



## DB 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</b>           | max. 250 VAC                                                |
| <b>Switched current</b>            | 0,1 to 10 A AC, dependig on model (see table)               |
| <b>Operating force</b>             | 70 to 280 cN without auxiliary actuator, depending on model |
| <b>Total travel</b>                | 1,6 mm                                                      |
| <b>Mechanical life</b>             | Min. $10 \times 10^6$ operations (see table)                |
| <b>Electrical life (max. load)</b> | Up to $10^6$ operations (see table)                         |
| <b>Ambient temperature</b>         | -40 to +85°C /120°C                                         |
| <b>Proof tracking index</b>        | PTI 175 (PTI 250 on request)                                |
| <b>Materials</b>                   | PET (UL 94 V-0)                                             |
| <b>Base</b>                        | PET (UL 94 V-0)                                             |
| <b>Cover</b>                       | PBT (UL 94 V-0); PET (UL 94 V-0)                            |
| <b>Actuator</b>                    | PBT (UL 94 V-0) T120, POM (UL 94 HB) T85                    |
| <b>Contacts</b>                    | AgSnO <sub>2</sub> , AgNi, AuAgPt (Crosspoint)              |

|                                               |                                                                                                        |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Terminals</b>                              | CuZn (silver-plated)                                                                                   |
| <b>Auxiliary actuator</b>                     | Stainless steel or plastic                                                                             |
| <b>Approvals</b>                              |  depending on model |
| <b>Degree of protection (switch interior)</b> | IP50                                                                                                   |

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

### Features

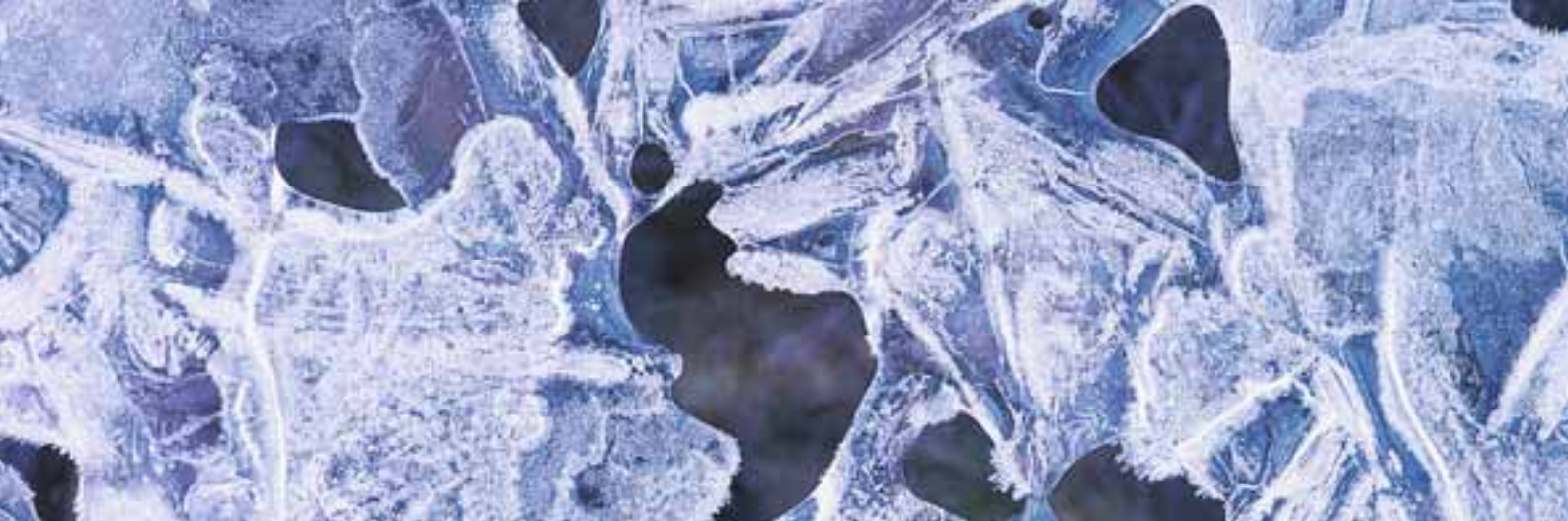
- Precision switch with high repeat accuracy
- Available for up to 120°C operating temperature
- Nominal current up to 10A at 250VAC
- Various auxiliary actuators (can also be retrofitted), two mounting positions
- Various application-specific contact materials
- Mechanical operational life up to  $15 \times 10^6$  actuations
- Wide variety of terminal types

### Electrical rating and operating life

| Electrical rating according to |                                      | Electrical life at rated load for 40T85* (operations) |            | Mechanical lifetime | Operating force max. (cN) | Housing mark |
|--------------------------------|--------------------------------------|-------------------------------------------------------|------------|---------------------|---------------------------|--------------|
| EN 61058-1                     | UL 1054                              | acc. to EN                                            | acc. to UL |                     |                           |              |
| 6A 250 VAC                     | 5 A 125–250 VAC                      | 10.000                                                | 6.000      | $15 \times 10^6$    | 150                       | DB 1         |
| 10 (1,5) A, 250 VAC            | 10,1 A, 125–250 AC, 1/4 HP, 125 VAC  | 10.000                                                | 6.000      | $10 \times 10^6$    | 250                       | DB 2         |
| 0.1 A, 250 VAC                 | 0,1 A 125–250 VAC                    | 50.000                                                | 100.000    | $15 \times 10^6$    | 150                       | DB 3         |
| 4 A, 250 VAC                   | 4 A, 125–250 VAC                     | 50.000                                                | 6.000      | $15 \times 10^6$    | 90                        | DB 4         |
| 1 A, 250 VAC                   | 1 A, 125–250 VAC                     | 50.000                                                | 6.000      | $15 \times 10^6$    | 70                        | DB 5*        |
| 10 (1,5) A, 250 VAC            | 10.1 A, 125–250 VAC, 1/4 HP, 125 VAC | 50.000                                                | 6.000      | $10 \times 10^6$    | 280                       | DB 7*        |
| 10 (3) A, 250 VAC              | 10.1 A, 125–250 VAC, 1/4 HP, 125 VAC | 10.000                                                | 6.000      | $10 \times 10^6$    | 280                       | DB L         |
| 3 A, 250 VAC                   | 3 A, 125–250 VAC                     | 50.000                                                | 6.000      | $15 \times 10^6$    | 90                        | DB M         |
| 6 (2) A, 250 VAC               | 5 A, 125–250 VAC                     | 50.000                                                | 6.000      | $15 \times 10^6$    | 150                       | DB O         |

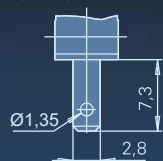
Special versions with lower ratings upon request

\* only T85



## Terminals

Q.C. terminal  
2,8x0,5 mm



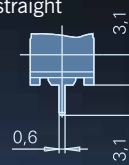
Solder terminal, short



PCB terminal 1,3x0,5 mm straight



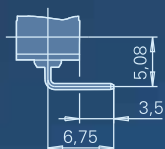
PCB terminal 0,6x0,5 mm straight



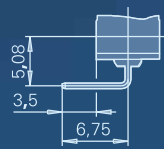
Side definition with  
terminals and location pins



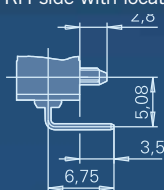
PCB terminal 0,6x0,5 mm  
RH-side w/o location pins



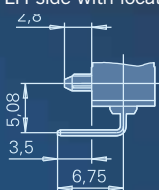
PCB terminal 0,6x0,5 mm  
LH-side w/o location pins



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



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

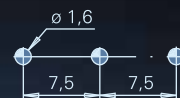


## Dimensions in mm

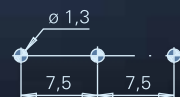


## Drilling patterns

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



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



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





## DB subminiature switch

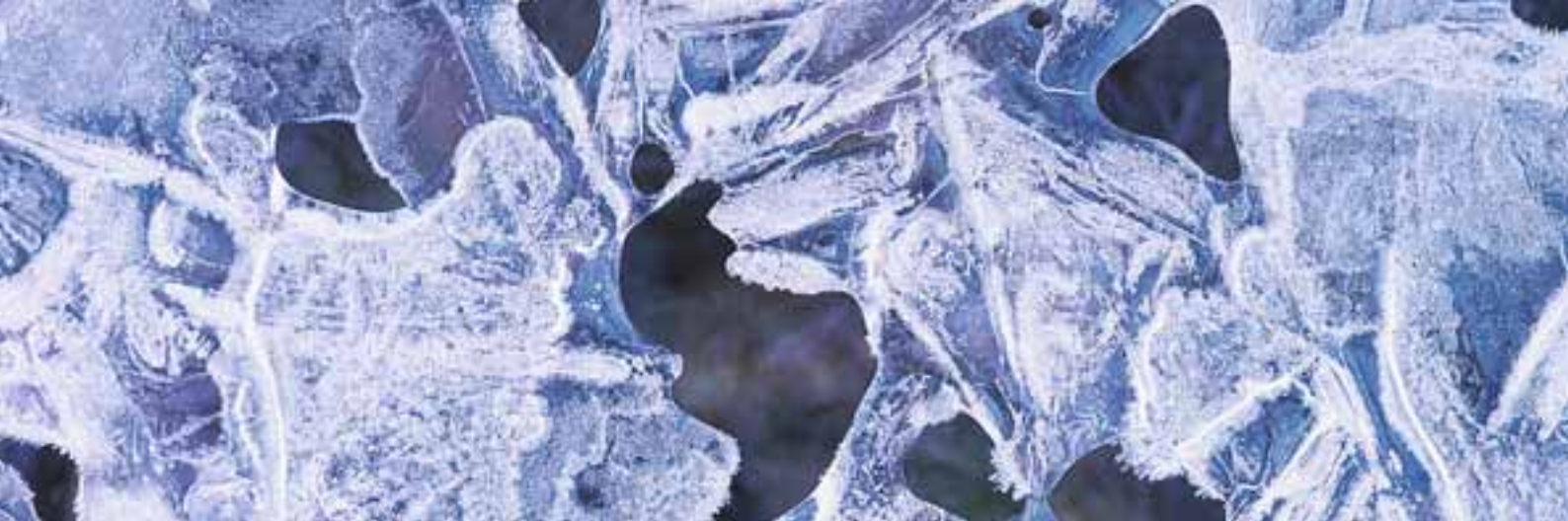
### Switching parameters

| Model                                                                       | Type    | Operating force max. (cN) | Max. pretravel (mm) | Min. overtravel (mm) | Differential travel max. (mm) | Max. rest position (mm) | Operating point (mm) |
|-----------------------------------------------------------------------------|---------|---------------------------|---------------------|----------------------|-------------------------------|-------------------------|----------------------|
| Spherical-head actuator or actuator with radius, without auxiliary actuator | DB5     | 70                        | 1,0                 | 0,6                  | 0,1                           | 9,3                     | 8,4 ± 0,3            |
|                                                                             | DB1/O/3 | 150                       | 1,0                 | 0,6                  | 0,1                           | 9,3                     | 8,4 ± 0,3            |
|                                                                             | DBL     | 280                       | 1,0                 | 0,6                  | 0,1                           | 9,3                     | 8,4 ± 0,3            |
|                                                                             | DB2     | 250                       | 1,0                 | 0,6                  | 0,1                           | 9,3                     | 8,4 ± 0,3            |
|                                                                             | DB7     | 280                       | 1,0                 | 0,6                  | 0,15                          | 9,3                     | 8,4 ± 0,3            |
|                                                                             | DB4     | 90                        | 1,0                 | 0,6                  | 0,1                           | 9,3                     | 8,4 ± 0,3            |
|                                                                             | DBM     | 90                        | 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                                    |                                    |                                  |                      |                      |                     |                      |                               |
| DB1C-A1AA  | 6 A, 250 VAC      | 5 A, 125-250 VAC                      | Solder terminal short              | without actuator, spherical-head | 150                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DB1C-A1LB  | 6 A, 250 VAC      | 5 A, 125-250 VAC                      | Solder terminal short              | Straight, RM rear, length 4,8    | 60                   | 10,7 ± 1,3           | 4,0                 | 2,0                  | 0,5                           |
| DB1C-A1RC  | 6 A, 250 VAC      | 5 A, 125-250 VAC                      | Solder terminal short              | Straight, RM rear, length 4,7    | 55                   | 16,2 ± 1,5           | 4,5                 | 2,0                  | 0,6                           |
| DB1C-B1AA  | 6 A, 250 VAC      | 5 A, 125-250 VAC                      | Q.C. terminal, 2,8x0,5mm, straight | without actuator, spherical-head | 150                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DB1C-C1AA  | 6 A, 250 VAC      | 5 A, 125-250 VAC                      | PCB terminal 1,3x0,5mm, straight   | without actuator, spherical-head | 150                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DB1C-C1LB  | 6 A, 250 VAC      | 5 A, 125-250 VAC                      | PCB terminal 1,3x0,5mm, straight   | Straight, RM rear, length 4,8    | 60                   | 10,7 ± 1,3           | 4,0                 | 2,0                  | 0,5                           |
| DB1C-C1RC  | 6 A, 250 VAC      | 5 A, 125-250 VAC                      | PCB terminal 1,3x0,5mm, straight   | Roller, RM rear, length 4,7      | 55                   | 15,8 ± 1,3           | 4,5                 | 2,0                  | 0,6                           |
| DB2C-A1AA  | 10 (1,5)A, 250VAC | 10,1A, 125-250 V AC<br>1/4 HP, 125VAC | Solder terminal short              | without actuator, spherical-head | 250                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DB2C-C1AA  | 10 (1,5)A, 250VAC | 10,1A, 125-250 V AC<br>1/4 HP, 125VAC | PCB terminal 1,3x0,5mm, straight   | without actuator, spherical-head | 250                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DB3C-A1AA  | 0,1A, 250VAC      | 0,1A, 125-250 VAC                     | Solder terminal short              | without actuator, spherical-head | 150                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DB3C-A1LB  | 0,1A, 250VAC      | 0,1A, 125-250 VAC                     | Solder terminal short              | Straight, RM rear, length 4,8    | 60                   | 10,7 ± 1,3           | 4,0                 | 2,0                  | 0,5                           |
| DB3C-B1AA  | 0,1A, 250VAC      | 0,1A, 125-250 VAC                     | Q.C. terminal, 2,8x0,5mm, straight | without actuator, spherical-head | 150                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |
| DB3C-B1LB  | 0,1A, 250VAC      | 0,1A, 125-250 VAC                     | Q.C. terminal, 2,8x0,5mm, straight | Straight, RM rear, length 4,8    | 60                   | 10,7 ± 1,3           | 4,0                 | 2,0                  | 0,5                           |
| DB3C-C1AA  | 0,1A, 250VAC      | 0,1A, 125-250 VAC                     | PCB terminal 1,3x0,5mm, straight   | without actuator, spherical-head | 150                  | 8,4 ± 0,3            | 1,0                 | 0,6                  | 0,1                           |





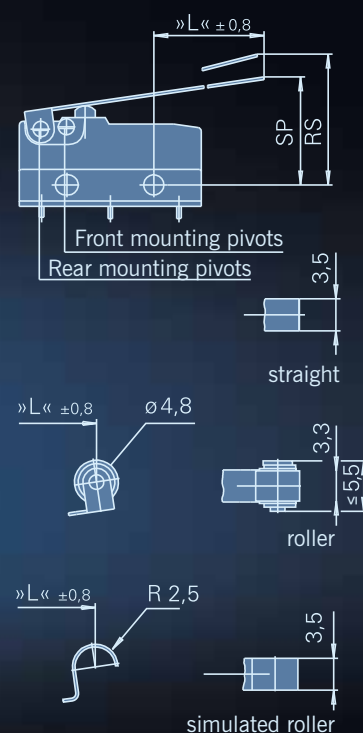
## Auxiliary actuator options

| Model                                             | Mounting point | Length (mm) | Order code* |
|---------------------------------------------------|----------------|-------------|-------------|
| Without lever, spherical head lever, radius shape | —              | —           | —           |
| Straight                                          | RM rear        | 4,8         | 6141232     |
|                                                   |                | 7           | 6141233     |
|                                                   |                | 42          | 6141234     |
|                                                   | FM front       | 7           | 6141232     |
|                                                   |                | 9,4         | 6141233     |
|                                                   |                | 43,5        | 6141234     |
| Roller                                            | RM rear        | 2,5         | 7140260     |
|                                                   |                | 4,7         | 7140261     |
|                                                   |                | 39,7        | 7140262     |
|                                                   | FM front       | 4,7         | 7140260     |
|                                                   |                | 7,1         | 7140261     |
|                                                   |                | 41,2        | 7140262     |
| Simulated roller                                  | RM rear        | 2,5         | 6141237     |
|                                                   |                | 4,7         | 6141238     |
|                                                   |                | 39,7        | 6141239     |
|                                                   | FM front       | 4,7         | 6141237     |
|                                                   |                | 7,1         | 6141238     |
|                                                   |                | 41,2        | 6141239     |
| Plastic straight                                  | RM rear        | 7           | 6141247     |
|                                                   |                | 14          | 6141253     |
|                                                   | FM front       | 9,4         | 6141247     |
|                                                   |                | 16,2        | 6141253     |
| Plastic roller                                    | RM rear        | 5,2         | 7140299     |
|                                                   | FM front       | 7,3         | 7140299     |
| Plastic simulated roller                          | RM rear        | 5,6         | 6141249     |
|                                                   | FM front       | 7,9         | 6141249     |

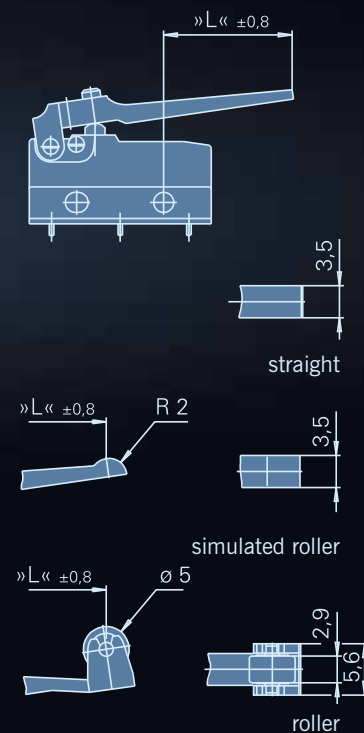
\* For retrofitting

## Auxiliary actuator options

Steel auxiliary actuator



Plastic auxiliary actuator  
with/without adjusting screw



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[DB3C-B1RC](#) [DB1C-B1LC](#) [DB1C-A1RB](#) [DB1C-B1TC](#) [DB3CA1LB](#) [0614-1233](#) [714-0261](#) [0614-1234](#)