

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 15×10^6 actuations
- Wide variety of terminal types



Technical specifications

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

Materials

Base	PET (UL 94V-0)
Cover	PBT (UL 94V-0); PET (UL 94V-0)
Actuator	PBT (UL 94V-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	IP50
Switch interior	

Circuitry ③

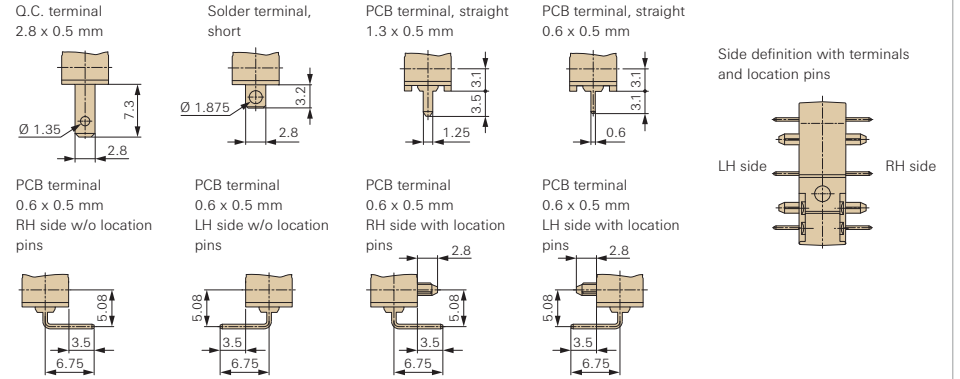
Operating temperature +85°C		Code
S.P.S.T. - N.O.		E
S.P.S.T. - N.C.		F
S.P.D.T.		G
Operating temperature +120°C		Code
S.P.S.T. - N.O.		A
S.P.S.T. - N.C.		B
S.P.D.T.		C

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

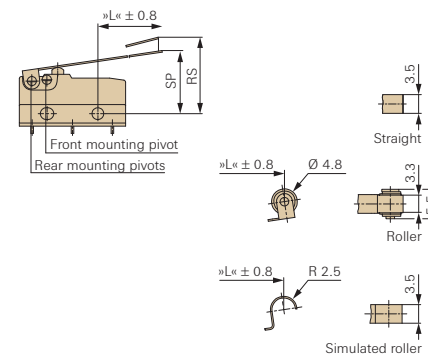
1	2	3	4	5
Series	Electrical rating	Circuitry	Terminal type	Auxiliary actuator
DB = subminiature switch	1 = 6 A, 250 VAC	C = S.P.D.T.	A1 = Solder terminal short	LB = Lever straight, RM rear 4.8

- 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.

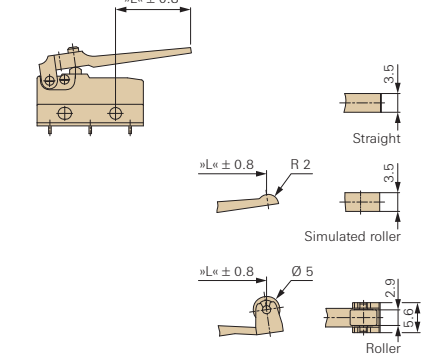
Terminals



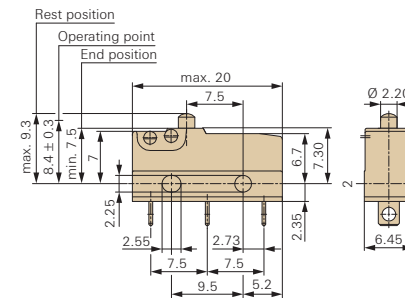
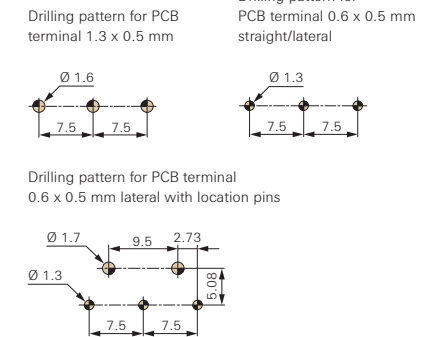
Steel auxiliary actuator



Auxiliary plastic actuator with/without adjusting screw



Drilling patterns



Dimensions in mm

DB SUBMINIATURE SWITCH CONTINUED

Electrical rating and operating life

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 ⁶	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 ⁶	250	DB 2	2
0.1 A, 250 VAC	0.1 A 125–250 VAC	50,000	100,000	15 x 10 ⁶	150	DB 3	3
4 A, 250 VAC	4 A, 125–250 VAC	50,000	6,000	15 x 10 ⁶	90	DB 4	4
1 A, 250 VAC	1 A, 125–250 VAC	50,000	6,000	15 x 10 ⁶	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 ⁶	280	DB L	L
6 (2) A, 250 VAC	5 A, 125–250 VAC	50,000	6,000	15 x 10 ⁶	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

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

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
7.1		714-00261	TC	
41.2		714-00262	TD	
Simulated roller	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, straight	RM rear	41.2	614-01239	UD
		7	614-01247	WB
	FM front	14	614-01253	WC
9.4		614-01247	GB	
Plastic roller	RM rear	16.2	614-01253	GC
		5.2	714-00299	ZB
Plastic simulated roller	FM front	7.3	714-00299	OB
		5.6	614-01249	VB
		7.9	614-01249	HB

* For retrofitting

