

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 V AC
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 10^5 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 10 A at 250 V AC
- 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
EN 61058-1	**UL 1054**	**acc. to EN**	**acc. to UL**			
6A 250 V AC	5 A 125–250 V AC	10.000	6.000	15×10^6	150	DB 1
10 (1,5) A, 250 V AC	10,1 A, 125–250 AC, 1/4 HP, 125 V AC	10.000	6.000	10×10^6	250	DB 2
0.1 A, 250 V AC	0,1 A 125–250 V AC	50.000	100.000	15×10^6	150	DB 3
4 A, 250 V AC	4 A, 125–250 V AC	50.000	6.000	15×10^6	90	DB 4
1 A, 250 V AC	1 A, 125–250 V AC	50.000	6.000	15×10^6	70	DB 5*
10 (1,5) A, 250 V AC	10.1 A, 125–250 V AC, 1/4 HP, 125 V AC	50.000	6.000	10×10^6	280	DB 7*
10 (3) A, 250 V AC	10.1 A, 125–250 V AC, 1/4 HP, 125 V AC	10.000	6.000	10×10^6	280	DB L
3 A, 250 V AC	3 A, 125–250 V AC	50.000	6.000	15×10^6	90	DB M
6 (2) A, 250 V AC	5 A, 125–250 V AC	50.000	6.000	15×10^6	150	DB O

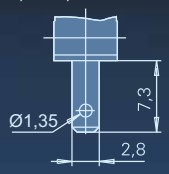
Special versions with lower ratings upon request

* only T85



Terminals

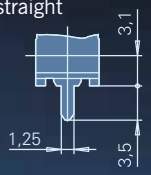
Q.C. terminal
2,8x0,5mm



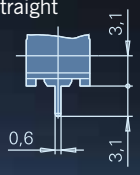
Solder terminal, short



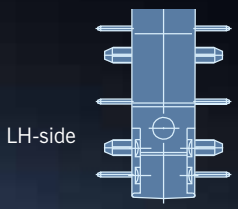
PCB terminal 1,3x0,5mm
straight



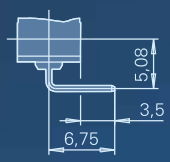
PCB terminal 0,6x0,5mm
straight



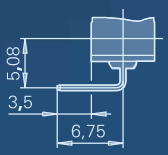
Side definition with
terminals and location pins



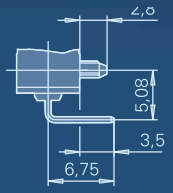
PCB terminal 0,6x0,5mm
RH-side w/o location pins



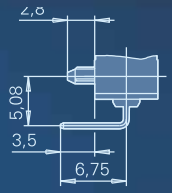
PCB terminal 0,6x0,5mm
LH-side w/o location pins



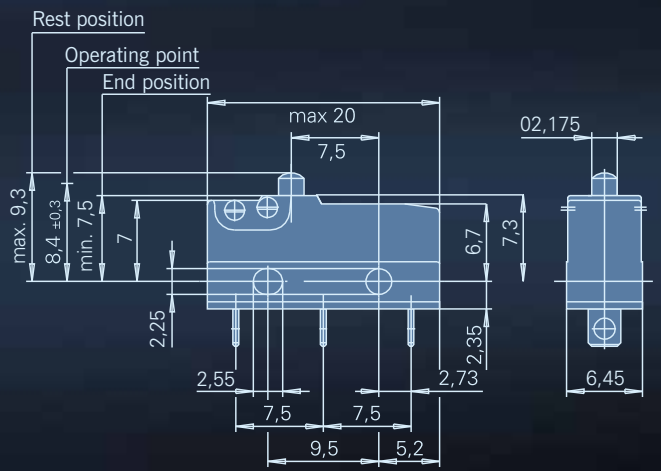
PCB terminal 0,6x0,5mm
RH-side with location pins



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

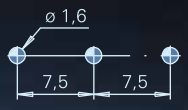


Dimensions in mm

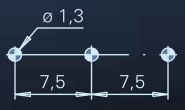


Drilling patterns

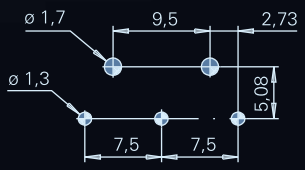
Drilling pattern for PCB terminal
1,3x0,5mm



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



Drilling pattern for PCB terminal
0,6x0,5mm 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

	Electrical rating				Operating force	Operating point	Max. pretravel	Min. overtravel	Differential travel max.
Order code	EN	UL	Terminals	Auxiliary actuator	(cN)	(mm)	(mm)	(mm)	(mm)
DB1C-A1AA	6 A, 250 V AC	5 A, 125-250 V AC	Solder terminal short	without actuator, spherical-head	150	8,4 ± 0,3	1,0	0,6	0,1
DB1C-A1LB	6 A, 250 V AC	5 A, 125-250 V AC	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 V AC	5 A, 125-250 V AC	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 V AC	5 A, 125-250 V AC	Q.C. terminal, 2,8 x 0,5 mm, straight	without actuator, spherical-head	150	8,4 ± 0,3	1,0	0,6	0,1
DB1C-C1AA	6 A, 250 V AC	5 A, 125-250 V AC	PCB terminal 1,3 x 0,5 mm, straight	without actuator, spherical-head	150	8,4 ± 0,3	1,0	0,6	0,1
DB1C-C1LB	6 A, 250 V AC	5 A, 125-250 V AC	PCB terminal 1,3 x 0,5 mm, straight	Straight, RM rear, length 4,8	60	10,7 ± 1,3	4,0	2,0	0,5
DB1C-C1RC	6 A, 250 V AC	5 A, 125-250 V AC	PCB terminal 1,3 x 0,5 mm, straight	Roller, RM rear, length 4,7	55	15,8 ± 1,3	4,5	2,0	0,6
DB2C-A1AA	10 (1,5) A, 250 V AC	10,1 A, 125-250 V AC 1/4 HP, 125 V AC	Solder terminal short	without actuator, spherical-head	250	8,4 ± 0,3	1,0	0,6	0,1
DB2C-C1AA	10 (1,5) A, 250 V AC	10,1 A, 125-250 V AC 1/4 HP, 125 V AC	PCB terminal 1,3 x 0,5 mm, straight	without actuator, spherical-head	250	8,4 ± 0,3	1,0	0,6	0,1
DB3C-A1AA	0,1 A, 250 V AC	0,1 A, 125-250 V AC	Solder terminal short	without actuator, spherical-head	150	8,4 ± 0,3	1,0	0,6	0,1
DB3C-A1LB	0,1 A, 250 V AC	0,1 A, 125-250 V AC	Solder terminal short	Straight, RM rear, length 4,8	60	10,7 ± 1,3	4,0	2,0	0,5
DB3C-B1AA	0,1 A, 250 V AC	0,1 A, 125-250 V AC	Q.C. terminal, 2,8 x 0,5 mm, straight	without actuator, spherical-head	150	8,4 ± 0,3	1,0	0,6	0,1
DB3C-B1LB	0,1 A, 250 V AC	0,1 A, 125-250 V AC	Q.C. terminal, 2,8 x 0,5 mm, straight	Straight, RM rear, length 4,8	60	10,7 ± 1,3	4,0	2,0	0,5
DB3C-C1AA	0,1 A, 250 V AC	0,1 A, 125-250 V AC	PCB terminal 1,3 x 0,5 mm, straight	without actuator, spherical-head	150	8,4 ± 0,3	1,0	0,6	0,1



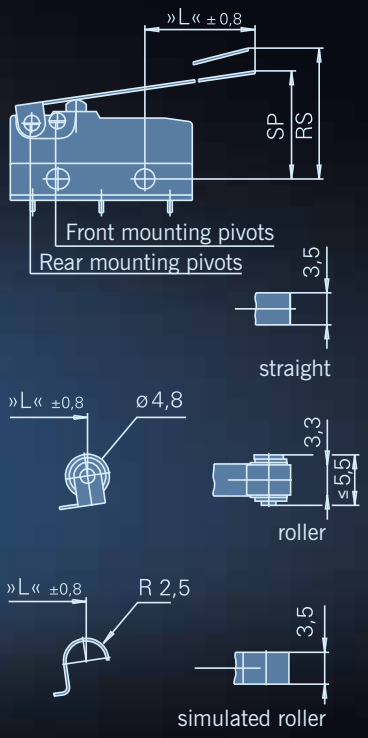
Auxiliary actuator options

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

