

# DB SUBMINIATURE SWITCH

## DB subminiature switch

Precision subminiature switch with high repeat accuracy, available up to an operating temperature of 120°C

- Nominal current up to 10 A at 250 VAC
- A wide variety of auxiliary actuators available
- Actuators can also be retrofitted, two mounting points
- High contact stability due to specific contact materials
- Mechanical life up to  $15 \times 10^6$  actuations
- Wide variety of terminal types



## Technical specifications

Series	DB 1
<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>	250 VAC
<b>Switching current</b>	0.1 to 10 A AC, depending on model (see table on page 19)
<b>Operating voltage</b>	70 to 280 cN without auxiliary actuator, depending on model
<b>Total travel</b>	1.6 mm
<b>Mechanical life</b>	see table on page 18
<b>Electrical life</b>	see table on page 18
<b>Ambient temperature</b>	-40 to +85°C/120°C
<b>Proof tracking index</b>	PTI 175 (PTI 250 on request)

## Materials

<b>Base</b>	PET (UL 94V-0)
<b>Cover</b>	PBT (UL 94V-0); PET (UL 94V-0)
<b>Actuator</b>	PBT (UL 94V-0) T120 POM (UL 94 HB) T85
<b>Contacts</b>	AgSnO <sub>2</sub> , AgNi, AuAgPt (Crosspoint)

**Terminals** CuZn silver-plated

**Auxiliary actuator** Stainless steel or plastic

**Approvals** depending on model

**Degree of protection** IP50  
**Switch interior**

## Circuitry

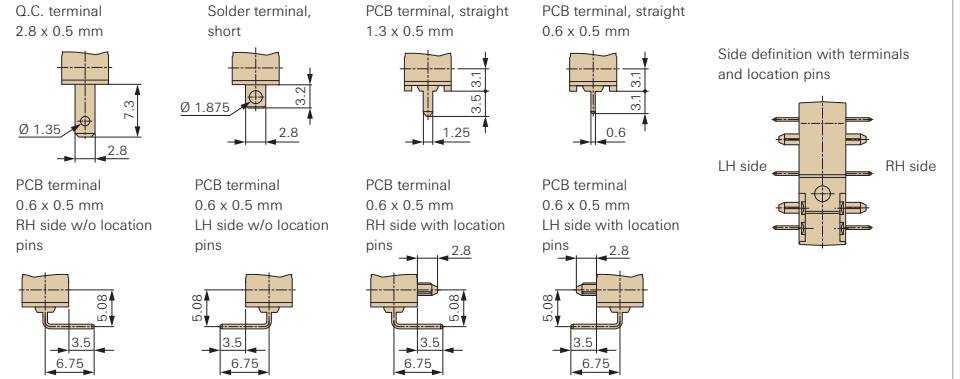
Operating temperature +85°C		Code
S.P.S.T. - N.O.		E
S.P.S.T. - N.C.		F
S.P.D.T.		G
Operating temperature +120°C		Code
S.P.S.T. - N.O.		A
S.P.S.T. - N.C.		B
S.P.D.T.		C

Generation of order code (example)  
The order code consists of 5 parameters:

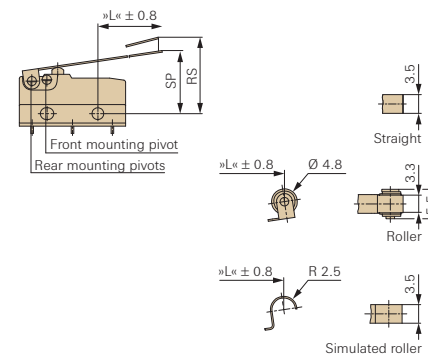
1	2	3	4	5
Series	Electrical rating	Circuitry	Terminal type	Auxiliary actuator
DB = subminiature switch	1 = 6 A, 250 VAC	C = S.P.D.T.	A1 = Solder terminal short	LB = Lever straight, RM rear 4.8

- Not every configurable variant is available for order. Please contact us.
- The final two digits of article numbers on commercial documents refer to the index of the respective drawing.
- Customer-specific models are marked with a G or W as the sixth digit of the article number.

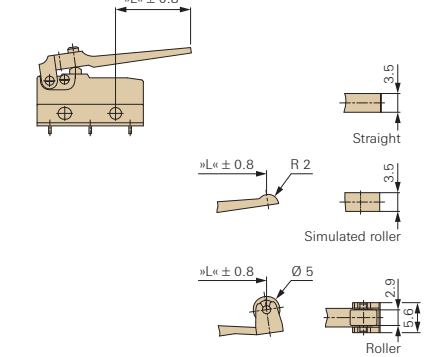
## Terminals



## Steel auxiliary actuator



## Auxiliary plastic actuator with/without adjusting screw

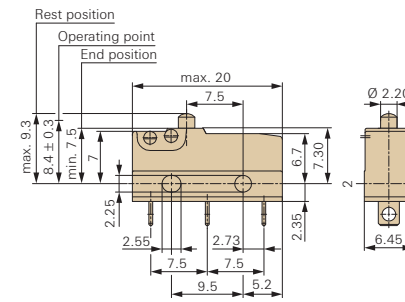
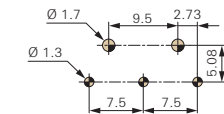


## Drilling patterns

Drilling pattern for PCB terminal 1.3 x 0.5 mm



Drilling pattern for PCB terminal 0.6 x 0.5 mm lateral with location pins



Dimensions in mm

# DB SUBMINIATURE SWITCH CONTINUED

## Electrical rating and operating life ②

Electrical rating according to		Electrical life (operations)		Mechanical life	Operating force	Housing mark	Code
EN 61058-1	UL 1054	acc. to EN	acc. to UL		max. (cN)		
6 A 250 VAC	5 A 125–250 VAC	10,000	6,000	15 x 10 <sup>6</sup>	150	DB 1	1
10 (1.5) A, 250 VAC	10.1 A, 125–250 AC, 1/4 HP, 125 VAC	10,000	6,000	10 x 10 <sup>6</sup>	250	DB 2	2
0.1 A, 250 VAC	0.1 A 125–250 VAC	50,000	100,000	15 x 10 <sup>6</sup>	150	DB 3	3
4 A, 250 VAC	4 A, 125–250 VAC	50,000	6,000	15 x 10 <sup>6</sup>	90	DB 4	4
1 A, 250 VAC	1 A, 125–250 VAC	50,000	6,000	15 x 10 <sup>6</sup>	70	DB 5*	5*
10 (3) A, 250 VAC	10.1 A, 125–250 VAC, 1/4 HP, 125 VAC	10,000	6,000	10 x 10 <sup>6</sup>	280	DB L	L
6 (2) A, 250 VAC	5 A, 125–250 VAC	50,000	6,000	15 x 10 <sup>6</sup>	150	DB O	O

Special versions with lower ratings upon request

\* Only T85

## Switching parameters

Model	Type	Max. operating force (cN)	Max. pretravel (mm)	Min. overtravel (mm)	Differential travel max. (mm)	Max. rest position (mm)	Operating point (mm)	Length actuator (mm) ± 0.8
Spherical-head actuator or actuator with radius, without auxiliary actuator	DB5 DB1/O/3 DBL DB2 DB4	70 150 280 250 90	1.0 1.0 1.0 1.0 1.0	0.6 0.6 0.6 0.6 0.6	0.1 0.1 0.15 0.1 0.1	9.3 9.3 9.3 9.3 9.3	8.4 ± 0.3 8.4 ± 0.3 8.4 ± 0.3 8.4 ± 0.3 8.4 ± 0.3	– – – – –

## Terminal type ④

Terminal type	Code
Q.C. terminal 2.8 x 0.5 mm, straight	B1
Solder terminal short	A1
PCB terminal 1.3 x 0.5 mm, straight	C1
PCB terminal 0.6 x 0.5 mm, straight	D1
PCB terminal 0.6 x 0.5 mm, RH side*	D2
PCB terminal 0.6 x 0.5 mm, LH side*	D3
PCB terminal 0.6 x 0.5 mm, RH side**	D4
PCB terminal 0.6 x 0.5 mm, LH side**	D5

\* With location pins

\*\* Without location pins

## Electrical rating at DC voltage

Please see our technical specification for DC currents (TS-0002) which is available upon request.

## Auxiliary actuator ⑤

Model	Mounting point	Length	Order code*	Code
Without lever, spherical head	–	–	–	AA
Without lever, radius shape	–	–	–	BA
Straight	RM rear	4.8	614-01232	LB
		7	614-01233	LC
	FM front	42	614-01234	LD
		7	614-01232	MB
		9.4	614-01233	MC
Roller	RM rear	43.5	614-01234	MD
		2.5	714-00260	RB
	FM front	4.7	714-00261	RC
		39.7	714-00262	RD
		4.7	714-00260	TB
Simulated roller	RM rear	7.1	714-00261	TC
		41.2	714-00262	TD
Plastic, straight	RM rear	2.5	614-01237	SB
		4.7	614-01238	SC
	FM front	39.7	614-01239	SD
		4.7	614-01237	UB
		7.1	614-01238	UC
Plastic roller	RM rear	41.2	614-01239	UD
		7	614-01247	WB
	FM front	14	614-01253	WC
Plastic simulated roller	FM front	9.4	614-01247	GB
		16.2	614-01253	GC
Plastic roller	RM rear	5.2	714-00299	ZB
	FM front	7.3	714-00299	OB
Plastic simulated roller	RM rear	5.6	614-01249	VB
	FM front	7.9	614-01249	HB

\* For retrofitting

