SERIES 1050 - SUBMINIATURE SNAP-ACTION SWITCHES

TO 10 (1.5) A 250 V AC



PRODUCT FEATURES

- Small, efficient snap-action switch up to 10 (1.5) A 250 V AC or 10.1 A 125 - 250 V AC 1/4 HP
- Lateral approach from both directions possible due to mushroom-shaped actuator
- Large selection of auxiliary actuators of chrome-nickel steel and plastic

ON REQUEST

- Extended overtravel
- Material conformant with the filament wire test acc. to IEC 60335-1:2001 chap. 30
- Increased or reduced difference travel
- Other operating forces and ratings
- Gold-plated contacts

Design		DIN 41635 B
Mechanical life endurance		10E6 1E6 (versions with auxiliary actuator)
Contact resistance (new condition)		< 100 mOhm (1 A 12 V DC) mOhm
Insulation resistance (new condition)		> 100 MOhm (500 V DC)
Voltage strength at 250 V		1 500 V function insulation / basic insulation 3 000 V reinforced insulation (depending on installation situation) 500 V small contact distance
Proof tracking		175 PTI
Insulation spacing		acc. to EN 61058 for reinforced or double insulation
Protection type		IP 40 (actuator side)
Ambient temperature		-40 °C ... +100 °C
Flammability		UL 94 V-2
Heat and fire resistance		850 °C (category D)
Material	actuator additional actuator housing connections	PA stainless steel spring steel / PA glass fiber-reinforced PBTP tinned / silver-plated / blank (product-dependent)
Bounce time		< 5 ms
Approval marks		05 / 10 /
Suitable for appliances of protection class II under compliance with the installation conditions required on the equipment side		







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	10 (1.5) A 250 V AC 1E4	5 A 250 V AC 5E4	2 (0.5) A 250 V AC 25E3	10.1 A 125 - 250 V AC 1/4 HP	5 A 125 - 250 V AC 1/10 HP	2 A 125 - 250 V AC	Connection type	Connection description	Contact material	Operating force in N	Operating position (OP) in mm	Difference travel max. in mm	Free position (FP) max. in mm	Permissible total travel position (TP) in mm	Actuator description / Lever drawing	Miscellaneous	Stock version
Normally closed contact (SPNC)																	
1050.1142		●			●			2.8 x 0.5	Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			
Normally open contact (SPNO)																	
1050.0122		●			●				Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●
1050.1122		●			●			2.8 x 0.5	Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●
1050.1426		●			●			2.8 x 0.5	Ag	≤ 1.5	9.9 ±0.3	0.2	10.8	8.6		without approval mark greater overtravel	
1050.2122		●			●			sealed	Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			
1050.1125			●			●		2.8 x 0.5	Ag	≤ 0.7	8.4 ±0.3	0.2	9.3	7.5			
Changeover switch (SPDT momentary)																	
1050.0103	●			●					Ag	≤ 2.2	8.4 ±0.3	0.2	9.3	7.5			●
1050.2403	●				●			sealed	Ag	≤ 2.2	8.4 ±0.3	0.1	9.3	7		greater overtravel	
1050.0102		●			●			sealed	Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●
1050.0202		●			●				Ag	≤ 1.5	9.9 ±0.3	0.2	10.8	9.1			●
1050.0802		●			●				Ag	≤ 5	9.9 ±0.3	0.2	10.8	9.3		foam sealing ring around pushbutton	
1050.1102		●			●			2.8 x 0.5	Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●
1050.1202		●			●			2.8 x 0.5	Ag	≤ 1.5	9.9 ±0.3	0.2	10.8	9.1			●
1050.2102		●			●			sealed	Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●
1050.2202		●			●			sealed	Ag	≤ 1.5	9.9 ±0.3	0.2	10.8	9.1			●
1050.3102		●			●				Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5		fixing pin	●
1050.4102		●			●				Ag	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5		fixing pin	●
1050.5202		●			●			sealed	Ag	≤ 0.5	11.1 ±1.5	1.0	15	7.4	L02		●
1050.5502		●			●			sealed	Ag	≤ 0.6	16.4 ±1.5	1.0	20	13	L22		
1050.5702		●			●			sealed	Ag	≤ 0.6	16.2 ±1.5	1.0	20	13	L12		●
1050.6702		●			●			2.8 x 0.5	Ag	≤ 0.6	16.2 ±1.5	1.0	20	13	L12		●
1050.7202		●			●			sealed	Ag	≤ 0.5	11.1 ±1.5	1.0	15	7.4	L02		●
1050.7702		●			●			sealed	Ag	≤ 0.6	16.2 ±1.5	1.0	20	13	L12		●
1050.0151			●			●		sealed	Au	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●
1050.1151			●			●		2.8 x 0.5	Au	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●
1050.2151			●			●		sealed	Au	≤ 1.5	8.4 ±0.3	0.2	9.3	7.5			●

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Changeover switch (SPDT momentary)																		
1050.5251			●			●		sealed	Au	≤ 0.5	11.1 ±1.5	1.0	15	7.4		L02		
1050.5305			●			●		sealed	Au	≤ 0.6	16.6 ±0.2	1.0	20	13.6		L43		●
1050.6251			●			●		2.8 x 0.5	Au	≤ 0.5	11.1 ±1.5	1.0	15	7.4		L02		

Further information under

WWW.MARQUARDT.DE

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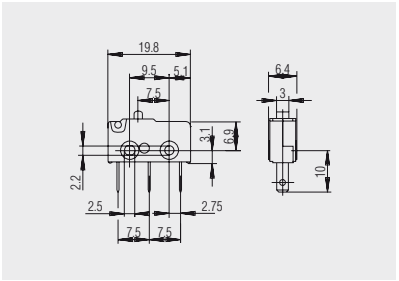
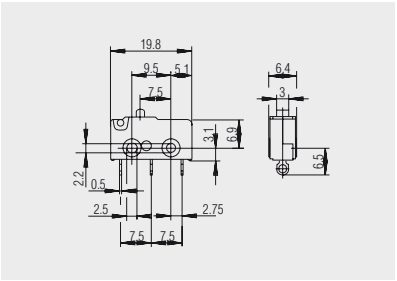
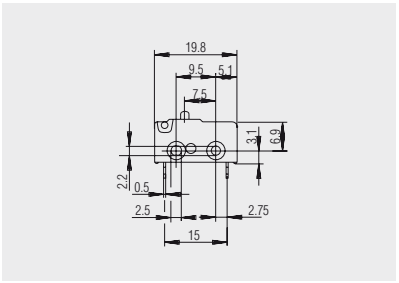
Terminal variants



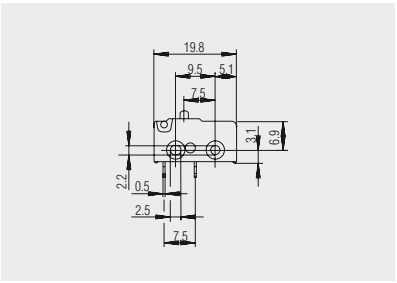
Quick-connect terminal 2.8 x 0.5



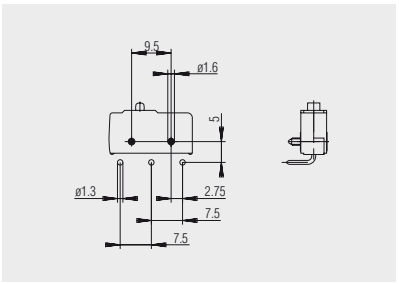
Solder terminal



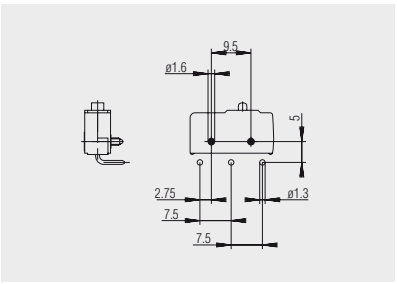
Solder terminal normally closed contact version



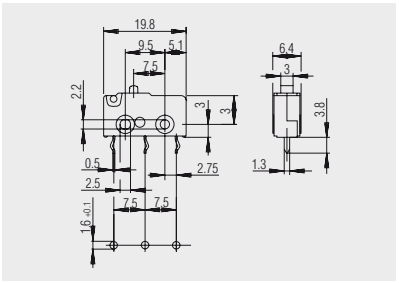
Solder terminal normally open contact version



PCB terminal (base side) left angled



PCB terminal (cover side) right angled



PCB terminal sealed

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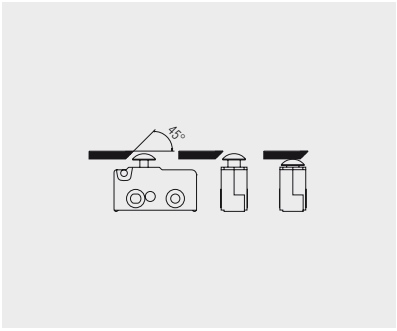
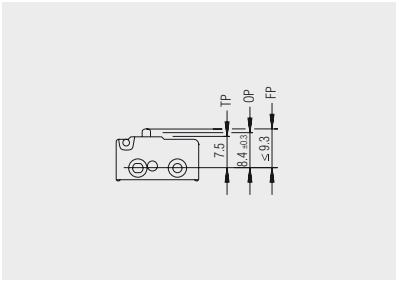
Mushroom-shaped actuator



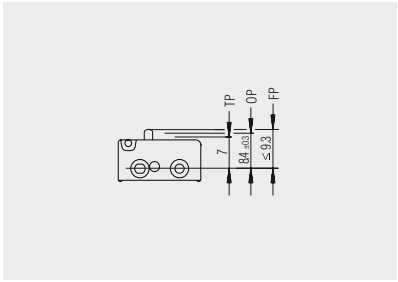
The mushroom-shaped actuator allows, in addition to the vertical actuation from above, lateral approach from any direction. In such application cases, an angle of 45° is necessary on the actuating element (angle for versions with extended overtravel on request). To keep the friction here to a minimum, we recommend the use of materials with a low friction coefficient in relation to the material PA. In addition, the surface of the actuating element should be free from valleys. The mechanical life endurance depends on the material and surface properties as well as on the form of the slide.



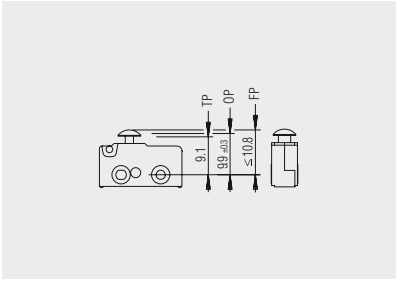
Switching positions



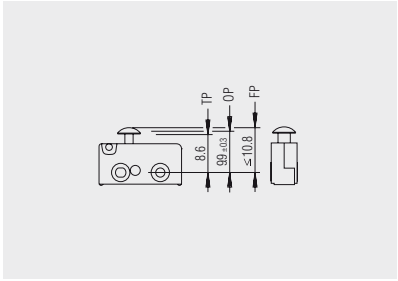
Standard actuator



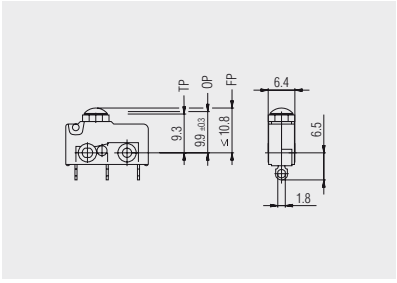
Standard actuator and extended overtravel



Mushroom-shaped actuator



Mushroom-shaped actuator and extended overtravel



Mushroom-shaped actuator with foam sealing ring

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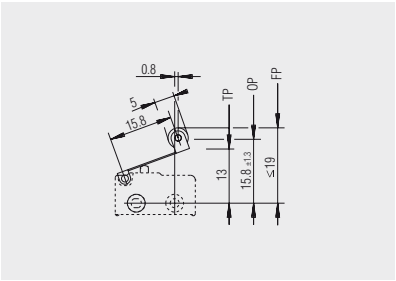
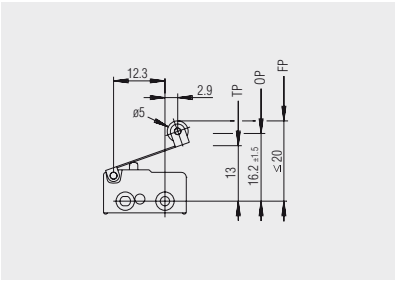
Auxiliary actuator

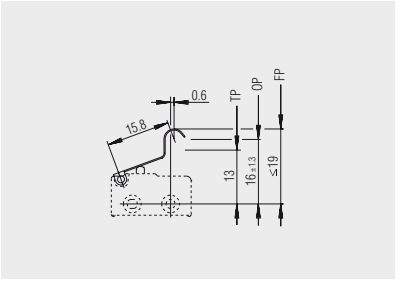
The auxiliary actuators are available as additional parts for later assembly or are already pre-assembled depending on the product. In the adjustable versions the operating position can be set application-specifically by the set screw.



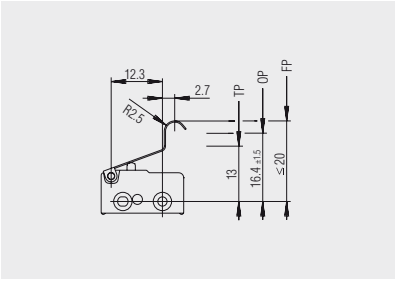
L11: roller lever
191.078.013



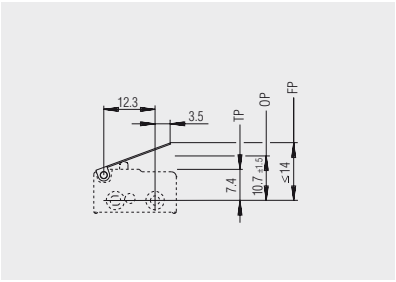
L12: roller lever
191.078.023



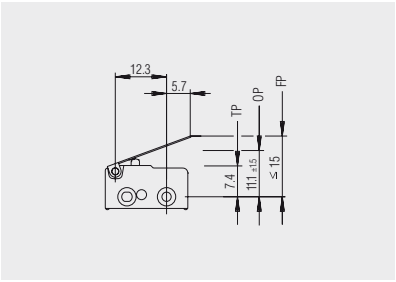
L21: simulated roller
191.071.041



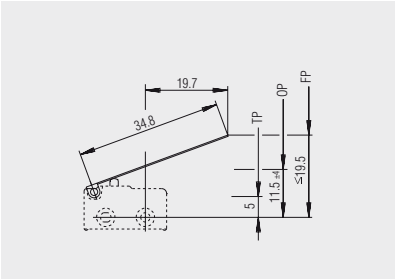
L22: simulated roller
191.071.051



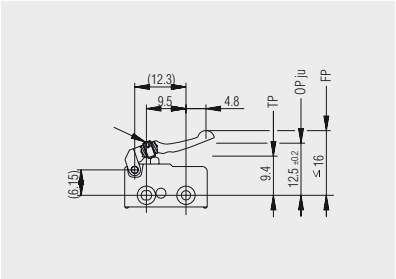
L01: straight lever
191.071.011



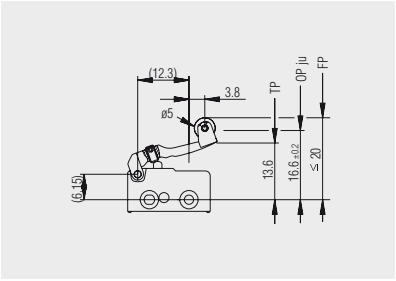
L02: straight lever
191.071.021



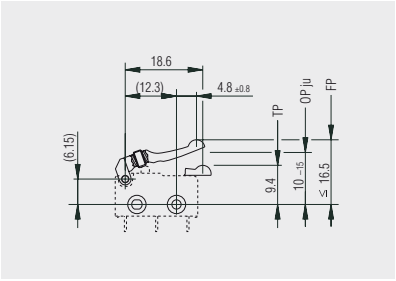
L03: straight lever
191.071.101



L41: adjustable plastic lever
190.075.013



L43: adjustable roller lever
190.072.013



L45: adjustable simulated roller
190.074.013

APPROVAL MARKS

	ENEC 05 (KEMA)		UL (USA)
	ENEC 10 (VDE)		UL (USA + Canada)
	VDE		CSA (Canada)
			CSA (Canada + USA)

TERMINAL SYMBOLS

	Quick-connect terminal		Cable
	Solder terminal		Terminal strip
	Short solder terminal		Push-in terminal
	PCB terminal		Snap-in terminal
	PCB terminal angled to left		Cut terminal
	PCB terminal angled to right		Screw terminal
	Socket terminal		

ACTUATOR SYMBOLS

	Straight lever		Lever simulated roller with adjusting screw
	Lever simulated roller		Lever with adjusting screw and roller
	Lever with roller		Lever with cams
	Differential lever		Housing cams
	Spring lever		Pushbutton
	Spring lever bent		Rotary shaft
	Spring lever with molded spring cam		Standard actuator
	Lever with adjusting screw		Mushroom-shaped actuator

ABBREVIATIONS TECHNICAL DRAWINGS

ad	Adjustable	**OP**	Operating position
AN	Anode	**OP NC**	Operating position normally closed contact
BL	Block	**OP NO**	Operating position normally open contact
FH	Fixing hole, locating hole fixing pin	**OR**	On request
FI	Fields for function indicator	**RC**	Recommended cut-out
FP	Free position	**RL**	Reference level
FX	Fixing pin	**SH**	Snap-in hole
ju	Adjusted	**SL**	Symbol limit
MC	Marking cathode	**SP**	Solder pads
MF	Mounting frame	**ST**	Slide travel
MP	Measuring point	**SW**	Switching position
OFF	Off	**TH**	Terminal hole
off-range	Zero position	**tk**	Thick
OG	Operating range	**to**	Top
ON	On	**TP**	Total travel position

SWITCHING FREQUENCY (ABBREVIATIONS)

e.g. 5E4 switching cycles ≙ **50 000** switching cycles