



# SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

TO 10 (1.5) A 250 V AC



## PRODUCT FEATURES

- Small, efficient snap-action switches up to 10 (1.5) A 250 V AC or 10.1 A 125 - 250 V AC 1/4 HP
- Lateral approach from both directions possible due to mushroom-shaped actuator
- Large selection of auxiliary actuators of chrome-nickel steel and plastic

## ON REQUEST

- Extended overtravel
- Material conformant with the filament wire test acc. to IEC 60335-1:2001 chap. 30
- Increased or reduced difference travel
- Other operating forces and ratings
- Gold-plated contacts

|   |  |
|---|--|
| Design  | DIN 41635 B  |
| Mechanical life endurance   | 10E6<br>1E6 (versions with auxiliary actuator)           |
| Contact resistance (new condition)  | < 100 mOhm (1 A 12 V DC)                                 |
| Insulation resistance (new condition)   | > 100 MOhm (500 V DC)                                    |
| Proof tracking  | 175 PTI  |
| Protection type   | IP 40 (actuator side)                                    |
| Ambient temperature   | -40 °C ... +100 °C                                       |
| Flammability  | UL 94 V-2  |
| Glow wire test temperature  | 850 °C   |
| Material  | PA glass fiber-reinforced / stainless steel spring steel |
| additional actuator   |  |
| housing   | PBTP   |
| terminals   | tinned / silver plated / blank (product-dependent)       |
| Bounce time   | < 5 ms   |
| Approval marks  |  |
| Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side |  |

ROCKERSWITCHES  
 PUSHBUTTON SWITCHES  
 TOGGLE SWITCHES  
 SLIDE SWITCHES  
 ROTARY SWITCHES  
 FOOT SWITCHES  
 TACT AND KEY SWITCHES  
 SNAP-ACTION SWITCHES  
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|   |  | 10 (1.5) A 250 V AC 1E4 | 5 A 250 V AC 5E4 | 2 (0.5) A 250 V AC 25E3 | 10.1 A 125 - 250 V AC 1/4 HP | 5 A 125 - 250 V AC 1/10 HP | 2 A 125 - 250 V AC | Terminal type | Terminal description | Contact material | Operating force (N) | Operating position (OP) (mm) | Difference travel max. (mm) | Free position (FP) max. (mm) | Permissible total travel position (TP) (mm) | Actuator description | Lever drawing | Miscellaneous                            | Stock version |
|---|--|-------------------------|------------------|-------------------------|------------------------------|----------------------------|--------------------|---------------|----------------------|------------------|---------------------|------------------------------|-----------------------------|------------------------------|---|----------------------|---------------|--|---------------|
| <b>Normally closed contact (SPNC)</b>     |  |                         |                  |                         |                              |                            |                    |               |                      |                  |                     |                              |                             |                              |   |                      |               |  |               |
| 1050.1142                                 |  | o                       |                  |                         |                              |                            |                    |               | 2.8 x 0.5            | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  |               |
| <b>Normally open contact (SPNO)</b>       |  |                         |                  |                         |                              |                            |                    |               |                      |                  |                     |                              |                             |                              |   |                      |               |  |               |
| 1050.0122                                 |  | o                       |                  |                         |                              |                            |                    |               |                      | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.1122                                 |  | o                       |                  |                         |                              |                            |                    |               | 2.8 x 0.5            | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.2122                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  |               |
| 1050.1426                                 |  |                         |                  |                         |                              |                            |                    |               | 2.8 x 0.5            | Ag               | ≤ 1.5               | 9.9 ± 0.3                    | 0.2                         | 10.8                         | 8.6   |                      |               | greater overtravel without approval mark |               |
| <b>Changeover switch (SPDT momentary)</b> |  |                         |                  |                         |                              |                            |                    |               |                      |                  |                     |                              |                             |                              |   |                      |               |  |               |
| 1050.0103                                 |  | o                       |                  |                         |                              |                            |                    |               |                      | Ag               | ≤ 2.2               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.2403                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 2.2               | 8.4 ± 0.3                    | 0.1                         | 9.3                          | 7   |                      |               | greater overtravel                       |               |
| 1050.0102                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.0202                                 |  | o                       |                  |                         |                              |                            |                    |               |                      | Ag               | ≤ 1.5               | 9.9 ± 0.3                    | 0.2                         | 10.8                         | 9.1   |                      |               |  | o             |
| 1050.0802                                 |  | o                       |                  |                         |                              |                            |                    |               |                      | Ag               | ≤ 5                 | 9.9 ± 0.3                    | 0.2                         | 10.8                         | 9.3   |                      |               | foam sealing ring around pushbutton      |               |
| 1050.1102                                 |  | o                       |                  |                         |                              |                            |                    |               | 2.8 x 0.5            | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.1202                                 |  | o                       |                  |                         |                              |                            |                    |               | 2.8 x 0.5            | Ag               | ≤ 1.5               | 9.9 ± 0.3                    | 0.2                         | 10.8                         | 9.1   |                      |               |  | o             |
| 1050.2102                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.2202                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 1.5               | 9.9 ± 0.3                    | 0.2                         | 10.8                         | 9.1   |                      |               |  | o             |
| 1050.3102                                 |  | o                       |                  |                         |                              |                            |                    |               |                      | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               | fixing pin                               | o             |
| 1050.4102                                 |  | o                       |                  |                         |                              |                            |                    |               |                      | Ag               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               | fixing pin                               | o             |
| 1050.5202                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 0.5               | 11.1 ± 1.5                   | 1.0                         | 15                           | 7.4   |                      | L02           |  | o             |
| 1050.5702                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 0.6               | 16.2 ± 1.5                   | 1.0                         | 20                           | 13  |                      | L12           |  | o             |
| 1050.6702                                 |  | o                       |                  |                         |                              |                            |                    |               | 2.8 x 0.5            | Ag               | ≤ 0.6               | 16.2 ± 1.5                   | 1.0                         | 20                           | 13  |                      | L12           |  | o             |
| 1050.7202                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 0.5               | 11.1 ± 1.5                   | 1.0                         | 15                           | 7.4   |                      | L02           |  | o             |
| 1050.7702                                 |  | o                       |                  |                         |                              |                            |                    |               | sealed               | Ag               | ≤ 0.6               | 16.2 ± 1.5                   | 1.0                         | 20                           | 13  |                      | L12           |  |               |
| 1050.0151                                 |  |                         | o                |                         |                              |                            |                    |               | sealed               | Au               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.1151                                 |  |                         | o                |                         |                              |                            |                    |               | 2.8 x 0.5            | Au               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.2151                                 |  |                         | o                |                         |                              |                            |                    |               | sealed               | Au               | ≤ 1.5               | 8.4 ± 0.3                    | 0.2                         | 9.3                          | 7.5   |                      |               |  | o             |
| 1050.5251                                 |  |                         | o                |                         |                              |                            |                    |               | sealed               | Au               | ≤ 0.5               | 11.1 ± 1.5                   | 1.0                         | 15                           | 7.4   |                      | L02           |  |               |
| 1050.5305                                 |  |                         | o                |                         |                              |                            |                    |               | sealed               | Au               | ≤ 0.6               | 16.6 ± 0.2                   | 1.0                         | 20                           | 13.6  |                      | L43           |  | o             |

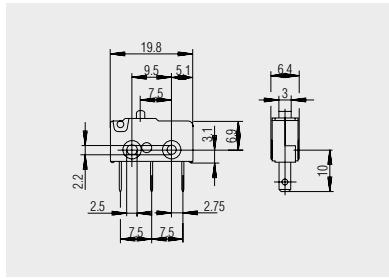


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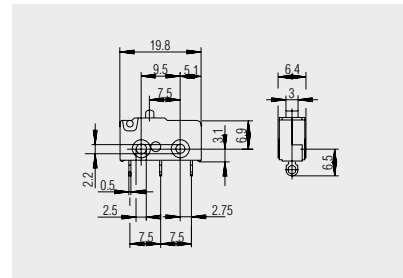
TO 10 (1.5) A 250 V AC



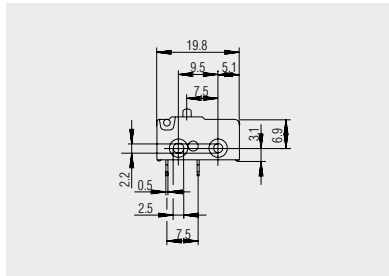
Terminal variants



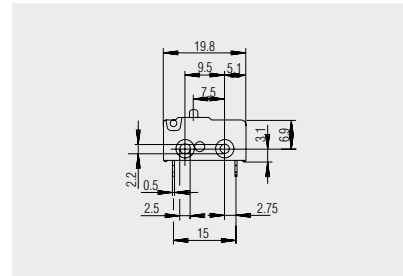
Quick-connect terminal 2.8 x 0.5



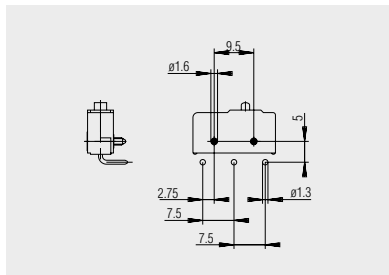
Solder terminal



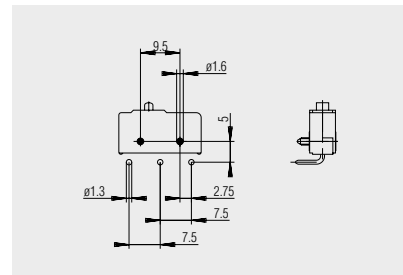
Solder terminal normally open contact version



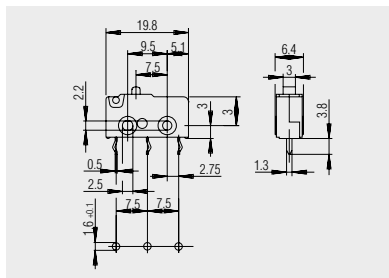
Solder terminal normally closed contact version



PCB terminal (cover side) right angled



PCB terminal (base side) left angled



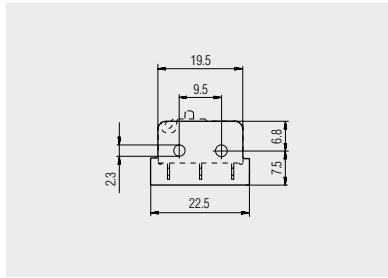
PCB terminal sealed

ROCKER SWITCHES  
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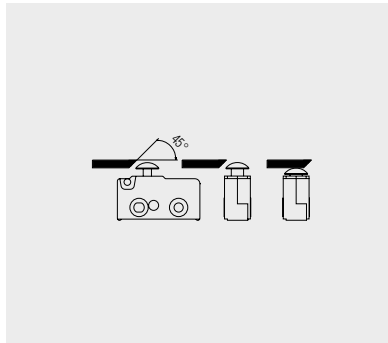
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Additional parts

Insulating plate for solder terminal  
0.5 mm: 231.005.021



Mushroom-shaped actuator

The mushroom-shaped actuator allows, in addition to the vertical actuation from above, lateral approach from any direction. In such application cases, an angle of 45° is necessary on the actuating element (angle for versions with extended overtravel on request). To keep the friction here to a minimum, we recommend the use of materials with a low friction coefficient in relation to the material PA. In addition, the surface of the actuating element should be free from valleys. The mechanical life endurance depends on the material and surface properties as well as on the form of the slide.

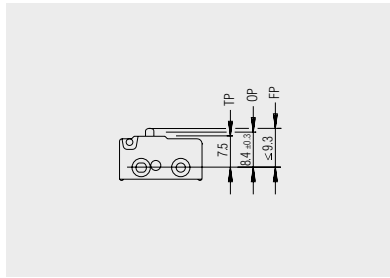


# SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

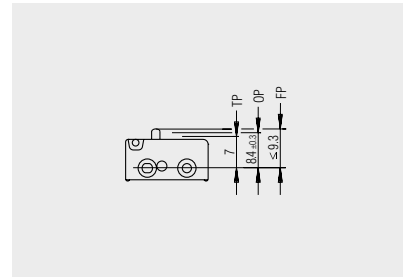
TO 10 (1.5) A 250 V AC



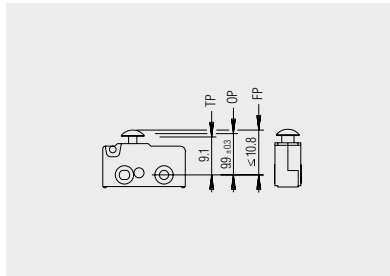
Switching positions



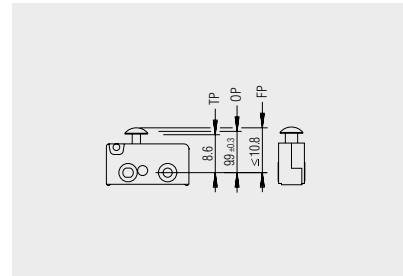
Standard actuator



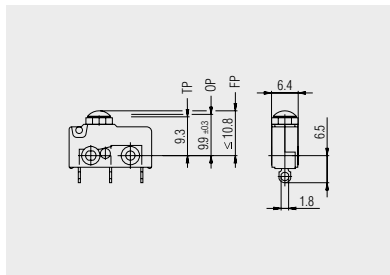
Standard actuator and extended overtravel



Mushroom-shaped actuator



Mushroom-shaped actuator and extended overtravel



Mushroom-shaped actuator with foam sealing ring

ROCKER SWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES

SENSORS

ECO

PUSH N' DRIVE



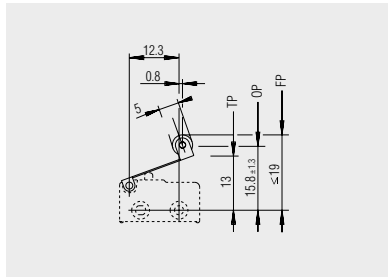
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TO 10 (1.5) A 250 V AC

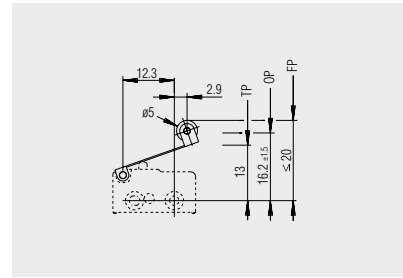


Auxiliary actuators

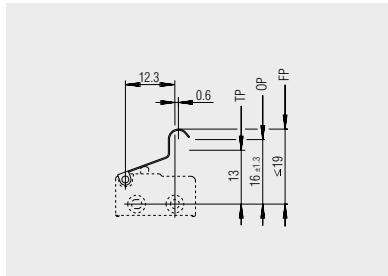
The auxiliary actuators are available as additional parts for later assembly or are already pre-assembled depending on the product. In the adjustable versions the operating position can be set application-specifically by the set screw.



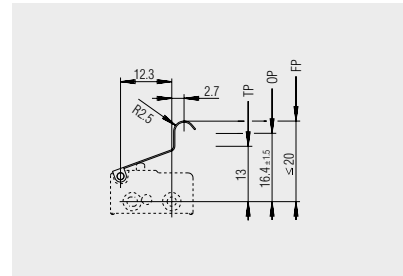
L11: roller lever  
191.078.013



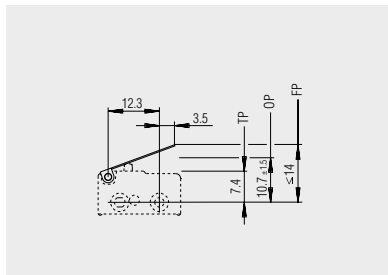
L12: roller lever  
191.078.023



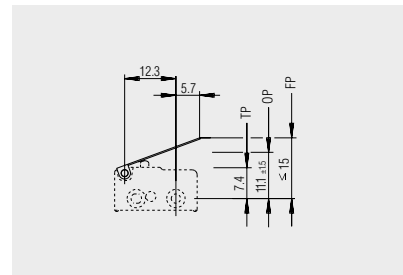
L21: simulated roller  
191.071.041



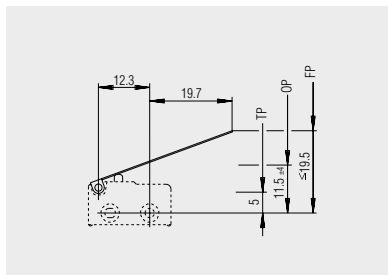
L22: simulated roller  
191.071.051



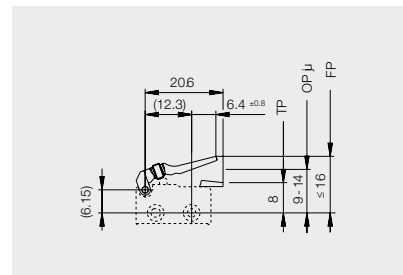
L01: straight lever  
191.071.011



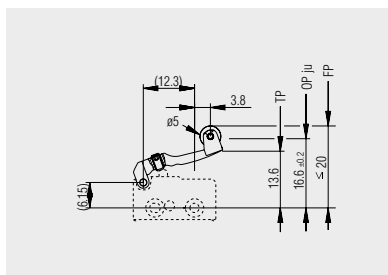
L02: straight lever  
191.071.021



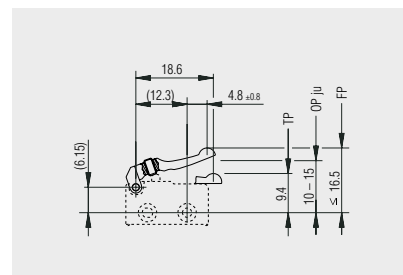
L03: straight lever  
191.071.101



L41: adjustable plastic lever  
190.075.013



L43: adjustable roller lever  
190.072.013



L45: adjustable simulated roller  
190.074.013

ROCKERSWITCHES

PUSHBUTTON SWITCHES

TOGGLE SWITCHES

SLIDE SWITCHES

ROTARY SWITCHES

FOOT SWITCHES

TACT AND KEY SWITCHES

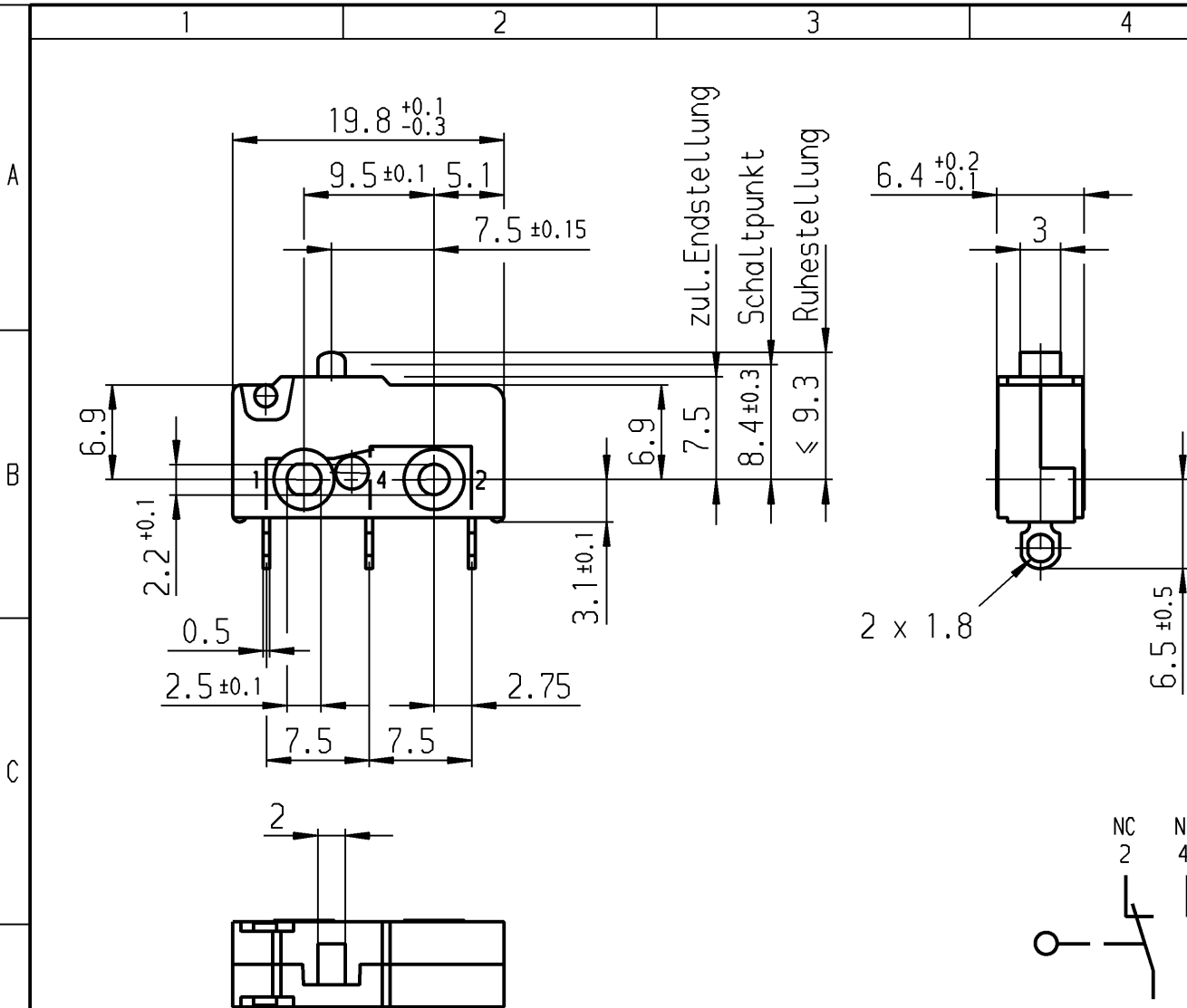
SNAP-ACTION SWITCHES

MICRO-SIGNAL SWITCHES



SENSORS

ECO

PUSH'N'DRIVE



**Aufschrift**

(M)  
 1050  $\mu$   
 2(0.5)/250~   
 25E3 T100  
 2A 125-250V AC  
 R18 

Herstelljahr/-woche  
 nach DIN EN 60062



**Wechsler 1-polig**

Schalt-Betätigungskraft  $\leq 1.50$  N  
 Rückschaltkraft  $\geq 0.50$  N  
 Differenzweg  $\leq 0.20$  mm

Kontakte vergoldet  
 Gehäuse auf Anschlußseite abgedichtet

Prüfschaltung DIN EN 61058-1 7.1.13.2.2

Schutzvermerk  
 nach DIN 34 beachten  
 COPYRIGHT RESERVED

| Allgemeintoleranzen/UNTOLERANCED DIMENSIONS  |   |               |                          |                 | PROJECTION   | Pause COPY                | Blatt von                 |  | Zeichn./DRAWING NO.   |       |           |     |
|--|---|---------------|--------------------------|-----------------|--|---------------------------|---------------------------|--|---|-------|-----------|-----|
| Für Längen und Radien FOR LENGTHS AND RADII. | Abmaße in mm Für Nennmaßbereich in mm ALL DIMENSIONS ARE IN MILLIMETRES |               |                          | Original DIN A4 |  |                           | von OF                    |  |   | 5     | 1050.0151 |     |
|  | $\pm$   | bis/UP TO 6   | über/OVER 6 bis/UP TO 30 |                 | über/OVER 30   | Maßstab SCALE             | 2:1                       |  |   |       |           |     |
| d  | 29543   | 05.05.00      | pfu                      | i               | <br>0 10 20 30 mm | gez./DRAWN BY 25.10.90 LM | Schnappschalter           |  | <br>Marquardt GmbH, D-78604 Riethim-Weilheim |       |           |     |
| c  | 0   | 07.07.94      | mk                       | h               |  |                           |                           |  |   |       |           |     |
| b  | 21724   | 28.08.92      | ble                      | g               |  |                           |                           |  |   |       |           |     |
| a  | 21052   | 12.09.91      | ble                      | f               |  |                           |                           |  |   | 38135 | 12.09.03  | sig |
| l  |   |               |                          | e               |  |                           |                           |  |   | 30390 | 12.10.00  | pfu |
| Ausg. ISSUE                                  | Änderung REVISION   | gez. DRAWN BY |                          | Ausg. ISSUE     | Änderung REVISION  | gez. DRAWN BY             | Ersatz für/REPLACEMENT OF |  |   |       |           |     |