




DB subminiature switch

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

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

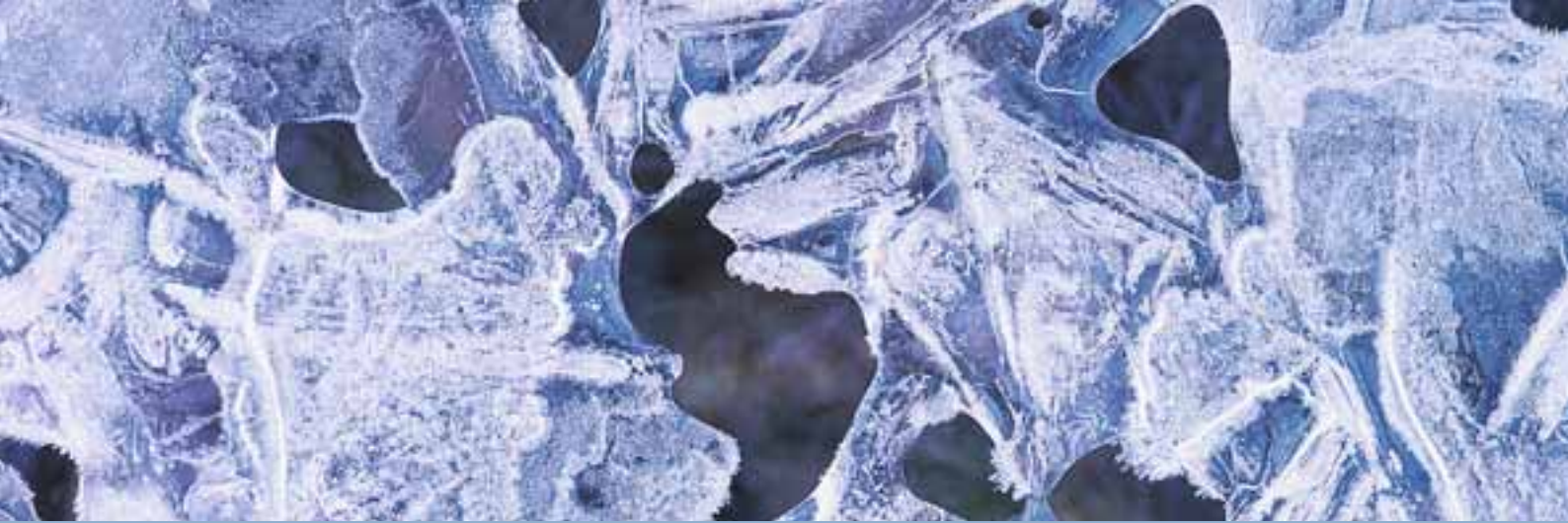
- Precision switch with high repeat accuracy
- Available for up to 120°C operating temperature
- Nominal current up to 10A at 250VAC
- Various auxiliary actuators (can also be retrofitted), two mounting positions
- Various application-specific contact materials
- Mechanical operational life up to 15×10^6 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 |
|--------------------------------|--------------------------------------|---|------------|---------------------|---------------------------|--------------|
| | | acc. to EN | acc. to UL | | | |
| EN 61058-1 | UL 1054 | | | | | |
| 6A 250 VAC | 5 A 125–250 VAC | 10.000 | 6.000 | 15x10 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 | 10x10 ⁶ | 250 | DB 2 |
| 0.1 A, 250 VAC | 0,1 A 125–250 VAC | 50.000 | 100.000 | 15x10 ⁶ | 150 | DB 3 |
| 4 A, 250 VAC | 4 A, 125–250 VAC | 50.000 | 6.000 | 15x10 ⁶ | 90 | DB 4 |
| 1 A, 250 VAC | 1 A, 125–250 VAC | 50.000 | 6.000 | 15x10 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 | 10x10 ⁶ | 280 | DB 7* |
| 10 (3) A, 250 VAC | 10.1 A, 125–250 VAC, 1/4 HP, 125 VAC | 10.000 | 6.000 | 10x10 ⁶ | 280 | DB L |
| 3 A, 250 VAC | 3 A, 125–250 VAC | 50.000 | 6.000 | 15x10 ⁶ | 90 | DB M |
| 6 (2) A, 250 VAC | 5 A, 125–250 VAC | 50.000 | 6.000 | 15x10 ⁶ | 150 | DB O |

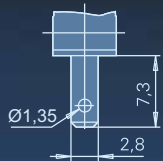
Special versions with lower ratings upon request

* only T85



Terminals

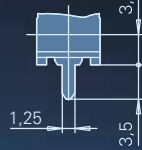
Q.C. terminal
2,8x0,5 mm



Solder terminal, short



PCB terminal 1,3x0,5 mm straight



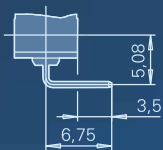
PCB terminal 0,6x0,5 mm straight



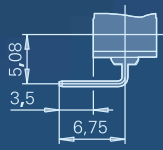
Side definition with terminals and location pins



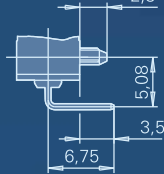
PCB terminal 0,6x0,5 mm
RH-side w/o location pins



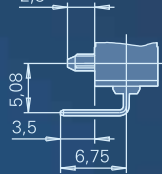
PCB terminal 0,6x0,5 mm
LH-side w/o location pins



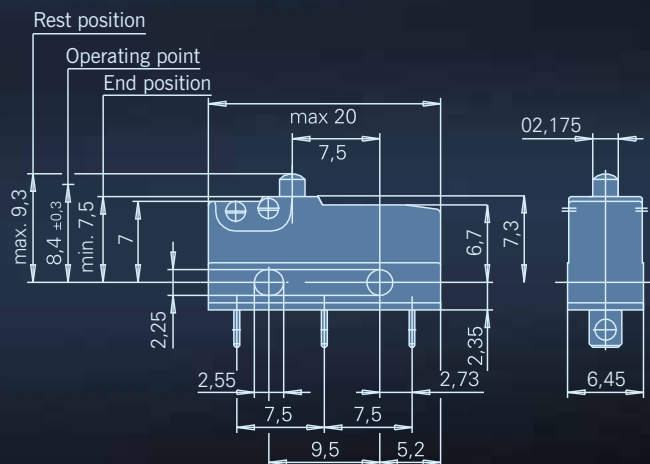
PCB terminal 0,6x0,5 mm
RH-side with location pins



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

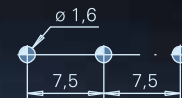


Dimensions in mm

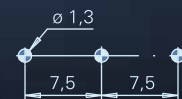


Drilling patterns

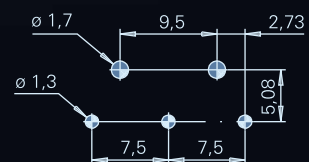
Drilling pattern for PCB terminal
1,3x0,5 mm



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



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





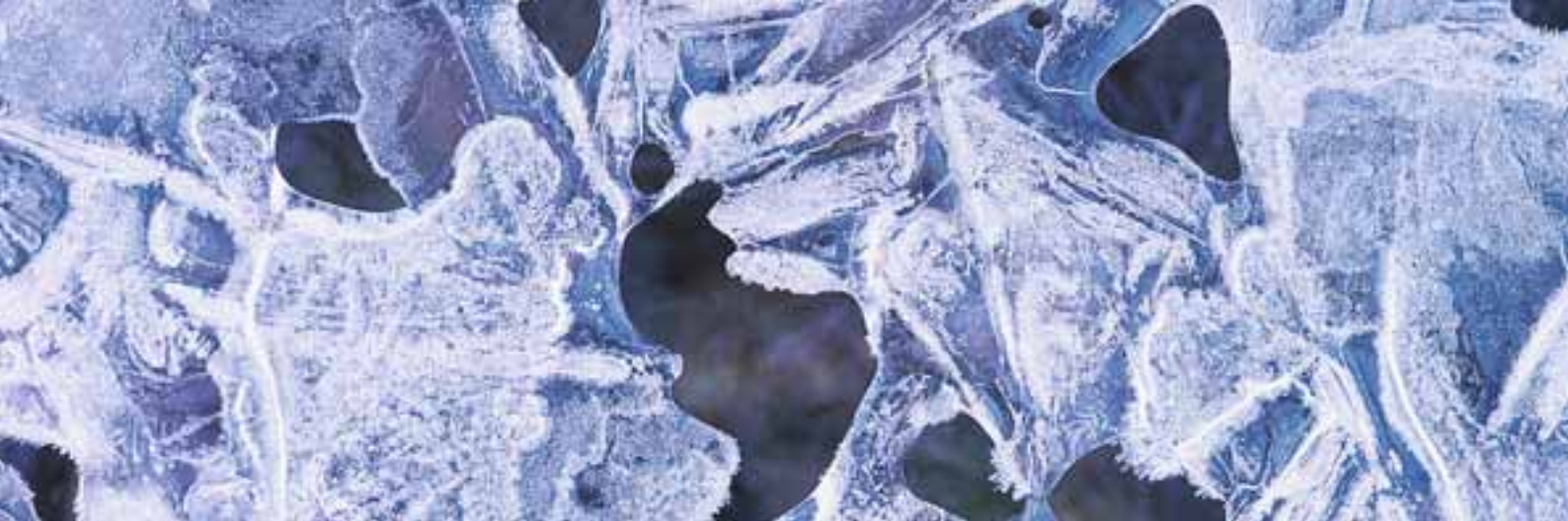
DB subminiature switch

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 |
| | DB1/0/3 | 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 | 0,6 | 0,1 | 9,3 |

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 | 6A, 250VAC | 5A, 125-250VAC | Solder terminal short | without actuator, spherical-head | 150 | 8,4 ± 0,3 | 1,0 | 0,6 | 0,1 |
| DB1C-A1LB | 6A, 250VAC | 5A, 125-250VAC | Solder terminal short | Straight, RM rear, length 4,8 | 60 | 10,7 ± 1,3 | 4,0 | 2,0 | 0,5 |
| DB1C-A1RC | 6A, 250VAC | 5A, 125-250VAC | Solder terminal short | Straight, RM rear, length 4,7 | 55 | 16,2 ± 1,5 | 4,5 | 2,0 | 0,6 |
| DB1C-B1AA | 6A, 250VAC | 5A, 125-250VAC | Q.C. terminal, 2,8x0,5mm, straight | without actuator, spherical-head | 150 | 8,4 ± 0,3 | 1,0 | 0,6 | 0,1 |
| DB1C-C1AA | 6A, 250VAC | 5A, 125-250VAC | PCB terminal 1,3x0,5mm, straight | without actuator, spherical-head | 150 | 8,4 ± 0,3 | 1,0 | 0,6 | 0,1 |
| DB1C-C1LB | 6A, 250VAC | 5A, 125-250VAC | 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 | 6A, 250VAC | 5A, 125-250VAC | 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 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 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, 125-250VAC | 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, 125-250VAC | 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, 125-250VAC | 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, 125-250VAC | 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, 125-250VAC | PCB terminal 1,3x0,5mm, straight | without actuator, spherical-head | 150 | 8,4 ± 0,3 | 1,0 | 0,6 | 0,1 |



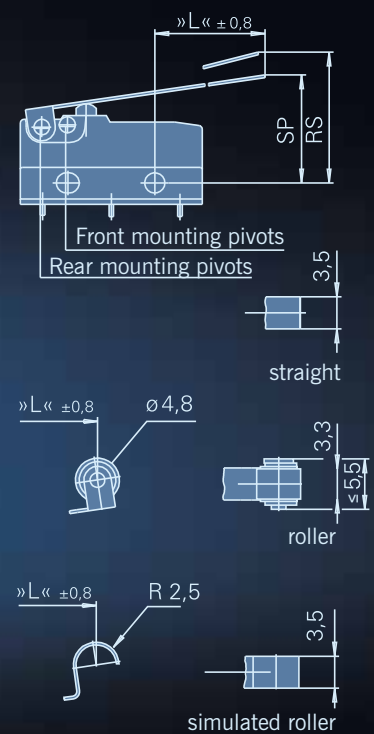
Auxiliary actuator options

| 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

