




## DC subminiature switch

### Technical specifications

|   |  |
|---|--|
| <b>Contact configuration</b>                  | S.P.D.T., S.P.S.T. - N.O., S.P.S.T. - N.C.   |
| <b>Contact gap</b>                            | < 3 mm ( $\mu$ )   |
| <b>Switching voltage max.</b>                 | 250 VAC  |
| <b>Switched current</b>                       | 0,1 to 10 AAC (see table) depending on model   |
| <b>Operating force</b>                        | 200 to 340 cN without auxiliary actuator depending on model  |
| <b>Total travel</b>                           | ca. 1,6 mm   |
| <b>Mechanical life</b>                        | min. $1 \times 10^6$ operations (see table)  |
| <b>Electrical life</b>                        | min $10^4$ operations (see table)  |
| <b>Ambient temperature</b>                    | -40 to +85 °C/120 °C   |
| <b>Model with leads</b>                       | -40 to +105 °C   |
| <b>Proof tracking index</b>                   | PTI175, PTI250 auf Anfrage   |
| <b>Materials</b>                              |  |
| <b>Housing</b>                                | PBT (UL 94 V-0), PET (UL 94 V-0)   |
| <b>Actuator</b>                               | POM UL 94 HB (T85), PBT UL 94 V-0 (T120)   |
| <b>Base</b>                                   | PET (UL 94 V-0)  |
| <b>Contacts</b>                               | <b>DC1, DC2, DC4</b> AgNi  |
|   | <b>DC3</b> AuAgPt (Crosspoint)   |
| <b>Terminals</b>                              | CuZn (silver-plated)   |
| <b>Auxiliary actuator</b>                     | Stainless steel or plastic   |
| <b>Sealing gasket</b>                         | SI, silicon-free alternative available   |
| <b>Leads</b>                                  | Cu, PVC-sheated  |
| <b>Approvals</b>                              |  depending on model |
| <b>Degree of protection (switch interior)</b> | IP67   |

For detailed information and the layout of the details described above, please do not hesitate to ask for our technical specifications and drawing.

### Features

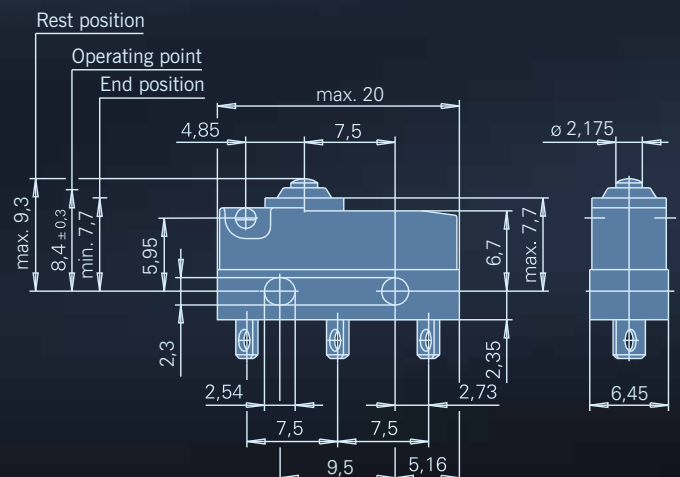
- Sealed switch IP6K7 protection
- Silicon-free variants available
- Models available for 120 °C operating temperature
- Nominal currents from 10A at 250 VAC
- Various auxiliary actuators available (can also be retrofitted)
- Various application-specific contact materials
- Mechanical operating life min. 1.000.000 actuations
- Wide variety of terminal types

### Auxiliary actuator options\*

| Model                             | Length (mm)    |
|-----------------------------------|----------------|
| <b>Without auxiliary actuator</b> | -              |
| <b>Straight</b>                   | 4,8; 8; 42     |
| <b>Roller</b>                     | 2,5; 4,7; 39,7 |
| <b>Simulated roller</b>           | 2,5; 4,7; 39,7 |
| <b>Plastic straight</b>           | 7; 14          |
| <b>Plastic roller</b>             | 5,2            |
| <b>Plastic simulated roller</b>   | 5,6            |

\* Order codes identical to DB series, please see page 37

### Dimensions in mm





## Terminals

Solder terminal short  
max. 30° twisted



Q.C. terminal 2,8x0,5  
max. 30° twisted



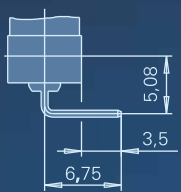
PCB terminal 1,3x0,5 mm  
max. 30° twisted



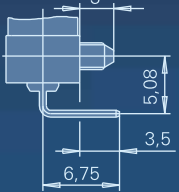
PCB terminal 0,6x0,5 mm  
max. 30° twisted



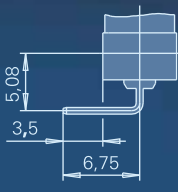
PCB terminal 0,6x0,5 mm  
RH-side w/o location pin



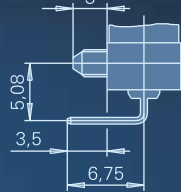
PCB terminal 0,6x0,5 mm  
RH-side with location pin



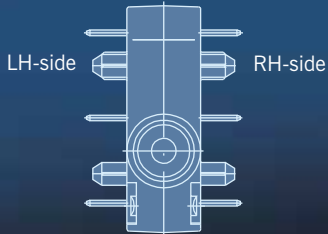
PCB terminal 0,6x0,5 mm  
LH-side w/o location pin



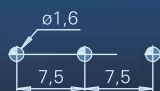
PCB terminal 0,6x0,5 mm  
LH-side with location pin



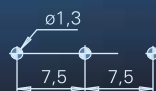
Side definition with terminals  
and location pins



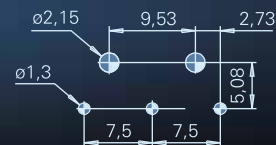
Drilling pattern for  
PCB terminals 1,3x0,5 mm



Drilling pattern for lateral  
PCB terminals 0,6x0,5 mm  
straight/lateral

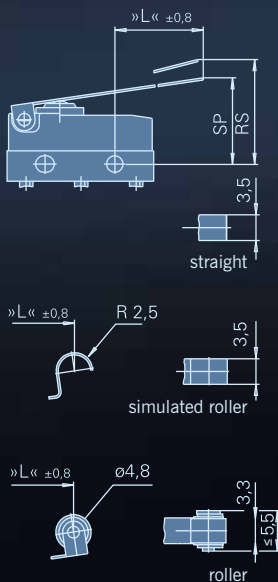


Drilling pattern for lateral PCB terminals  
0,6x0,5 mm with location pins

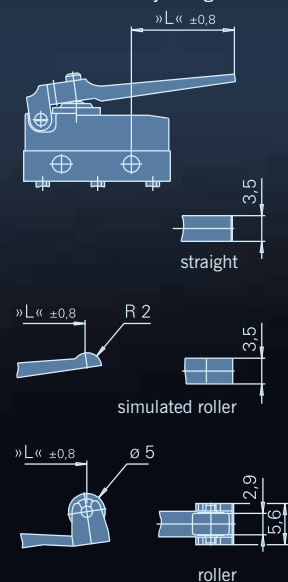


## Auxiliary actuator options

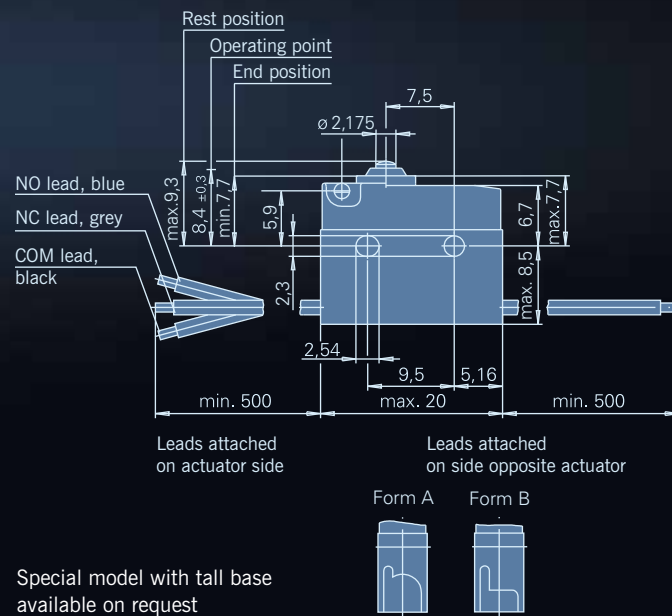
Steel auxiliary actuator



Plastic auxiliary actuator  
with/without adjusting screw



## Model with connecting leads (IP67)





## DC subminiature switch

### Electrical rating and operating life

| Electrical rating according to |                                       | Electrical life at rated load for 40T85*<br>(operations) |            | Mechanical life | Operating force max.<br>(cN) | Housing mark |
|--------------------------------|---------------------------------------|--|------------|-----------------|------------------------------|--------------|
| EN 61058-1                     | UL 1054                               | acc. to EN   | acc. to UL |                 |                              |              |
| 6 A 250 VAC                    | 5 A 125–250 VAC                       | 10.000   | 6.000      | $1 \times 10^6$ | 200                          | DC 1         |
| 10 (1,5) A, 250 VAC            | 10,1 A 125–250 VAC<br>1/4 HP, 125 VAC | 10.000   | 6.000      | $1 \times 10^6$ | 340                          | DC 2         |
| 0,1 A, 250 VAC                 | 0,1 A 125–250 VAC                     | 50.000   | 100.000    | $1 \times 10^6$ | 200                          | DC 3         |
| 3 A, 250 VAC                   | 3 A 125–250 VAC                       | 50.000   | 6.000      | $1 \times 10^6$ | 200                          | DC 4*        |

\* DC4 only possible as line version with line diameter 0.5 mm<sup>2</sup> and AWG 22

### Switching parameters

| Model                      | Type      | Operating force max.<br>(cN) | Max. pretravel<br>(mm) | Min. overtravel<br>(mm) | Differential travel max.<br>(mm) | Max. rest position<br>(mm) | Operating point<br>(mm) | Length actuator<br>(mm) ± 0,8 |
|----------------------------|-----------|------------------------------|------------------------|-------------------------|----------------------------------|----------------------------|-------------------------|-------------------------------|
| Without auxiliary actuator | DC1, 3, 4 | 200                          | 1,0                    | 0,6                     | 0,1                              | 9,3                        | 8,4 ± 0,3               |                               |
|                            | DC2       | 340                          | 1,0                    | 0,6                     | 0,1                              | 9,3                        | 8,4 ± 0,3               | –                             |





## Preferred parts

| Order code | Electrical rating |                                     | Terminals                                   | Auxiliary actuator     | Operating force (cN) | Operating point (mm) | Max. pretravel (mm) | Min. overtravel (mm) | Differential travel max. (mm) |
|------------|-------------------|-------------------------------------|---|------------------------|----------------------|----------------------|---------------------|----------------------|-------------------------------|
|            | EN                | UL                                  |   |                        |                      |                      |                     |                      |                               |
| DC1C-A1AA  | 6A, 250VAC        | 5A, 125–250VAC                      | Solder terminal short                       | -                      | 200                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DC1C-A1RB  | 6A, 250VAC        | 5A, 125–250VAC                      | Solder terminal short                       | Roller, length 2,5mm   | 90                   | 15,8 ± 1,3           | 4,5                 | 1,5                  | 0,5                           |
| DC1C-C3AA  | 6A, 250VAC        | 5A, 125–250VAC                      | Leads 0,75 mm <sup>2</sup> on actuator side | -                      | 200                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DC1C-L1AA  | 6A, 250VAC        | 5A, 125–250VAC                      | Q.C. terminal 2,8x0,5mm, straight           | -                      | 200                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DC2C-A1AA  | 10(1,5)A, 250VAC  | 10,1A, 125–250VAC<br>1/4 HP, 125VAC | Solder terminal short                       | -                      | 340                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DC2C-A1LB  | 10(1,5)A, 250VAC  | 10,1A, 125–250VAC<br>1/4 HP, 125VAC | Solder terminal short                       | Straight, length 4,8mm | 150                  | 10,7 ± 1,6           | 5,0                 | 1,5                  | 0,7                           |
| DC2C-A1RB  | 10(1,5)A, 250VAC  | 10,1A, 125–250VAC<br>1/4 HP, 125VAC | Solder terminal short                       | Roller, length 2,5mm   | 160                  | 15,8 ± 1,6           | 5                   | 1,5                  | 0,7                           |
| DC3C-A1AA  | 0,1A, 250VAC      | 0,1A, 125–250VAC                    | Solder terminal short                       | -                      | 200                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DC3C-A1LB  | 0,1A, 250VAC      | 0,1A, 125–250VAC                    | Solder terminal short                       | Straight, length 4,8mm | 80                   | 10,7 ± 1,3           | 4,5                 | 1,5                  | 0,7                           |
| DC3C-B3AA  | 0,1A, 250VAC      | 0,1A, 125–250VAC                    | Leads 0,5mm <sup>2</sup> on actuator side   | -                      | 200                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DC3C-L1AA  | 0,1A, 250VAC      | 0,1A, 125–250VAC                    | Q.C. terminal 2,8x0,5mm, straight           | -                      | 200                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DC3C-L1LB  | 0,1A, 250VAC      | 0,1A, 125–250VAC                    | Q.C. terminal 2,8x0,5mm, straight           | Straight, length 4,8mm | 80                   | 10,7 ± 1,3           | 4,5                 | 1,5                  | 0,5                           |
| DC3C-M5RB* | 0,1A, 250VAC      | 0,1A, 125–250VAC                    | Leads 20 AWG                                | Roller, length 2,5mm   | 90                   | 15,8 ± 1,3           | 4,5                 | 1,5                  | 0,5                           |

\* UL leads

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