachments can be displaced through $4 \times 90^\circ$
- Contact elements with snap-action contact, with slow-action contact or overlapping slow-action contact
- Design also possible with cable already attached



01618E00

STAHL

Position switches are used to monitor the position of moving parts of machines and plant.









Can be used in safety circuits, as the device satisfies EN 60 947-5-1/DIN VDE 0660 part 200, and the opening contacts are positive opening. The series 8070 position switch with positive opening contacts has been tested to the professional association test standard GS-ET 15 of the German Employer Liability Insurance Association, and is thus licensed for personnel protection functions.

Category 1 safety position switches have contact and actuating element in a single constructional and functional unit.

As a result of the galvanic isolation of the moving contacts, the position switch is suitable for switching various potentials.

Zones 1 & 2, 21 & 22

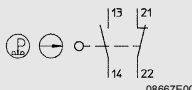
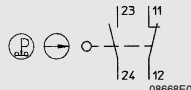
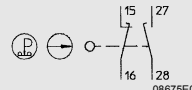
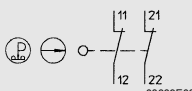
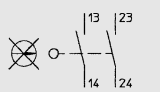
Selection table

| Version | Actuator | Ordering code | Weight kg |
|---|--|-------------------------|--------------|
|  03788E00 | Extended plunger Plunger of stainless steel | 8070/1-.-S | 0,155 |
|  03789E00 | Roller plunger Roller of moulded plastic | 8070/1-.-RS | 0,154 |
|  04550E00 | Roller lever, Form E Roller of moulded plastic | 8070/1-.-AR | 0,155 |
|  03790E00 | Roller lever, Form A Roller of moulded plastic; for minimum force 0,3 Nm | 8070/1-.-HR311 | 0,221 |
| | Roller lever, Form A Roller of moulded plastic; for minimum force 0,1 Nm | 8070/1-.-HR311NR | 0,221 |
|  04551E00 | Adjustable roller lever Roller of moulded plastic; Roller of stainless steel | 8070/1-.-HV | 0,269 |
|  09380E00 | Actuating rod Rod of moulded plastic No positively opening operation, not suitable for safety circuits! | 8070/1-.-HH-K | 0,237 |
|  04552E00 | Spring-rod actuator Spring of stainless steel Only for use with snap-action contact! No positively opening operation, not suitable for safety circuits! | 8070/1-2-F2 | 0,175 |
|  04553E00 | Safety switch Separate actuator of moulded plastic | 8070/1-1-ZB | 0,208 |
| | Safety switch Separate actuator of moulded plastic | 8070/1-3-ZB | 0,208 |

Add. to ordering code










| | | | |
|--------------------|-------------|----------------------------------|---------------------|
| Switching function | 1 NC + 1 NO | Slow-action contact | 8070/1-1-... |
| | 1 NC + 1 NO | Snap-action contact | 8070/1-2-... |
| | 2 NC | Slow-action contact | 8070/1-3-... |
| | 2 NO | Slow-action contact | 8070/1-4-... |
| | 1 NC + 1 NO | Slow-action contact, overlapping | 8070/1-5-... |
| | | | Design with cable |

Note: Actuating heads enclosed are not mounted.

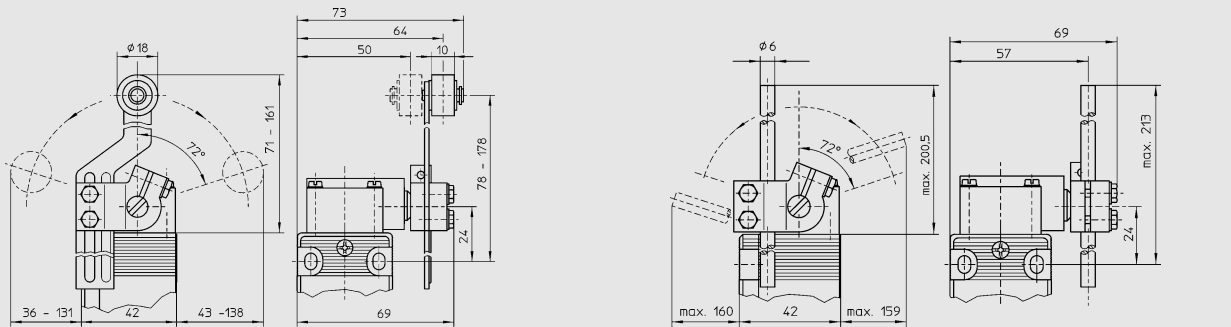
| Technical Data | |
|--|---|
| Explosion protection | |
| Gas explosion protection | ⊕ II 2 G EEx ed IIC T6 |
| Dust explosion protection | ⊕ II 2 D IP65 T80 °C |
| Certificates | |
| Gas explosion protection | PTB 01 ATEX 1053 |
| Dust explosion protection | LCIE 03 ATEX 6308 |
| Rated operational voltage U _e | 8070/1-1 8070/1-2 8070/1-5 8070/1-3 8070/1-4 |
| | Alternating current for equal potential: max. 500 V Alternating current for unequal potential: max. 250 V Direct current: 250 V |
| Rated working current I _e | max. 10 A |
| Switching capacity | AC 12 AC 15 DC 12 |
| | 8070/1-1 8070/1-2 8070/1-5 8070/1-3 8070/1-4 8070/1- 8070/1-1 8070/1-2 8070/1-5 8070/1-3 8070/1-4 |
| | max. 250 V max. 500 V **) max. 10 A max. 5000 VA max. 400 V max. 500 V **) max. 10 A max. 4000 VA max. 250 V max. 500 V **) max. 10 A max. 1000 VA max. 400 V max. 500 V **) max. 10 A max. 1000 VA max. 125 V max. 10 A max. 400 W |
| | **) only at the same potential |
| Rated isolation voltage | 550 V |
| Rated impulse withstand voltage | 6 kV |
| Back-up fuse | 10 A gL / gG |
| Contact block | |
| Version | Slow-action contact Snap-action contact Slow-action contact, overlapping |
| |  8070/1-1  8070/1-2  8070/1-5 |
| |  8070/1-3 |
| |  8070/1-4 |
| | Attention: Functions positive opening ⊖ and operator safety ⊕ depend on actuating head used |
| Contact arrangement | 2-pole, galvanically isolated, with double break action |
| Clearance between open contacts | ≥ 1,5 mm (Clearance distance ≥ 3 mm) |
| Contacts | Silver-Nickel |
| Life | |
| mechanical | max. 10 ⁶ Operations |
| electrical | max. 10 ⁶ Operations |
| Enclosure contact block | Polyamide, glass fibre-reinforced |
| Ambient temperature | - 25 °C ... + 70 °C |
| Degree of protection | IP 65 |
| Enclosure | Polyamide, glass fibre-reinforced, black |
| Cable glands | Cable entry 8161, M 20 x 1,5 |
| Connection | With cable entry 8161: For sheathed cable 4 x 2,5 mm ² , Ø 6 - 13 mm; recommended 4 x 1,5 mm ² With mounted cable: Sheathed cable HK-SO-X05VV-F-OZ 4 x 1,5 mm ² , cable length 6 m |
| Terminals | 1 x 2,5 mm ² (solid) or 2 x 1 mm ² (flexible) |
| Mechanical shock resistance | Snap-action contact: 2 g Slow-action contact: 20 g |



Accessories and spare parts

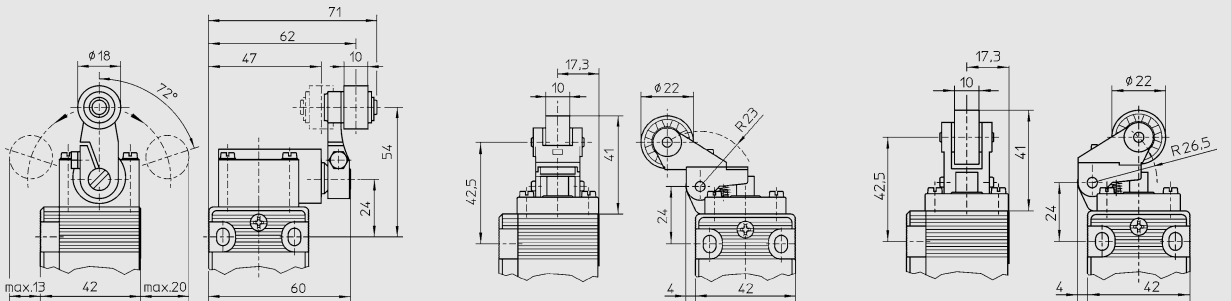
| Designation | Illustration | Ordering code | Weight kg |
|----------------|---|---|-------------------------|
| Actuating head |  05652E00 | Extended plunger 8070/1- . -S | 8070001170 0,044 |
| |  05653E00 | Roller plunger 8070/1- . -RS | 8070002170 0,042 |
| |  05653E00 | Roller lever, Form E 8070/1- . -AR | 8070003170 0,046 |
| |  05706E00 | Angled roller lever, Form A depends on lever mounting | |
| |  05655E00 | Roller lever, Form A Roller of moulded plastic 8070/1- . -HR311 | 8070004170 0,099 |
| | | Roller lever, Form A Roller of moulded plastic 8070/1- . -HR311NR | 8070012170 0,099 |
| |  05656E00 | Adjustable roller lever 8070/1- . -HV | 8070005170 0,148 |
| |  05657E00 | Actuating rod 8070/1- . -HH-K | |
| | Spring-rod actuator 8070/1- 2 -F2 Only for use with snap-action contact! | 8070007170 0,059 | |
| |  05658E00 | | |
| Contact block |  10809E00 | 1 NC + 1 NO Slow-action contact 8070/1-1 | 8080010600 0,025 |
| | | 1 NC + 1 NO Snap-action contact 8070/1-2 | 8080012600 0,025 |
| | | 2 NC Slow-action contact 8070/1-3 | 8080013600 0,025 |
| | | 2 NO Slow-action contact 8070/1-4 | 8080014600 0,025 |
| | | 1 NC + 1 NO Slow-action contact, overlapping 8070/1-5 | 8080015600 0,025 |

Dimension drawings (all dimensions in mm) - subject to alterations



8070/1-.-HV
Adjustable roller lever

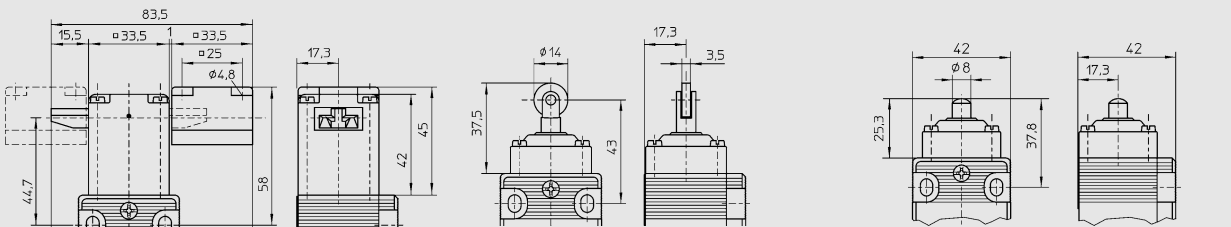
8070/1-.-HH-K
Actuating rod



8070/1-.-HR311..
Roller lever, Form A

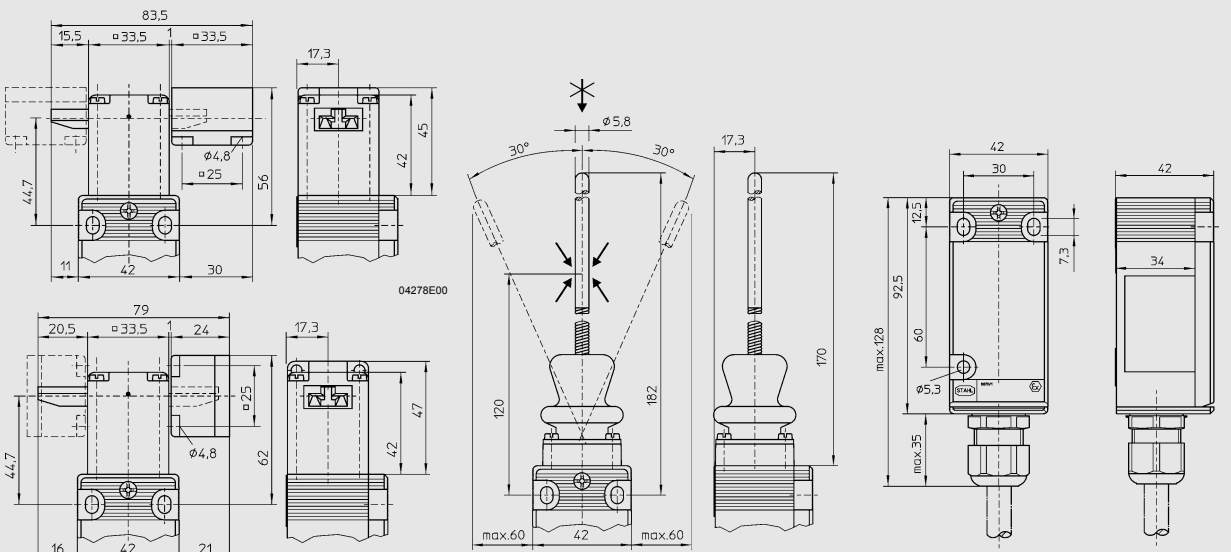
8070/1-.-AR
Angled roller lever

8070/1-.-AR
Roller lever, Form E



8070/1-.-RS
Roller plunger

8070/1-.-S
Extended plunger



8070/1-.-ZB
Safety switch with separate actuator

8070/1-2-F2
Spring rod actuator

8070/1-.-OV
Position switch without drive

