

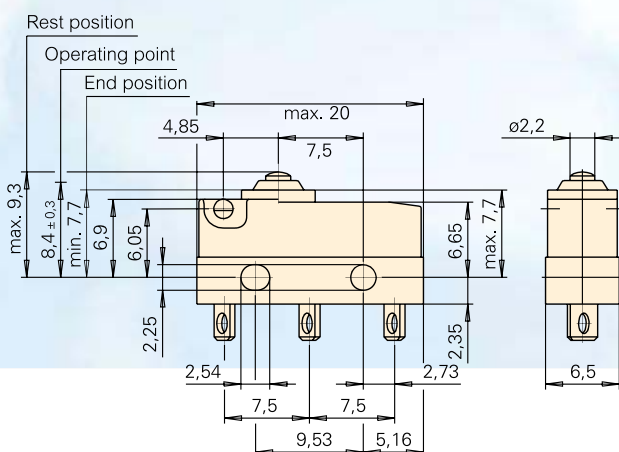
# DC subminiature switch



## Features

- Sealed switch IP6K7 protection
- Silicon-free variants available
- Models available for 120 °C operating temperature
- Nominal currents from 10 A 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

## Dimensions in mm



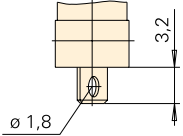
## Technical specifications

|                                        |                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact configuration                  | S.P.D.T., S.P.S.T. - N.O., S.P.S.T. - N.C.                                                                                                                                                                                                                                              |
| Contact gap                            | < 3 mm (μ)                                                                                                                                                                                                                                                                              |
| Switching voltage max.                 | 250 V AC                                                                                                                                                                                                                                                                                |
| Switched current                       | 0,1 to 10 A AC (see table) depending on model                                                                                                                                                                                                                                           |
| Operating force                        | 200 to 340 cN without auxiliary actuator depending on model                                                                                                                                                                                                                             |
| Total travel                           | ca. 1,6 mm                                                                                                                                                                                                                                                                              |
| Mechanical life                        | min. 1 x 10 <sup>6</sup> operations (see table)                                                                                                                                                                                                                                         |
| Electrical life (max. load)            | min 10.000 operations (see table)                                                                                                                                                                                                                                                       |
| Ambient temperature                    | -40 to +85 °C / 120 °C                                                                                                                                                                                                                                                                  |
| Model with leads                       | -40 to +105 °C                                                                                                                                                                                                                                                                          |
| Proof tracking index                   | PTI175, PTI250 on request                                                                                                                                                                                                                                                               |
| Materials                              |                                                                                                                                                                                                                                                                                         |
| Housing                                | PET/PBT (UL 94V-0)                                                                                                                                                                                                                                                                      |
| Actuator                               | POM (T85), PBT (T120)                                                                                                                                                                                                                                                                   |
| Contacts DC1, DC2, DC4                 | AuNi                                                                                                                                                                                                                                                                                    |
| DC3                                    | AuAgPt (Crosspint)                                                                                                                                                                                                                                                                      |
| Terminals                              | CuZn (silver-plated)                                                                                                                                                                                                                                                                    |
| Auxiliary actuator                     | Stainless steel or plastic                                                                                                                                                                                                                                                              |
| Sealing gasket                         | SI, silicon-free alternative available                                                                                                                                                                                                                                                  |
| Leads                                  | Cu, PVC-sheathed                                                                                                                                                                                                                                                                        |
| Approvals                              |   <br>depending on model |
| Degree of protection (switch interior) | IP6K7                                                                                                                                                                                                                                                                                   |

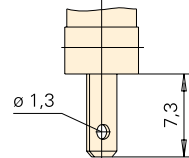
For detailed information and the layout of the details described above, please do not hesitate to ask for our technical specifications and drawing.

## Terminals

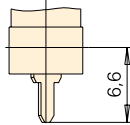
Solder terminal short  
max. 30° twisted



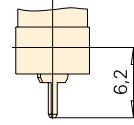
Q.C. terminal 2,8 x 0,5  
max. 30° twisted



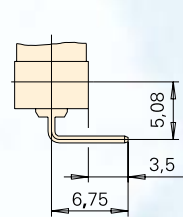
PCB terminal 1,3 x 0,5 mm  
max. 30° twisted



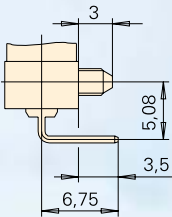
PCB terminal 0,6 x 0,5 mm  
max. 30° twisted



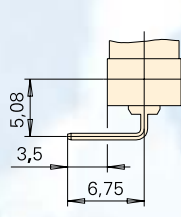
PCB terminal 0,6 x 0,5 mm  
RH-side w/o location pins



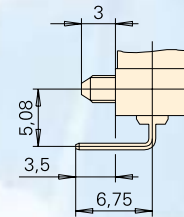
PCB terminal 0,6 x 0,5 mm  
RH-side with location pins



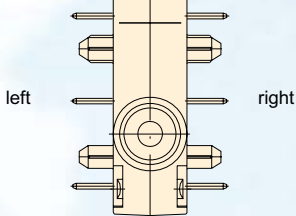
PCB terminal 0,6 x 0,5 mm  
LH-side w/o location pins



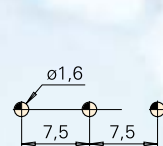
PCB terminal 0,6 x 0,5 mm  
LH-side with location pins



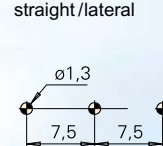
Side definition with terminals and  
location pins



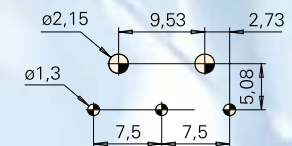
Drilling pattern for  
PCB terminals 1,3 x 0,5 mm



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

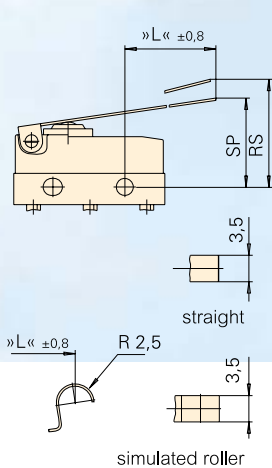


Drilling pattern for lateral PCB  
terminals 0,6 x 0,5, with location pins

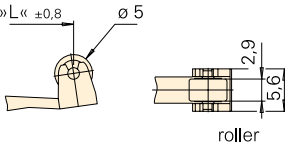
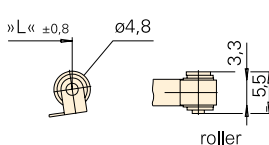
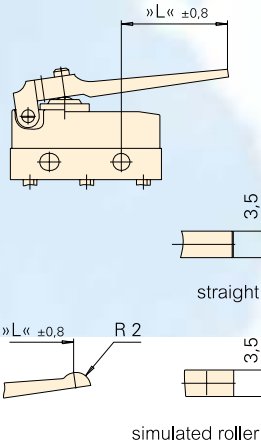


## Auxiliary actuator options

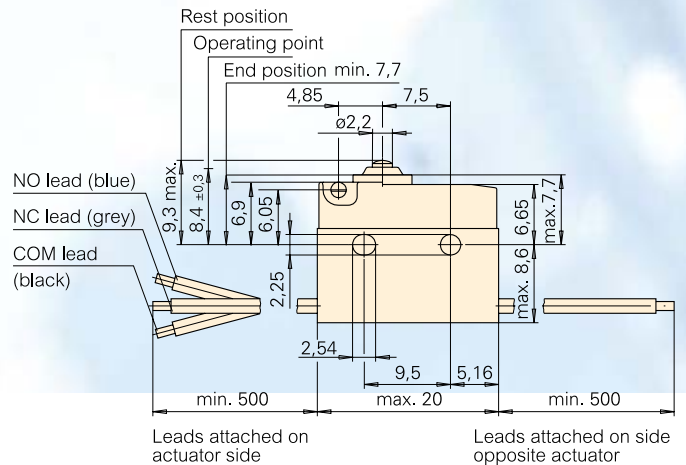
Steel auxiliary actuator



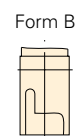
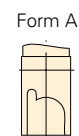
Plastic auxiliary actuator with/  
without adjusting screw



## Model with connecting leads (IP6K7)



Special model with tall pedestals  
available on request



## Electrical rating and operating life (2)

| Electrical rating according to<br>EN 61058 | UL 1054                                  | Electrical life at rated load<br>acc. to EN<br>(operations) | acc. to UL | Mechanical life | Max. operating force (cN) | Code |
|--------------------------------------------|------------------------------------------|-------------------------------------------------------------|------------|-----------------|---------------------------|------|
| 6 A 250 V AC                               | 5 A 125–250 V AC                         | 10.000                                                      | 6.000      | $2 \times 10^6$ | 200                       | 1    |
| 10 (1,5) A, 250 V AC                       | 10,1 A, 125–250 V AC<br>1/4 HP, 125 V AC | 10.000                                                      | 6.000      | $1 \times 10^6$ | 340                       | 2    |
| 0,1 A, 250 V AC                            | 0,1 A 125–250 V AC                       | 50.000                                                      | 100.000    | $2 \times 10^6$ | 200                       | 3    |
| 3 A, 250 V AC                              | 3 A, 125–250 V AC                        | 50.000                                                      | 6.000      | $2 \times 10^6$ | 200                       | 4*   |

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

## Switching parameters

| Option                     | Type      | Max. operating force (cN) | Max. pretravel (mm) | Min. overtravel (mm) | Max. movement differential (mm) | Max. rest position (mm) | Operating point (mm) | Length of aux. actuator | Code |
|----------------------------|-----------|---------------------------|---------------------|----------------------|---------------------------------|-------------------------|----------------------|-------------------------|------|
| Without auxiliary actuator | DC1, 3, 4 | 200                       | 1,0                 | 0,6                  | 0,1                             | 9,3                     | $8,4 \pm 0,3$        | —                       | AA   |
|                            | DC2       | 340                       | 1,0                 | 0,6                  | 0,1                             | 9,3                     | $8,4 \pm 0,3$        |                         |      |

## Contact configuration (3)

| Contact configuration                             | Code |
|---------------------------------------------------|------|
| Ambient temperature 40T85                         |      |
| S.P.S.T.-N.O.                                     | E    |
| S.P.S.T.-N.C.                                     | F    |
| S.P.D.T.                                          | G    |
| Ambient temperature 40T120<br>(with leads 40T105) |      |
| S.P.S.T.-N.O.                                     | A    |
| S.P.S.T.-N.C.                                     | B    |
| S.P.D.T.                                          | C    |



## Contact rating at direct voltage

| Switching voltage | Switched current<br>resistive load |        | Induktive load<br>(L/R = 3 ms) |       |
|-------------------|------------------------------------|--------|--------------------------------|-------|
|                   | DC1                                | DC2    | DC1                            | DC2   |
| 12 V              | 6 A                                | 10 A   | 6 A                            | 10 A  |
| 24 V              | 3 A                                | 5 A    | 2 A                            | 4 A   |
| 60 V              | 1 A                                | 1 A    | 0,5 A                          | 0,5 A |
| 110 V             | 0,5 A                              | 0,5 A  | 0,2 A                          | 0,2 A |
| 220 V             | 0,25 A                             | 0,25 A | 0,1 A                          | 0,1 A |

## Terminals (4)

| Type of terminal with standard pedestral                  | Code  |
|-----------------------------------------------------------|-------|
| Solder terminal, short*                                   | A1    |
| PCB terminal 1,3 x 0,5 straight*                          | H1    |
| PCB terminal 0,6 x 0,5 straight*                          | K1    |
| PCB terminal 0,6 x 0,5 right-hand side**                  | K8    |
| PCB terminal 0,6 x 0,5 left-hand side**                   | K9    |
| PCB terminal 0,6 x 0,5 right-hand side***                 | K6    |
| PCB terminal 0,6 x 0,5 left-hand side***                  | K7    |
| Q.C. terminal 2,8 x 0,5 mm straight*                      | L1    |
| Leads 0,5 mm <sup>2</sup> attached to underside           | B5    |
| Leads 0,5 mm <sup>2</sup> on actuator side                | B3    |
| Leads 0,5 mm <sup>2</sup> on opposite side from actuator  | B4    |
| Leads 0,75 mm <sup>2</sup> attached to underside          | C5    |
| Leads 0,75 mm <sup>2</sup> on actuator side               | C3    |
| Leads 0,75 mm <sup>2</sup> on opposite side from actuator | C4    |
| Without Leads (Form B) on actuator side/ opposite*        | N3/N4 |
| Without Leads (Form A) on actuator side/ opposite*        | P3/P4 |
| Without Leads (no cut-out) with solder terminal*          | Q1    |

\* max. 30° twisted \*\*with location pins \*\*\*w/o location pins

## Auxiliary actuator options (5)

| Model                      | Length | Code |
|----------------------------|--------|------|
| Without auxiliary actuator | —      | AA   |
| Straight                   | 4,8    | LB   |
|                            | 8      | LC   |
|                            | 42     | LD   |
| Roller                     | 2,5    | RB   |
|                            | 4,7    | RC   |
|                            | 39,7   | RD   |
| Simulated roller           | 2,5    | SB   |
|                            | 4,7    | SC   |
|                            | 39,7   | SD   |
| Plastic straight           | 7      | WB   |
|                            | 14     | WC   |
| Plastic roller             | 5,2    | ZB   |
| Plastic simulated roller   | 5,6    | VB   |