DC 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 (see table) depending on model
Operating force		200 to 340 cN without auxiliary actuator depending on model
Total travel		ca. 1,6 mm
Mechanical life		min. 1×10^6 operations (see table)
Electrical life		min 10^4 operations (see table)
Ambient temperature		–40 to +85 °C/120 °C
Model with leads		–40 to +105 °C
Proof tracking index		PTI175, PTI250 auf Anfrage
Materials		
Housing		PBT (UL 94 V-0), PET (UL 94 V-0)
Actuator		POM UL 94 HB (T85), PBT UL 94 V-0 (T120)
Base		PET (UL 94 V-0)
Contacts	**DC1, DC2, DC4**	AgNi
	DC3	AuAgPt (Crosspoint)
Terminals		CuZn (silver-plated)
Auxiliary actuator		Stainless steel or plastic
Sealing gasket		SI, silicon-free alternative available
Leads		Cu, PVC-sheated
Approvals		depending on model
Degree of protection (switch interior)		IP67

For detailed information and the layout of the details described above, please do not hesitate to ask for our technical specifications and drawing.

Features

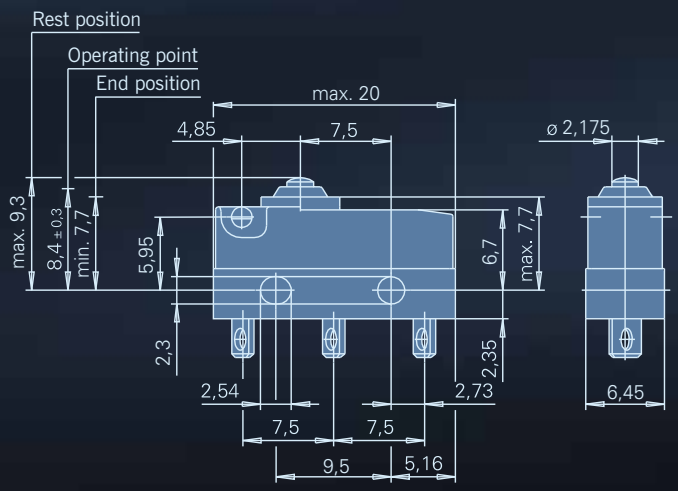
- Sealed switch IP6K7 protection
- Silicon-free variants available
- Models available for 120 °C operating temperature
- Nominal currents from 10 A at 250 V AC
- Various auxiliary actuators available (can also be retrofitted)
- Various application-specific contact materials
- Mechanical operating life min. 1.000.000 actuations
- Wide variety of terminal types

Auxiliary actuator options*

Model	Length (mm)
Without auxiliary actuator	–
Straight	4,8; 8; 42
Roller	2,5; 4,7; 39,7
Simulated roller	2,5; 4,7; 39,7
Plastic straight	7; 14
Plastic roller	5,2
Plastic simulated roller	5,6

* Order codes identical to DB series, please see page 37

Dimensions in mm



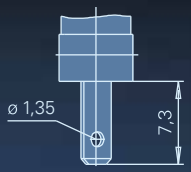


Terminals

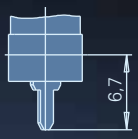
Solder terminal short
max. 30° twisted



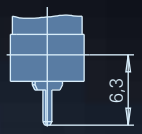
Q.C. terminal 2,8 x 0,5
max. 30° twisted



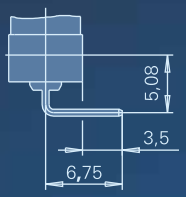
PCB terminal 1,3 x 0,5 mm
max. 30° twisted



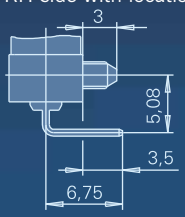
PCB terminal 0,6 x 0,5 mm
max. 30° twisted



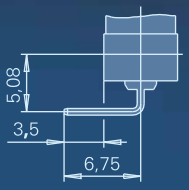
PCB terminal 0,6 x 0,5 mm
RH-side w/o location pin



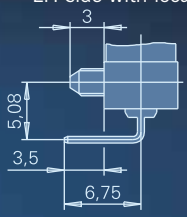
PCB terminal 0,6 x 0,5 mm
RH-side with location pin



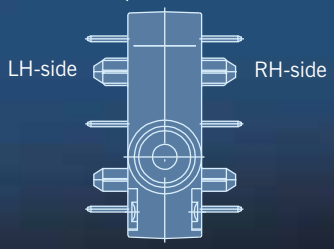
PCB terminal 0,6 x 0,5 mm
LH-side w/o location pin



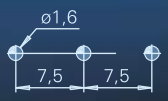
PCB terminal 0,6 x 0,5 mm
LH-side with location pin



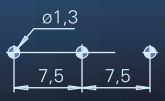
Side definition with terminals
and location pins



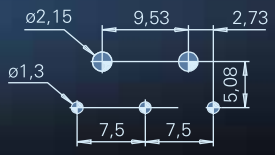
Drilling pattern for
PCB terminals 1,3 x 0,5 mm



Drilling pattern for lateral
PCB terminals 0,6 x 0,5 mm
straight/lateral

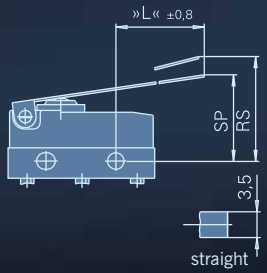


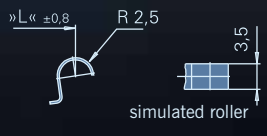
Drilling pattern for lateral PCB terminals
0,6 x 0,5 mm with location pins



Auxiliary actuator options

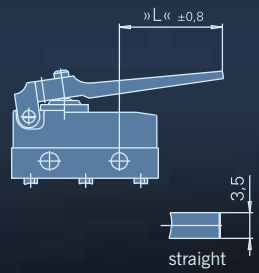
Steel auxiliary actuator

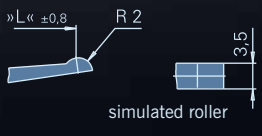


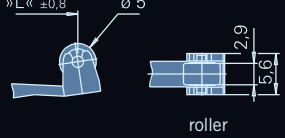




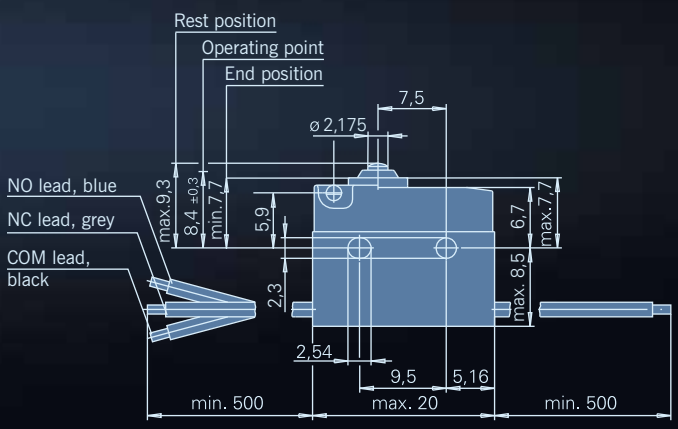
Plastic auxiliary actuator
with/without adjusting screw





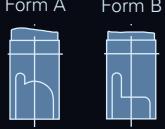


Model with connecting leads (IP67)



Leads attached
on actuator side

Leads attached
on side opposite actuator



Special model with tall base
available on request



DC subminiature switch

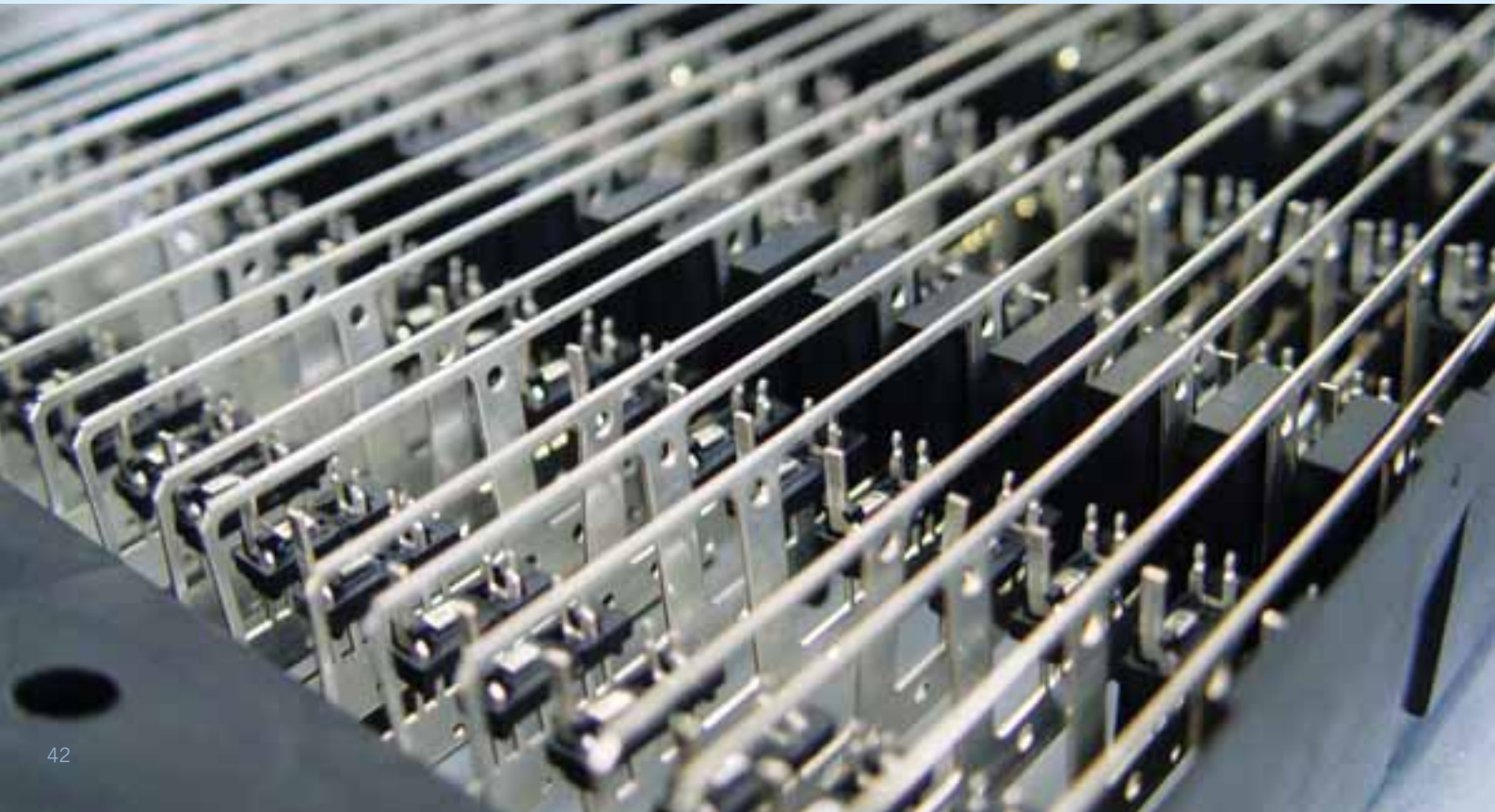
Electrical rating and operating life

Electrical rating according to		Electrical life at rated load for 40T85* (operations)				
EN 61058-1	UL 1054	acc. to EN	acc. to UL	Mechanical life	Operating force max. (cN)	Housing mark
6 A 250 V AC	5 A 125–250 V AC	10.000	6.000	1×10^6	200	DC 1
10 (1,5) A, 250 V AC	10,1 A 125–250 V AC 1/4 HP, 125 V AC	10.000	6.000	1×10^6	340	DC 2
0,1 A, 250 V AC	0,1 A 125–250 V AC	50.000	100.000	1×10^6	200	DC 3
3 A, 250 V AC	3 A 125–250 V AC	50.000	6.000	1×10^6	200	DC 4*

* DC4 only possible as line version with line diameter 0.5 mm^2 and AWG 22

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)	Length actuator (mm) ± 0,8
Without auxiliary actuator	DC1, 3, 4	200	1,0	0,6	0,1	9,3	8,4 ± 0,3	
	DC2	340	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)
DC1C-A1AA	6A, 250VAC	5A, 125–250VAC	Solder terminal short	-	200	8,4 ± 0,3	1,0	0,6	0,1
DC1C-A1RB	6A, 250VAC	5A, 125–250VAC	Solder terminal short	Roller, length 2,5mm	90	15,8 ± 1,3	4,5	1,5	0,5
DC1C-C3AA	6A, 250VAC	5A, 125–250VAC	Leads 0,75mm² on actuator side	-	200	8,4 ± 0,3	1,0	0,6	0,1
DC1C-L1AA	6A, 250VAC	5A, 125–250VAC	Q.C. terminal 2,8x0,5mm, straight	-	200	8,4 ± 0,3	1,0	0,6	0,1
DC2C-A1AA	10(1,5)A, 250VAC	10,1A, 125–250VAC 1/4 HP, 125VAC	Solder terminal short	-	340	8,4 ± 0,3	1,0	0,6	0,1
DC2C-A1LB	10(1,5)A, 250VAC	10,1A, 125–250VAC 1/4 HP, 125VAC	Solder terminal short	Straight, length 4,8mm	150	10,7 ± 1,6	5,0	1,5	0,7
DC2C-A1RB	10(1,5)A, 250VAC	10,1A, 125–250VAC 1/4 HP, 125VAC	Solder terminal short	Roller, length 2,5mm	160	15,8 ± 1,6	5	1,5	0,7
DC3C-A1AA	0,1A, 250VAC	0,1A, 125–250VAC	Solder terminal short	-	200	8,4 ± 0,3	1,0	0,6	0,1
DC3C-A1LB	0,1A, 250VAC	0,1A, 125–250VAC	Solder terminal short	Straight, length 4,8mm	80	10.7 ± 1.3	4,5	1,5	0,7
DC3C-B3AA	0,1A, 250VAC	0,1A, 125–250VAC	Leads 0,5mm² on actuator side	-	200	8,4 ± 0,3	1,0	0,6	0,1
DC3C-L1AA	0,1A, 250VAC	0,1A, 125–250VAC	Q.C. terminal 2,8x0,5mm, straight	-	200	8,4 ± 0,3	1,0	0,6	0,1
DC3C-L1LB	0,1A, 250VAC	0,1A, 125–250VAC	Q.C. terminal 2,8x0,5mm, straight	Straight, length 4,8mm	80	10,7 ± 1,3	4,5	1,5	0,5
DC3C-M5RB*	0,1A, 250VAC	0,1A, 125–250VAC	Leads 20 AWG	Roller, length 2,5mm	90	15,8 ± 1,3	4,5	1,5	0,5

* UL leads