




## 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

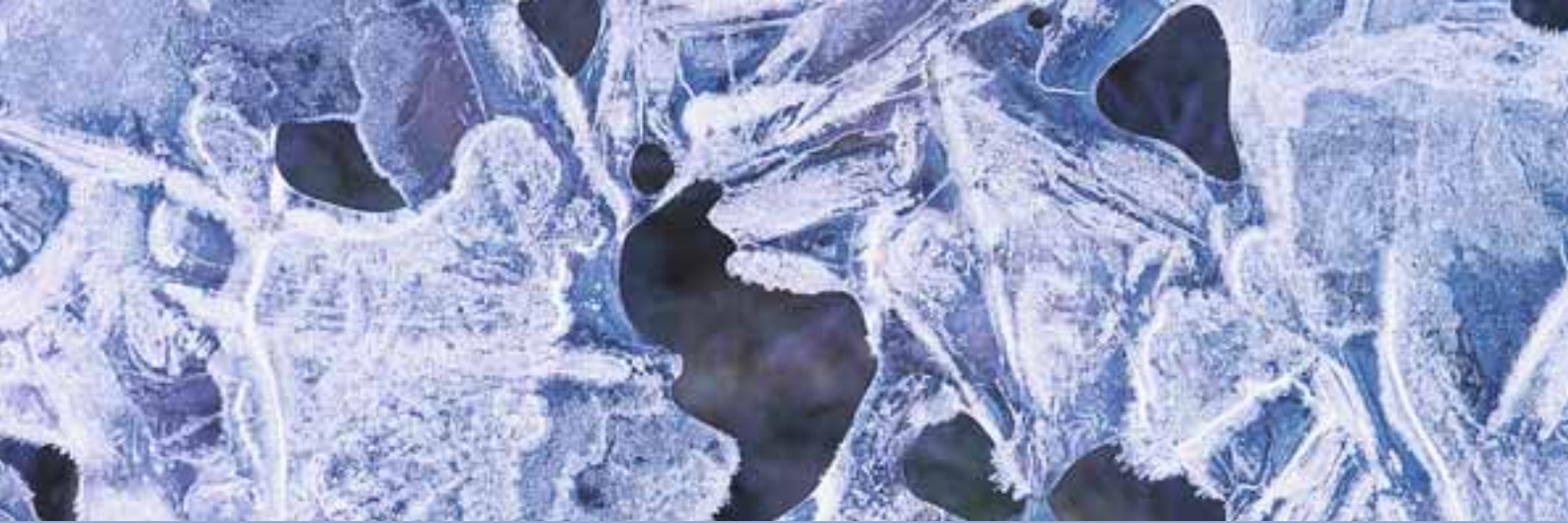
- Precision switch with high repeat accuracy
- Available for up to 120°C operating temperature
- Nominal current up to 10A at 250VAC
- Various auxiliary actuators (can also be retrofitted), two mounting positions
- Various application-specific contact materials
- Mechanical operational life up to  $15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

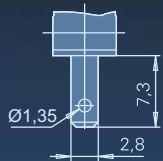
Special versions with lower ratings upon request

\* only T85



## Terminals

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



Solder terminal, short



PCB terminal 1,3x0,5 mm straight



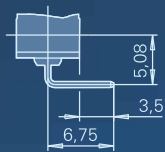
PCB terminal 0,6x0,5 mm straight



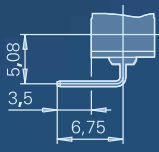
Side definition with terminals and location pins



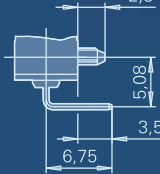
PCB terminal 0,6x0,5 mm  
RH-side w/o location pins



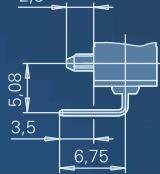
PCB terminal 0,6x0,5 mm  
LH-side w/o location pins



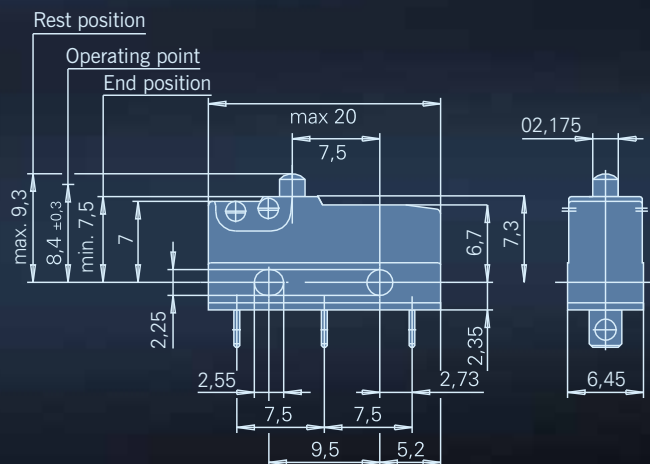
PCB terminal 0,6x0,5 mm  
RH-side with location pins



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

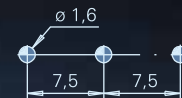


## Dimensions in mm

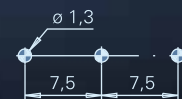


## Drilling patterns

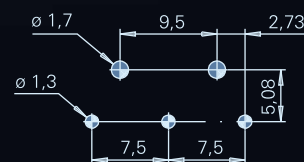
Drilling pattern for PCB terminal  
1,3x0,5 mm



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



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





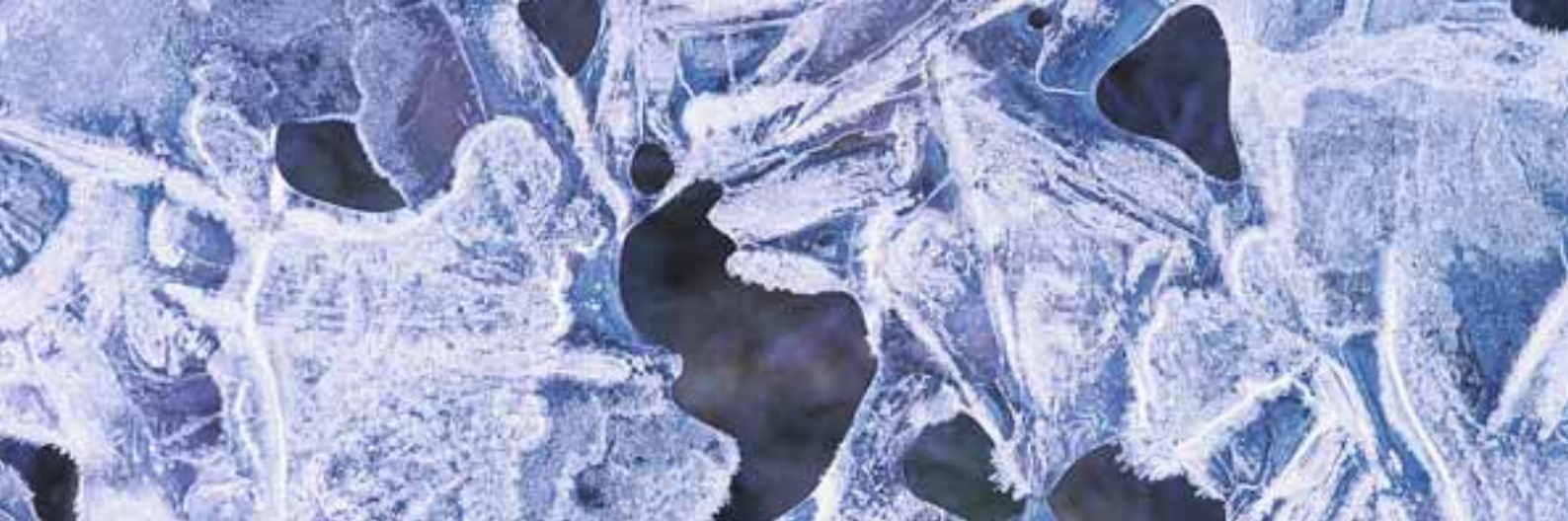
## DB subminiature switch

### 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	0,1	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	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



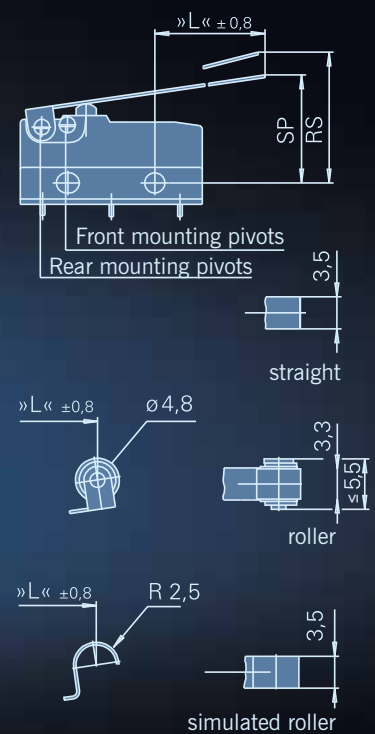
## Auxiliary actuator options

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

